The Sky Is Falling: Planning Strategies For Communities Facing Trauma After Disaster Strikes

By
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Major Project Presented as Part of the Requirement for the Award of Master of Community Planning Within the Faculty of Social Sciences at Vancouver Island University.

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Vancouver Island University
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THE SKY IS FALLING

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Ethics Statement

The author, whose name appears on the title page of this work, has obtained, for the research described in this work,

☐ human research ethics approval from the Vancouver Island University Research Ethics Board.

A copy of the application has been filed with the Research Ethics Board at Vancouver Island University and inquiries may be directed to that authority.

Vancouver Island University
Nanaimo, British Columbia

Updated Spring 2017
Abstract

The prevalence of natural disasters and the negative impacts they have on the mental health of survivors is increasing and for coastal British Columbia natural disasters are inevitable. Research shows local governments lack a standardized strategy utilizing best practice in mental health supports to reduce disaster impacts. Best practices include collaborative, inter-agency programs designed to boost resilience through social infrastructure, early intervention and screening, and community-based programs highlighting capacity and strengths. This major project explores current gaps in planning for mental health supports post-disaster, and proposes a standardized method for local governments to boost efficiency. The outcome of this research includes a template for local governments to plan ahead for disaster psychosocial response to mitigate psychological harm.

*Keywords*: community; disaster; mental health; natural disaster; planning; psychosocial
Acknowledgements

Thank you to the Snuneymuxw people for allowing me to live and learn on your lands.

Hych’ka

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Dr. Pam Shaw, I could not have done this without you. You are the world’s best cheerleader.

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Also I want to acknowledge Paula Johnson who has been a constant in my tornado, holding up the mirror, the VIU Disability Service Department, and Dr. Aoibhinn Grimes who reminded me that disability does not define our capability.
Dedication

A heartful thank you goes to everyone who made this possible: my community.

My children that inspire me: Ethan with your endless kindness, empathy and strength in vulnerability, Margo for being my calm in the eye of the storm, Quinn for your verve, thoughtfulness, and for reminding me that children can and do care about others.

Also Jake who wouldn’t let me give up in the darkest moments, Kaiya for showing me what true bravery and beauty look like. Mina for honoring her SELF and being authentic, Erin for demonstrating how community support can change kids’ lives. Jody for the unconditional love always, and my mum Kris Huddlestan for her ear and her honesty, sprinkled with a dash of wicked humour.

Thank you too to my friends (my tribe—you know who you are) that build community every day with integrity and rarely receive thanks. Kara and Tara—there are no words.

For my cohort who continue to blaze trails for us all— you are the new adventurers, the next generation of revolutionaries, the bright lights that will shine the way for our people.

I am humbled by you.

Especially this work is in the memory of my parents Allan and Debbie Huddlestan and godmother Bev Parnham, who brought me up learning what community service looks like: at the kitchen table, solving real problems and planning for world domination.

I did this for all of us.
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Definitions

**British Columbia Emergency Management System (BCEMS):** a comprehensive framework that helps ensure a coordinated and organized approach to emergencies and disasters. It provides a structure for a standardized approach to developing, coordinating, and implementing emergency management programs across the province. This consists of 4 stages: Mitigation, Preparedness, Response, and Recovery (Department of Public Safety and Emergency Preparedness, 2017).

**Climate Change:** a change of climate which can be directly or indirectly attributed to human activity that alters the global atmosphere, in addition to observed natural variability in climate (Department of Public Safety, 2018).

**Critical Infrastructure:** assets and services essential to the health, safety, security or economic well-being of Canadians and Canadian government functioning, including processes, systems, facilities, technologies, networks, assets and services. Critical infrastructure disruptions can result in catastrophic loss of life, harm to public confidence and adverse economic effects (Department of Public Safety and Emergency Preparedness, 2017).

**Department Operations Centre (DOC):** A Department Operations Centre is primarily concerned with supporting the emergency activities of agencies requiring specific functional support and ensuring that regular business activities continue. It can be established at the provincial, regional, or local levels (British Columbia Emergency Management System, 2016; Mid Island Emergency Coordinators & Managers, 2018).

**Disaster:** an event that extends beyond the reach of customary resources and assistance which may include: naturally occurring phenomenon of geophysical or biological origin, human action or error, including technological failures, accidents and terrorist acts (Department of Public Safety and Emergency Preparedness, 2017; Saari, 2005; World Health Organization, 2002).

**Disaster Psychosocial Services Program (DPSP):** is a provincially-administrated program that develops and provides psychosocial services to communities responding and/or recovering from emergencies or disasters (Provincial Health Services Authority, 2019).


**Emergency Operations Center (EOC):** The base of operations for emergency services in the event of disaster or emergency. This is managed by the Emergency Preparedness Coordinator and the location is determined as needed (British Columbia Emergency Management System, 2016; Department of Public Safety and Emergency Preparedness, 2017; Mid Island Emergency Coordinators & Managers, 2018).
Emergency Preparedness Coordinator (may be called a director/ planner/ manager): This position is responsible for the day-to-day oversight, management, authority and decision-making within the local emergency service program. Generally this position chairs the local emergency management committee (British Columbia Emergency Management System, 2016).

Emergency Social Services (ESS): British Columbia’s province-wide, community-based emergency response program. Emergency social services are the basic services people need after their community is affected by an emergency or disaster. This includes food, shelter, emergency health care and public information. The Red Cross, St. John’s Ambulance, Salvation Army, the Society for the Prevention of Cruelty to Animals (SPCA), amateur radio associations and others work together with Emergency Social Services to provide disaster assistance services. Emergency Social Services is comprised of volunteers from local communities and administered by local governments (British Columbia Emergency Management System, 2016; Mid Island Emergency Coordinators & Managers, 2018).

Government Operations Center (GOC): provides constant monitoring and reporting, national-level situational awareness, warning products and integrated risk assessments, as well as national-level planning and whole-of-government response management (Department of Public Safety and Emergency Preparedness, 2016, para. 3).

Inter-Agency Emergency Preparedness Council (IEPC): facilitates coordination of emergency plans and procedures that all government ministries must develop and set in place. The Council struck a steering committee from among its member agencies to oversee British Columbia Emergency Management Service (BCEMS) (Department of Public Safety and Emergency Preparedness, 2017).

Mutual Assistance Agreement: Pre-arranged agreement between two or more entities to provide assistance between those in the agreement (Department of Public Safety and Emergency Preparedness, 2017).

Regional Emergency Operations Centre (REOC): Functions as an Emergency Operations Centre, but allows for multiple local governments or agencies to collaborate, coordinate, prioritize resources and coordinate public messaging (Department of Public Safety and Emergency Preparedness, 2017; Government of British Columbia, 2018).

Trauma: The root of the word trauma is latin for “wound”. Trauma is a wound that impacts individuals spiritually, emotionally, psychologically and physiologically. Trauma can occur when an individual experiences an incident that falls outside of the usual range of coping ability (CTRI Crisis & Trauma Resource Institute Inc., 2016; Walsh, 2007).
Chapter 1 - Introduction

Nature has no mercy at all. Nature says, 'I'm going to snow. If you have on a bikini and no snowshoes, that's tough. I am going to snow anyway.'

-Maya Angelou

The emotional toll a disaster event takes on survivors can be considerable as individuals struggle in a society with increasingly strong reliance on outside sources and technology (Helsloot & Ruitenberg, 2004; Ministers Responsible for Emergency Management, 2017). The prevalence of natural disasters and negative impact they have on the mental health of survivors is increasing across the globe and in Canada (BC Hydro and Power Authority, 2018; Fahrudin, 2012; Furr et al., 2010; Matsubayashi, Sawada, & Ueda, 2013; Ministers Responsible for Emergency Management, 2017; Norris et al., 2002; Norris, Friedman, & Watson, 2002; North & Pfefferbaum, 2013; Pietrzak et al., 2012; Saari, 2004; Ursano et al., 2017; World Health Organization, 2013; 2018). Existing literature for Canadian disaster planning demonstrates the priority placed on minimizing loss of lives and preserving economic and infrastructural assets before mitigating psychological harm (Mid Island Emergency Coordinators and Managers, 2018; Ministers Responsible for Emergency Management, 2017).

This research explores current methods of disaster planning, local emergency management, legislative requirements for mental health in relation to disaster planning and best practices in disaster psychological supports. Although there is literature outlining gaps in mental health disaster services, little action has been taken to formalize adequate provisions for mental health supports for community during and after disasters or standardize disaster mental health planning at the local government level (Fahrudin, 2012; Mid Island Emergency Coordinators and Managers, 2018; Ministers Responsible for Emergency Management, 2017; Norris, Friedman, & Watson, 2002; North & Pfefferbaum, 2013; Ursano et al., 2017). The focus of this project is to produce a template for local governments to pre-plan for disaster response to mitigate
psychosocial harm, reduce overlap and streamline services after disaster strikes. Beyond the identified need for disaster mental health planning and service provision, the author is curious whether the Provincial government is interested in standardizing planning practices for disaster mental health support, creating more oversight of disaster mental health, and/or mandating mental health planning for local government emergency response.

Research questions were created to inform design for the plan template, clarify current practices in local governments, and highlight possible areas for improvement in mental health support service provision to reduce negative impacts of disaster on those affected.

The following research questions guided this study:

First, is adequate provision made for mental health supports for community during and after disasters? And sub-questions:

1. What are the current disaster mental health support procedures in place in Qualicum Beach, given the high risk of earthquake?
2. Do these procedures address concerns for public mental health?
3. What are the legislative requirements of local governments; are they being adhered to?
4. Based on historical research of other communities, what are best practices that may streamline services and provide maximum effectiveness of mental health supports to boost resilience and coping skills for residents impacted by disaster?

This research project is rooted in social planning, defined as “the application of rational problem-solving techniques and data-driven methodologies to conceive, develop, coordinate, and deliver human services” (Weil, Reisch & Ohmer, 2013). Research is presented to examine these questions, provide analysis of the facts based in positivist and hypothetico-deductive approaches, and finally, makes recommendations for best practice for local governments and mental health support agencies responding to and recovering from natural disaster in Canada. The Town of
Qualicum Beach, British Columbia, is used as a case study for current mental health supports in coastal British Columbia (Government of British Columbia, nd.).

This project is the result of literature review, a case study of planning for emergency mental health in the Town of Qualicum Beach, interviews with industry professionals, and research into best practice in psychological first aid and disaster mental health supports. This was accomplished through historical research exploring:

- previous governmental and societal responses to mental health during and post-disaster;
- historical assessment of impacts of trauma:
  - social and financial implications, and;
  - government responses.

The project outcome is a template for local governments to reduce the impact on the mental health of community members should natural disaster strike in their communities. Research assessed what is most effective in supporting mental health of disaster survivors, what systems are translatable to local governments in Canada, and suggestions for best practice.

“In our times, we will need strong leadership, investment, and collaborative efforts to rebuild communities devastated by major disasters” Walsh, 2007, p. 224.
Chapter 2 - Literature Review

This literature review provides an overview of main issues pertaining to mental health, disaster events and recovery, emergency management in Canada, and best practices. That said, it combines a positivist frame of research with social planning to provide an unbiased and clear understanding of the factual information involved in this topic. Emotionality is common when assessing issues such as disaster and trauma, yet this project is based in historical research and factual information that guides the ultimate outcome. See Chapter 4- Analysis for deeper exploration of issues that arise within this chapter.

People have historically been self-sufficient, relying on those close to them to provide necessities in times of adversity (Helsloot & Ruitenberg, 2004). Communities provided their own food and had systems in place to build infrastructure, support local economy, and have medical and spiritual needs met (Muckle, 2014). With the advent of the industrial revolution, people became more reliant on “conveniences” such as grocery stores and electricity (Helsloot & Ruitenberg, 2004). For example, as recently as the 1950’s, Vancouver Island produced 85 per cent of its own food, while today it produces between 5 and 10 per cent (Vancouver Island Community Research Alliance, 2011). This creates a dynamic where residents are more reliant on outside resources for “necessities” and in the case of natural disaster, impacts can be compounded as survivors face a lack of resources that historically were locally available or not considered essential (Helsloot & Ruitenberg, 2004; Ministers Responsible for Emergency Management, 2017). Roudini, Khankeh & Witruk (2017) performed an extensive exploration of disaster mental health preparedness and propose the following definition: mental health preparedness “should be a state of awareness and expectation of an individual’s psychological reactions to the disaster warning” (p. 4). Long-term social needs can be required after any natural disaster and mitigation of post-disaster distress to community is an important component of local government planning for emergency and disaster events (Cline et al., 2010; Ibrahim, 2016; Ministers Responsible for Emergency Management, 2017; Norris, Friedman, & Watson, 2002; North & Pfefferbaum, 2013; Ursano et al., 2017; World Health Organization, 2013).
Natural disasters include earthquakes, wildfires, floods, tsunamis, droughts, volcanic eruptions, landslides, hurricanes and heat waves; with the exception of volcanic eruption, Coastal British Columbia is at risk from each of these natural disasters (BC Hydro and Power Authority, 2018; World Health Organization, 2018).

Statistics Canada reports that 8 per cent of Canadians experienced emotional or psychological impacts due to a crisis event, and of those, 1 in 4 required more than a year to recover from the effects (Ibrahim, 2016). 43 per cent of Canadians (about 12.4 million) over the age of 15 reported experiencing a major emergency event or disaster in their community, with 73 per cent of these individuals reporting severe disruption to daily life, including inability to complete normal tasks (Ibrahim, 2016).

**Figure 1. Canadians reporting experience of major emergency or disaster in their community**

Once affected by the negative psychosocial effects of a natural disaster communities can require significant resources and time; even generations to recover (Danieli, 1985; Ibrahim, 2016; Goodman & West-Olatunji, 2008). Disaster mental health research among Canadians is an emerging field; statistics on total harm due to natural disaster are scarce, although Statistics Canada reports approximately 85 per cent of Canadians who have:
experienced a major emergency or disaster were able to resume their regular daily activities within two weeks...for about 6% of Canadians who endured a financial loss and 23% who experienced psychological impacts, full recovery from these consequences took more than one year. (Ibrahim, 2016, p. 3)

While these statistics are helpful, they relied on self-reporting, and did not include the Territories, or certain vulnerable populations “those who are homeless, or living in care facilities” (Ibrahim, 2016, p. 3). The World Health Organization (2017) reports 4.7 per cent of Canadians are diagnosed with depressive disorders, and 4.9 per cent of Canadians with anxiety disorders (See Figure 2). In a 2011 study prepared for the Mental Health Commission of Canada, it was reported that by the age of 40, 1 of every 2 individuals in Canada will have- or have had, a mental illness (Smetanin et al., 2011).

**Figure 2. Canadian estimate of prevalence of depressive and anxiety disorders**

**WHO Region of the Americas: Canada Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Depressive disorders</th>
<th>Anxiety Disorders</th>
<th>Health Loss/Disease Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of population</td>
<td>% of population</td>
<td>Depressive Disorders</td>
</tr>
<tr>
<td>Total cases</td>
<td></td>
<td></td>
<td>Total Years Lived with Disability (YLD)</td>
</tr>
<tr>
<td>1 566 903</td>
<td>4.7%</td>
<td>1 652 746</td>
<td>261 307</td>
</tr>
</tbody>
</table>


Research shows targeted prevention and support significantly reduce the impact of disaster on the mental health of communities affected by disaster (Norris, Friedman, & Watson, 2002; Saari, 2005). Prevention must include comprehensive planning which considers:

- the implications of disaster on a community;
- available resources;
- potential agreements with surrounding areas, and;
practical strategies to buffer those affected from lasting harm (Norris, Friedman, & Watson, 2002; Saari, 2005; Ursano et al., 2017; World Health Organization, 2013).

Legislative requirements of emergency planning in Canada exist at the Federal, Provincial and local levels. An obstacle in Canadian planning for disaster mental health is the obscurely-termed Federal and Provincial legislative requirements which leave much room for interpretation (Emergency Program Management Regulation R.S.B.C., 1994; Henstra, 2013). Social services are a requirement of legislation, but the definition of social service does not include mental health. Within the *Emergency Program Management Regulation (1994)* emergency social services are defined as “consisting of emergency feeding, clothing, lodging, registration and inquiry and personal services” (*Emergency Program Management Regulation*, 1994, Schedule 2). “Personal services” could be interpreted as provision of mental health treatment and support, yet mental health is not specified. Additionally, there is a recognition of rights for service to those with severe mental illness, yet in a crisis or disaster environment if a survivor develops severe mental health concerns, does this apply, or only to pre-diagnosed individuals? The wording within the legislation requires clarification to avoid uncertainty during a disaster and leave survivors vulnerable to lack of service (Henstra, 2013).

