Population Dynamics and Vulnerability Reduction: The Role of Non-Profit Organizations

Following the 2011 Earthquake in Christchurch, New Zealand

by

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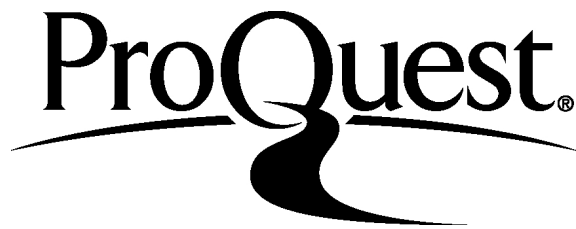
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Canterbury Earthquake Recovery Authority (CERA)

Central Business District (CBD)

Community Information Network Christchurch (CINCH)

Geographic Information Systems (GIS)

Third Sector Organization (TSO)

New Zealand Dollar (NZD)

Non-Governmental Organization (NGO)

United Nations Fund for Population Activities (UNFPA)

United States Dollar (USD)

LIST OF PARTICIPANT ORGANIZATION MANAGERS

Avebury House – Coordinator

CanCERN – Relationship Manager

Canterbury Community Gardens – Chairperson

Canterbury Refugee Council – Chairperson

Christchurch City Mission – Social Services Manager

Christchurch District Health Board Sexual Health Centre – Medical Doctor

Christchurch Migrants Centre Trust – Manager (*Transitional*)

Council of Social Services – Executive Officer

District Health Board Community and Public Health Division –Health Promoter

Family Planning –South Island Manager

First Union –Southern Region Secretary

Gap Filler –Director and Co-Founder

Greening the Rubble – Coordinator

Healthy Christchurch – Non-Governmental Organizations Coordinator (*Previous*)

Interpreting Canterbury – Canterbury Coordinator

Meals on Wheels – Food and Beverages Service Manager

Ministry of Awesome – Trustee

Neighbourhood Trust – Manager and New Projects Worker

New Zealand Aids Foundation – Health Services Manager

New Zealand Prostitutes Collective – Regional Coordinator

Pegasus Health – Migrant Health Manager

Problem Gambling Foundation – Public Health Practice Leader

Project Lyttelton – Treasurer

Public Service Association – Post-Earthquake Coordinator of Community and
Public Services

Red Cross – Recovery Program Manager

Rural Support Trust – Chairperson

Social Service Providers Aotearoa – Manager

Student Volunteer Army – Co-founder

The All Right Campaign – Mental Health Promoter

The Rodger Wright Centre – Outreach Coordinator

Volunteering Canterbury – Manager

World Vision – Regional Manager

Youth Cultural Development Trust – General Manager

298 Youth – Medical Doctor

ABSTRACT

With the adoption of neo-liberal policies and the decline in social welfare, non-profit organizations have been increasingly integrated into public service provision. Such changes raise questions regarding formal policies and access for marginalized populations, no more so than in disaster settings as formal disaster management of sexual health services are still vague. This study identifies the role of non-profit organizations in providing public health and social services through the lens of sexual health commitments following the September 2010 Darfield Earthquake and subsequent major aftershock during February 2011 in Christchurch, New Zealand. The primary goals of this study were three fold, to delineate i) aspects of non-profit organizational culture and agency connections that contributed to the resilience of non-profit organizations by maintaining and adapting access to sexual health and associated wellbeing services over the transition from response to recovery ii) integration pathways of non-profit organizations into disaster risk reduction and iii) appropriate geographic representations of temporal vulnerability change impacting the commitments of non-profit organizations.

Mixed methods were used for this study. Data were collected over a two-year period between 2013 and 2015. Data collection techniques included: i) archival research ii) surveys iii) focus groups and iv) semi-structured interviews. Quantitative data were derived from census records and qualitative data from surveys, focus groups, and interviews with non-profit and civil society practitioners. A total of thirty-six non-profit organizations, civil society partners, and agency connections participated.

Results show that sexual health needs of youth, families, and migrants arriving for the rebuild, fluctuated following the earthquakes. Sexual health non-profits absorbed the shifting demands for services and supplies by leveraging government partnerships and non-profit agency connections to account for fluctuations in presenting populations, adjust service delivery methods and continue advocacy campaigns. Also, as a result of functional redundancy amongst migrant support groups and their respective agency connections, strategies of long-term advocacy commitment, co-location, and relationship building with diverse ethnic groups benefitted migrants and refugees in maintaining or accessing adequate health and wellbeing support into the recovery phase. By developing programs to increase public awareness of resources, creating engagement opportunities in vacant spaces, and bringing a united voice to authorities, non-profits captured increased social cohesion to address emergent and compounded vulnerabilities of marginalized populations. However, as the recovery progressed, some collective energy was lost.

Findings indicate that non-profits operating in Christchurch prior to the earthquakes with flexible organizational structures and those that emerged after were most successful in the emergency response and early recovery. The ability to capture social cohesion resulting from the shared experience of the earthquakes and build bridges with non-profit connections or incorporate emergent populations into service delivery facilitated successful operations into recovery. Non-profits that partnered with the government were better suited for long-term recovery, when interagency collaboration returned to a more competitive state and reliance on co-production of services was reestablished as the preferred method of service delivery, based on their capacity to maintain and build linkages with civil society partners.

This research adds to disaster literature and the understanding of organizational behaviors by suggesting appropriate means to assess the potential resilience of non-profit organizations post-disaster. Further, pathways of integration with disaster management are identified for various types of non-profits that contribute to sexual health and related community support services. Methods used to identify vulnerabilities of wellbeing focused non-profit organizations and model integration of culturally appropriate service delivery options into recovery planning and disaster mitigation can be applied to other high-income nations with burgeoning non-profit sectors that experience variety of hazards, in particular on the United States' West Coast as the health care debate in the United States continues.

Chapter 1: Introduction

Development in hazard prone areas along coasts and fault zones puts billions of urban residents and large portions of national economic activity at risk (Annan 2004). With the rising economic and human cost of disasters in urban areas, governments have been increasingly relied on for response and recovery management, as well as mitigation technologies in the later part of the 20th century (Alexander 1994; Burton et al. 1993, Tobin and Montz 1997). Integrative disaster risk reduction is somewhat at odds with existing emergency management paradigms (Quarantelli 2000). Translation of national marginalization reduction priorities into post-disaster communities often suffers from jurisdictional confusion (Gil 2010; Keim and Abrahams 2012). Nowhere is this more evident than in welfare economies that engage in co-production of public services with non-profit partners (Dattani 2012). Non-profit organizations bring local knowledge to public service provision regardless of their underlying support systems (Cloke et al. 2005; Dattani 2012; Hudson 2009). With the integration of non-profit organizations into emergency response and long-term community vulnerability reduction, marginalized populations experience improved outcomes through increased representation and service availability (Hudson 2009; Oliver-Smith 1999). This study identifies the role of non-profit organizations in maintaining and building the capacity of public services through the lens of sexual health commitments over the course of the 2010-2011 earthquake series in Christchurch, New Zealand. In-depth research regarding the role of non-profit organizations in public service provision and social capital building over the transition from response to recovery was conducted. A total of thirty-six non-profit organizations, civil society organizations, and collaborative networks participated. This

study site was selected due to the multiple hazard environment and applicability of non-profit interactions to other hazard prone urban areas in high-income countries.

Research Objectives

The primary goals of this study were three fold, to delineate i) appropriate geographic representations of temporal vulnerability change impacting the commitments of non-profit organizations ii) integration pathways of non-profit organizations into existing risk assessment models and iii) aspects of non-profit organizational culture and agency connections that contributed to the resilience of non-profit organizations by maintaining and adapting access to sexual health and associated wellbeing services over the transition from response to recovery.

Background

In spite of strong national civil defense system and frequent seismic activity across New Zealand, integration of the non-profit sector to emergency management failed following the Christchurch earthquake (Henrys et al. 2006; Parkin 2012). This study identifies alternative pathways utilized by local non-profits to access resources and advocacy channels to maintain services and build social capital for their target populations. This research presents a multi-level organizational analysis culture in the non-profit sector. The implications of health sector commitments on functional redundancy and agency connections are explored to establish contributions of various types of non-profit organizations to public service delivery. It provides insights into organizational resilience strategies over the transition from response to recovery for practitioners to implement and emergency authorities to plan with.

Study Site

In New Zealand, where non-profit and government partnerships have been formally developing since the 1990s, pathways for non-profits to provide services for and advocate on

behalf of affected communities were open when the Darfield earthquake, a magnitude 7.1 earthquake, occurred in rural Canterbury on September 4, 2010 (Johnson and Mamula-Seadon 2014; Larner and Craig 2005). As over 13,000 aftershocks followed, including a 6.3 magnitude event on February 22, 2011 that caused fatalities and severe structural damages in the city of Christchurch, significant community action was organized in the non-profit sector to maintain public services and maintain social capital for marginalized groups (GNS 2014; Platt 2012; Vallance 2011a). Due to demolition and red zoning following the February 2011 Christchurch earthquake, citizens, who may not have previously needed social assistance became reliant on trusted public service providers (Fogarty 2014; Johnson and Mamula-Seadon 2014; Pierpiekarz et al. 2014; Taylor 2013).

Problem Statement

This research merges disaster risk reduction with non-profit organizational effectiveness techniques through the lens of sexual health and associated wellbeing services for marginalized groups. The literature highlights the importance of non-profits in capturing social cohesion and addressing public health concerns of marginalized groups post-disaster but is not well linked to overall recovery processes (Oliver-Smith 1999; Tobin and Montz 1997; Whiteford and Tobin 2009). Organizational resilience studies indicate that the type of work being done and functional resilience influence success but need to be extended beyond the private sector to address differences in non-profit organizational culture (Aldunce et al. 2014; Brown et al. 2014; Hudson 2009). A transitional organizational resilience model for public service related non-profits is needed to capture the realities of multi-hazard environments (Burton 1993; Seville et al. 2006; Tobin 2014). Although Disaster Risk Reduction literature expands on the traditional Emergency Management stages to instill proactive approaches, the operations of agencies within the

framework may vary based on the political economy of the affected area and communities (Comfort et al. 2010; Quarantelli 2000).