Review of the legislation must note that with the exception of “mentally challenged persons” there is no mention of mental health or psychosocial supports (Emergency Program Act, R.S.B.C. 1996). The *Emergency Program Management Regulation (1994)*, however, outlines the Minister of Health is responsible for providing “critical incident stress debriefing and counselling services” in the event of emergency. When interpreting the *Emergency Program Management Regulation (1994)* it appears that counselling services fall under the responsibility of the health sector, while social services are removed from that capacity. Those who are vulnerable require specific planning provision that is not addressed in Public Safety Canada’s whole-of-society approach that seeks to make provision for as much of society as possible through blanket planning which addresses the median population (Erickson, 2018; Public Safety Canada, 2019; Waldman et al., 2018). This system is similar to that of the *all-hazards approach* utilized by such agencies as the Federal Emergency Management Agency.
THE SKY IS FALLING

(FEMA) in the United States (Erickson, 2018) where the needs of a median population are determined for service provision and planning (Erickson, 2018; Public Safety Canada, 2019). While some specialized resources for emergency planning for those living with disabilities exist such as the PreparedBC Resources for People with Disabilities handbook (PreparedBC, nd.) which highlight the diversity of needs in disaster settings, mental health provision is not included. The unique needs of the homeless population in disaster response and recovery is an emerging field which does require preplanning for service flow in times of disaster (Erickson, 2018).

The Ministers Responsible for Emergency Management in Canada highlight the priority of government emergency management in Canada; at the Provincial and Federal levels the priority is minimizing loss of lives and preserving economic and infrastructural assets before psychological wellbeing (Ministers Responsible for Emergency Management, 2017). Provincial authorities designate local governments the authority to provide emergency mental health support with no mandated oversight which may be putting disaster survivors at risk of higher rates of psychological distress, somatic complaints, absenteeism, and relational problems (Fahrudin, 2012; Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; North, 2014; North & Pfefferbaum, 2013; Saari, 2004; Ursano et al., 2017).

Table 1. British Columbia’s Legislation and Local Government Interaction

<table>
<thead>
<tr>
<th>LEVEL OF GOVERNMENT</th>
<th>LEGISLATION/REGULATION</th>
<th>WHAT IT DOES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>Emergencies Act</td>
<td>Authorizes special temporary powers for federal agencies to ensure safety and security during a national emergency. These measures are extraordinary and specific to the four types of national emergencies: • Public welfare emergencies (natural or human disasters) • Public order emergencies (threats to internal security) • International emergencies (external threats) • War</td>
</tr>
<tr>
<td></td>
<td>Emergency Management Act</td>
<td>Establishes the legislative foundation for an integrated approach to federal emergency management activities • Recognizes the roles that all stakeholders must play in</td>
</tr>
</tbody>
</table>
Canada’s emergency management system
• Clarifies the leadership role and responsibilities of the minister responsible for public safety, including coordinating emergency management activities among government institutions and in cooperation with the provinces and other entities
• Clarifies the emergency management responsibilities of all other federal ministers

| Provincial (BC) | Emergency Program Act (EPA) (1996) | • Clarifies the roles and responsibilities of the provincial government and local authorities (municipalities or regional districts)
• Provides extraordinary powers to the provincial government and/or local authorities where required
• Requires local authorities to create and maintain an emergency management organization
• Allows for the provision of support to victims of disasters through the Disaster Financial Assistance (DFA) Program
• Exempts emergency service workers from civil liability
• Local authority may delegate any of its powers and duties under the Act to committees of a coordinator except the power to declare to state of local emergency |

| Emergency Program Management Regulation (EPMR)(1994) | • Tasks government ministers with developing emergency plans and procedures
• Identifies the ministers responsible for coordinating government response to specific hazards
• Lists the duties of ministries and Crown corporations in an emergency/disaster |

| Other provincial legislation and regulations, including: Environmental Protection Act Public Health Act Water Act Wildfire Act Transportation regulations | • Identifies the responsibilities and tasks assigned to provincial ministries, Crown corporations, and stakeholders that relate to the role/function addressed in the legislation/regulation |

| Local Authority Emergency Management Regulation (LAEMR) (1995) | Local authorities may:
• Enter into mutual aid agreements with other authorities
• Develop agreements with NGOs
Local authority emergency plan must reflect the following:
• The potential emergencies and disasters within its jurisdiction
• Their relative risk of occurrence and potential impact on people and property
• Procedures for accessing resources such as personnel, equipment, facilities, and finance
• Procedures for implementing the plan
• Procedures to notify affected peoples of an impending disaster |
• Procedures to coordinate the provision of food, clothing, shelter, transportation, and medical services
• Priorities for restoring essential services provided by the local authority and by other service providers
• A training and exercise program for staff and agencies assigned responsibilities in the plan
• Establish a procedure for periodic review and update of the plan
• Procedures for how guidance and direction is provided to the emergency management organization

<table>
<thead>
<tr>
<th>Local authority (municipality, regional district, or Treaty First Nation)</th>
<th>Local Authority Emergency Management Regulation (This regulation is part of the Emergency Program Act)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tasks each local authority with establishing and maintaining an emergency management organization</td>
<td></td>
</tr>
<tr>
<td>• Empowers the local authority to appoint committees and a coordinator for the emergency management organization</td>
<td></td>
</tr>
<tr>
<td>• Authorizes the local authority to delegate its powers and duties under the Act as may be required</td>
<td></td>
</tr>
<tr>
<td>• Requires the local authority to prepare local emergency plans</td>
<td></td>
</tr>
</tbody>
</table>

The “Gap”

This research addresses a gap in planning at the level of local government in Canada: mental health supports for communities during and post-disaster (Fahrudin, 2012; Gowan, Sloan & Kirk, 2015; Mamuji & Rozdilsky, 2018; Mid Island Emergency Coordinators and Managers, 2018; Ministers Responsible for Emergency Management, 2017; Norris, Friedman, & Watson, 2002; North & Pfefferbaum, 2013; Ursano et al., 2017). Emergency management in Canada is a multi-level system which requires the coordination and cooperation of all stakeholders to create best practice and outcomes for disaster survivors (Henstra, 2013; Norris, Friedman, & Watson, 2002; Raikes & McBean, 2016). Canadian government puts the onus on local governments to design and implement emergency response plans which meet legislative emergency planning requirements, ensure communities are supported with local services, and in accordance with local customs. This process is increasingly inclusive of volunteer agencies in an official capacity and planning has begun to acknowledge and integrate volunteer organizations into official emergency response plans (Waldman et al., 2018). Although
local government is responsible for the lion’s share of emergency response, “jealous defense of the constitutional division of powers has prevented the incorporation of municipal officials into policy discussions about national emergency management...perpetuating the virtual exclusion of municipalities from intergovernmental policy-making in this field” (Henstra, 2013, p. 191). Canada has comprehensive planning for emergency response regarding infrastructure and economic preservation and redevelopment, yet mental health response and recovery plans are comparatively lacking (Henstra, 2013; Ministers Responsible for Emergency Management, 2017; Noji, 1997; Public Safety Canada, 2019).

In British Columbia, the Disaster Psychosocial Services Program manages Provincially-administered volunteers to provide support. Although this is a program administered by the Province, ultimately it is volunteers who are providing service, Canadian Red Cross programs, as well as locally-administered services which lack oversight and standardized treatment modalities. In the case of disaster mental health, the field is evolving and strategic planning has not yet been engaged for specific, standardized service provision (Government of British Columbia, 2016; Provincial Health Services Authority, 2018; Regional District of Nanaimo, 2017).

Literature reinforces the need to address the gap in planning for mental health support to create plans prioritizing mental wellbeing on the same level as infrastructure and economic assets; (Gowan, Sloan & Kirk, 2015; Mamuji & Rozdilsky, 2018) “the mental health consequences of exposure to a natural or technological disaster have not been fully addressed by those in the field of disaster preparedness or service delivery” (Noji, 1997, p.101). For example, Parksville and Qualicum Beach, BC have a comprehensive new document: the Emergency Management Oceanside Emergency Plan, which is rooted in principles from the British Columbia Emergency Management System (BCEMS). The BCEMS is the Provincial government’s manual for emergency planning best practice for local governments. The Emergency Management Oceanside Emergency Plan doesn't mention “psychosocial support” until the Recovery Phase, although research highlights the importance of early screening, intervention and treatment for disaster survivors to minimize harmful psychosocial impacts (Elmasri, & Mohanraj, 2018; Goldman & Glaea, 2014; Hodgkinson & Stewart, 2006; Jones et al., 2014; Litz, 2004; Mid Island
Canadian emergency planning’s sluggish approach to addressing social infrastructure (social capital, resilience-building measures, knowledge, community engagement) has become more pronounced, especially as other countries launch federally-led initiatives to boost mental health support for survivors (Chandra et al., 2011; Henstra, 2013; O’Sullivan et al., 2013; Sherrieb, Norris, & Galea, 2010; Wyche et al., 2011). Literature reports various reasons for this including:

- the legal authorities under which local governments enact emergency planning;
- the allocation of some federal emergency funding is disbursed to Provincial sources, then individuals, rather than local governments;
- the lack of political and public will to enact meaningful change as emergency response in Canada is culturally “reactive” rather than preventative (Haque, Choudhury & Sikder, 2018; Raikes & McBean, 2016);
- generalized language in legislation creates opportunity for Federal, Provincial and local governments to plan, or not plan, due to political climate, financial strain on local finances, and/or lack of expertise in comprehensive planning skills for emergency mental health (Emergency Program Management Regulation R.S.B.C., 1994; Henstra, 2013; Raikes & McBean, 2016);
- the Emergency Management Framework for Canada (3rd Ed.) states “the ultimate purpose of emergency management is to save lives, preserve the environment and protect property and the economy” which indicates the lack of priority given to mental health and social infrastructure in emergency planning at the federal level (Public Safety Canada: Ministers Responsible for Emergency Management, 2017).

To better understand Canadian emergency management in the context of international trends and actions, an exploration of other countries’ implemented services for disaster mental health supports are listed below.

**Finland** has developed disaster mental health systems since the 1990s (Saari, 2005). The model was developed from a working party consisting of a national psychologists’ major disaster preparedness group, National Railway, Finnair, Armed Services, Police, and the Red Cross was initiated in 1993 (Saari, 2005). This continued to develop over time and consisted of two levels; local crisis groups and a national
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specialized group for major incidents (Saari, 2005). What makes Finland stand out in the planning realm of disaster mental health is the speed which the system was developed and initiated. Another component of Finnish disaster-psychology is that rather than victims being directed to general services, “so-called everyday traumatic events and situations are included under the umbrella of special preparedness...this speeds up access to help and makes preventative work possible” (Saari, 2005, p. 17). In Finland, each level of society is required to create and maintain disaster preparedness plans (Pimiä, 2014). This system is rooted in the concept of mutual trust where authorities have collaborative agreements, comply with and trust decisions made by jurisdictional peers, and understand where legal responsibilities lie (Pimiä, 2014). The Health Care Act regulates health care services, and activities that come under the scope of social welfare are regulated by the Social Welfare Act (Pimiä, 2014). Finland’s additional mental health legislation is in Section 3 of the Emergency Powers Act, the Rescue Act (PeL), and Sections 3-4 of the Presidential Decree on the Finnish Red Cross (Pimiä, 2014). Finland remains in the forefront of disaster psychosocial support (Pimiä, 2014).

In the United States, where the population is denser than Canada and natural disasters have been increasingly destructive to humans, the government has been developing mental health responses for disaster recovery (Department of Homeland Security, nd, United States of America’s Department of Health and Human Services, 2009). The United States of America’s Department of Health and Human Services’ Substance Abuse and Mental Health Services Administration (SAMHSA) provides resources including a Mobile Disaster Application (APP), Disaster Behavioral Health Information Series (DBHIS), Disaster Response Template Kit, Disaster Kit, Disaster Distress Helpline, and National Child Traumatic Stress Network (NCTSN) online resources and web-based learning site (Felder et al., 2014). The mobile application (APP) for use in disaster settings is geared to responders to ensure services are provided to survivors, as well as engage responders in the process of self-care (Felder et al., 2014). In addition there is a Crisis Counselling and Assistance Program Authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act
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(Stafford Act) Funded by the Federal Emergency Management Agency (FEMA) (Department of Homeland Security, nd.). The services provided include (among others):

- face-to-face outreach in disaster settings;
- basic crisis counselling service;
- referrals;
- assessment;
- networking;
- media management;
- training for service workers, and;
- connections to family members (Department of Homeland Security, nd.).

The Crisis Counselling and Assistance Program offers a wide range of services but does require a Presidential declaration of disaster for short term behavioral health support which is enacted only when the capacity of need outweighs the United States’ ability to provide care (Department of Homeland Security, nd; United States of America’s Department of Health and Human Services, 2009).

The variety and volume of services available, combined with ongoing development in training and technology such as mobile apps, demonstrate the United States’ high priority on mental health for disaster survivors and link between survivor mental health and overall wellbeing of citizens.

In Japan, where numerous disasters (for example, the 2011 Great East Japan Earthquake, tsunami and nuclear accident, and the 1995 Hanshin-Awaji Earthquake) have had tremendous impact on citizens, there is a recognition of the damage to communities’ social and mental wellbeing which has guided Japanese government to make “disaster mental health care a pillar of its disaster response strategy” (Tanisho et al., 2015, p. 1). After the 1995 earthquake, Japan developed its first rapid-response Disaster Medical Assistance Team (DMAT) system which mobilized Mental Health Care Teams (Tanisho et al., 2015). There have been some challenges associated with this system including the extreme stigma surrounding mental illness in Japan, lack of functionality for multiple-disaster scenarios, and “inter-agency, inter-organization, and chain-of-command issues” (Tanisho et al., 2015, p. 2). In response to these challenges, the Ministry of Health Labour and Welfare (MHLW) and Japan’s psychiatric institutions
created a system for Disaster Psychiatric Assistance Teams (DPAT) in 2013, yet the complexities of the multi-agency network are still being addressed (Tanisho et al., 2015). Japan is an example of a country with serious disasters (both man-made and natural), which has seen the need for disaster mental health response and prioritized it at the highest level. The functionality of the system remains evolving yet the process is engaged and systems are progressing (Tanisho et al., 2015).

In Canada, the community of High River, Alberta experienced a serious disaster when the vast majority of the community flooded in 2013. “In response to psychosocial need, the community very shortly after saw the need for counselling support and accessed specialized counselling services within a short time” (Rob Roycroft, RPP MCIP, Personal Communication, November 2018). As needs increased, they opened a counselling centre beside the Flood Recovery Task Force to offer therapeutic support. This center transitioned to a permanent service when the need for ongoing support to community was demonstrated (Rob Roycroft, RPP MCIP, Personal Communication, November 2018). This is a clear demonstration of best practice in meeting needs of a community in recovery and adapting to provide support as needed, yet the practice is not standardized and government responders and administrators had to resource supports after the event, rather than utilizing a plan of action that was in place.

Fort McMurray, Alberta experienced devastating wildfires in 2016 and eighteen months later over three thousand youth were measured against a similar town in Alberta for mental health symptoms. The results were clear; the Fort McMurray youth were experiencing statistically significant mental health symptoms compared to youth from the non-impacted community (Brown et al., 2019). Specifically,

- scores consistent with a diagnosis of depression (31% vs. 17%);
- moderately severe depression (17% vs. 9%);
- suicidal thinking (16% vs. 4%), and;
- and tobacco use (13% vs. 10%) (Brown et al., 2019).

In addition, self-esteem and quality of life scores were lower in Fort McMurray than the non-impacted community. This study reaffirms the negative impact that disaster had on the youth of the community at eighteen months post-disaster and highlighted the need
for: (first), screening and diagnosis of youth at-risk for mental health challenges, and, (second), the need for ongoing and effective treatment for those impacted (Brown et al., 2019). The ongoing mental health impacts to the youth of Fort McMurray clearly display the outcomes of Canadian mental health supports for disaster victims.

An exploration of Manitoba’s disaster emergency management policy systems found slow-moving change processes hampered by departmental coordination challenges and ineffective communication between Provincial and local governments (Haque, Choudhury & Sikder, 2018). Meaningful change to disaster policy was reported as occurring reactively to major events, rather than a proactive fashion: this reflects Canadian emergency management systems in general and speaks to a need for anticipatory planning (Haque, Choudhury & Sikder, 2018; Henstra, 2013; Silversides, 2009).

While some government agencies in Canada are beginning to plan for mental health support during and post-disaster, the following challenges have been identified:

- planning procedure does not articulate specific steps of disaster mental health support (a generic statement that mentions provision of support is generally utilized rather than the actual process that takes place) (Kansas Department for Aging and Developmental Services (KDADS) & EMFusion LLC, 2014; Mid Island Emergency Coordinators and Managers, 2018; Public Safety Canada: Ministers Responsible for Emergency Management, 2017);
- there is a clear lack of standardized practice in the realm of local government disaster mental health planning which can lead to miscommunication at times of emergency, overlap and/or gaps in service (Cranmer and Biddinger, 2014; Erickson, 2018; Haque, Choudhury & Sikder, 2018; Henstra, 2013);
- top-down policy planning works against bottom-up response (Federal and Provincial governments dictate policy) with low engagement from local governments who generally provide initial emergency response (Henstra, 2013; Silverside, 2009).

Implications for government in British Columbia and Canada are potentially vast should planners adopt strategies to address mental health supports at local government levels to boost resilience, minimize recovery time and improve the wellness of communities in the wake of disaster.
“Those with higher levels of social support recover faster than those with lower levels” (Gist & Lubin, 1999, p. 75).

Case Study: Current Mental Health Procedures for Disaster in Qualicum Beach - Local Government Systems

Below is a case study of the Town of Qualicum Beach’s current mental health support procedures in the event of a natural disaster and suggestions for the Town of Qualicum Beach specifically to boost resilience and reduce mental health impacts. This case study supported the development of the Community Mental Health Disaster Response and Recovery Plan (CMH-DRRP).

The Town of Qualicum Beach is a municipality with a population of 8943 (2016 Census, Statistics Canada). The Town belongs to the Emergency Management Oceanside group including the Town of Qualicum Beach, City of Parksville and Regional District of Nanaimo Electoral Areas E, F, G and H (Mid Island Emergency Coordinators & Managers, 2018). The Town of Qualicum Beach relies on outside agencies and volunteers to provide mental health care post-disaster such as the Canadian Red Cross, Disaster Psychosocial Services Program (provincially-administrated) and Emergency Support Service through the Regional District of Nanaimo, but local government policy lacks a concrete mental health support plan to ensure services are cohesive and run smoothly in times of crisis (Mid Island Emergency Coordinators & Managers, 2018; Provincial Health Services Authority, 2018; Regional District of Nanaimo, 2017). Strategic planning for inter-agency collaboration in regard to disaster mental health is broad as the Emergency Preparedness Plan out-sources mental health supports and does not define the specific services and programs that provide aid (Mid Island Emergency Coordinators & Managers, 2018; Town of Qualicum Beach, 2018). The current disaster mental health support system has little to no medical affiliation, which may increase risk for individuals suffering from acute psychiatric symptoms during/after a natural disaster (Jones et al., 2007; North & Pfefferbaum, 2013; Ursano et al., 2007).
The Town of Qualicum Beach’s emergency programs work collaboratively to provide emergency supports that include disaster response and recovery efforts through *Emergency Management Oceanside (EMO)*, which provides round-the-clock emergency planning, monitoring and support to ensure the area has effective services (Mid Island Emergency Coordinators and Managers, 2018). The Town of Qualicum Beach belongs to the Mid Island Emergency Coordinators and Managers (MIECM). This group is a committee of emergency managers from mid Vancouver Island communities, Island Health, and a provincial government representative from Emergency Management British Columbia (EMBC) (Mid Island Emergency Coordinators and Managers, 2018). This committee works to plan for, lead, and support communities faced with emergency events (Mid Island Emergency Coordinators and Managers, 2018). In 2018, the Mid Island Emergency Coordinators & Managers (MIECM) produced the *Emergency Management Oceanside Emergency Plan* document which is essentially a mutual aid agreement for Parksville, Qualicum Beach and the Regional District of Nanaimo Electoral Areas E, F, G and H. This plan includes some mention of social services including:

- **Mitigation Phase**: purpose to reduce social disruption;
- **Site Response Tasks** which include “coordinate provision of essentials such as food, clothing, lodging, emotional support, information and family reunification” (p. 16);
- **Recovery Phase**: Provision of Psychosocial support;
- **Recommended development of Community Resilience Centers** that include critical inter-agency and inter-governmental collaboration to provide assistance to community members, build capacity and boost resilience;
  - Community Resilience Centers are meant to support individuals in creating personal action plans, connecting with appropriate agencies for needed supports, and to provide psychosocial support and trauma counselling;
- **Emotional/Psychosocial Support** is listed in the “Medium-Term” Stage of Recovery which is identified as “weeks-months”;
- **Local jurisdiction for social/emotional support** identified as:
  - Community Disaster Recovery;
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Emergency Support Services, (Mid Island Emergency Coordinators & Managers, 2018).

The Town of Qualicum Beach has a population of predominantly senior citizens (the oldest population per-capita in Canada) with an average age of 60.1, compared to the Province’s average of 42.3 (2016 Census, Statistics Canada). 52.1 per cent of the population of Qualicum Beach is 65 years old or more (2016 Census, Statistics Canada) which puts particular challenges on the community should disaster strike.

Individuals of advanced age may:

- be less mobile which increases isolation;
- have pre-existing physical challenges, and;
- have specific care needs that may not be attended to in a disaster environment (Gist & Lubin, 1999; Harris & Mihnovits, 2015).

These age-related challenges are all risk factors for developing mental health concerns post-disaster and as such are of importance to note in the context of community planning (Gist & Lubin, 1999; Harris & Mihnovits, 2015).

Indeed, for planning professionals in all communities with an aging population, these risk factors will be the same and are critical to reflect on to reduce mental health suffering and potential lasting effects on individuals, families, and communities.

For seniors who require care pre-disaster but are not in a full-time care facility, it is likely that resources in the short term may not address care needs (Harris & Mihnovits, 2015). In this scenario, the onus is on those around the individual requiring care to provide additional support(s). Communities can boost resilience and potentially reduce negative mental health effects from disaster event response and recovery with supports which:

- have strong social cohesion;
- go into effect immediately in disaster events;
- enable citizens to provide support to each other (Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Ursano et al, 2017).

The suggested Community Resilience Centers in the Emergency Oceanside Management Plan (Mid Island Emergency Coordinators & Managers, 2018) follow
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principles of best practice in mental health support for disaster response and recovery (Ursano et al., 2017). These centers are proposed to activate when needed to:

- collaborate/coordinate with provincial, community, business and not-for-profit agencies;
- provide assistance to individuals with the recovery process via a “one-stop shop” approach that can accommodate as needed to support those with more complex recovery requirements.

Specific steps of the proposed Community Resilience Centers:

- Complete a capacity and needs assessment with community residents;
- Assist individuals in completing their personal action plan;
- Ensure that those with urgent needs are connected with appropriate agencies/groups including:
  - Pursuing family reunification efforts;
  - Providing psychosocial support services including trauma counselling (Mid Island Emergency Coordinators & Managers, 2018).

The Town of Qualicum Beach Emergency Program Bylaw No. 416, 1985 is the Town’s emergency bylaw that gives direction for administration of services and although the bylaw is legally still in effect, many parts of the bylaw are now out of date and no longer in use, while others are valid (Luke Sales, Director of Planning, Town of Qualicum Beach, personal communication, 2018). Emergency Program Bylaw No. 416, 1985 (3.3) designates responsibility for emergency planning and supports to an Emergency Program Committee and Emergency Program Coordinator. Of particular interest to this project, is the ability for Council to appoint other staff as needed to provide emergency services.

The Town of Qualicum Beach Official Community Plan Bylaw 800, 2018, Schedule 1 (2.6) outlines policy for Safety and Emergency Preparedness, but this bylaw focuses on fire safety, crime prevention and infrastructure emergency preparedness rather than mental health or psychosocial supports during- or post- emergency (Town of Qualicum Beach, 2018). Of note, the Official Community Plan Bylaw 800, 2018 Schedule 1, 2.6.4 states: “the Town shall continue to support and modify, as necessary,
the emergency response and preparedness program administered by the Town” (p. 76). This is a critical section as the wording allows for the addition of additional mental health and psychosocial support for disaster response and recovery should Council choose to approve this action. This is indicative of many local governments in Canada as emergency laws are vaguely worded which allows local governments to address emergency planning as they see fit, rather than ensuring a minimum of mental health care for citizens.

**Figure 3. Qualicum Beach graphic of legislation and plans for emergency management**

Oceanside Emergency Social Services (Oceanside ESS) is a program of volunteers that provide immediate, short-term 72 hour support in the event of disaster (Oceanside Emergency Social Services, nd.). The support provided by Emergency Social Services in relation to mental health and wellness is primarily comforting from volunteers (Government of British Columbia, 2018). Training for Oceanside Emergency Social Service volunteers is customarily free and facilitated by the Justice Institute, Salvation Army, and Red Cross Instruction (Oceanside Emergency Social Services, nd.).
Highlights of the Town of Qualicum Beach mental health emergency systems case study:

- compliance with Provincial regulations and knowledge of local service providers;
- a lack of information on specific available mental health services, and;
- focus on mental health support outsourcing (Mid Island Emergency Coordinators and Managers, 2018; Town of Qualicum Beach, 2018).

**Figure 4. Current practice for emergency mental health in Qualicum Beach flow**

<table>
<thead>
<tr>
<th>1. Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Deployment of ESS</td>
</tr>
<tr>
<td>3. State of Emergency Declared</td>
</tr>
<tr>
<td>1. Referral for Services (Disaster Psychosocial Services Program, Emergency Social Services, Red Cross, local community supports)</td>
</tr>
<tr>
<td>2. *Recommended: Implementation of Community Resilience Centers including post-disaster community psychosocial support (the details of how this is provided are not standardized; primarily the ESS, Red Cross and Disaster Psychosocial Services Program would be utilized).</td>
</tr>
</tbody>
</table>

While there is a generic *Local Government Guide for Community Mental Health Emergency Operations Center Plan* (British Columbia Provincial Emergency Program, 2006) outline for local governments to utilize, the following recommendations are made to ensure best practice in the Town of Qualicum Beach for mental health emergency planning:

a) utilize current policy *Bylaw No. 416, 1985, Bylaw 800, 2018* to include provision for mental health support in the event of emergency/ disaster, specifically the proposed *Community Mental Health Disaster Response and Recovery Plan (CMH-DRRP)*;

b) review of Bylaw No. 416, 1985 to either revise or repeal this document, reducing confusion in legislation;

c) create an amendment to the *Emergency Management Oceanside Emergency Plan* to apply principles of psychosocial and emotional support which specifically outline the plan in detail for mental health support.
Risk Factors for Coastal Vancouver Island, and the Town of Qualicum Beach

Accelerated global sea-level rise and climate-change-related coastal threats (including storm frequency) put coastal areas at risk (BC Hydro and Power Authority 2018; Nicholls & Tol, 2006; Bush & Lemmen, 2019). Coastal British Columbia is at risk for natural disaster including earthquake, wildfire, tsunami, flood, drought, and severe storm damage (BC Hydro and Power Authority, 2018; Government of British Columbia, nd.). In a 2018 report from BC Hydro and Power Authority it was reported that the past five years have seen a 300 per cent increase in individual storm events requiring Hydro response in British Columbia (BC Hydro and Power Authority, 2018). This trend has shown a continual increase in storm frequency and severity which has caused widespread damage and even cost human life (BC Hydro and Power Authority, 2018; Schmunk, 2018).

With reported populations at-risk so vast for enhanced psychological issues, prevention and reduction of mental health symptoms and challenges merit high priority from local governments’ emergency planning.

The Effects of Natural Disaster on Community Mental Health

Disasters can be viewed from an ecological perspective; environmental, psychological, social, political, and cultural (Gist & Lubin, 1999; Miller, 2012).

Figure 5. Disaster impacts from an ecological perspective
The ability of individuals and community to cope is interwoven; support systems must consider their reactions as impacting each other and “shaping the identity of the coping community” (Gist & Lubin, 1999, p. 26).

Social infrastructure (size, activeness, and closeness of social network), perceived support, and received support were found to protect disaster victims (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; O’Sullivan et al., 2013; Ursano et al., 2017) so understanding how community is impacted as a whole is important to planning for disaster response and recovery. It is imperative to plan inclusive supports that give space for all impacted individuals, keeping in mind that everyone should have equal access to support as needed. Issues pertaining to social justice arise in research of mental health support for disasters (Gist & Lubin, 1999; Kettner, Moroney & Martin, 2013; World Health Organization, 2013).

Specifically the following are identified as challenging for support systems during disaster recovery:

- the inequality of supports provided during crises emerging from existing biases, and;
- societal inequalities due to:
  - gender;
  - age;
  - socioeconomic status, and;
  - perception of need (Gist & Lubin, 1999; World Health Organization, 2013).

As helping agencies or groups work to support those affected, attention must be given to the inherent belief systems of “outsiders”, “professionals”, and those with different cultural contexts as they work collaboratively with a disaster-impacted community (Gist & Lubin, 1999; Kettner, Moroney & Martin, 2013). Disasters are documented as exacerbating pre-existing societal inequalities and as such:

there is a cruel irony in disasters. Socially, politically, morally, and religiously sanctioned patterns of inequality fuel further discrimination and deprivation... Well-publicized examples of altruism and solidarity in times of
crisis should not obscure the fact that pattern of neglect is equally real. (Gist & Lubin, 1999, p. 33)

**The Economic Impact of Mental Health**

Smetanin et al. (2011) explain the financial cost of mental health to Canadians; in 2012, mental health was assessed as costing Canadians $22 billion annually. Those who lose their employment to disaster are at higher risk for mental health complaints which in turn impacts the economy; this cyclic problem is difficult to halt and can have lasting effects for workers and their families (Ursano et al, 2017). When including the cost of health care, loss of productivity and health-related quality of life loss, mental health challenges have substantial impact on the economy and society (Lim et al., 2008; Smetanin et al., 2011).

Should residents experience negative outcomes from post-traumatic stress disorder they are at higher risk to miss days of employment which can cost employers and government services (Smetanin et al., 2011). In 2011, approximately 2 out of every 9 workers in Canada (21.4 per cent of the working population) were estimated to have a mental illness that could impact their work (Smetanin et al., 2011). Estimates suggest by 2041, people living with a mood or anxiety disorder annually will increase by 22.9 per cent, reaching over 4.9 million people (11.4 per cent of the total population) (Smetanin et al., 2011).

Another factor of economic impact is costly litigation that can result from perceived injustice by those stuck in denial regarding the traumatic experience (Saari, 2005). When disaster survivors are unable to move into acceptance of the new reality (see page 98, the reorientation stage), they can engage in a search for blame, private prosecution, and/or complaints to media and government representatives (Saari, 2005). The economic costs associated with assessing such complaints must be contemplated when assessing costs associated with planning, response and recovery supports for mental health.
In Canada, government funding pays for response and recovery initiatives and in some cases is augmented by philanthropic supports (Government of Canada, 2018). The image below demonstrates the financial impact of emergency management in Canada at the Federal level. In the 2017-18 fiscal year it was projected that over 72 per cent of the budget for Public Safety Canada would be spent on Emergency Management (Public Safety Canada, 2017). Even with these funds seemingly high, Canada’s federal expenditures for emergency planning and response is low in comparison to countries such as Australia and the United States, where significant investments are made to emergency resilience efforts (Henstra, 2013).

**Figure 6. Spending pie chart – Public Safety Canada**

![Pie chart showing Public Safety Canada's spending allocation](image)

Allocation of Public Safety Canada’s planned spending by program for 2017-18

*Source: Public Safety Canada 2017-2018 Departmental Plan*
A Note on the Benefits of Natural Disaster

This project explores the psychological distress, negative impacts and challenges presented by natural disasters. There are, however, positive outcomes for some that bear mention (Tedeschi & Calhoun, 1996; Walsh, 2007). Studies have reported the suffering and struggle inherent to trauma recovery can produce significant transformation and growth (Tedeschi & Calhoun, 1996; Walsh, 2007). Tedeschi & Calhoun (1996) identify positive outcomes in the emergence of a new, positive perception of Self, enhanced ability to communicate with others and utilize supports, and a new view of life (Tedeschi & Calhoun, 1996; Walsh, 2007).

This does not, however, mean that mental health planning and support isn’t required, or to a lesser extent. Mental Health need outweighs available resources in everyday circumstances in every country, so when a natural disaster strips away resources while increasing need, support is imperative (The WHO World Mental Health Survey Consortium, 2004).

Social Planning – Context for this Research

Planning is a field that developed initially from radical thinkers unwilling to continue to watch the problems inherent to “slum living” permeate communities: “essentially as a reaction to the evils of the nineteenth-century city” (Hall, 2014, p. 7). The fundamental roots of the planning profession began as a response to social problems between the 1870s and 1890s: “wicked problems” (Rittel & Webber, 1973) such as poverty, homelessness, crime, and food security to name a few (Scott, 1969). This over time developed into a profession that crosses many realms of practice, utilizing a diverse set of ideological theories as it does so (Hall, 2014). Planning encompasses urban planning, infrastructure and mapping, economics, policy design and the basis of this research: social planning. Social planning has been defined as “the application of rational problem-solving techniques and data-driven methodologies to conceive, develop, coordinate, and deliver human services” (Weil, Reisch & Ohmer, 2013). Social planning concepts can be seen as far back as colonists have been in what is now Canada. For example, the New Brunswick Poor Law of 1786 made provision of
basic necessities for the impoverished the responsibility of each community: while not a professionally-sanctioned action, this is a clear example of social planning ideals in early government structures (Whalen, 1972). The issue of housing is a thread of social planning that continued in Canada through the 1800’s as slums became more severe, and by 1896 the Municipal Council of Kings County, New Brunswick endorsed a system that had been studied and found to be more cost-effective than other measures that have been tried: group boarding for the poor (Whalen, 1972).