Due to the chronic nature of sexual health concerns, such as sexually transmitted infection treatment and pregnancy, and contribution of population policy to socio-economic development, studies of sexual health in disaster settings are recommended to endure into long-term recovery but few have been completed (Anwar et al. 2011; Doocy et al. 2013; Noji 2001). Although sexual health service and supply access needs in humanitarian emergencies are well established, sexual health access in natural disaster settings is less regulated (Keim and Abrahams 2012). The capacity for health care delivery practices to translate to social capital for community engagement, which reduces risk-taking behavior must be further explored (Cameron and Shah 2015; Carballo et al. 2005). Further, Rocheleau (1995) suggests that the experience of women in relation to their natural environment is particularly useful in interpreting need for services and assessing community relevant resources through correlating stories and mapping. Multilevel analysis of organizational strategy to meet shifting demand for services in the post-disaster setting is required to underpin the contributions of non-profit organizations to health care delivery for marginalized groups (Dattani 2012; Oleske 2001).

Research Questions

The intent of this multi-level organizational strategy study is to determine the resilient organizational dynamics of the non-profit sector dealing with public service provision in an urban post-disaster setting in a high-income country. Research questions include:

1. What is impact of non-profit identified factors associated with a disasters on geographic vulnerability assessment?

2. To what extent do existing risk assessment, risk reduction, and organizational effectiveness frameworks capture response and recovery contributions of non-profit organizations to the vulnerability reduction of marginalized groups?

3. How can the impact of the response to recovery transition on non-profit organizations be best conceptualized?

Research Hypotheses

It is hypothesized that:

1. Vulnerability factors identified by non-profit organizations as emergent or compounded by a disaster are widely evident in geographic assessments of localized communities. *As representatives of local knowledge, non-profit organizations may be able to identify trends in shifting marginalization before changes to utilization of services can be gleaned from reporting mechanisms or large scale population assessments, such as the census. The geographic scale of these changes is likely, however, to be local due to the nature of non-profit operations. Correlations to national trends may be discovered with combined analysis of perceptions from organizations servicing broader areas. Temporally, these insights may be associated with both underlying socio-economic vulnerability and short-term limitations of livelihood opportunities resulting from disasters depending on the capacity of the non-profit's to adapt to local conditions.*

2. In post-disaster settings, non-profit integration into risk reduction processes are more influenced by entry costs than origin of the organization's mission. *Entry costs can be defined as the steps taken by an organization before being able to deliver appropriate services. These may include forming the organization, establishing relationships with the target population, adapting outreach methods, leveraging resources, or coordinating*

5

with authorities. In the post-disaster setting non-profits must gain entry to both the response and recovery phases through a combination of these organizational adjustments.

3. Non-profit organizational resilience in the transition from response to recovery is a function of altering production strategies to fit the operating environment. *The operating environment shifts from one of social cohesion amongst target populations during response to traditional co-production of services with government partners to provide individual rather than collective care during recovery. Organizational success may vary from response to recovery depending on the ability to adapt and strengths of the organizations' connections to their target population and cross-sector partners.*

Research Design

This study identifies components of organizational culture and demographics that contribute to vulnerability reduction for marginalized groups through public service delivery in a post-disaster urban environment. Mixed methods are utilized for data collection and analysis. The data were primarily qualitative but census data acquired from archival research are used to set a quantitative frame for unmet need in the study area. Further, the theoretical framework is derived from a thorough review of disaster literature as it related to disaster risk reduction and population trends.

Non-profit and civil society organizations were selected based on their location in Christchurch and relation of their mission to social capital building. Managers were targeted for a strategic overview of organizational resilience and an additional level of staff input was included to correlate means of delivery with organizational culture attributes. Responses were retrospective due to the time frame of interest to the study. Interview surveys of managers, focus

6

groups of staff, and follow up in depth interviews of managers whose staff participated in focus groups were conducted in late 2014 between August and November. Participants were asked about their experiences and reflections from the response beginning in 2010 into late stages of recovery which began in 2014. Questions for each part of the data collection process evolved based on the results of completed archival research and organization input received in initial surveys.

Thematic cross-organization analyses are undertaken in addition to identifying individual coping mechanisms over the transition from response to recovery. A vulnerability model was generated using GIS to identify the contribution of non-profit identified factors as various geographic scales. A model was developed for resilience in the response to recovery transition based on qualitative results to address gaps in existing frameworks for disaster risk reduction and non-profit organizational effectiveness.

Order of Dissertation

Analysis is completed as follows:

Chapter Two presents a comprehensive review of current disaster literature regarding risk reduction, health, and population dynamics. This is extended to include contributions of the non-profit sector in public service provision and capacity building. International definitions and theories are paired with national hazard distribution, management policy, and socio-cultural paradigms to establish the context for the research.

Chapter Three establishes a theoretical framework to guide further data collection and analysis. Contributions from risk assessment, organizational management, interagency coordination, and health care delivery are derived from existing literature.

Details of the methodology employed for the study are presented in Chapter Four: Participant selection and data collection techniques are described; applications of existing theoretical frameworks are designated. A non-profit typology is defined for the organization of results. Means of analysis are set out to build on concerns reported by sexual health providers. Migrant and community support services are then incorporated to assess their capacity to support at-risk populations.

In Chapter Five disaster potential, population dynamics, and management paradigms for the health system are explored in the context of New Zealand. The earthquake series and resulting socio-economic damages and emergency management structures in the study area, Christchurch, New Zealand presented. Existing research on resilient organizations and the non-profit contribution to response and recovery are discussed.

Results and discussions appear in Chapters Six and Seven. Several sections are intertwined to present the culture and interactions of non-profit organization found in management responses to surveys, focus groups of staff, and in-depth interviews with organization representatives regarding the results of the aforementioned focus groups, which brings the assessment full circle.

Chapters Eight, Nine, and Ten present implications of the participant responses through GIS, modification of existing risk models, and the proposal of a model for non-profit resilience post-disaster. Vulnerability assessments derived from census trends are then compared to non-profit concerns for marginalization in the post-disaster urban environment in Chapter Eight. The resilience of the sector is drawn from participant responses to background questions about the longevity and funding of their organization and perceived changes to demand for services following the earthquakes in Chapter Nine. This is presented by field of interest as stated in the

organization's mission statement. Then, existing frameworks are applied to qualitative and quantitative results. Finally, a resilience model based on the interpretation of participant responses through prevailing literature is proposed in Chapter Ten. This unites non-profit management and disaster risk reduction processes.

A summary of findings set in the context of the research objectives and literature comprises Chapter Eleven. Recommendations and future research are proposed. The impact of researcher bias and limitations of the research are contextualized.

The appendices include: photos of the rebuild process taken on field visits to Christchurch; the articles that have resulted from this research to date; and the Internal Review Board approval of the study. These offer a visual representation of the rebuild process experienced by the participants; represent a subset of the findings; and indicate the original intent of the research.

Chapter 2: Literature Review

Identifying Vulnerability and Building Resilience to Disasters

      Defining Disasters

Disaster severity is not just a measure of magnitude, such as that of an earthquake, but also one of intensity, the loss of life, the degree of property damage, and the impact on complex socio-political systems and indirect effects on socio-psychology (Cutter 2006; Smith 2013). Oliver-Smith (2004) states that disasters are the realization of vulnerability. Without disruption of human systems, hazards do not translate to disasters (Smith 2013). The degree of the disaster is based on the failure of the natural, built and social systems of the affected community to withstand damage and address repairs without outside assistance (Alexander 1993; Rotimi et al. 2006). Communities are consequently not impacted in the same ways due to differences in distribution of population, codes for built and natural environment interaction, socio-economic resources, and government intervention capacities (Alexander 1993). Damages may be compounded in areas where multiple hazards are present thus impeding recovery (Burton 1993).

While population shifts and infrastructural damages are generally quantifiable after a disaster, documenting social impacts presents other challenges that are particularly sensitive to variations in geographic and temporal scales. For instance, many indicators of the length of recovery are multidimensional involving differential vulnerabilities of marginalized portions of society (Birkmann 2013; Cutter 1996; Tobin and Montz 1997).

Historic Disasters - Earthquakes

Earthquake disasters generally occur without warning and may range from a concentrated event to a series based on the distribution in time, area, and magnitude of the aftershocks (Tobin and Montz 1997). Earthquakes resulted in 1.87 million fatalities over the course of the 20th century (Doocy et al. 2013). Over 700,000 fatalities have already occurred from earthquakes in the 21st century (EM-DAT 2013). Although the Pacific Rim and consequently Asia have the majority of earthquake disasters, regional seismicity skews the impact assessments (Doocy et al. 2013). For example, the Haiti earthquake of 2010 had a significant death toll 222,000; whereas, the New Zealand earthquake in the same year resulted in no fatalities. These recent events shifted analyses to identify the Caribbean as a significantly more vulnerable area than previously thought (Doocy et al. 2013). However, development or the lack thereof is more likely the cause of the disasterous outcomes of these two events rather than seismicity.

The disaster experience resulting from an earthquake is altered by building standards in high-income countries, which are implemented to decrease casualties but significantly increase the cost of infrastructure (Doocy et al. 2013). The year 2011 included the particularly devastating Japanese and New Zealand earthquakes. This was a record breaking year in terms of losses associated with earthquake disasters. Costs exceeded the previous highest loss year, 2005, due to the levels of development (Munich Re 2012). High costs of rebuilding is another feature of development in hazard prone areas. In the 21st century for very high development category countries, such as Japan and New Zealand, the average fatalities was 109 per event with 687.6 million USD in losses. Over the ten year time frame from 2003 to 2012 Oceania experienced 150 disasters with an average of 10 deaths per disaster and 324.4 million in average losses. As a comparison, worldwide statistics from that time frame reflect 2,407 deaths and 158.4 million

USD in losses (EM DAT 2013; International Federation of Red Cross and Red Crescent Societies 2009).

Assessments of disaster are shaped by the time and geographic scale of the research (Smith 2013). A sociological view of disasters as human phenomenon requires factoring socio-cultural realities into risk reduction assessments. On the one hand, comparing earthquake statistics carries less sensitivity than risk reduction assessments. On the other hand, disasters act as data sources for both types of assessment. Comparisons thereof seek to capture best practices and delineate trends at various development levels but are restricted in application to the severity of the event in terms of physical, temporal, socioeconomic, and political bounds (Cutter 2006). For example, Gomez and Hart (2013) criticized that cultural norms are imperative to the interpretation of resilience when Crowley and Elliot (2011; 2013) attributed progress toward rebuilding after the earthquakes in Japan and New Zealand to severity of the event. This contention indicates the complexity of factors that contribute to the disaster experience, which exceed the physical environmental impact because of the dynamic interactions of humans in their environment.