In 1917 a terrible national disaster, the Halifax explosion, marked Ottawa’s first intervention into housing (Oberlander & Fallick, 1992). The Halifax Relief Commission was established and collaborated with different levels of government and local agencies, contributing $30 million dollars, which at the time was an enormous sum of money (Oberlander & Fallick, 1992). In 1918 the housing issue for soldiers of World War I was recognized by the Federal Government of Canada as significant enough to merit intervention as the Provinces were unable to create large-scale housing initiatives (Oberlander & Fallick, 1992). This demonstrates the social view of planning by the federal government of Canada in 1918:

"promote the erection of dwelling houses of modern character to relieve congestion of population in cities and towns; to put within the reach of all working men, particularly returned soldiers, the opportunity of acquiring their own homes at actual cost of the building and land acquired at a fair value, thus eliminating the profits of the speculator; to contribute to the general health and wellbeing of the community by encouraging suitable town planning and housing schemes" (as cited in Oberlander & Fallick, 1992, p. 9)

The 1940s were a noteworthy time for Canadian social planning. The amalgamation of the Depression and World War II had created extreme housing issues for low income persons including blight, overcrowding and substandard buildings (Oberlander & Fallick, 1992; www.thecanadianencyclopedia.ca, nd.). Government was unable to remain passive to this issue and the Wartime Housing Corporation was created to establish housing policy and infrastructure (Oberlander & Fallick, 1992). This
was by all accounts a well-managed and efficient program yet the Canada Mortgage and Housing Corporation (CMHC) (then called *Central Mortgage and Housing*) replaced it in 1946 and allowed the Federal Government to directly impact social issues of housing that were greatly harming Canadians (Oberlander & Fallick, 1992; [www.thecanadianencyclopedia.ca](http://www.thecanadianencyclopedia.ca), nd.). Critics state this time in Canada’s past as crucial for social planning and social housing design; that housing programs could have been designed for social support rather than the capitalist system of the CMHC (Oberlander & Fallick, 1992). That said, the CMHC greatly improved housing infrastructure within Canada during the mid 1900s and ultimately did provide opportunity for home ownership to many (Oberlander & Fallick, 1992). The arguments for- and against- subsidized housing in Canada waged for years, and in 1948 The City of Toronto built Canada’s first large-scale subsidized housing project: Regent Park, in the absence of commitment from Provincial or Federal governments (Oberlander & Fallick, 1992).

As the century advanced, challenges of a social nature such as zoning regulations that segregated based on race in the United States, and clearing low-income housing for new development in cities such as Vancouver’s Strathcona neighbourhood posed new social challenges for the planning profession, bringing with them new policies and awareness within the public realm (Bettison, 1984). By the 1980s a focus on healthy communities was emerging in response to environmental issues and with it, the planning profession’s adoption of practices that recognize the importance of social wellbeing for communities and community planning. This is acknowledged to the level that the Canadian Institute of Planners, the country’s regulatory body for the planning profession, developed the *Policy for Healthy Community Planning*:

> As professionals concerned with the shaping of the built, natural, and social environment, planners can contribute to creating healthy communities. They can promote the conditions under which community and individual health and well-being can be improved, while increasing prosperity, and social and health equity. This includes decisions regarding land use, urban design, housing supply, transportation infrastructure, and the location of services and green spaces. Planners are trained to see a
community holistically, and are in a unique position to integrate diverse perspectives, collaborate with a wide variety of allied professionals and stakeholders, and bring solutions to the table that demonstrate the principles of healthy community planning. Professionals involved in planning our communities can thereby have a profound and lasting impact on the health and well-being of citizens (Canadian Institute of Planners, 2018, p. 2)

Social planning considers issues relating to recreation, community health and safety, transportation, housing, education, environment, and community facilities. In today’s communities social planning is a crucial component to planning and policy design, and as such as the foundation on which this research project is built.

Planning for Natural Disaster and Mental Health

The World Health Organization (WHO) defines disaster as “an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community” (World Health Organization, 2002, p. 3). The Town of Qualicum Beach defines a disaster as a “critical situation that has exceeded the emergency response resources of the Municipality and, those available from neighbouring Municipalities through mutual aid agreements” (Town of Qualicum Beach Emergency Program Bylaw No. 416, 1985, 2.1 c, p. 2). Put plainly, events that extend beyond the reach of customary resources and assistance can be defined as disasters. Yearly, these events affect almost 160 million people worldwide, killing approximately 90,000 people (World Health Organization, 2018).

The Sendai Framework for Disaster Risk Reduction 2015-2030 is an internationally-adopted risk-reduction policy designed to support communities to build disaster resilience (Galappatti & Richardson, 2016). This framework highlights the need for psychological support responses for disaster survivors; its adoption by United Nation Member States in 2015 signifies international commitments to both resilience through pre-planning, and psychological support post-disaster (United Nations Office for Disaster Risk Reduction, 2019).
Modalities of treatment for mental health support vary depending on the needs and wants of each community, but the principles of intervention remain fixed: promote a sense of safety, calming, self- and collective efficacy, connectedness, and hope (Hobfall et al., 2007).

Considerations to guide community supports in the early to mid-term stages of recovery:

1. Promote a sense of safety;
2. Promote calming;
3. Promote sense of self- and collective efficacy;
4. Promote connectedness, and;

All planning and policy makers must acknowledge the outcomes of psychological distress that can impact their communities should mental health plans for disaster response and recovery be ignored:

### Table 2. Negative Psychological Outcomes of Natural Disaster

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<thead>
<tr>
<th>TABLE 2. NEGATIVE OUTCOMES OF NATURAL DISASTER ARE REPORTED AS:</th>
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<tbody>
<tr>
<td>□ post-traumatic stress</td>
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<tr>
<td>□ post-traumatic stress disorder</td>
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<tr>
<td>□ anxiety disorders</td>
</tr>
<tr>
<td>□ depression</td>
</tr>
<tr>
<td>□ complicated/traumatic grief</td>
</tr>
<tr>
<td>□ externalizing disorders</td>
</tr>
<tr>
<td>□ academic/social impairments</td>
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<tr>
<td>□ severe problems in relationships (family, work, community)</td>
</tr>
<tr>
<td>□ temporary or permanent incapacity for work (absenteeism)</td>
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<tr>
<td>□ somatic malaise (physical illness resulting from mental illness)</td>
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<tr>
<td>□ criminal and/or antisocial behaviour</td>
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<td>□ psychiatric disorders</td>
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<tr>
<td>□ distress</td>
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<td>□ interpersonal challenges</td>
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<td>□ more prone to accidents</td>
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Literature asserts that trauma is the most prevalent mental health condition post-disaster (Fahrudin, 2012; Greenberg & Wessely, 2017; Martin, 2015; North, 2014 North & Pfefferbaum, 2013; Saari, 2005; Satcher, Friel, & Bell, 2007; World Health Organization, 2013) and can impact the social, medical and economic systems of communities, creating compound challenges for those affected (Fahrudin, 2012; Felder et. al, 2015; Formanski, Cohen, & Sims, 2014; Gist & Lubin, 1999; Martin, 2015; Miller, 2012; North, 2014; Satcher, Friel, & Bell, 2007; Schreiber, Shields, Schwarzer, & Weiner, 1991). Of specific interest to planners is the persistent nature of trauma which can remain subconscious, sometimes manifesting years after an event (Felder et al., 2014; Hodgkinson & Stewart, 2006; Saari, 2005; World Health Organization, 2013). Planning professionals must have an understanding of traumatic events to successfully mitigate harmful outcomes.

Distinguishing features of a **traumatic event** are:

1. Unpredictability;
   - sudden and unexpected event(s) that can’t be prepared for psychologically.
2. Uncontrollability;
   - the event cannot be prevented or shaped by one’s behaviours or actions.
3. The event tests/changes the values and priorities of those impacted;
   - enhanced awareness of our vulnerability;
   - world-view and outlook changes;
   - values and priorities change.
4. All-encompassing change;
the event and subsequent challenges require a “demanding process of adaptation” (Saari, 2005, p. 23).

Best Practice to Reduce Impact on Mental Health

Fostering psychological functioning and minimizing psychiatric disorder and disease requires rapid, effective and sustained mobilization of health care resources (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Ursano et al., 2017). Pre-existing knowledge of communities’ resilience/ vulnerability and knowledge of psychiatric/ psychological responses to such events before they occur enables leaders to promote resilience, facilitate recovery and sustain the social cohesions of communities (Gist & Lubin, 1999; Ursano et al, 2017).

Planning professionals must consider the following to mitigate mental health challenges from disaster events:

- Inter-agency collaboration to developing concrete disaster plans for mental health supports (Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; Norris, Friedman & Watson, 2002; Saari, 2005; Ursano et al, 2017);
- *clear pre-emptive plans* including (when necessary) mutual aid agreements, to alleviate opportunities for division and allow each agency to focus on the work that needs to be done (Hodgkinson & Stewart, 2006);
- community-based, local programs rather than traditional, patient-initiated mental health services (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Saari, 2005);
- programs aimed at all survivors and other impacted individuals to eliminate the need for “subjective need assessments” (Saari, 2005, p. 82), normalize participation in services, and reduce stigma of mental illness (Saari, 2005; Tanisho et al., 2015);
- culturally-informed intervention, especially in multi-cultural societies such as Canada (Gist & Lubin, 1999; Hobfall et al., 2007; Ursano et al., 2007).

An issue that pertains to community support yet had little representation in the literature review is that of consent. The issue of consent is central to human service
work, yet there is little mention of consent in service plans for community mental health supports during disaster response (Gist & Lubin, 1999). Consent is a crucial part of the work that counsellors and support professionals do when the work is interpersonal and supportive (Gist & Lubin, 1999, Miller, 2012). Miller (2012) highlights the need for consent in disaster settings; that in many instances external supports are brought in consisting of “professionals” who can quickly convene and plan without collaborating with the community itself. Full participation is recommended to enlist community in the disaster response and recovery process, which aligns with best practice research that suggests communities are supported through promoting resilience, highlighting strengths, enlisting natural leaders to support those in administration, and have community take an active role in program design (Miller, 2012). Full participation includes consent which values the voice of community at the table as equals with “professionals” as decisions are made (Gist & Lubin, 1999; Miller, 2012).

Community Cohesion and Social Capital as Best Practice

Social cohesion among neighbours mitigates the impact of psychological consequences following natural disaster (Cline et al., 2010; Sampson et al, 1997). Higher levels of community collective efficacy are associated with lower levels of post-traumatic stress disorder (Gist & Lubin, 1999; Norris, Friedman & Watson 2002; Ursano et al, 2014), hence supports enhancing resilience and community strengths are important preventative measures (Cline et al., 2010; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; 2010; O'Sullivan et al., 2013; Ursano et al, 2017). Intervening at community levels can be cost-effective, practical and have greater reach to those who would not normally seek out supports (Gist & Lubin, 1999; Norris, Friedman & Watson 2002; Ursano et al, 2017).

Community resilience can be supported through building-up capacity of adaptive functioning (or coping skills), through:

- economic development;
- social capital (the social networks that provide benefits to members) (Poteyeva, 2018);
• information;
• communication, and;
• community competence (Gist & Lubin, 1999; Norris et al., 2008).

In the early phase of disaster recovery, there is often a sense of cohesion and working together that is followed by "disillusionment, mistrust and anger" (Ursano et al., 2017, p. 5) as individuals search for someone to blame for the event and outcomes (Bowman & Roysircar, 2011; Gist & Lubin, 1999; Ursano et al., 2017). When mental health supports reinforce community cohesion and allow for a return of routine as quickly as possible, this encourages social supports that are valuable to the recovery process (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Ursano et al., 2017).

Leadership

The importance of leadership in disaster response and recovery cannot be overstated; when a natural disaster occurs, leaders become crisis managers (Boin et al., 2005, Helsloot & Ruiitenberg, 2004). In crisis situations, people expect leaders to mitigate negative outcomes, guide them away from harm, explain what happened and reassure that this will not happen again (Boin et al., 2005). Whether reasonable or not, the expectations of leaders in times of disaster are vast. Boin et al. (2005) outline “five core tasks of crisis leadership: sense making...decision-making...meaning making...terminating...and learning” (Helsloot & Ruiitenberg, 2004, p. 350). These tasks are ideally suited to disaster leadership and fit with the psychological needs of survivors; making meaning of an event is repeatedly shown in research as beneficial for recovery, as is a transition period to “normal” activities and need for survivors to see leaders taking action to learn from an event which decreases the potential for future harm (Boin et al., 2005; Gist & Lubin, 1999; Hobfall et al., 2007; Hoffman & Kruczek, 2011; Miller, 2012; Saari, 2005; Ursano et al., 2007). In particular, meaning-making can be achieved by the following:

1. communicating publicly that which survivors are unable to express themselves;
2. deliberate re-framing of events, and;
3. the use of rituals and symbolic acts (Boin et al., 2005; Helsloot & Ruitenberg, 2004).

Leaders are uniquely qualified to make meaning of a disaster event so pre-planning for this need is a positive step in disaster planning for mental health needs in community. Coordination of response, which has been identified as fundamental to best practice in disaster mental health response, must be carried out by strong leaders who possess understanding of available resources and how to engage them (Helsloot & Ruitenberg, 2004; Ministers Responsible for Emergency Management, 2017). Leaders during disaster response and recovery must provide clear communication and engage with media, demonstrate empathy, be able to function in stressful situations, adapt, and themselves be able to utilize strong self-care (Helsloot & Ruitenberg, 2004; Hobfall et al., 2007; Miller, 2012; Saari, 2005; Walsh, 2007; World Health Organization, 2013).

This project’s proposed Community Mental Health Disaster Response and Recovery Plan suggests the appointment of a Mental Health Disaster Response and Recovery Coordinator (MH-DRRC) who would provide strong leadership and oversee all aspects of mental health response and recovery efforts. That said, Landau & Saul (2004) propose a multisystemic approach which encourages those in the community with natural leadership to engage their skills to support the recovery process. Those in positions of authority within the community can create opportunities to delegate leadership for these natural leaders as needs are heightened during disaster recovery (Landau & Saul, 2004).

Challenges for Supports

When planning for mental health response in disaster recovery, the specific challenges inherent to disaster support must be considered by local governments. Already over-burdened and wait-listed social service support systems are made vulnerable during emergencies as;

a) workers are affected by the disaster in their own lives;

b) the systems are under duress as infrastructure may be damaged, creating hardship in service provision;
c) displacement, injury, stress or death can reduce availability of social service staff;

d) social service staff experience burnout and/or vicarious trauma and are unable to function in their roles (Bowman & Roysircar, 2011; Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; North, Oliver, & Pandya, 2012; Saari, 2005; World Health Organization, 2013);

e) agencies providing parallel services can become divisive and work against each other, creating confusion and reducing positive impacts of service (Hodgkinson & Stewart, 2006).

In addition, demands on support workers are great post-disaster due to the high number of individuals affected; “taking the psychological perspective into account in defining victims places fresh demands on crisis work” (Saari, 2005, p.34). A conservative estimate places 10-30 psychological victims for each medical victim [dead or injured]) (Saari, 2005).

When natural disaster events occur, often there is an influx of aid from outside sources which can lead to confusion and overlap in services (Saari, 2005; Solomon, 2012). That said, it cannot be assumed that community-level support will increase during disaster (Cline et al., 2010, p. 3);

“a more nuanced understanding of community responses to disasters suggests that social support processes not only are responses to disasters, but are themselves affected by disasters. Although rapid-onset natural disasters initially mobilize support, ongoing demand overcomes and depletes support resources, resulting in the deterioration of social support and social embeddedness” (Cline et al., 2010, p. 3)

The ongoing allocation of resources is a challenge for communities without disaster events and attention must be paid to the provision of local supports as outside resources are retracted.

Research has been abundant in the emerging field of disaster mental health support which creates opportunity for Canadian policy makers and planners to create systems which reduce long-term costs, improve outcomes for survivors, and boost resilience. Looking to best practice from other countries and successful support efforts
THE SKY IS FALLING

is as important as learning from our mistakes in moving forward with policy design and implementation.
Chapter 3 - Methods

First and foremost, planning professionals should consider trauma theory which “asserts that psychological, physiological, and social consequences occur when a person experiences a traumatic event” (Felder et al., 2014, p. 174); this is the foundation of this major project. Building on that concept, research was based on a positivist approach which incorporated a deductive method including hypothesis development, recording observations, quantifying and presenting data (Alba, 2012; Mahootian & Eastman, 2009; Palys, 2003; O'Donoghue, 2018). The information ultimately produced is “both objective and generalizable, and...can be used to predict and control events” (O'Donoghue, 2018, p. 9). This process is appropriate for the study of social service, planning policy/procedure and government legislation, as this research requires prediction and control to develop appropriate disaster responses for best practices in mental health policies (O'Donoghue, 2018).

Although the treatment methodologies for social supports are based in interactionism and interpretivism, the research required for this project is first and foremost historical data collection and analysis, while the interview process involved an interactionist theoretical approach which focused on information-gathering of the perceived gaps in services in current emergency management and legislative systems and observations of participants’ own language and terms through open-ended questions and information-gathering (O'Donoghue, 2018). In this way, this major project fuses positivist research with social planning; two concepts that may not seem to innately blend. There may be a question of how “the positivist understandings of the universalisation of conditions of knowledge, the neutrality of observation, the givenness of experience and the independence of data from theoretical interpretation” (Allmendinger, & Tewdwr-Jones, 2002, p. 5) can be applied within research that ultimately looks at social systems and supports which are in many ways unable to be quantified statistically. The researcher is aware that policy planning requires information that is easily understood without an “interpretive” lens; this is where the positivist historical research lens is beneficial to this project. Government employees, agencies and volunteer organizations must be able to utilize the project outcome and know the
information the project is based on was not subject to interpretation; rather based in historical, factual data-gathering methods. For example, the Where Matters: Health & Economic Benefits Study by UBC’s School of Population and Public Health assessed the health costs of disease by neighbourhood type.

This information seeks to looks at a social planning topic: health and walkability of neighbourhood, yet the information assessed is done so via a positivist lens as it is concrete and factual. There could be an argument that the statistics are due to reasons other than walkability, but the information is assessed via positivism so leaves little room for interpretation. The UBC research looks at similar themes to this project as it is assessing a social planning issue with factual information via a positivist perspective.

The positivist theoretical premise in the context of this project asserts that the outcomes of trauma on mental health exist and can be studied and assessed by planners regardless of point of view or theoretical orientation (Palys, 2003). This means planners with any theoretical position can apply this tool to a wide range of governments with less likelihood of ideological conflict between the proposed Community Mental
Health Disaster Response and Recovery Plan, current emergency management systems, and governance structures.

The hypothetico-deductive approach “is an esteemed mode of scientific practice” (Alba, 2012, p. 985), based in verificationist theory and aims to connect scientific theory to empirical observations (Alba, 2012; Mahootian & Eastman, 2009; Palys, 2003). This research utilized a hypothetico-deductive approach based on the hypothesis that communities with well-prepared trauma-reduction mental health response plans are more likely to recover from disaster. The literature review confirmed this hypothesis, and allowed the author to move to the next phase of research; compiling potential recommendations of best practices for local government planning departments.

This research involved both qualitative and quantitative data. Quantitative data compiled historical studies of disaster responses. This information was utilized to report levels of mental illness, current response procedures within governments, therapeutic strategies to reduce trauma, legislative structures for emergency response in British Columbia, and financial impacts of mental illness and trauma. The final proposed Plan recommends data collection (see Appendix B) which is an important component of effectiveness-based programming (Kettner, Moroney & Martin, 2013). Data collection systems must have capability of analysing whether community needs are met, costs, populations served, and the achievement of outputs and outcomes (Kettner, Moroney & Martin, 2013). This data provides the function of providing quantitative data regarding the community pre-disaster, and outcomes of mental health services post-disaster which will enable stakeholders to analyse the efficacy of programs in the short, medium and long-term (Kettner, Moroney & Martin, 2013). Qualitative data via interviews and research is utilized to assess potential gaps between best practice in mental health supports for disaster emergency management, and current systems in place. This qualitative data is based in research that provides alternative options for best practices for local government planning departments to service citizens affected by disaster.

The literature review was conducted searching academic and peer-reviewed resources available from Vancouver Island University and search terms included “psychological first aid”, “disaster mental health”, “natural disaster mental health”,
“planning for natural disaster”, “natural disaster government planning”, “Canada disaster response”, “Canadian emergency management” and “disaster psychiatry”. Resources unavailable from the library were purchased. In addition, government publications were searched online and government sources from the United States, Japan, Finland and Canada were utilized.

Historical research design utilized involved the following steps;

1. A literature review that assessed previous governmental responses to mental health during and post-disaster, including current disaster mental health management planning templates.

2. A case study of the Town of Qualicum Beach emergency management policies and procedures for mental health.

3. Interviews in-person and via phone with emergency response and planning officials to determine which systems are currently utilized and perceived gaps in service.

4. An historical assessment of impacts of trauma; both social and financial implications, and governmental responses.

The following research questions guided this study:

First, *is adequate provision made for mental health supports for community during and after disasters?* And sub-questions:

1. What are the current disaster mental health support procedures in place in Qualicum Beach, given the high risk of earthquake?

2. Do these procedures address concerns for public mental health?

3. What are the legislative requirements of local governments; are they being adhered to?

4. Based on historical research of other communities, what are best practices that may streamline services and provide maximum effectiveness of mental health supports to boost resilience and coping skills for residents impacted by disaster?

Interviews were conducted in-person or over telephone from September to December, 2018. In total ten participants were interviewed and all information was gathered confidentially to ensure responses were unbiased. The nature of emergency
and disaster management is governmental, hence priority was placed on ensuring respondents felt comfortable answering questions honestly without concern for reprisal for their answers should they be unfavourable to their respective agencies. In addition, interview responses were analysed as anecdotal information in order to determine next steps in research, rather than forming the study itself. In the case of participant quotes, consent was obtained in writing. In addition to the interview contents’ outcomes guiding research, themes presented within the interviews and are examined in Chapter 4 - Results and Analysis.

In addition, the author participated in education in emergency management, trauma counselling and psychological first aid (listed below).

<table>
<thead>
<tr>
<th>Table 3. Researcher’s supplementary education in emergency management, trauma, and ethics</th>
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<tr>
<td><strong>EMERGENCY OPERATIONS CENTRE – LOGISTICS SECTION, (2018)</strong></td>
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<td>☐ JUSTICE INSTITUTE OF BRITISH COLUMBIA</td>
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<td><strong>PSYCHOLOGICAL FIRST AID, (2018)</strong></td>
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<td>1. JOHNS HOPKINS UNIVERSITY/ COURSEREA</td>
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<td><strong>CRISIS RESPONSE PLANNING, (2018)</strong></td>
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<td>☐ CRISIS AND TRAUMA RESOURCE INSTITUTE – FACILITATED BY JOHN KOOP HARDER, MSW, RSW</td>
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<tr>
<td><strong>TRAUMA - STRATEGIES FOR COUNSELLORS - PART 2, (2018)</strong></td>
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<td>☐ CRISIS AND TRAUMA RESOURCE INSTITUTE - FACILITATED BY VICKI ENNS, RMFT, MMFT</td>
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<tr>
<td><strong>TRAUMA - STRATEGIES FOR RESOLVING THE IMPACT OF POST-TRAUMATIC STRESS, (2018)</strong></td>
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<td>☐ CRISIS AND TRAUMA RESOURCE INSTITUTE</td>
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<tr>
<td><strong>INTRODUCTION TO TRAUMA- WORKING WITH CHILDREN AND YOUTH, (2014)</strong></td>
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<tr>
<td>☐ PAULA JOHNSTON, MA, RCC</td>
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<tr>
<td><strong>TCPS 2: CORE, ETHICAL CONDUCT FOR RESEARCH INVOLVING HUMANS, (2013)</strong></td>
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<tr>
<td>☐ GOVERNMENT OF CANADA, CANADIAN INSTITUTE ON HEALTH RESEARCH, PANEL ON RESEARCH ETHICS</td>
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Chapter 4 – Analysis

The challenges within planning for the support of mental health post-disaster are complex, interwoven, and at times, politically-sensitive. The reactive nature of emergency mental health support in Canada was a central theme in literature and affirmed the need for standardized practice should the worst happen. The political and public will for development of emergency supports is low prior to events for a range of reasons; social, emotional and economic. This means leadership is imperative to ensure communities are prepared to recovery from emergencies and develop resilience emotionally, not just structurally.

Supports that are specific, helpful, useable and up-to-date (such as those developed by the Department of Human Services’ Substance Abuse and Mental Health Services Administration (SAMHSA) in the United States) are attainable for Canadians to develop and administer and could create a more cohesive, reliable support response for communities facing disaster events. Canada is not the only country that has challenges administering supports for disaster mental health between governmental levels: for example Japan has faced its own issues in this realm, yet leadership from their federal government has pushed programs forward in spite of challenges. This leadership is a missing component to the Canadian Federal Government’s disaster mental health policy design (or lack thereof).

Current policies and procedures are not adequate to support communities in crisis and developing research is showing the negative outcomes for our populations; research shows we can do more.

Specific issues that were identified include:

- legislation with generalized language providing scant guidance for local policy planners;
- lack of oversight in service provision for disaster survivors;
- over-burdened and wait-listed social service support systems struggle with workloads before disaster strikes;
a governmental structure aimed at segregation of resources rather than integrated service;
reactive emergency mental health responses;
mental health is perceived as an afterthought in crisis situations hampering emergency management efforts;
overlaps in service can occur as support teams scramble to engage in the absence of pre-determined plans allocating specific roles and streamlining services;
local governments may lack the expertise and/or resources to create tailored service plans for disaster mental health and legislation is sufficiently vague to allow for little-to-no planning;
political and public will is low for policy development until disaster occur, then reactive assistance is engaged with little time for future planning;
stigma surrounding mental health is a barrier to engaging adequate service provision.

The elephant in the room of disaster planning is economics. Planning can involve additional costs, and for local governments struggling with scant funds, responsive disaster efforts compound costs as opposed to pre-emptive plans to mitigate harm (Henstra, 2013).

While the field of mental health for disaster response is relatively new in Canada, research into proactive planning from other countries demonstrates much can be done to boost positive outcomes for survivors in a reasonably short time frame. This includes the adoption of standardized response planning, exploration into oversight of treatment, and improved cooperation between levels of government and volunteer agencies. There is a real need to plan for disaster response to reduce costs and create efficient service flows, and the Community Mental Health Disaster Response and Recovery Plan (CMH-DRRP) is designed to meet the unmet need in British Columbia’s local governments. Mental health disaster response can be engaged immediately when plans are in place and ready to initialize, which is the single most valuable tool for policy designers in emergency mental health support. With this information, the goal for this project was a usable document to begin to standardize planning for mental health during and post-
disaster and the CMH-DRRP incorporates best practices into mental health emergency planning. The Emergency Management Framework for Canada (2017) states “emergency management decisions made by... governments are guided by ethics and values that accept the primacy of human life and human dignity” (Ministers Responsible for Emergency Management, p. 13). Directorial statements such as this demonstrate the government’s principles and values and highlight those values are in line with the proposed Community Mental Health Disaster Response and Recovery Plan Template which encourages planned supports for mental health for all disaster survivors with room for diversity of community.

The most important takeaways from this research are:

1. Mental health impacts to communities are real and can cause great harm now and generationally unless strategies are employed to minimize impacts from disaster events and the recovery process;
2. Pre-planning is the most valuable tool for all levels of government to mitigate mental health impacts due to disaster events.
Chapter 5 – Results

This research project focused on identifying whether a gap exists in local government planning for mental health supports, and if so, distinguishing best practices in mental health supports in the context of planning for disasters. Need was established through literature review, assessment of government systems including a case study of the Town of Qualicum Beach, and interviews with industry stakeholders. The field of disaster mental health support is being rapidly researched to meet the needs of an increasingly-impacted global population (Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; Jones et al., 2007; North, 2014; Saari, 2005; World Health Organization, 2013/2015). In Canada, comprehensive results of natural disaster on mental health are still emerging and the subjective nature of psychological distress can complicate research findings and quantitative outcomes such as absenteeism, disability status, hospitalization and medical care costs can be studied, while more complex issues such as substance misuse, relationship challenges, and harmful behaviours pose challenges to researchers. Literature, case study and interview outcomes concur that mental health support for disaster survivors is a developing field in Canada; deficient in oversight, collaboration between local and federal governments, and policy design which could mandate a minimum requirement for care and boost positive outcomes for survivors’ mental health.

Research interviews were conducted to inform research and provide feedback from stakeholders on the realities of working within current emergency policy structures in Canada. These interviews were anonymized to protect the integrity of participants’ answers. That said, themes did present including:

1. A general lack of understanding regarding which mental health services are provided to disaster survivors.
   - Even within those providing emergency management and support, little was understood of what specific services are provided for mental health after a disaster strikes. This was present throughout interviews.
2. Mental health is integral to disaster recovery, and more needs to be done to support survivors during recovery.
   - Interview participants agreed with mental health is required for disaster recovery, and all but one participant agreed that current systems do not provide adequate supports for disaster survivors.

3. Absence of knowledge regarding legislative requirements for government emergency response.
   - Every interview participant was unaware of Canada’s federal and provincial requirements for mental health response to emergencies. This clearly speaks to the governments’ education (or lack thereof) of support systems in requirements for citizens, and demonstrates the vagueness of legislation.

4. Lack of funding to provide mental health services in emergency response and recovery.
   - Participants agreed that funding is required to boost mental health responses and build more comprehensive programs.

5. Emergency response prioritizes physical infrastructure and economic recovery over mental health.
   - Interviewees were in agreement that government responses favour physical life, infrastructure and economic recovery over mental health supports in disaster response and recovery.

6. Participants agreed that current mental health supports for disaster survivors are not sufficient given the needs of survivors.
   - Interview participants responded that survivors require more support during recovery from an emergency event or disaster than they currently receive in general, yet some participants did mention the extraordinary measures taken by individual volunteers or agencies to provide extra services, yet this is not reported as a standard of care.
Interview themes combined with initial literature review supported further research into:

a) Canada’s legislative requirements for all levels of government;
b) an analysis of emergency management priorities in disaster response and recovery;
c) whether current practices meet needs successfully for survivors, and;
d) comparative study of Canadian policy versus peer-countries for disaster supports.

The outcome of that literature review showed a lag in Canadian federal leadership to guide mental health disaster response and policy management, and lower prioritization for mental health for survivors than our peer countries; specifically it was surprising to see the cohesive systems in place in the United States which are in rapid development and created from the top-down yet still collaborate with local and state governments to support and standardize care, which is essential to competent emergency leadership.

The literature review also unearthed a gap in collaborative practice between Canadian federal regulatory bodies and policy-makers, provincial authorities, and local governments. Canada’s Constitutional design creates a power structure which both enables and encourages the federal government to protect its powers over national emergency management, whilst ignoring that local governments are the first – and last-responders. This existing legislative structure is flawed in this sense and both real commitment and desire for change would be required on behalf of the Federal Government in order to make a change to the ineffective nature of our national emergency response policy management planning systems for mental health.

The following research questions were answered through consideration of literature, interview and legislation:

1. *Is adequate provision made for mental health supports for community during and after disasters?*
Literature review and interviews with stakeholders demonstrated a lack of adequate mental health support for survivors of disasters in Canada through historical mental health outcomes (i.e. Fort MacMurray, Alberta) and policy design challenges.

2. **What are the current disaster mental health support procedures in place in Qualicum Beach, given the high risk of earthquake?**

   Qualicum Beach emergency managers outsource mental health support to the Oceanside Emergency Social Services (Oceanside ESS), Red Cross, and Disaster Psychosocial Services Program (if a state of emergency is declared). These services can be offered between 48 hours and long-term depending on need and approval by provincial authorities.

3. **Do these procedures address concerns for public mental health?**

   Public mental health supports have been historically inadequate for Canadians in common day, hence increased need during emergent or crisis situations requires increased support which, literature and interviews assert, is not met.

4. **What are the legislative requirements of local governments; are they being adhered to (in Qualicum Beach)?**

   
   - *Emergency Program Management Regulation (EPMR) (1994):* yes, requirements are being met;
   
   - *Emergency Program Act (EPA) (1996):* yes, this outlines requirements for Provincial and local governments as a structural tool;
   
   - *Emergency Management Act & Emergencies Act (Federal legislation outlining required actions and special authorizations).* Yes, requirements are being met;
   
   - *Town of Qualicum Beach Official Community Plan, Bylaw No. 800, 2018:* yes, the requirements are being met;
   
   - *Town of Qualicum Beach Emergency Program Bylaw No. 416, 1985:* no, the requirements are not being met due to outdated and/or unused policies that have yet to be repealed.
5. **Based on historical research of other communities, what are best practices that may streamline services and provide maximum effectiveness of mental health supports to boost resilience and coping skills for residents impacted by disaster?**

The Proposed Community Mental Health Disaster Response and Recovery Plan Template (CMH-DRRP) which incorporates:

- social infrastructure;
- pre-emptive emergency planning for mental health support including mutual aid agreements where appropriate;
- community-wide support services reducing needs for referrals and reducing stigma;
- inter-agency collaboration;
- review and clarification of legislation;
- leadership versed in crisis management (see p. 33);
- culturally-attuned services;
- for more specific treatment modalities, see *Appendix D: Therapeutic Interventions for Mental Health Supports Post-Disaster* (p. 71).

The outcome of the analysis was the creation of a standardized template for local governments and agencies to plan ahead to mitigate psychological impacts from natural disaster events, ensuring service provision is attainable, collaborative, and meets the need of each community’s individuality. With this in mind, the Community Mental Health Disaster Response and Recovery Plan (CMH-DRRP) Template was developed with accompanying literature review for professionals in the field.