Defining Vulnerability

There are many definitions of vulnerability ranging from socio-cultural norms to deficiencies of the built environment (Marre 2013). The *Pressure and Release* (PAR) *Model* (Wisner et. al. 2004), holds that the root causes of vulnerability are generated over time as a function of socio-economic livelihood opportunities and living conditions. Further, increased vulnerability is related to limited social networks and intensified health burdens. Risks associated with differential vulnerabilities and hazard exposure are further impacted by socio-political realities (McEntire 2012). The *Access Model* (Wisner et al. 2004) indicates how household

reactions to a disaster are limited or facilitated by socio-political and economic power structures. Thus, insight into indirect effects of disasters, such as shifts in mental health and family structure are required to expand the understanding of socio-political interactions and interventions that compound or assuage the disaster process (Faas et al. 2015; Smith 2013).

According to Weichselgartner (2001) vulnerability is the extent to which physical and social systems fail when hazardous natural events occur. McEntire (2012) delineates vulnerability definitions into three categories: i) proneness, ii) capacity, and iii) the combination of proneness and capacity. Risk, although it features its own primarily physical definition in disaster literature can be equated with vulnerability in the event that a natural hazard impacts a populated area and the consequences are channeled to at-risk communities (McEntire 2012; Oliver-Smith 2004).

Disasters accentuate existing social vulnerabilities and gaps in institutional structures (Guwardena and Schuller 2010). Organizations engaged in vulnerability reduction must be sensitive to the social and geographic lenses through which individuals, families, and communities experience disaster (Cutter 1996). Government partnerships with non-profits in disaster settings are important because populations with pre-existing or emergent vulnerabilities following a disaster may experience emotional trauma in addition to potentially increased physical damages common to socio-economically disadvantaged areas and are often hesitant to accept unsolicited government intervention in their communities and such intervention must be equitable (Guwardena and Schuller 2010; Tobin and Montz 1997).

Defining Resilience

A number of researchers have attempted to define resilience. The most basic concept of resilience is returning to a state of equilibrium or the capacity to do so, such that shocks to the

system may be resisted and/or involve adaptation to achieve a semblance of restored balance. Given that when applied to disasters resilience assumes that resistance is insufficient, adaptation is seen to be a crucial feature of resilience (Aldunce et al 2014). In McEntire's (2012) social definition of resilience, it is also assumed that despite mitigation efforts, disasters are not entirely preventable. McEntire (2012) states that individual and family livelihood opportunities dependent on cultural acceptance, good health, and opportunities for economic success become more resilient through social inclusion and integration into sensitive institutions. Therefore, resilience may be built at the intersection of social policy and organizational management (Comfort et al. 2010).

For communities to be resilient, it is argued that functional redundancy of public support services, which involves the overlap of non-profits with complementary organizations and emergency authorities, must be present to decrease susceptibility to hazard impacts over extended recovery timeframes (Aldunce et al. 2014; Beatley 2009; Ewing and Synolakis 2011). Commitment to long-term recovery planning allows communities to balance costs of technical and natural elements of resilience and increase their protection against future hazards without causing environmental injustice (Bohannon and Enserink 2005). To sustain commitment to long-term recovery, requires assignment of clear tasks to 'sympathetic' organizations that have policy support (Tobin 1999).

The Translation of Social Capital to Capacity Building

Social capital for individuals is the collective resources and capacities gleaned from their connections to other individuals, groups, and formal organizations. This may improve citizens' wellbeing by setting community standards for safety or create opportunities to improve their quality of life through participatory action or shared resources. Participation in society through

such connections yields community benefits as well by increasing civic involvement (Portes 1998). To build capacity for community resilience, connections and connective agencies are necessary to improve social, economic, and political realities of vulnerable populations. Capacity building yields vulnerability reduction and increased resilience (McEntire 2012). However, vulnerability reduction may not be equitable if entrenched vulnerable populations are unable to participate in social systems or access community resources (Portes 1998).

Delineating Emergency Management and Disaster Risk Reduction

Disaster risk represents a complex interplay of forces that incorporates both physical and human dimensions which must be fully understood if planners and communities are to mitigate disaster impacts and raise resilience (Montz and Tobin 2013; Tobin and Montz 2009; Wisner et al. 2004). Emergency management is usually set up to safeguard governments through command and control mechanisms. Authorities use emergency management to coordinate relief organizations convening on the impacted area and set achievable expectations for response and recovery (Alexander 1993; Guwardena and Schuller 2010). Emergency management is tasked with balancing the complexities of vulnerability with opportunities to improve individual, family and community capacity (McEntire 2012). Protective measures, such as land zoning, to prevent development in vulnerable geographic areas benefit from command and control but have ramifications within the affected community in terms of trust in governance (Alexander 1993). Civil Defense is a way for governments to protect citizens, the format for which was established in WWII (Quarantelli 2000). At the same time, non-profits operate on the fringes of government led disaster plans allowing them to be more flexible in fluctuating between response and recovery based on social situations rather than the allocation of resources through policy, which allows for greater focus on long-term resilience goals (Comfort et al. 2010).

Although the origin of a hazard, whether produced by a natural process or technological failure, is seen to be irrelevant, the onset and duration of the hazard alter emergency management paradigms. Human emergencies such as refugee situations can differ even further in terms of emergency management (Quarantelli 2000). However, using a social definition of disaster allows for collective learning from community and organizational response and recovery contributors. Long-term public health crises often remain separated from civil defense activities and are thought to reflect resource distribution limitations. For example, a force deployed over a wide area, for an extended time may not be able to mobilize for new threats as quickly as those that are dormant outside of emergencies (Quarantelli 2000)

Although economic development and urban planning are a requisites for preparedness, response, recovery, and mitigation, they are not direct emergency management functions and often fall under the purview of separate permanent agencies at local or regional levels. The focus on mitigation beyond response and recovery in high-income countries reflects the rising cost of disaster and public expectation for protection. This expansion from emergency management to disaster risk reduction further complicates organizational interactions for affected communities who themselves generate increased social interaction, often in the form of actions taken or organizations formed for social intervention (Quarantelli 2000).

The immediate post-disaster phase generally focuses on emergency relief to be followed eventually by a longer-term recovery (Rotimi et al. 2006) but at the same time the transition between response and recovery phases is dynamic with conditions constantly changing (Comfort et al. 2010). As disasters phase through response and recovery, different management strategies are appropriate based on the shifting vulnerabilities of the affected communities (Larner and Craig 2005; Smith 2013). Recovery planners must establish acceptable levels of risk based on

shifting social and geographic vulnerabilities for mitigation (Smith 2013). Since any emergency planning typically sets an acceptable level of risk, given limited national or community wealth, a formula that provides predictions based on past events and incorporates social components is critical (Montz and Tobin 2013).

Human institutions that diverge from traditional command and control methods for emergency management leverage the diversity of communities to learn from and develop connections between communities to build capacity and achieve resilience. Community engagement of homogenous groups is most successful but the expansion of community connections may occur briefly after an event that allow for increased cooperation across entrenched socio-economic and demographic divisions (Quarantelli 2000). In this way, environmental justice may be more equitable and the ability to prepare for, respond to, and recover from disasters may require reduced external intervention. Also the myth of the technological fix which instills a false sense of security in vulnerable citizens can be counteracted. This achieves neoliberal ideals regarding independence but requires the institutional framework, social capital, and reduction of policy barriers to facilitate community engagement with the affected area and consequently empowerment rather than burden shifting which often entrenches existing marginalization (Aldunce et al. 2014).

If disaster risk mitigation is community based, then vulnerability reduction can be achieved. Following a disaster, long term advocacy on behalf of marginalized groups is bolstered by the emergence of new community representation organizations, communication platforms, and technologies. This is in part due to increased social cohesion from the shared experience. Through collaboration with a variety of socially focused organizations, agency connections can disseminate gains in resilience to a range of vulnerable populations (Oliver-Smith 2004). These

connections challenge underlying cultural norms that dictate post-disaster perceptions of damage and highlight causative chains (Aldunce et al. 2014).

A comprehensive plan actually requires mitigation and recovery components that fit the social, political and economic realities of the at-risk area to be resilient and sustainable over the long term (Tobin 1999). Understanding the hazardousness of place presents challenges involving: (1) geophysical research; (2) vulnerability metrics; (3) behavioral concerns; (4) determination of acceptable levels of risk; (5) local context and the hazardousness of place; (6) an understanding of dynamic systems and new synergies; and (7) attention to personal and community responsibility (Tobin 2014). Nevertheless, it would appear that a threshold based on perception and awareness of risk must be breached for a community to be willing to adapt (Burton 1993).

A variety of stakeholders are involved in decision making for the built environment. In particular, construction trades influence resilience in settings with earthquake hazards. Other stakeholders include planners, temporary relief agencies, insurance providers, and the community. Assuming that stakeholders are risk averse and that decision making is integrative, response will include forward thinking efforts of mitigation and preparation instead of terminating with retrospectively management of the crisis through response and recovery alone (Change and Shinozuka 2004; Mohammad and Lan Oo 2014).

Civil defense systems are usually quite complex and poorly linked to peace time public interests, such as health or welfare, which are more strogly assoviated with long term community capacity building for resilience. Public health and welfare systems typically remain the responsibility of the associated government department after a disaster despite the compounding of existing vulnerabilities. Due to the urgency of the disaster situation, revisions to integration

18

structures with emergency managers will be limited without preplanned flexibility and engagement with cross-sector organizations (Quarantelli 2000). To achieve the best outcomes and avoid distraction from irrelevant factors, people and organizations guiding the disaster risk reduction process must seize the sense of urgency; the guidance of this process requires interagency governance (Mohammad and Lan Oo 2014).