These tools fill a gap in service provision for planning officials in local governments to:

1. better understand the field of emergency and disaster mental health, and;
2. allow local governments to produce plans **now** for disaster mental health, including:
   a. developing relationships with key support persons and agencies that will encourage positive outcomes in the event of disaster;
   b. review current local policies and procedures in emergency mental health management;
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c. build a Community Mental Health Disaster Response and Recovery Team to support Plan development;
d. identify gaps in service to fill.

Additional recommendations for practice are included in Chapter 6- Conclusion and although they are identified, further actions on each item is outside the scope of this project.
Chapter 6 – Conclusion

First and foremost, the incredible resilience and commitment of Canada’s citizens, volunteers and responders must be acknowledged in concluding this research; without their strength, experience, willingness to go above and beyond, and help those in need, disaster response would be much harder; recovery would be much bleaker. This research project assessed current systems in Canadian emergency response policies for mental health support after disaster strikes, and in particular in the Town of Qualicum Beach on Vancouver Island, in order to determine needs and potential support gaps.

As climate change comes with an higher reliance on technology and external aid, disaster events will continue to increase and cause harm (emotional, economic, infrastructural and physical). Canada’s warming rate is currently double that of the world’s average, creating an environment which demands strong, resilient response from Canadian communities as they experience increased natural disasters (Bush & Lemmen, 2019). If all levels of government can begin to collaboratively and proactively plan for mental health support, Canadian disaster survivors’ will have much-improved resilience and recovery outcomes. One key issue for Canada’s disaster mental health programming is the lack of leadership of the Federal Government in clarifying legislation, requiring a minimum of planning, and collaborating with local governments. Study of best practice demonstrates the success of programs when government leadership recognizes and values the mental health component of disaster response and recovery. Reactive responses will not be adequate as disaster events increase in frequency. Once disaster occurs, the opportunity for early intervention and support is hampered by lack of planning and vague policies. Much can be done to improve Canada’s (and British Columbia’s) mental health planning for disaster events.

Table 4 outlines additional recommendations for Canadian emergency planning based on this research.
### Table 4. Additional Recommendations for Canadian Emergency Planning

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<td>1</td>
<td>Standardized practice to create a proactive plan for mental health support in the case of disaster, which still allows for individuality of community support <em>(ie. the Community Mental Health Disaster Response and Recovery Plan)</em></td>
</tr>
<tr>
<td>2</td>
<td>Engagement with all levels of government and volunteer stakeholders to create relationships which will support survivors during disaster response and recovery</td>
</tr>
<tr>
<td>3</td>
<td>Increased collaboration between local government emergency management and Federal policy makers is recommended</td>
</tr>
<tr>
<td>4</td>
<td>Currently some Federal funding is implemented to Provincial authorities rather than local governments providing emergency response; this may be inefficient and may be better designed through disbursement to local governments directly. Further research into this issue is recommended</td>
</tr>
</tbody>
</table>
| 5 | Recommend one or both of the following:  
  (1) Federal legislatively-standardized requirements for government responses (at each level);  
  (2) A special disaster mental health agency appointed and developed to regulate service for survivors and oversee service provision at the federal level; to ensure a minimum standard of mental health care for Canadian disaster survivors. Further research into this issue is recommended |
| 6 | Recommend clarification and specification of legislative terms Federally and Provincially to increase accountability of all levels of government in mental health emergency response |

The assessment of legal policy, procedures, and volunteer organizations that mobilize to support people during crises outlined the immense time, energy and detailed planning that forms emergency preparedness, mitigation, response and recovery in British Columbia. Not only do professionals work to support the population, but volunteers shape disaster recovery efforts. Literature confirms disaster survivors are highly resilient: the ability to persevere and in many cases thrive amidst devastation and chaos is a central theme in research, yet much work is needed to ensure trauma is minimized, causing as little disturbance to economic, social and physical realms as possible.
Leaders that understand the importance mental health support can promote the rebuilding of hope, and maintain policies which hold government accountable to provide needed structure. This will facilitate disaster mental health program development which is another key component of improving Canada’s disaster mental health recovery plans. Canadian emergency policy can better encourage the process of recovery for survivors, hence all possible actions should be taken to ensure those surviving disasters have every opportunity for good mental health, creating a stronger Canada moving forward into an uncertain future.
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APPENDIX A. Community Mental Health Disaster Response and Recovery Plan – Needs Assessment (Fillable)

☐ TYPE OF EVENT (EARTHQUAKE, FIRE, FLOOD, ETC.)
   fill in

☐ LOCATION
   fill in

☐ DATE AND TIME OF EVENT

☐ NUMBER OF AFFECTED INDIVIDUALS
   VICTIMS
   FAMILY MEMBERS
   RESPONDERS
   WITNESSES

☐ INCIDENT COMMANDER(S) NAME
   CONTACT #

☐ EMERGENCY OPERATIONS CENTER LOCATION FILL
   CONTACT #

☐ ON SCENE:
   ☐ POLICE
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☐ FIRE
☐ MENTAL HEALTH
☐ AMBULANCE
☐ ESS
☐ RED CROSS
☐ SALVATION ARMY
☐ OTHERS : FILL

☐ ARE KNOWN VULNERABLE POPULATIONS IN THE DISASTER AREA? LIST LOCATION(S), CONTACT(S) & CONCERNS:

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL

☐ ARE EXISTING BEHAVIOURAL HEALTH CENTERS THAT REQUIRE RELOCATION? (ie. RESIDENTIAL PROGRAMS, SAFE INJECTION SITES, ETC.). LIST LOCATION(S), CONTACT(S) & CONCERNS:

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL
HAS THE IMPACTED COMMUNITY EXPERIENCED A TRAUMATIC EVENT BEFORE?

IF YES, EXPLAIN DETAILS.

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL

LOCATIONS OF OPEN SHELTERS

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL

LOCATIONS OF SURVIVOR ASSISTANCE CENTERS

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL
WHAT LOCAL MENTAL HEALTH SUPPORTS/RESOURCES HAVE BEEN REQUESTED?

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL

WHAT MENTAL HEALTH RESOURCES ARE AVAILABLE NOW? WHERE ARE THEY LOCATED?

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL

ARE MENTAL HEALTH INTERVENTIONS BEING PROVIDED? IF YES, BY WHOM, WHEN AND WHERE?

1. FILL
2. FILL
3. FILL
4. FILL
5. FILL
ARE EXTERNAL MENTAL HEALTH RESOURCES REQUIRED? IF YES, WHAT SERVICES ARE EXPECTED?

1. FILL

2. FILL

3. FILL

4. FILL

5. FILL
APPENDIX B. Requirements for performance measurement

Based on an Effectiveness-Based Approach of program design, the CMHDRRP Team may want to consider the following when designing data collection for community mental health response programming:

1. Will you measure your results with a pre/post measure?  
   Yes____  No____  
   If yes, describe:

2. Will you itemize your services and record outputs?  
   Yes____  No____  
   If yes, describe:

3. Will you identify when services/treatments are completed or have drop-out populations?  
   Yes____  No____  
   Do you want to distinguish these groups?  
   Yes____  No____  
   If yes, describe:

4. Will you measure long-term effects via follow-up with clients?  
   Yes____  No____
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If yes, describe:

______________________________________________________________________________

5. Do you utilize a written quality standard for service provision (ie. code of conduct, code of ethics, professional regulatory body)?
   Yes____  No ____
   If yes, describe:
   ____________________________________________________________________________

6. Does the CMHDRRP Team understand community needs in response to a natural disaster?
   Yes____  No ____
   If yes, describe the needs:
   ____________________________________________________________________________

7. Is there a data collection plan agreement for service requirements, definitions of services, service quality standards and service task allocation?
   Yes____  No ____
   If yes, describe the plan(s):
   ____________________________________________________________________________

8. Will you record and measure program outcomes/success?
   Yes____  No ____
9. Will you calculate service costs?  
   Yes____ No ____

If yes, describe (ie. direct/indirect costs, total program costs, cost per unit of service, cost per service completion, cost per client outcome):

_____________________________________________________________________________________

10. Will you participate in continuous improvement of systems?  
   Yes____ No ____

If yes, describe:

_____________________________________________________________________________________

_____________________________________________________________________________________
APPENDIX C. Local Government Planning for Mental Health and Natural Disasters in BC


The Emergency Program Act clarifies the roles and responsibilities of the levels of government (provincial, local) provides powers to the Provincial government and/or local authorities where required, puts onus on local authorities to create and maintain an emergency management organization, exempts emergency service workers from civil liability, allows for the provision of support to victims of disasters through the Disaster Financial Assistance Program (DFA), and under the Act local authorities may delegate their powers/duties to committees of a coordinator, except the power to declare a state of emergency (British Columbia Emergency Management System, 2016).

The Emergency Program Management Regulation (EPMR) tasks government ministers with emergency plan and procedure development, lists the duties of Crown corporations and ministries in an emergency/disaster, and determines the ministers responsible for coordinating government response (British Columbia Emergency Management System, 2016; Public Safety Canada, 2019). There is additional legislation and regulations within British Columbia which have specific areas of concern (ie. Wildfire Act), but analysis of specific details are outside of the scope of this project as they do not directly impact results of the study.

Provincial Planning for Disaster – British Columbia

The Province of British Columbia is governed by the Emergency Program Act (1996) in regards to planning that affects disaster management. Specifically, Chapter 111, 1(2) bestows local authorities jurisdiction over their areas (Province of British Columbia, 1996). Ch. 111 4(1) gives Ministers power and duties to prepare emergency plans for preparation, response and recovery from emergency and disasters, and 4(1)(c) and (d) authorize Ministers to make payment to other agencies or organizations for assisting in the implementation of emergency support services (Province of British Columbia, 1996).

Schedule 2 of the Emergency Program Management Regulation determines duties of Ministers and government corporations in the event of an emergency; this outlines the requirement of the Minister of Social Services to provide the following:

- food, clothing and shelter in private or congregate facilities;
- registration and information to assist in locating and reuniting of families;
- care of children who are not accompanied by a guardian or custodian, and mentally challenged persons;
- necessary financial assistance or assistance in kind;
- provide clothing, food, shelter, registration and information services as may be required by emergency workers;
provide assistance to local authorities in the planning and operation of emergency social services consisting of emergency feeding, clothing, lodging, registration and inquiry and personal services (Emergency Program Act, R.S.B.C. 1996, c. 111, Section 28).

The care systems in British Columbia for disaster psychosocial support are structured around organizations of volunteers administrated by government (i.e. Disaster Psychosocial Services Program, Emergency Support Services) and not-for-profit groups such as the Canadian Red Cross, local community groups and faith organizations (Canadian Red Cross, Government of British Columbia).

The Emergency Support Service (ESS) and Canadian Red Cross may provide 72 hours of disaster mental health support, and if an official State of Emergency is declared the Disaster Psychosocial Services Program is contacted for a Needs Assessment (Canadian Red Cross; City of Nanaimo, 2017; Government of British Columbia, 2018). Should the Disaster Psychosocial Services Program deem it needed, a recommendation for services is made and deployment of volunteers to the area is initiated (Government of British Columbia). As local governments and nations are responsible for provision of emergency services, utilization of Emergency Social Services is common, and the Disaster Psychosocial Services Program is the primary resource outside of local emergency teams. With this in mind, the system in place in Qualicum Beach is similar to how many local governments in British Columbia operate within the context of disaster response and recovery, so the assessment of systems in the Town of Qualicum Beach are helpful for assessment of British Columbian local government processes (City of Kelowna; City of Nanaimo, 2018; Mid Island Emergency Coordinators and Managers, 2018; Province of British Columbia 2018; Regional District of Central Kootenay; Regional District of East Kootenay; Regional District of Mount Waddington).

Figure 1.

INFOGRAPHIC FOR CURRENT PRACTICE FOR EMERGENCY MENTAL HEALTH IN QUALICUM BEACH

Disaster Event → Local Emergency Response → State of Emergency Declared → Referral for Services (Disaster Psychosocial Response Program, RDN Emergency Social Services, RedCross) → Implemented Mental Health Services (Comfort Measures)

The Disaster Psychosocial Services Program is a provincially-administrated program that develops and provides psychosocial services to communities responding to and/or recovering from emergencies or disasters (Provincial Health Services Authority, 2019). The program is run by the Health Emergency Management British Columbia (HEMBC) under the statutory authority of the British Columbia Emergency Program Act’s Regulations, Schedule 2 (Provincial Health Services Authority, 2019). Currently the regulations that apply to the Disaster Psychosocial Services Program are under review and...
in the process of approval (Provincial Health Services Authority, 2019). This program is the main emergency psychosocial support service within the Province of British Columbia and is made up of a primary program coordinator and volunteers that are required to be professionals with membership in the BC Association of Social Workers, British Columbia Psychological Association, British Columbia Association of Clinical Counselors, Canadian Counselling and Psychotherapy Association, Police Victim Services of British Columbia, and Canadian Association for Spiritual Care (Provincial Health Services Authority, 2019). The program offers the following services:

- Psychological First Aid;
- Assessment;
- Individual support;
- Crisis counselling;
- Consultation;
- Advocacy and outreach;
- Individual, group or town hall stress management;
- Provision of educational materials (Provincial Health Services Authority, 2019).

Although the program offers crisis counselling, the volunteers use psychological first aid techniques and do not provide psychiatric or intensive therapy to clients (personal communication, Julie Kaplan: Manager, Provincial Disaster Psychosocial Services (DPS) Programs, October 2018).

The Disaster Psychosocial Services Program has accountabilities to:

- develop the long-term disaster psychosocial support strategy for British Columbia with stakeholders;
- provide leadership and education in worldwide trends and psychosocial outcomes for disaster and emergency events;
- provide psychosocial response as needed provincially and/or increasing capacity for local-level responses, and;
- report to the Provincial Health Services Authority (PHSA) Emergency Management and Business Continuity Department, among others (Provincial Health Services Authority, 2019).

The British Columbia Emergency Management System (BCEMS) is a standardized emergency response system which is mandated for use within Provincial agencies and recommended to local governments (Government of British Columbia, 2018). This response system is suggested by the Provincial government as best practice in emergency response planning in British Columbia, and lists the following **Priority Response Goals**:

1. Ensure the safety and health of all responders
2. Save lives
3. Reduce suffering
4. Protect public health
5. Protect infrastructure
6. Protect property
7. Protect the environment

The priorities adopted by the Provincial Government are important to review as they guide best practice in emergency planning in British Columbia and represent the values inherent in emergency preparedness and response (Government of British Columbia, 2016).
Federal Systems for Disaster Management

Federal legislation for emergency and disaster response and recovery in Canada falls under the Emergencies Act (1988), Emergency Management Act (2007) and Department of Public Safety and Emergency Preparedness Act (2005). These acts work collaboratively to outline roles and responsibilities of the Minister of Public Safety and Emergency Preparedness, coordination between government agencies and provincial authorities, and other ministers’ duties (Department of Public Safety and Emergency Preparedness, 2018). In 2017 An Emergency Management Framework for Canada was revised and approved by Federal/Provincial/Territorial Ministers (Department of Public Safety and Emergency Preparedness, 2018). This document gives direction for government to build collaborative emergency management initiatives (Department of Public Safety and Emergency Preparedness, 2018).

Federal Policy for Emergency Management: Building a Safe and Resilient Canada (2009) was introduced under the authority of the Emergency Management Act, to replace the Federal Policy for Emergencies (1995) and allow Canadian government to plan for and respond to emergent and crisis situations in new ways (Department of Public Safety and Emergency Preparedness, 2012). The Ministers Responsible for Emergency Management in Canada are a task force established to coordinate Federal, Provincial and Territorial emergency management (Government of Canada, 2018). They report “the ultimate purpose of emergency management is to save lives, preserve the environment and protect property and the economy... Emergency management raises the understanding of risks and contributes to a safer, prosperous, sustainable, disaster resilient society in Canada” (Ministers Responsible for Emergency Management, 2017, p. 7).

Figure 2.

SUMMARY OVERVIEW OF THE FEDERAL/PROVINCIAL/TERRITORIAL EMERGENCY MANAGEMENT GOVERNANCE STRUCTURE


The Government Operations Center (GOC) is an arm of the federal government, working “on behalf of the Government of Canada, to lead and support response coordination of events affecting the national interest” (Department of Public Safety and Emergency Preparedness, 2016, para 1). The Government Operations Center provides continuous monitoring, reporting, risk assessment and
coordinates the highest-level response management, which can at times include non-governmental organizations (NGOs) (Department of Public Safety and Emergency Preparedness, 2016). Public Safety Canada provides interactive mapping systems to view disaster occurrences (Department of Public Safety and Emergency Preparedness, 2016). The Canadian Disaster Database (CDD) contains detailed disaster information on natural, technological and conflict events (excluding war) occurring since 1900 worldwide with direct impact to Canadians (Department of Public Safety and Emergency Preparedness, 2016). The map can be accessed at: https://www.publicsafety.gc.ca/cnt/rsrcs/cndn-dsstr-dtbs/index-en.aspx The federal emergency systems are responsible for broad systems of emergency response and build databases that include emergency data from the Provinces and Territories. The federal government does support local and provincial disaster response efforts when required but in many cases the immediate response is relegated to local governments (Department of Public Safety and Emergency Preparedness, 2016; Ministers Responsible for Emergency Management, 2017).