A Gendered Perspective of Population, Urbanization, Health, and Disasters

Fordham (2012) identifies that sexuality is an issue in disaster research that has even more limited research than women's experience. This observation is multifaceted. The role of sexual health in development contributes to the success or decline of economies (Bloom et al. 2003). The level of development of a nation then dictates the severity of a disaster (Doocy et al. 2003). Depending on access to sexual health services, women may experience disasters differently than their male counterparts (Carballo et al. 2005; Enarson 2012). To achieve disaster risk reduction, these discrepancies in disaster outcomes should be anticipated and integrated into response (Godschalk 2003; Quarantelli 2000).

A gap in the research regarding the impacts of natural disasters on sexual health is identified by Partridge et al. (2012). Although gender mainstreaming is a focus of emergency management and the contribution of women's social interactions to disaster resilience have been established, there is a disconnect between social cohesion in the larger community and gender relations that instills vulnerability. Following a disaster there are gender specific mental health needs and physical health issues that result from the role of women in preparation, response, and recovery of their families and in their work environments (Enarson 2012). Access to maternal health care, sexual health services and family planning is critical because in times of limited healthcare access mothers are likely to bring health concerns of other family members to the

19

attention of sexual health practitioners (Whiteford and Poland 1988). In the interest of expanding disaster related technologies for vulnerability assessments, it is imperative that disaster response and long-term delivery of services in the recovering area are explored from not only a gendered lens but for any marginalized population that may have reduced access to sexual health services.

Women's and Sexual Health in Development and Disasters

Reproductive health addresses both population pressure and women's access to community health resources and correlates with access to broader family health-care. Through policies that ensure that demand for family planning and reproductive health services and supplies are met, countries have the opportunity to benefit from the demographic dividend, which holds that as public health improves, the workforce increases and population growth decreases, economic advantages are produced. An educated workforce, robust labor market, and savings system amplify the economic effects of the demographic dividend. These effects, however, are limited as fertility rates fall below replacement. As the populations of the high-income countries age, care of the elderly will require targeted policy to reduce the costs of elderly dependents upon the smaller workforce (Bloom et al. 2003).

For high-income nations, the last surge in population followed World War II. The impact of urbanization on youth and adolescents, particularly in the high-income world, is delay of marriage and childbearing for educational and employment pursuits. These norms may vary based on gender, ethnicity, or culture. By presenting sexual health services, including prevention and treatment, in youth friendly formats that are socially acceptable for the area of operation, transmission rates for sexually transmitted infections are maintained at approximately two percent in high-income countries (Bearinger et al. 2007).

Not only do women traditionally suffer more than men during disasters and receive reduced health-care post disaster but there are a number of compounding factors that add to the vulnerability women experience (Fordham and Ketteridge 1998; Noel 1998; Phillips and Morrow 2008; Tobin 1999). Women in high-income countries are not detached from disaster related vulnerability. Women may be marginalized due to decreased income, single head of household family structure, unstable housing arrangements, family violence, sexual assault, advanced age patterns, and health needs including reproductive health. Minority women are even more susceptible due to heightened health burden (Enarson 2012).

Sexual violence is under reported globally, and survivors of sexual assault are particularly unlikely to interact with the authorities. The attitude of police departments and culture associated with sexuality in many western nations are not conducive to reporting rape (World Health Organization 2007). For example, in 2013 traditional media outlets across New Zealand broke the story of girls between 13 and 14 who had been sexually assaulted and shamed on social media by several men ages 16-18 calling themselves the roast busters. Although reports were lodged with the police as early as 2011 no prosecution or alerts were issued due to lack of evidence. Victim blaming on the behalf of the police was a concern despite national training requirements for sexual assault investigation completed by 2013. Despite public outrage, no prosecution was possible even after a coordinated police investigation brought more victims forward (Jordan 2015). Although rapes are not a prevalent crime in New Zealand, the need for alternate spokespeople for rape survivors, such as a community based practitioner, is evident (Bearinger et al. 2007; Jordan 2015). The timing of these rapes coincides with the catastrophic earthquake in Christchurch in 2011 (Munich Re 2012). Although these reports were from another part of the country, they represent cultural concerns throughout the nation. The implications for

under-reporting of sexual assault in the post-disaster environment are concerning as incidence may increase and treatment may be avoided to avoid social stigma (Carballo et al. 2005; Jordan 2015).

In another example of sexual health concerns associated with disasters, this time directly, following the 2005 Pakistan earthquake significant increases in mental health concerns, such as depression, were reported by women with reduced family and income resources and those who experienced a negative reproductive health outcome, such as stillbirth (Anwar et al. 2011). The role of women in society contributes to these increased vulnerabilities and requires culturally appropriate responses and resilience building opportunities, such as inclusion of formal and informal health providers in planning and management of emergencies contributes to women's individual, family, and community resilience (Anwar et al. 2011; Enarson 2012). Despite the proven relevance of women's social interactions to disaster efforts by supporting community networks, women's health often remains disconnected from disaster response analysis (Enarson 2012; Fothergill 1998).

Indeed, research on the reproductive health impacts of disasters has dealt primarily with conflict (Carballo et al. 2005; Partridge et al. 2012). However, natural disasters carry potential demographic and sexual health consequences for a wide range of ages, ethnicities, and genders from immediate increases in loss of pregnancy, violence, and assault to long-term impacts on family planning, sexually transmitted infection rates, and requirements for national elder care (Carballo et al. 2005).

Incidents of sexual violence especially are under reported in emergency situations due to instability (World Health Organization 2007). Sexual violence and assault also tend to increase in areas where populations are displaced and add mental health concerns to sexual health issues.

Displacement can be a leading contributor to maternal health decline and fetus and infant vulnerability (World Health Organization 2007). Heightened levels of exposure and disruption to livelihoods commonly affected migrants and the displaced, due to low community capacity, aversion to authorities, and different coping styles (Webster et al. 1995). Public health suffers following additional traumatic event experiences in migrant communities and displacement as these events decrease reporting of health concerns. Limited social connections increase the risk of poor psychological and reproductive outcomes, in particular for women migrants. Rather a result of pre-disposition or the disaster, increased sensitivity is required of health providers for populations of any background following a shock (Grove and Zwi 2006).

Even chosen sexual relationships may increase in risk-taking behavior with elevated demand for emotional support. Overcrowding and the arrival of disaster and later reconstruction related personnel further complicate sexual behaviors (Cameron and Shah 2015; Carballo et al. 2005). Keim and Abrahams (2012) agreed that women are specifically at risk of increased violence and limited emergency obstetric services post-disaster. Sexual health supply and service access interruptions compound these stressors (Carballo et al. 2005; Partridge et al. 2012).

The United Nations for Population Activities (UNFPA) Minimum Initial Service Package deployed in 1995 addresses family and sexual violence, HIV transmission, and delivery needs. The prioritization of reproductive health administration, treatment for rape and sexually transmitted infection, and availability of gender appropriate condoms, contraceptives, and surgery management technologies are being tested in manmade disasters (Carballo et al. 2005; Keim and Abrahams 2012). Personal hygiene kits have more recently been deployed for women of reproductive age by the UNFPA (Carballo et al. 2005). Much of the platform, however, is left

for the state to operationalize and no guarantees of care or supply access can be made (Keim and Abrahams 2012).

Disaster Health Concerns

According to Crisp et al. (2000) building capacity to improve community health requires a combination of approaches: i) policy change ii) staff training iii) partnerships and iv) integration of community members into existing or emergent organizations or movements. These approaches are intertwined. Herein health discrepancies are overcome through relationship building with health providers and policymakers. Participation of community members and organizations in the health system instills a sense of ownership of health outcomes and shared learning to decrease vulnerabilities. Although successful capacity building for public health, based on Crisp et al.'s (2000) assessment, may not require permanent funding for measuring effective, lasting improvement of relationships and health provision, limited funding requires innovative community outreach amongst health providers. Quantitative measures only capture a portion of the health care delivery outcomes and qualitative measures are variable depending on the community engaged and engagement method. The outcomes for community members do not fully capture the social capital that emerges from interactions with health providers. Clearly defined engagement processes rather than longevity of operations or size of an organization are, therefore, critical to the evaluation of community capacity building potential (Crisp et al. 2000). This indicates that in addition to functional redundancy to ensure resilience within the health sector, integration of target populations into advocacy and outreach strategies are imperative to successful delivery of care (Aldunce et al. 2014; Crisp et al. 2000; Weichselgartner and Kelman 2015)

Health concerns are particularly relevant in disasters because poor health impacts the resilience of individuals, household, and social networks (Tobin 2014). Noji (2001) identified women, children, and those with pre-existing conditions or infirmities as especially vulnerable in a post-disaster setting. Chronic conditions including pregnancy and mental illness are aggravated by disaster settings. Conditions may be further exacerbated by socio-economic status. Without access to health care services adverse outcomes will result. In addition to responding to injuries from disasters the capacity to maintain treatment regimens for chronic conditions must be established and the public informed of access opportunities. The pre-disaster disease burden and maximum capacities of the health system and the infrastructure on which it relies including all partners and potential roles must be anticipated and prepared for by responding organizations (Doocy et al. 2013; Mokdad et al. 2005; Noji 2000). Any public health issue creates additional overlapping jurisdiction for social service and health departments and the possibility for a lag in provision of care and supplies is exacerbated during an emergency by the addition of civil defense to the operating environment (Gil 2010; Keim and Abrahams 2012). Reliance on national health institutions and national emergency management departments complicate the integration of non-profits in the health sector. This is in spite of non-profits' roles in decreasing the health burden on government facilities. For instance, the utility of international aid in public health is minimal post-disaster due to barriers to integration and limitations on information needed to provide culturally appropriate supplies (Noji and Toole 1997).

In earthquakes, structure failure is the leading cause of injury and mortality (Alexander 1993; Tobin and Montz 1997). Both engineering and medical expertise contribute to the understanding of earthquake related health concerns (Noji and Toole 1997). Contributors to injury and death include proximity to the epicenter, time of day that the event occurred, while

age and economic marginalization can also increase vulnerability. Health concerns that emerge in the aftermath of earthquakes are less comprehensively studied (Doocy et al. 2013). Due to the extended time frames required for traditional observational or experimental epidemiological studies on humans, the time sensitive nature of response and recovery efforts benefit from vulnerability assessments drawn from readily available demographic information for the affected geographic area, such as surveillance data (Doocy et al. 2013; Noji and Toole 1997). For example, the census may illuminate existing socio-economic distributions. Further, information from national and local health providers may be readily available from past reporting cycles to estimate the distribution of health concerns. Long-term patterns, such as urban areas that may experience permanent population loss or concentrated resource strain, could, therefore, be anticipated and infrastructure and expectations for a recovery adjusted appropriately (Elliot and Pais 2010). Over the course of long-term recovery, education can be facilitated through geographic analysis of areas with chronic vulnerability, established from historical records of disaster impacts and livelihood factors (Cova 1999). Insight into commitment to adaptation can be derived if participatory methods are used to identify vulnerabilities (Krishnamurthy et al. 2011).

Urban Areas and Disasters

A resilient city separates development from hazards. Additionally, the human component of resilient cities is prepared for disasters; diversity, equitability, and accessibility to social systems. These adaptable social systems foster strong community connections. Vulnerability in such communities is reduced through effective communication and collaborative efforts of redundant organizations in all sectors. Both temporary and established connections must feature strong organizational culture and flexible structures following events (Godschalk 2003). Without

proactive disaster risk reduction, the socio-economic cost of emergencies in high-income nations will continue to climb due to investment in dense urban areas that continue to be hazard prone. Considerations of the environmental, institutional, and social capacity to continue to support desirable human activities in a given area are needed for response and recovery, as well as, mitigation and preparedness (Mohammad and Lan Oo 2014).

By plotting the recovery of an organization over time fragility curves use the return to pre-disaster operations as a measure of resilience. These illuminate stressors and have implications for agency connections, in addition, to individual organizations (Godschalk 2003). Adaptive capacities implemented during the recovery inform future planning processes. The flaw in this type of assessment is that detrimental factors at play before the disaster, such as high disease burden or economic crisis, may alter the desirable outcomes and return the organization to a vulnerable state. Projections can capture a return to a state improved from the original or of the continuation of original conditions in the absence of the disaster. To prepare for future disasters, impact is estimated and strategic plans for public systems, such as the health sector, can be adjusted accordingly (Chang and Shinozuka 2004). In the context of this study, a retrospective approach will be used to capture the adaptive capacities of non-profit organizations and their agency connections in the sexual health and associated community support fields.

The Role of GIS in Addressing Gendered Vulnerability

The advancement of technology to support natural hazard research has significantly improved the depth of knowledge about disaster events and hazard preparedness. Technology has also increased connectivity of information. However, the cyber-fix can be dangerous for researchers when data are collected merely to serve new technological capacities rather than

answer community relevant questions in a manner that is most useful for responders and planners (Tobin and Montz 2004).

GIS network data can help establish a triage system for return to functionality following a disaster (Johnson 2000). In an ideal application, GIS maps could be updated remotely as damages are assessed and short-term recovery activities are completed (Johnson 2000). Long-term patterns, such as urban areas that experience permanent population loss or rural areas that experience concentrated resource strain, could also be anticipated and infrastructure and expectations for a return to normal altered appropriately (Elliot and Pais 2010). However, Horner and Downs (2010) highlight that unless used in messaging in advance of a disaster, access to disaster related services may not be effective even if in close proximity to the affected population. Also, supply mapping relies on proper assignment of agencies to be effective. Coordination is thus critical not only to messaging but to effective use of management tools (Horner and Downs 2010).

Over the course of long-term recovery, education can be facilitated through GIS mapping and areas with chronic vulnerability can be determined from historical records of disaster impacts and records of livelihoods dependencies on the built or natural environment (Cova 1999). If combined with participatory mapping of perceived vulnerabilities, insight into commitment to adaptation can be derived at the community level (Krishnammurthy et al. 2011). However, the Abel and Lein (2015) study of the areas affected by Katrina demonstrate that weighting of vulnerability factors for a given community or hazard must be appropriate for the community and hazard dynamics at hand to reflect the severity of each factor and elicit appropriate responses.

Rosero-Bixby (2004) in a study of service areas related to public health access in Costa Rica, used census data and hospital location to establish equitable access to care, finds that additional factors for economic analysis, such as facility and demographic distributions are needed. These factors become more pronounced after a disaster causes the closure of care facilities and displacement of populations. Studies of reproductive health from Mozambique (Yao et al. 2012) and Malawi (Heard et al. 2004) show that population data indicating public health concerns across a nation can be improved with spatial analysis to increase access to facilities, professionals, and supply chain management. Further, preliminary studies of reproductive health behavior in disaster settings in Ecuador and Mexico and refugee or displaced persons situations are available (Jones et al. 2013; Tobin et al. 2011; Whiteford and Eden 2011). Regrettably, these applications of GIS are not specific to disaster phases.

The Role of and Effects on Non-Profits in Resilience Building

Non-Profits and Governance

Non-profit organizations, including civil society organizations, operate between and in support of governments, private businesses, and communities (Hudson 2009; Larner and Craig 2005; Zimmer 2010). The non-profit sector is an amalgamation of socially focused institutions that includes non-profit, non-governmental, and partially private or public civil society organizations (Hudson 2009). Organizations in the non-profit sector may also be referred to as third sector organizations (TSOs) or non-governmental organizations (NGOs). As non-profit organizations have become more integrated with government structures over the past two decades, advocacy nonprofits have become more responsive to the political climate and thusly more associated with lobbyists than the more flexible grass roots focused community based non-profits (Elliot and Hague 2013; Kamat 2004).

29

Traditionally, non-profit organizations have been incorporated into public service as partners to increase community trust and ownership, but involvement in emergency management has not been widely successful (Brookie 2012; Parkin 2012). However. Fogarty 2014 and Rotimi et al. 2006 found that engagement with community organizations improved during recovery. Particularly in welfare economies, non-profit organizations are sought out by government based service providers to better engage marginalized communities through co-production of services (Dattani 2012; Pestoff et al. 2013). These relationships also facilitate provision of resilient public services through functional redundancy and ultimately increases the standard of care and access opportunities (Dattani 2012; Phillips and Smith 2012).

As government partnerships become more integrative, co-production occurs, which allows communities to be active in and take ownership of services that would otherwise be managed top-down (Brandsen et al. 2013; Pestoff et al. 2013). The degree to which non-profit organizations integrate with government agencies modifies their organizational culture pushing them toward increased planning and reporting to sustain government contracts (Dattani 2012; Hudson 2009). Competition is not intrinsic to the missions associated with non-profit organizations because they are generally set up to meet community needs and are not market driven (Seville et al. 2006; Hudson 2009). Integration with government led public services consequently requires a shift in organizational culture among non-profits to increase quantitative reporting and enhanced strategic planning (Hudson 2009; Dattani 2012; Mulhare 1999). For example, without government partnership accountability of non-profits is difficult to assess because of the primary focus on community based or advocacy related themes, the success or failure of which may only impact an already marginalized portion of society (Kamat 2004). Further, adapting to different management paradigms can increase demands on staff time, require

additional levels of oversight, for which smaller non-profits may not be equipped, and create competition for funding; consequently, non-profits may have to stop advertising, start charging on a sliding scale, or limit their target population (Dattani 2012; Hudson 2009). Although funding resources available to the non-profit sector have fostered a tradition of partnership and collaboration, government regulations have constrained the ability of non-profits to address emergent needs. In contrast, non-profits glean some benefits from government partnerships and increased adoption of professional organizational effectiveness strategies, such as increased transparency, and advocacy opportunities (Dattani 2012). Because of these pros and cons, non-profits must weigh the impact of integrating government services on their organizational resources and mission goals (Hudson 2009).

For the government, partnerships with non-profits add legitimacy to the political processes affecting marginalized groups and provide insight into what can be quite complex applications of policy and distribution of services (Phillips and Smith 2012; Zimmer 2010). Partnerships with nonprofits have even been leveraged to mediate social crises (Zimmer 2010). Given the possible benefits to all stakeholders resulting from such government partnerships, non-profits must be sure to value their services appropriately, especially as demographics of their service areas shift or demands increase following an emergency when they are often substituting for government services to marginalized groups (Parenson 2012; Phillips and Smith 2012; Zimmer 2010).

The Role of Non-Profits in a Neoliberal Political Contexts

The use of non-profit organizations as a means to reduce fragmentation of public services in the welfare state is an evolution of neoliberalism occurring at a global scale (Giddens 1999; Kamat 2004; Larner and Craig 2005). Neoliberalism in a welfare state creates a safety net of

basic public service availability in a system that otherwise promotes reduced roles of the government and autonomous private and non-profit actors (Giddens 1999). This 'third way' still allows for reduced roles of national and central government but elevates local processes through heightened governance (Giddens 2000). Without integration of civil society into public service provision neoliberalism limits social inclusion and assumes that social vulnerabilities will be addressed through independent means (Giddens 1999). The advancement of non-profit roles in public service provision reflects the struggle of marginalized communities to engage with political and social forces to decrease vulnerability (Corry 2010). Especially in rapidly fluctuating social environments the third way empowers communities through organizational, institutional, and technological resources (Giddens 2000).

Non-Profits and Community Resilience

Non-profits and their civil society partners, which may be semi-private or semi-public, bolster traditional social services by regenerating and improving cohesion in their target communities (Hudson 2009). Non-profits drive change through a community based approach stepping in to public service provision to reduce marginalization (Kamat 2004; Simo and Bies 2007)). In this way, community focused organizations mitigate vulnerabilities to hazards by raising awareness within the community and that of policymakers before disasters occur (Beatley 2009; Ewing and Synolakis 2011). Furthermore, resilience is built within a culture through political and organizational structures, which non-profits are able to influence through network connections (Comfort et al 2010). The social capital of non-profit target populations is improved through interaction with non-profits because of their connectivity to the communities they serve and reliability as a messaging platform to diverse stakeholders (Dattani 2012; Phillips and Smith 2012). Communities, families and individuals can then have improved health outcomes, better

livelihood options, and expanded social networks as a result of increased ownership of services provided by non-profit organizations engaged in co-production of public services with government agencies (Parenson 2012). Non-profit target populations also benefit from decentralization of power, increased access to services, and improved accessibility of local management (Brandsen et al. 2013; Hudson 2009; Parenson 2012).