Reserve Land Emergency Legislation- Brief Overview

Regarding reserve lands, the Constitution Act 1867 (Section 91(24)) gives legislative authority of the Government of Canada for "Indians, and Lands reserved for the Indians" (Department of Indian Affairs and Northern Development, 2011). This authority then delegates the Minister of Aboriginal Affairs and Northern Development Canada per the Indian Act and the Department of Indian Affairs and Northern Development Act, (R.S.C. 1985 c. I-6, sec. 4) (Department of Indian Affairs and Northern Development, 2011). Under the Emergency Management Act (2007), ministers have responsibility to ensure emergency management plans are prepared for identified risks, "maintain, test and implement the plans; and conduct exercises and training in relation to the plans" (Department of Indian Affairs and Northern Development, 2011, p. 6). Indigenous Services Canada’s Treasury Board Program Authority #330 identifies management terms and conditions for “Contributions for Emergency Management Assistance for Activities on Reserve” (Department of Indian Affairs and Northern Development, 2011). This Program aligns with the constitutional jurisdiction that provinces and territories have over emergency management, while jurisdiction for Indians and lands reserved for Indians is the jurisdiction of the federal government of Canada (Department of Indian Affairs and Northern Development, 2011).

That said, as more First Nations are involved in lands management, many work alongside government agencies such as Emergency Management British Columbia (EMBC), Indigenous Services Canada (ISC), local governments and support service agencies to plan for emergency services (Canadian Red Cross, 2018; First Nations Emergency Services Society of British Columbia, 2018).
APPENDIX D. Therapeutic Interventions for Mental Health Supports Post-Disaster

Many interventions are proposed to support disaster survivors’ mental health (Fahrudin, 2012; Gist & Lubin, 1999; Greenberg & Wessely, 2017; Hobfall et al., 2007; Hodgkinson & Stewart, 2006; Hoffman & Kruczek, 2011; Norris et al., 2008; Norris, Friedman & Watson 2002; North & Pfefferbaum, 2013; Saari, 2005). The following are represented in literature as helpful in response, recovery and long-term disaster support:

- psychological first aid (PFA);
- psychological debriefing;
- crisis counselling (North & Pfefferbaum, 2013);
- interpersonal interactions that regulate traumatic stress (social support, social networks);
- interpersonal debriefing (Gist & Lubin, 1999);
- social supports (Gist & Lubin, 1999; Greenberg & Wessely, 2017);
- reducing isolation;
- cognitive behavioural therapy (CBT);
- advocating for victims;
- rebuilding social networks;
- regaining community networks as soon as possible (Gist & Lubin, 1999);
- utilizing a social work perspective to support survivors;
- normalizing reactions;
- anxiety management;
- pharmacological intervention;
- allowing for expression of experiences, and;
- teaching coping strategies (Fahrudin, 2012; Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; Math, Moirangthem & Kumar, 2015; North & Pfefferbaum, 2013; Saari, 2005).

The return to the ability to perceive the future is an important step for disaster survivors which can be achieved through:

1. the future must be seen as somewhat predictable;
2. individuals must perceive they can influence the future, and;
3. a belief that something hopeful lies ahead (Gist & Lubin, 1999; Saari, 2005).

The concept of a future, including hope, is central to recovery from natural disaster as it “fuels energies and investment to rebuild lives, revise dreams, renew attachments, and create positive legacies to pass on to future generations” (Walsh, 2007, p. 213) (CTRI Crisis & Trauma Resource Institute Inc., 2016; Du Plooy et al., 2014; McCabe et al., 2014; Saari, 2005; Walsh & McGoldrick, 2004). Hobfall et al. (2007) explain that interventions to increase hope can include individual, group and mass media interventions. Hope can be delivered through the simple assertion from a support person that things will get better, to more clinical supports such as decatastrophizing via Cognitive Behavioural Therapy (Foa et al., 1997; Hobfall et al., 2007). Psychological processing of traumatic events can often take six months, but for more severe traumas with higher levels of impact, recovery can take years (Saari, 2005).

Traumatic events go against norms; testing the coping ability of those impacted to find meaning in the event, create a new reality within altered circumstances and a sense of hope (Hobfall et al., 2007; Saari, 2005). Traumatic events, including natural disasters, can invoke a sense of loss which can cause grief; many traumatic events involve powerful reactivation of attachment systems and ensuing agony and distress (such as looking for relatives in the rubble of an earthquake or searching casualty lists). Third, and linked to the former, is the loss of territory, or safety within a territory—either via relocation—or indirectly, as people’s previously secure base is infiltrated by threat. (Hobfall et al., 2007, p. 285)

On a community-scale, grief and loss can be pervasive, and targeting treatments to address loss can be effective; “research suggests that the adverse impact of a disaster can be mitigated by trauma and grief focused interventions” (Hoffman & Kruczek, 2011, p. 1095). When planning for natural disaster the
The phrase “post-disaster distress” can be used as it encompasses an array of reactions in the emotional, cognitive, and behavioral realms; specifically symptoms of post-traumatic stress disorder, depression, and challenges coping, functioning and adapting (Hamblen et al., 2009).

Traditional mental health interventions are not recommended by Gist & Lubin (1999) as community-based, socially-activating and inclusive programs support greater numbers of affected individuals than those which follow traditional models of referral (Fahrudin, 2012; Norris, Friedman & Watson, 2002). “Well-structured programs aid biological (counselling regarding rest, diet, alcohol), psychological (cognitive emphasis on recovery, perspectives on meaning and attribution), and social (at many levels) control mechanisms in the process of recovery” (Gist & Lubin, 1999, p. 123). This type of program would include an efficient, two-tiered system that screens impacted individuals to determine those at high-risk requiring intensive treatments and those in need of mainstream programs and services to promote recovery (Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Ursano et al, 2017).

The following treatment options are reviewed as primary mental health modalities for disaster mental health response.

**Psychosocial Capacity Building (PCB)**

Psychosocial Capacity Building (PCB) engages community in all phases of disaster response and is rooted in the reduction and alleviation of suffering due to disaster (Miller, 2012). Psychosocial Capacity Building (PCB) can be described as:

> “intervention, provided by professional and nonprofessional people, both local and from the outside, that constitutes a multisystemic, culturally-grounded, empowerment- and resiliency-oriented approach designed to help individuals, families, social groups, and communities recovery from disaster, psychosocial capacity building seeks to be sustainable over time and builds on the foundation of local capacities and resources” (Miller, 2012, p. 128).

This modality of support recommends support services bolster resiliency and support the development of autonomy of community, which can be in itself developed through strong social cohesion of its members (Miller, 2012). The practice of planning from a psychosocial capacity-building perspective involves a collaborative process of mapping all available and potential resources (Miller, 2012). This process seeks to include all stakeholders, creating a sense of empowerment and ownership of the activity and outcomes (Miller, 2012). The mapping process should include information-gathering on the community; its potential strengths and deficits during disaster should be assessed and recorded (Miller, 2012). This initial planning phase allows community members to form a sense of cohesion, hope for the community’s abilities as recovery from disaster begins, and reduces special interests to create a sense of common good (Miller, 2012). Groups are given tasks to work together to plan and in doing so, can recognize inequities and minimize them (Miller, 2012).

Examples of outcomes of the psychosocial capacity-building planning process are:

- Forming representative councils or committees in the community to advise, plan, and implement activities;
- Developing ways for people to communicate with one another and the community at large—forums, broadsheets, websites, community radio, podcasts;
- Forming and facilitating groups to work on particular issues—economic well-being, collective bereavement and memorializing, social activities;
- Linking different groups to provide social connection, support, and mutual aid—a link between isolated seniors and children needing adult oversight;
- Providing recreational activities for youth and adults;
- Initiating community service projects that involve people working together to help the community to rebuild;
- Promoting cultural activities—dance, drama, storytelling—that engage people and are connected to the disaster and rebuilding;
Offering artistic activities and presentations, including writing, photography, and other methods of post-disaster expression and collective memorialization (Miller, 2012, p. 134).

Psychosocial capacity building is a conceptual tool that allows communities to come together, break down barriers, assess and develop strengths, and identify potential needs. Planning professionals should consider the multisystemic nature of psychosocial capacity building as a positive attribute, as it can be combined with other treatment modalities in a multi-modal system if desired (Miller, 2012).

Psychological First Aid – How it Fits In

Psychological First Aid (PFA) is a system of immediate practical emotional support for those impacted by disaster (Alberta Health Services, 2016; McCabe et al., 2014; World Health Organization, 2011). Psychological First Aid can be provided by both professionals and community members without formal healthcare training, although training for Psychological First Aid itself is required (Alberta Health Services, 2016; McCabe et al., 2014, World Health Organization, 2011). The surge in need for psychosocial support that is created by natural disaster creates an inevitable lack of appropriate workers to do this work, which is a primary reason that Psychological First Aid is popular and increasingly utilized (McCabe et al., 2014).

Although survivors can be impacted in the long-term, research shows most do recover, which speaks to the resilience and coping ability of disaster survivors (Gist & Lubin, 1999; Miller, 2012; Norris et al., 2002; Saari, 2005). While all disaster survivors will be impacted by a disaster event, 30-40 per cent of those experiencing trauma are unable to process it without psychological support (Saari, 2005).

For those who do continue to present with symptoms of trauma, the following has been identified as “Response-Based Criteria Indicative of Need for a Higher Level of Care Intensity” (McCabe et al., 2014, p. 624) for use during mental health screening for disaster survivors:

- Sustained neuromuscular immobility, freezing;
- Traumatic psychogenic amnesia;
- Dissociation, depersonalization, derealization;
- Extreme sympathetic nervous system dysfunction (e.g., panic attacks, malignant arrhythmias);
- Dysfunctional parasympathetic nervous system arousal;
- Lingering or dysfunctional guilt reactions (survivor guilt, responsibility guilt);
- Giving up (e.g., helplessness, hopelessness);
- Self-destructive ideation (e.g., suicidal or homicidal ideation);
- Any persistent interference with significant activities of daily living, including absenteeism;
- Any significant interference with caretaking responsibilities (McCabe et al., 2014, p. 624).

A study of Psychological First Aid on behalf of the American Centers for Disease Control and Prevention (CDC) developed core competencies with 6 domains to combat the inadequacies that are prevalent from a lack of standardization:

1. initial contact, rapport building, and stabilization;
2. brief assessment and triage;
3. intervention;
4. triage;
5. referral, liaison, and advocacy, and;

These competencies, if used in a standardized capacity, would provide efficiency of service in Psychological First Aid and allow for more oversight of services (McCabe et al., 2014).

Debriefing

Debriefing is a method of addressing the shock stage of crisis processing that was developed by a psychologist named Jeffrey Mitchell in the late 1980’s (Saari, 2005). This method was meant to support professionals experiencing trauma to immediately process the experience and allow a resumption of work.
duties as soon as possible (Saari, 2005). A core principle of debriefing is that the traumatic event is to be completely over before the session begins (Saari, 2005) but in disaster response settings it can be difficult to identify when a traumatic experience is "over". For instance, an earthquake itself may be traumatic, but the aftermath: seeing the destruction, discovering a home that has been destroyed, pets lost, friends injured, these experiences in themselves may be traumatic. Due to the ongoing and pervasive nature of natural disaster impacts, debriefing may not be the ideal treatment choice for disaster survivors (Boasso, Overstreet & Ruscher, 2015; Math, Moirangthem & Kumar, 2015; Ursano et al., 2017). Debriefing can be of benefit to disaster survivors when performed with a professional crisis worker with "expertise in the psychology of disasters and traumas", knowledge of group dynamics, teaching skills and expertise in psychological debriefing methods (Saari, 2005, p. 162). Survivors whom are unable to process a disaster event independently may be able to assess the event with facts, reduce avoidance and anxiety, have a sense of reinforced social support, understand somatic reactions, and learn coping strategies (Saari, 2005).

While debriefing has a place in crisis response, group debriefing is strongly cautioned against in the field of disaster psychiatry today (Boasso, Overstreet & Ruscher, 2015; Math, Moirangthem & Kumar, 2015; Ursano et al., 2017). “Community reactions better or worsen individual reaction; individual reactions become shared reactions and define the collective identity of a coping community” (Gist & Lubin, 1999, p. 26). Although collective experiences are positive in creating a sense of community, the evils of comparison are potentially harmful for disaster survivors, and group debriefing sessions can enhance comparisons (Gist & Lubin, 1999). In addition, there is a lack of conclusive research on the efficacy of group debriefing which has contributed to the controversy (Math, Moirangthem & Kumar, 2015). Should helping agencies choose to use debriefing in disaster recovery support, individual sessions rather than groups may be more effective. In any disaster mental health setting, debriefing should be used with caution and intentional planning.

Cognitive Behavioural Therapy (CBT) and Cognitive Behavioural Therapy for Post-disaster Distress (CBT-PD)

Cognitive Behavioural Therapy (CBT) is treatment based in the cognitive behavioural model to replace unhelpful associations and thoughts with rational beliefs and associations (Hofmann & Asmundson, 2017; Leiva-Bianchi, 2018). Cognitive Behavioural Therapy is reported as one of the most effective therapeutic procedures in treating post-traumatic stress (Hofmann & Asmundson, 2017; Leiva-Bianchi, 2018). In particular, Cognitive Behavioural Therapy for Post-disaster Distress (CBT-PD) has demonstrated effectiveness (Hamblen et al., 2009; Leiva-Bianchi, 2018).

Cognitive Behavioural Therapy for Post-disaster Distress (CBT-PD) is short-term group therapy consisting of 10 to 12 sessions that aims to discern and intervene in maladaptive thought patterns regarding the disaster event (Hofmann & Asmundson, 2017; Leiva-Bianchi, 2018). Cognitive Behavioural Therapy for Post-disaster Distress “includes four components: psychoeducation, breathing retraining, behavioral activation and cognitive restructuring” (Leiva-Bianchi, 2018, p. 292). Cognitive Behavioural Therapy is widely-used in restructuring unhelpful thought and behaviour patterns, thus utilizing it for those experiencing psychological distress due to trauma is a logical fit (Hofmann & Asmundson, 2017).

Analysis of Therapeutic Treatment Modalities

It could be argued that each mental health treatment modality has a place in disaster support, yet there are some challenges that must be assessed. While Psychosocial First Aid is a widely-utilized in emergency and disaster response, there do remain some deficits to the practice which include:

- the inconsistency in training and content;
- subjective measurement of outcomes;
- little to no accountability and oversight;
- a lack of standardization;
lack of research into long-term outcomes (Math, Moirangthem & Kumar, 2015; McCabe et al., 2014);

survivors may engage in Psychological First Aid for several days and form attachment, only to have the support person leave the area, increasing the dismay (Miller, 2012).

There is a wealth of literature discussing the importance of attachment between patient and psychotherapist (Parish & Eagle, 2003) and while the matter of severed attachment during traumatic event is worth consideration for planning, the same could be said about most interpersonal therapeutic support modalities; attachment is a concern which must be addressed in any training program. The World Health Organization Psychological First Aid: Guide for Field Workers (2011) is a comprehensive manual that is used by the Disaster Psychosocial Services Program’s volunteers (Provincial Health Services Authority, 2019). The Field Guide (World Health Organization, 2011) does address the concept of closing the helping relationship on a positive note, but there is nothing said of the power of attachment. Although Psychosocial Capacity Building has positive attributes in the context of disaster mental health support, the challenges must be assessed. Negative outcomes that could be associated with psychosocial capacity building are lack of research into long-term outcomes, little to no oversight ensuring quality of service provision, and dependency on workers that are available in short term service only (Miller, 2012; Parish & Eagle, 2003). Another challenge that can emerge during disaster response and recovery with Psychological Capacity Building is the friction that occurs when groups with special interests vie for services (Gist & Lubin, 1999; Miller, 2012).

Mental Health Impacts
When there are disruptions of community and workplaces due to disaster, there can be increased distress responses, health risk behaviour, and risk of post-traumatic stress disorders (Gist & Lubin, 1999; Saari, 2005; Ursano et al., 2017). Ample research reports an increase in somatic complaints with the onset of disaster, in particular sleep disturbance can be pervasive and require attention (Saari, 2005). Those with pre-existing mental health conditions or who have experienced past mental health concerns are at higher risk for mental health concerns due to traumatic events (Felder et al., 2014; Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; Jones et al., 2007; Martin, 2015; North, 2014; World Health Organization, 2013). Pre-existing physical health concerns can be exacerbated during and post-disaster (Felder, 2014; Hodgkinson & Stewart, 2006; Martin, 2015; North & Pfefferbaum, 2013; Saari, 2005; World Health Organization, 2013).