New paradigms are needed to determine the precise role of non-profits as community representatives in post-disaster settings that go beyond management structures. Non-profits offer a trusted messenger for marginalized groups, many of which may be wary of government intervention (Tobin 1999; Tobin and Montz 1997). After a natural disaster, non-profits have the opportunity to capture social cohesion and build community resilience through outreach and messaging because of the shared experience (Aldrich 2012; Oliver-Smith 1999). Over the course of recovery, health providers must maintain the social cohesion that emerges following a disaster to achieve both pre-existing and emergent advocacy priorities (Oliver-Smith 1999). In this way, community recovery outcomes can benefit from integrated systems (Seville et al. 2006). In migrant communities, appropriate messaging is imperative to decrease social amplification of risk due to cultural and linguistic separation (Aldrich 2012; Kasperson et al. 1988). Even into long-term recovery, non-profit advocacy for marginalized groups is necessary to decrease socio-economic vulnerability and prevent spatial environmental injustice (Bohannon and Enserink 2005).

Non-Profits and Organizational Resilience

Non-profits operate through relationships between staff and management, internal and external partnerships, and institutional structures (Robinson and Murphy 2014). Non-profit success is subject to organizational capacity, goals to capitalize on public value, and political

environment; these can be bolstered or inhibited by community, sector, and government involvement (Dattani 2012).

Following a natural disaster, an opportunity emerges for non-profits to provide relief outside entrenched norms and capture temporary social cohesion attributed to the shared experience (Oliver-Smith 1999; Tobin and Montz 1997). Further, non-profit organizations can take on the double burden of risk reduction activities and advocating for marginalized populations over the course of the recovery process (Tobin and Montz 1999). Engagement of community focused non-profits through interagency connections, more so than disaster specific ones in recovery, elevates pre-existing vulnerable populations and prepares the non-profit sector for increased burden from emergent vulnerable populations (Robinson and Murphy 2014). Community capacity building and non-profit organizational resilience are therefore linked to the collective actions, adaptation of target population, commitment communication, and outreach reform (Dalziell 2005; Nicholls et al. 2013; Vallance 2011 a). Organizational resilience, the ability to maintain public value, political will, and staffing resources in times of stress, tests internal management structures and operations and also interdependencies among organizations, which may require the breakdown of operational silos to react quickly and comprehensively (Bourk and Holland 2014; Dattani 2012; Weichselgartner and Kelman 2015).

Individuals engaged in the disaster response and recovery professionally may be psychologically impacted by their experience either positively or negatively (Paton et al. 2000) Post-disaster non-profit organizations engaged in community risk reduction must make accommodations for staff stressed by the disaster and resultant repair and recovery processes (Hudson 2009). Management of staff wellbeing in the service sector builds organizational

resilience through staff capacity. In addition, maintaining organizational culture through events mitigates loss of social participation and organizational misdirection (Paton et al. 2000).

It is also imperative that services are continued to maintain community resilience (Weichselgartner and Kelman 2015). Organizations must further develop strong organizational structures to adapt to emergent synergies in the non-profit sector and amongst the communities they serve (Hudson 2009). Although risk management and strategic planning may not be inherent characteristics of the non-profit sector, following a disaster, it can bolster organizations' abilities to remain relevant throughout recovery (Dalziell 2005; Hudson 2009).

Without strong networks, non-profit resources can be strained by unequal distribution of newly emerging demands for services (Parkin 2012). Functional redundancy can help build organizational resilience (Beatley 2009; Weichselgartner and Kelman 2015). Successful non-profit contributions to public services before and during an emergency also require translation of local knowledge and engagement avenues into emergency authority structures (Parkin 2012). Due the strain put on individual non-profit organizations, in terms of adapting to government reporting structures, to establish integration with emergency authorities, existing well maintained partnerships are beneficial for inclusion in post-disaster decision making (Parkin 2012).

In areas that experience multiple hazards organizational integrity is threatened if community cohesion is suspended and government assistance delayed (Paton et al. 2011). Thompson (2012) poses that since the non-profit sector actively challenges entrenched socio-political norms, they are at risk if coordination is poor and they are either competing with each, or the government is indifferent to their participation in recovery. To achieve the best results from the third sector in engaging marginalized groups in disaster recovery, connections must be diverse (Simo and Bies 2007).

Summary

The severity of a disaster is reflective of the level of development in the impacted area (Doocy et al. 2003). In the case of earthquakes, structural damages are the leading cause of loss in terms of costs and injuries (Alexander 1993; Tobin and Montz 1997). Vulnerabilities may be unevenly distributed throughout the population though as a result of entrenched socio-economic norms, reduced social capital, and/or inadequate living conditions (Portes 1998; Wisner et al. 2004). Response and recovery efforts may address infrastructural repairs and treat immediate health concerns but falls short of long-term commitment to community resilience under traditional emergency management paradigms (Rotimi et al. 2006; Quarantelli 2000). Disaster risk reduction, however, includes building preparedness and providing mitigation strategies for at-risk communities (Oliver-Smith 2004). There are both epidemiological and GIS based means of vulnerability analysis for delivery of health care in post-disaster settings (Johnson 2000: Noji and Toole 1997). Considerations of community engagement and time-bound results should be made in each case to ensure relevance to the target population and disaster risk reduction (Cova 1999: Krishnammurthy et al 2011; Mokdad et al. 2005). Non-profit organizations present a local source of knowledge for government agencies and offer trusted outreach to marginalized groups that may otherwise choose not to engage with authorities following a disaster (Tobin and Montz 1997; Zimmer 2010).

The successful integration of non-profit organizations into emergency management requires additional research (Parkin 2012). Although non-profit organizations benefit communities and governments through co-production of social services, the impact of partnerships on non-profit organizations in disaster settings is unclear (Dattani 2012; Hudson 2009). Crisp et al. (2000) highlight that community engagement, such as that available through

36

non-profits (Aldunce et al. 2014), is particularly relevant to improved health care delivery under co-production. Although disaster literature has incorporated gender mainstreaming into emergency management, the contribution of women to community engagement with health providers has not been fully linked (Enarson 2012; Whiteford and Poland 1988). The health experiences of women after a disaster offer a lens through which to identify an array of marginalization factors from the national to local levels that may be improved by the intervention of non-profit care providers (Bloom et al. 2003; Fordham 2012; Grove and Zwi 2006).

Chapter 3: Theoretical Framework

Research Premise

Non-profits involved in sexual health care and associated social services help redistribute resources to marginalized groups, thereby decreasing vulnerability of some of the most at-risk populations (Crisp et al. 2000). Specifically, non-profit organizations assist clients in navigating complex age specific health concerns, social assistance receipt, and counseling resources (Bearinger et al. 2007). However, non-profits are also subject to increased vulnerability themselves in post-disaster settings due not only to structural damages to their buildings, but also to unequal power dynamics of emergency management, and increased demand for services from emergent marginalized groups with socio-economic and health concerns (Dattani 2012; Parkin 2012). Although non-profits may maintain access to services following a disaster, accessibility often requires creative solutions during the recovery phase (Robinson and Murphy 2014). A review of existing models and frameworks for risk, vulnerability, social participation, non-profit management, and health care provision identifies connectivity of organizations to their target populations and social service provision entities from traditional government partners in co-production to emergency management authorities.

Non-Profit Contributions to Hazard Preparation and Disaster Management

As proposed by Wisner et al. (2003) in the *Pressure and Release Model* vulnerability can be traced to root causes, dynamic pressures, and unsafe conditions. It is the root causes upon which non-profit organizations act in advance of a disaster by redistributing power and resources to marginalized groups through advocacy and supply delivery (Figure 3.1). The ability of the

non-profit sector to decrease vulnerability in these ways is shaped by the welfare state and national ideology that incorporates non-profits into public health and social services through government contracts. These ideologies, however, are dependent on political will and policy trends.

The *Access Model* (Figure 3.2) elaborates on the hazard impact (Wisner et al. 2003). Social relations, structures of dominance, and social protections, including community capacity building completed by non-profit organizations, put in place before the event can alter the severity of the disaster. The translation of the hazard event to disaster will consequently not fall equitably upon the affected population, provoking additional action by non-profit organizations and emergency authorities.

Because intervention may become more or less integrative of stakeholder input over time, the outcomes for recovery and future risk reduction fluctuate based on the community engagement targets of emergency managers, recovery planners, and non-profit advocates. With each compounding event strain on civil society, government agencies, and households alter outcomes and intervention processes through resource depletion or knowledge building (Wisner et al. 2004).
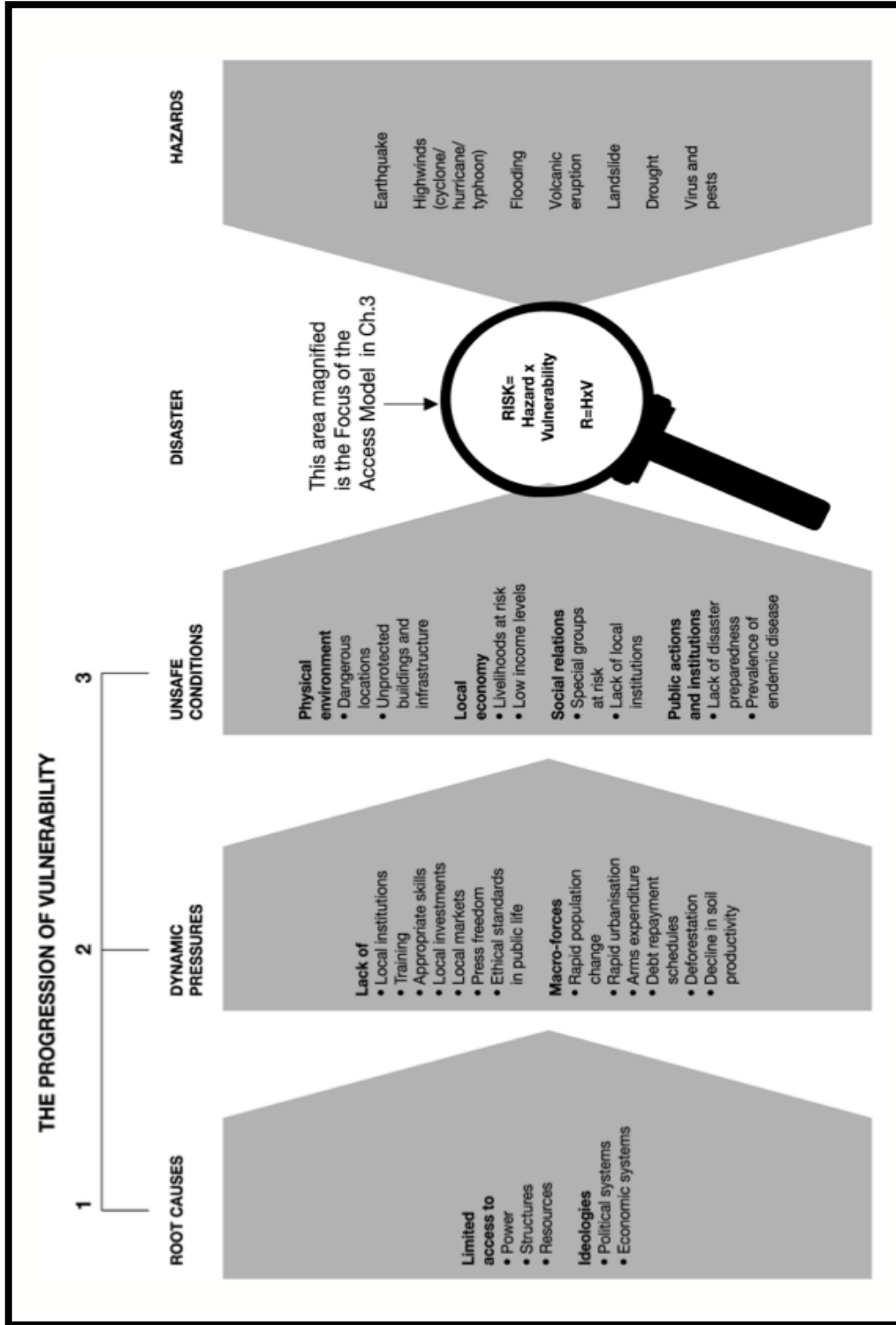
Figure 3.1: Pressure and Release Model (Reprinted from Wisner et al. 2003 51)
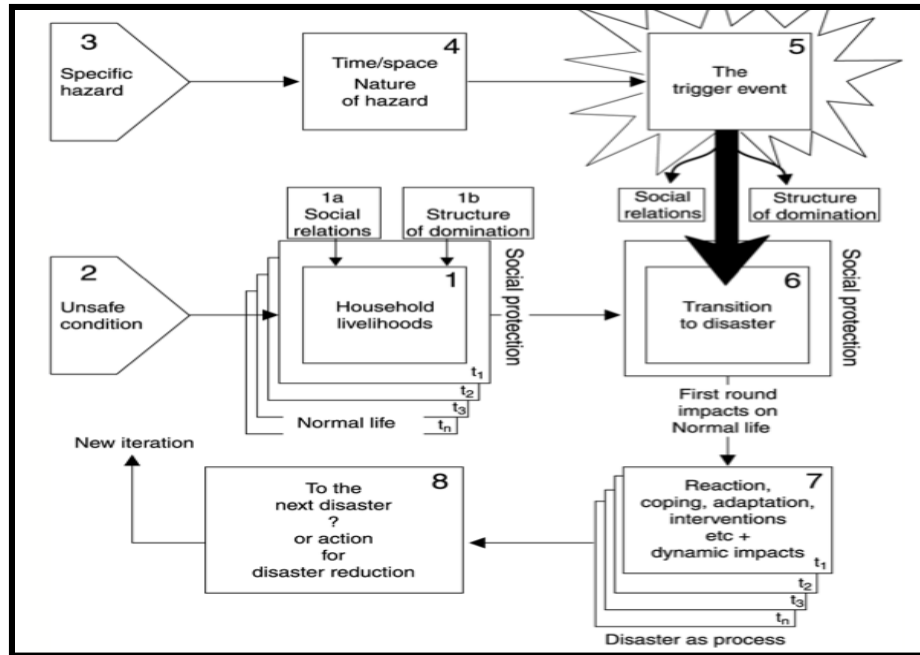
Figure 3.2: Access Model (Reprinted from Wisner et al. 2003 89)

Non-Profits Contributions to Community Resilience

To achieve the best results, social connections must feature trust and the mutual exchange of resources (Patterson et al. 2010; Simo and Bies 2007). Social theory prescribes that by uniting individuals resilience is increased for the collective (Patterson et al. 2010). According to the *Bronfenbrenner's Systems and their Interactions* (Britt et al. 2012) social fabrics influence individuals' resilience through: interpersonal relationships with family, neighbors, and colleagues; community interaction with churches, community based organizations, and public services; and the socio-economic and political climate of the area (Figure 3.3).

Community based non-profit organizations, including churches, benefit from social participation of the individual, as well as, influence the individual's resilience; whereas, family, neighborhood, employment, and economic dynamics influence the individual in a one directional process. Access to public services, such as health care, and community based organizations are also influenced by socio-economic and political circumstances that are often beyond their

41

control. These relationship dynamics are magnified as events mount or time progresses in the absence of challenges from community organizations or media outlets to these norms (Britt et al. 2012).
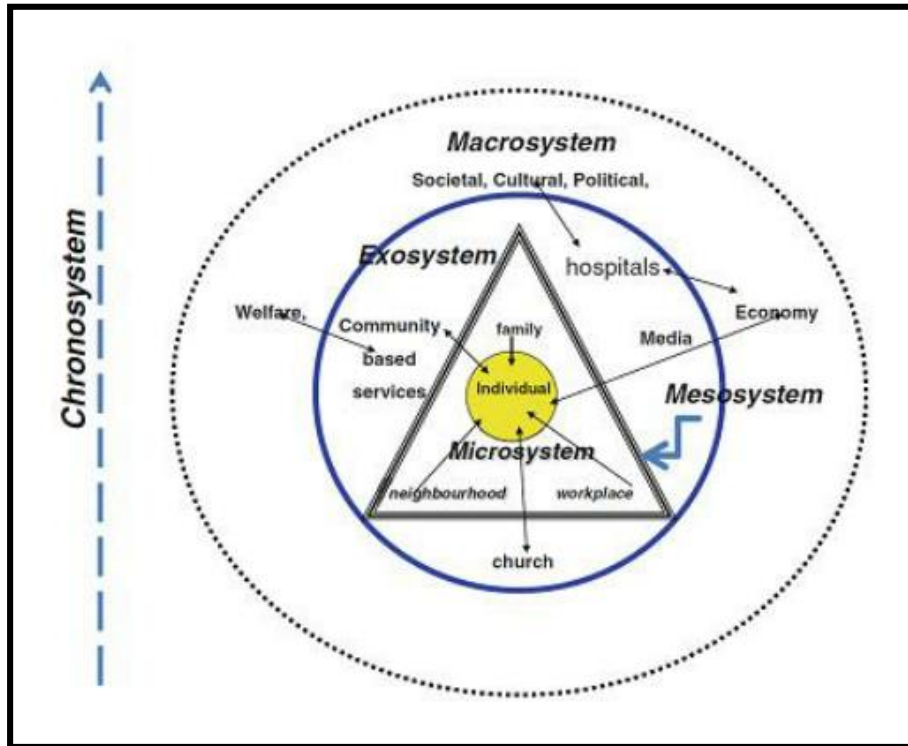
Figure 3.3: Bronfenbrenner's Systems and their Interactions (Reprinted from Boon et al. 2012 390 © Springer Science+Business Media B.V. 2011 With Permission of Springer)

The role of community based non-profit organizations is not just to act within the scope prescribed to them by government and philanthropic funders but to act upon social injustice as it fluctuates in their community. Non-profit organizations are better prepared to address social injustice because they are connected to and trusted by their communities rather than being reliant on compiled records of vulnerability factors to identify pockets of vulnerability that may be too heterogeneous in nature to tackle (Britt et al 2012; Patterson et al. 2010; Quarantelli 2000).

Cutter (2006) identifies thirteen vulnerability metrics that can be derived from census data to provide a geographic indication of aggregate vulnerability. Although some of these, such as infrastructure and medical services, are not immediate concerns of high-income nations due to

their robust management resources and coverage, others, such as gender, ethnicity, and age, are still marginalizing in New Zealand and other high-income nations (Cutter 2006; Hutton et al. 2015b). Still others, such as renting and family structure are compounded by disasters. The contribution of these to vulnerability can be negated broadly by government and community based welfare systems and disaster preparation but for localized relevance, must be interpreted using local knowledge held by community stakeholders engaged in disaster risk reduction activities and planning, such as non-profit organizations.

Within a community, protections against disaster exist in individuals and community organizations. Following a disaster, these same actors build capacity through adapted social interactions as depicted in the *Psychosocial Risk Assessment and Management Framework* (Figure 3.4). Although interventions made by the government regarding the socio-economic and political climate also contribute to the impact upon the area through situational protections, communities are more adept to guide the distribution of resources made available by the government and navigate psycho-social awareness for affected communities before additional emergency resources arrive. Through this interpretation, co-production compounds the impact of individually acting community and situational protective factors.