World Health Organization research shows every country has unmet need for mental health support in pre-disaster communities, which highlights the severity of need that exists for communities post-disaster when not only are resources more limited, but need is higher (The WHO World Mental Health Survey Consortium, 2004).

Studies have shown that the first year after a disaster event presents the highest level of psychological symptoms and associated issues, although time does bring improvement if not complete alleviation of symptoms for all disaster survivors (North, 2014; North & Pfefferbaum, 2013). The four stages of crisis processing to cope with experiences of acute trauma are:

- psychological shock:
when the mind cannot process an event and individuals may feel they are watching events, rather than participating in them;
- the brain is working overtime and sense perceptions are heightened and interactions as well as experiences are felt acutely;
- impaired decision-making;
- hyper-efficiency;
- disassociation;

**The reaction stage (generally 2 to 4 day period):**
- as the initial sense of danger or threat passes, the reaction stage begins (this may only occur once one is returned to home);
- one becomes aware of the impact of what has taken place;
- strong emotions emerge (fear for self and others, sadness, despair, rage, blame, anger, anxiety, guilt, embarrassment, etc.), which can be irrational;
- powerful somatic reactions (physical sensations related to emotional state) which can include trembling, vomiting, nausea, cardiac symptoms, muscle pain, dizziness, extreme fatigue, sleeplessness;

**The working through and processing stage:**
- most individuals no longer want to discuss the event as processing becomes internal;
- the coping process slows down;
- grieving begins (for lost people, places or things);
- symptoms in this stage are memory and attention deficits, difficulty concentrating, loss of usual resilience (ie. temper), irritability, desire for solitude;

**The reorientation stage:**
- as acceptance sets in, adjustment begins (this stage is often gradual and unnoticed);
- a reinterest in life and animation to activities (Cullberg, 1991, as cited in Saari, 2005).

The term post-disaster distress is not a psychiatric illness or diagnosis but a term to be used when describing impacts from disaster events which recognizes the normality of distress in extraordinary circumstances (Hamblen et al., 2009). Distress can be expected in certain situations and reduce with time but for some individuals distress can be both insidious and intense (Hamblen et al., 2009).

**Prevalence**
Post-traumatic stress disorder is the most prevalent disorder post-disaster (20 per cent of disaster-impacted individuals) and post-traumatic stress is the most diagnosed post-disaster mental health condition (Norris et al., 2002; North, Oliver & Pandy, 2012; North, & Pfefferbaum, 2013). The estimated prevalence of post-traumatic stress disorder in the first year after disaster is 30 per cent to 40 per cent in direct victims, 10 per cent to 20 per cent in rescue workers, and 5 per cent to 10 per cent of the general population (Galea et al., 2005). In the United States the National Comorbidity Study (NCS) reported rates of post-traumatic stress disorder to be 7.8 per cent of the population, while the National Women's Study (United States statistic) reports 12.3 per cent (Ursano et al, 2017).

The second most-prevalent disorder is major depression (16 per cent); more than half of this population expressed pre-existing major depression (North, Oliver & Pandy, 2012). Third in prevalence is alcohol use disorder (9 per cent) although the post-disaster new prevalence of alcohol and drug use disorder diagnosis was rare to nonexistent (North, Oliver & Pandy, 2012). This tells us new cases of major depression do occur after a disaster event, and that alcohol and drug use disorders will require attention and intervention, although not necessarily be caused by the event itself. It is important to highlight that many studies draw a link between increased substance use and experiencing a disaster event, but the classification of disorder is rare to nonexistent in statistics (Fahrudin, 2012; Furr et al., 2010; Ibrahim,
During emergencies, the prevalence of those with severe mental disorders (psychosis, severely disabling moods, etc.) is projected to be 1 per cent higher than the estimated baseline of 2-3 per cent, and in large-scale disaster this can amount to thousands of individuals (Robins et al., 1981). 20 per cent of disaster survivors have a new psychiatric disorder after disaster, in addition to the comorbidity of psychiatric disorders with post-traumatic stress disorder and high instance of alcohol and drug use (North, 2014). In their study of over 60,000 disaster survivors, North & Pfefferbaum (2013) reported levels of impairment: 11 per cent of respondents showed minimal/highly transient impairment, 51 per cent showed moderate (indicating prolonged stress), 21 per cent severe, and 18 per cent very severe impairment, both “indicative of clinically significant distress” (p. 241).

One final consideration is that prevalence of disaster-related mental health concerns have been reported higher with man-made (technological or malicious disasters) than natural (Gist & Lubin, 1999). That said, this concept is being challenged as natural disasters are becoming attributed to human actions (ie. hurricane due to climate change) (Gist & Lubin, 1999).

**Risk Factors For Mental Health**

Research suggests gender is a reliable predictor for post-traumatic stress risk (females are more at risk of developing this condition than males) (Furr et al., 2010). Psychiatric morbidity is affected by the level of impact of the disaster to the community, as well as the effects on the environment of recovery and relationships of those impacted, stressing the importance of social supports post-disaster (Bonanno et al, 2010; Gist & Lubin, 1999). Loss of employment due to disaster is a major post-event predictor of “negative psychiatric outcomes” (Galea et al., 2002 as cited in Ursano et al, 2017, p. 4). For individuals who have previously experienced two or more traumatic events, there is a two-fold increase in depression risk which suggests the importance of an assessment of previous trauma in screening processes (Cohen et al., 2016).

The effects of natural disaster on children have been widely-researched, resulting in the assessment that disasters have “particularly pernicious effects on the mental health of children” (Schreiber et al., 2014, p. 323). A recent meta-analysis of 96 studies related to children's disaster response found that the pre-existing needs of the child, the context of the disaster itself, and the child's own exposure to the disaster all influenced the risk for the development of child's post-disaster PTSD symptoms (Furr et al., 2010). Youth exhibit “additional problems unique to their age groups such as behavioural problems, hyperactivity and delinquency, but like adults, they were also vulnerable to PTSD, depression, somatic complaints, and ongoing stress” (Norris et al., 2002, p. 241). Because youth have higher vulnerability to post-disaster depression than other age groups, Cohen et al. (2016) suggest a developmentally-sensitive screening process that addresses the higher risk to youth both in the aftermath of an event and throughout the lifespan. Screening that assesses for “social support, trauma history (especially in adolescents), or lifetime PTSD may serve as beneficial...for both adult and adolescent depression following a natural disaster” (Cohen et al., 2016, p. 11).

In addition, membership in an ethnic minority group, culture, low socioeconomic status, family structure, problems of children, parents or spouses, severity of exposure (proximity to disaster event), and secondary stressors (acute and chronic) have been found to influence the likelihood of a disaster survivor developing a serious or lasting psychological issue (Hoffman & Kruczek, 2011; Norris et al., 2002; North & Pfefferbaum, 2013). Those who suffer from severe or ongoing mental disorders pre-disaster are at higher risk to suffer from post-disaster complications; in some cases due to disrupted supplies of medications and a reduction or change to supports that were previously engaged (Cohen et al., 2016; Jones et al., 2007). For those with severe mental disorders, community interventions are recommended to include;
assessing existing services;
- identifying those in need;
- building a relationship with healers and facilitating the use of supportive traditional healing methods where appropriate;
- ensuring sustainable supplies of psycho tropic drugs;
- initiating rapid training and ongoing supervision for emergency primary healthcare staff;
- establishing an accessible advertised service while avoiding the creation of parallel mental health services focused on specific diagnoses (such as post-traumatic stress disorder) or on narrow groups;
- provide basic biological and psychosocial interventions to relieve symptoms and restore function,
- educate and support existing carers;
- work with local community structures and groups to enable protection of people who are severely disabled by mental disorder, and;
- plan for the return home if any (Jones et al., 2007, p. 679).

Pietrzak et al. (2012) conducted a study that reported suicidality in disaster survivors may persist or emerge more than one year post-event. While the results are not conclusive proof of suicidality rates in disaster survivors, this result does align with previous studies and should be noted by emergency planners to highlight the importance of ongoing intervention and screening (Bonnano et al., 2010; Pietrzak et al., 2012).
APPENDIX E. Proposed Community Mental Health Disaster Response and Recovery Plan (CMH-DRRP) Overview

The proposed Community Mental Health Disaster Response and Recovery Plan was developed to aid local governments in building best practices that best-suit their populations, guided by research and in a standardized format of protocol delivery. Best practice identification is presented to inform local government leadership and local supports, while allowing for flexibility to accommodate the individuality of communities. This information is provided in the Literature Review for Local Government Reference and Training.

That said, it is important to keep research-based intervention principles in the forefront of planning for community disaster response programs: promoting a sense of safety, calm, self- and collective efficacy, connectedness, and hope (Hobfall et al., 2007).

Mitigation and Preparedness Stage Priorities:

The following are identified as central to Stage 1 development and implementation:

- Appointment of the Community Mental Health-Disaster Response and Recovery Coordinator (CMH-DRRC);
- Development of a Community Mental Health-Disaster Response and Recovery (CMH-DRR) Team (multidisciplinary group) (Saari, 2005);
- Development of communities’ resilience/vulnerability including psychiatric and psychological responses to disaster events (Gist & Lubin, 1999; Ursano et al, 2017);
- Clear pre-emptive plans including (when necessary) mutual aid agreements (Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; Kettner, Moroney & Martin, 2013; Norris, Friedman & Watson, 2002; Saari, 2005; Ursano et al, 2017);
- Inter-agency collaboration (Gist & Lubin, 1999; Hodgkinson & Stewart, 2006; Norris, Friedman & Watson, 2002; Saari, 2005; Ursano et al, 2017; World Health Organization, 2013);
- Planning community-based, local programs with:
  - a focus on full participation by all impacted survivors, rather than those displaying symptoms (normalize participation) (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Saari, 2005);
  - culturally-informed intervention including culturally-sensitive non-verbal and verbal communication (Gist & Lubin, 1999; Hobfall et al., 2007; Kettner, Moroney & Martin, 2013; Ursano et al., 2007; World Health Organization, 2013);
  - consent in disaster settings (Miller, 2012), and;
  - trauma- and grief-focussed interventions (Hoffman & Kruczek, 2011).
- Rapid, effective and sustained mobilization of health care resources that work collaboratively with mental health supports (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Ursano et al., 2017; World Health Organization, 2013).
STAGE 1 Mitigation and Preparedness Overview

1. Appointment of Mental Health Disaster Response and Recovery Coordinator (MH-DRRC).
2. Audit current local government bylaw requirement(s) and emergency response plans
3. Appointment of Community Mental Health Disaster Response and Recovery Team consisting of a team leader, media contact, liaison with outside agencies/community, resource developer, 1 – 3 mental health professional(s) (consisting of: psychiatrist, psychologist, registered clinical counsellor, school counsellor, etc.)
4. Develop and maintain a disaster resource list for mental health including:
   o local stakeholders, external aid agencies, key contact persons, chain of command in case of disaster with emergency contact information
5. Set expectations for meetings to update and review information and plans
   o Establish which disaster events will be responded to by the group
   o Establish how group will be contacted if a relevant disaster event occurs
   o Establish group member roles in disaster event
6. Liaise with community stakeholders to:
   o determine disaster response with best practice
     ▪ requirements for performance measurement – Appendix B
   o build relationship
7. Connect with mental health affiliates of Emergency Social Services to ensure rapid access to services and clear understanding of the system(s) in place (record)
8. Ensure Mutual Aid Service Agreement(s) for emergency services include mental health provisions. If not, arrange for opportunity to remedy this via meetings with emergency services, local governments, etc.
9. Identify individuals in support roles to take Psychological First Aid (PFA) training (McCabe et al., 2014; Schreiber et al., 2014; World Health Organization, 2011).
10. Arrange for Psychological First Aid training to take place within 6 months and at regular intervals as more support individuals are identified.
STAGE 2 – Response

Research shows programs should support biological (ie. support for rest, diet, alcohol), psychological (ie. supporting meaning-making, resilience and strengths) and social realms for survivors (Gist & Lubin, 1999; Miller, 2012). Disaster survivors who perceive they have support, receive support and have large, active, close social networks have better mental health outcomes than those without (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Ursano et al., 2017).

The perception of support is important for planning professionals to examine. This can be attained through working in a collaborative process to design programs and services, ensuring they are offered in a way that reaches the maximum number of survivors (inclusiveness), and by using local resources of community leaders and social group connections to ensure survivors feel connected to support services.

Consistently research links advocacy with positive outcomes for disaster survivors (Cline et al., 2010; McCabe et al., 2014). Reinforcing community cohesion and a return to routine are important to survivors, hence programs should be designed to be inclusive, group-based, allow for self-efficacy and have a sense of routine (Fahrudin, 2012; Gist & Lubin, 1999; Norris, Friedman & Watson, 2002; Ursano et al., 2017). One consideration of group activities is that environmental settings or places once used for gatherings are no longer available or destroyed (Gist & Lubin, 1999). Physical spaces hold implications for society and as symbols; “loss of attachments to places harms individuals and whole communities because certain physical structures with their symbolic, social and psychological dimensions are foundations of self- and collective- identities” (Gist & Lubin, 1999, p. 43). Planning for groups must include a respect for spaces that may be damaged or destroyed, as well as options for re-establishing new spaces for communal activity that allows survivors to reengage with routine and connection (Gist & Lubin, 1999).

Proposed Post-Disaster Flow

1. Disaster Event
2. Deployment of Emergency Social Service, including Mental Health Disaster Response and Recovery Coordinator (MH-DRRC)
3. Assessment by Emergency Social Service for mental health with risk, referral to MH-DRRC if needed for further service provision
4. State of Emergency Declared
5. Community Mental Health-Disaster Response and Recovery (CMH-DRR) Team meeting to determine response
6. Referral for Services (Disaster Psychosocial Services Program, Emergency Social Services, Red Cross, etc.)
7. Implementation of Community Mental Health Disaster Response and Recovery Plan
8. Mental Health Disaster Response and Recovery Coordinator (MH-DRRC) to liaise with Provincial, local government agencies and community supports – ongoing
9. Ensure ongoing communication with public, including media
10. Ensure ongoing mental health services including needed referrals
11. Implement Post-Disaster Recovery Plan implementation (STAGE 3)
Figure 1.
PROPOSED POST-DISASTER PLAN INFOGRAPHIC - ARROW

Disaster Event

Deployment of Emergency Social Service (MH-DRRC)
Mental Health Assessment by Emergency Social Service and Referrals
State of Emergency Declared
Community Mental Health-Disaster Response and Recovery (CMH-DRR) Team Meeting for Next Steps
Referral for Services (Disaster Psychosocial Services Program, Emergency Social Services, Red Cross, etc.)

Emergency Act
Emergency Management Act

Ensure Ongoing Communication with Public, Including the Media

Ensure Ongoing Mental Health Services Including Referrals

Continued Implementation and Revision of Community Mental Health Disaster Response and Recovery Plan
STAGE 3 (Recovery and Mitigation)

Research shows mental health and psychological effects of trauma can be pervasive and affect disaster survivors for months and even years after an event (Felder et al., 2014; Hodgkinson & Stewart, 2006; Saari, 2005; World Health Organization, 2013). When time passes after a disaster event, an inevitable reduction in outside resources will take place (Gist & Lubin, 1999; Miller, 2012). As trauma symptoms can emerge long after an event, there is real need for ongoing screening, assessment, and support (Pietrzak et al., 2012). Long-term recovery efforts are imperative to support communities affected by natural disasters to reduce impacts to individuals, families and communities as resources wane (Gist & Lubin, 1999).

Another consideration is the concept of hope and importance of the return of hope for survivors (CTRI Crisis & Trauma Resource Institute Inc., 2016; Du Plooy et al., 2014; Hobfall et al., 2007; McCabe et al., 2014; Saari, 2005; Walsh & McGoldrick, 2004). Hope stems from the ability to think of a new future in the context of the event that has happened. Creating new hope after a disaster event can be difficult but in long-term recovery efforts to assist community members to rebuild hope can be a powerful aid to regain strength, connections and reinvest in the future (Walsh, 2007). The planned disengagement of services when deemed appropriate is also an important consideration. Local services must have adequate resources to continue with care without the support of the Community Mental Health Disaster Response and Recovery team.

One final consideration in long-term recovery programming is the need for self-care (Cline et al., 2010; McCabe et al., 2014). Both care providers and survivors (at times these can be one and the same) require self-care to manage the long-term stresses of disaster recovery (Cline et al., 2010; McCabe et al., 2014). For those structuring programing, ensuring supports focus on self-care and compassion cannot be stressed enough.

Proposed Post-Disaster Flow

1. Ongoing advocacy for services as external support agencies retreat and aid begins to recede.
   Case management for individuals requiring higher-level mental health/psychiatric support

2. Arrange community events that respect the loss but give opportunity to futurize and make new memories (anniversaries, memorials, celebrations of accomplishments)

3. Ongoing screening and assessment as symptoms may be emerging

4. Review and Revision as needed of the Community Mental Health Disaster Response and Recovery Plan