Connections between community organizations and government agencies facilitate smooth and timely translation of mitigation, preparedness, response, and recovery efforts to marginalized communities through long term and emergency specific partnerships. These collaborations decrease effects of disasters by increasing interventions to reduce vulnerability beyond what the community or government may have done on its own (Patterson et al 2010).
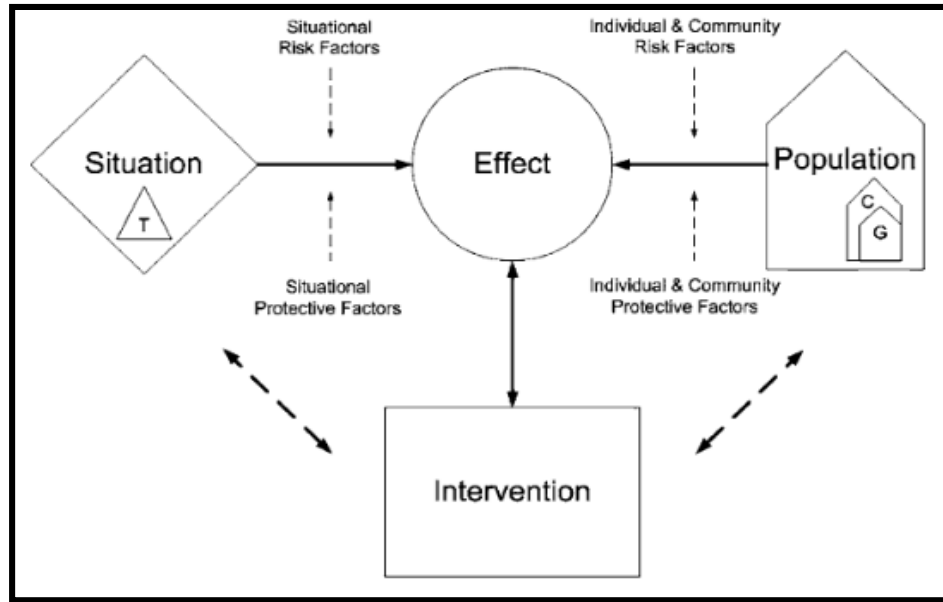
Figure 3.4: Psychosocial Risk Assessment and Management Framework (Reprinted from Patterson et al. 2010 135 © Springer Science+Business Media B.V. 2009 With Permission of Springer)

Non-Profit Management Strategies for Organizational Resilience

In Simo and Bies' (2007) *Expanded Framework for Understanding Cross Sector Collaboration During Extreme Events*, initial conditions, process, and structure of collaboration influence outcomes and accountability of connections (Figure 3.5). This may be limited by constraints acting upon the process or structures of participating organizations or stated in mutual agreements but can be improved through building legitimacy as an organization or alteration of engagement routes through partnerships. Simo and Bies (2007) add that non-profits may emerge from initial conditions or be targeted at altering processes and structures before the disaster, which may alter their function in or the efficiency of cross-sector partnerships. After a disaster cooperative elements of community and social service provision override traditional competitive and institutional divisions. Individuals may thereby exhibit more pro-social behavior thereby demanding more of trusted social service providers, such as non-profit organizations (Simo and Bies 2007).

44
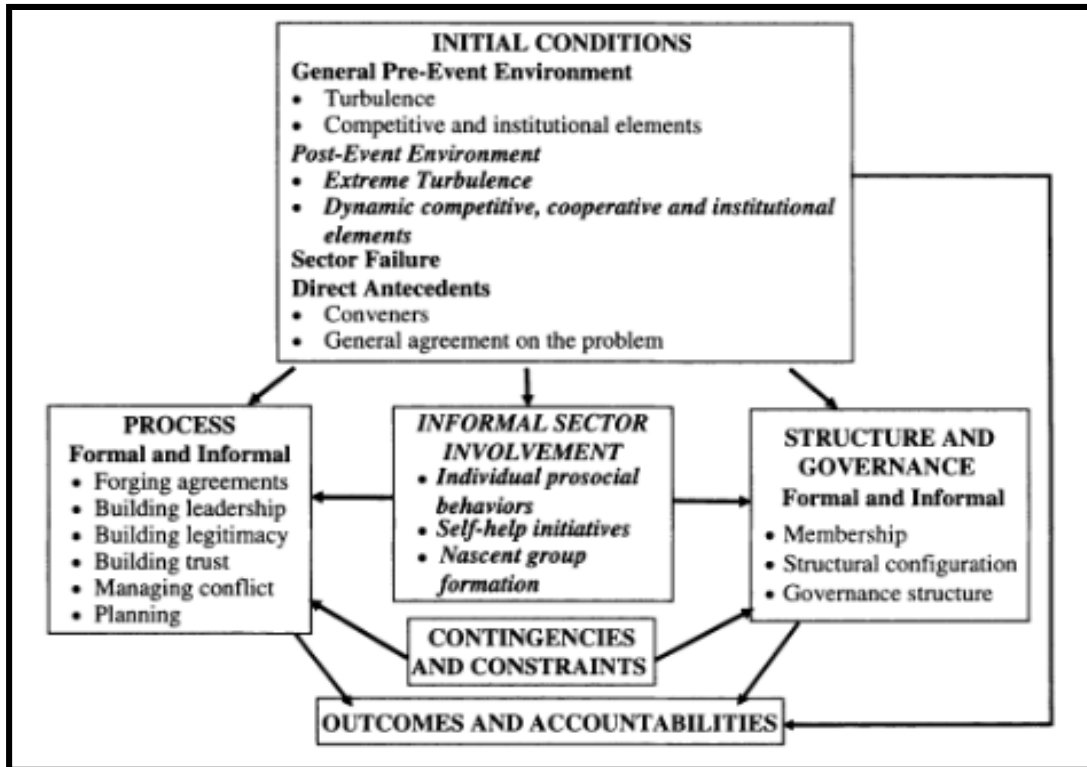
Figure 3.5: An Expanded Framework for Understanding Cross-Sector Collaboration during Extreme Events (Reprinted from Simo and Bies 2007 132 Copyright © 2000-2015 by John Wiley & Sons, Inc)

For non-profit organizations to form as a result of a disaster, which Simo and Bies (2007) identify as a possible informal sector reaction to an event their structure may differ from that of an operation existing before the event (Vallance 2011b). Regardless of the time of formation of the non-profit various strategic decisions will influence the success to the organization over the course of recovery (Robinson and Murphy 2014). Dattani's (2012) theory suggest that to be strategic non-profit organizations must equitably balance inter-related priorities of: contributions to their target audiences and community, organizational resources, such as staff time and operating costs, and relationships with funders and political environments which support programs (see Figure 3.6).
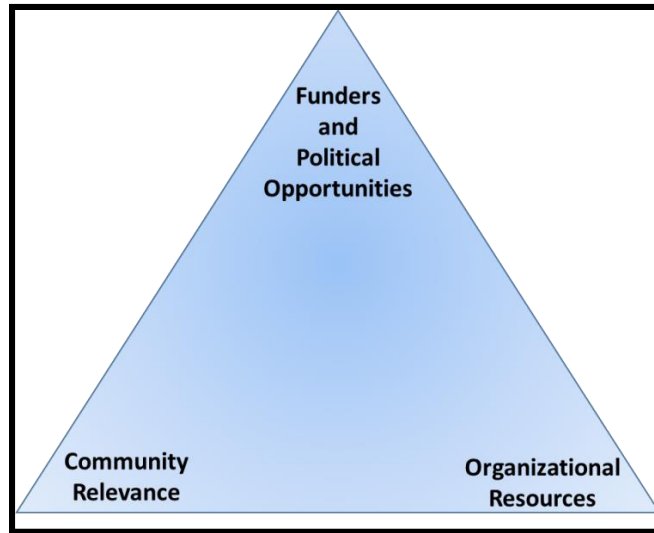
Figure 3.6: Contributors to Strategic Non-Profit Operations (Author's Interpretation of Moore's Strategic Triangle Based on Concepts from Dattani 2012; Moore and Khagram 2004)

Health Care Delivery in Non-Profit Contexts

Oleske (2001) and Anderson (1995) suggest that successful health care delivery is contingent upon utilization, encouraged by access to, availability of, awareness about, and attitudes toward care options (Figure 3.7). In the case of New Zealand, provision of care and availability of co-produced health services resources is a national priority shared through contracts and agency connections (Guald 2012).
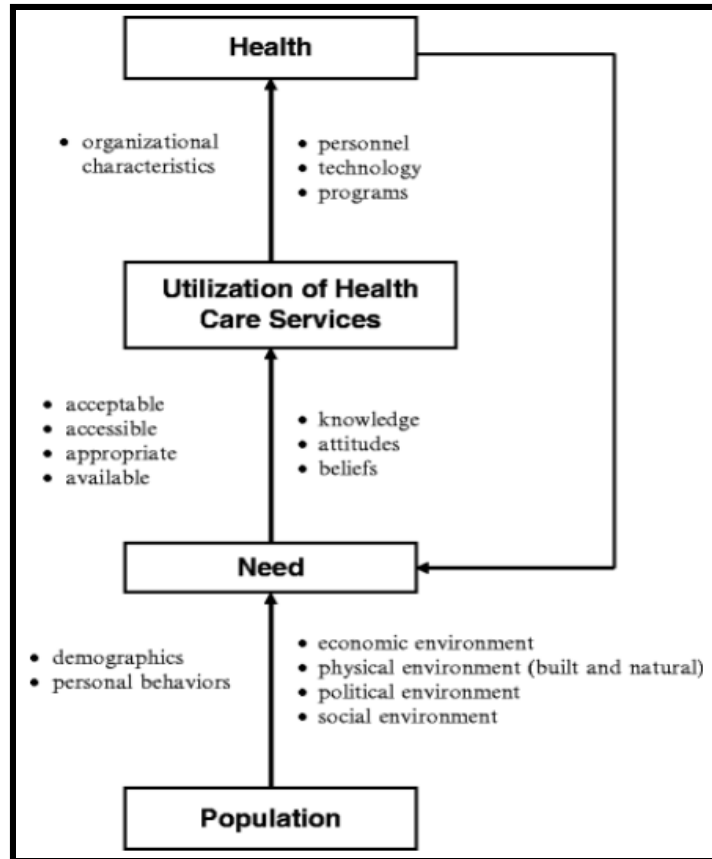
Figure 3.7: Epidemiological Model of the Delivery of Health Care Services (Reprinted from Oleske 2001 4 © Kluwer Academic / Plenum Publishers New York, 2001 With Permission of Springer)

Integrating Non-Profits into the Disaster Risk Reduction Framework

Non-profit organizations redistribute power and shift political will through advocacy and partnerships to improve dynamic pressures and unsafe conditions that cause vulnerability in their communities in advance of a hazard, thereby, reducing risk (Parenson 2012; Parkin 2012; Wisner et al. 2003). Likewise, given proximity to their target populations, following a disaster, non-profits may be the first responders to engage in risk reduction (Carlton and Vallance 2014).

According to the *International Strategy for Disaster Reduction* (ISDR) *Framework* for Sustainable Development (Birkmann et al. 2013; UN/ISDR 2004 28), following a disaster impact, interactions occur in a linear manner as seen in the baseline of Figure 3.8. Action

resulting from the disaster flows as follows: awareness raising, political commitment, application

of risk reduction measures, recovery, risk identification and impact assessment. From risk

identification, several pathways may be taken: preparedness, emergency management and

readiness building for the natural hazard; knowledge development, which is a terminus; political

commitments, which lead back to recovery and risk identification or awareness raising, which

restarts the cycle that initially followed the disaster impact. Risk identification can also be

reached by vulnerability/capability analysis or hazard analysis and monitoring to identify risks

based on pre-existing vulnerabilities and hazards of an area before a disaster occurs.
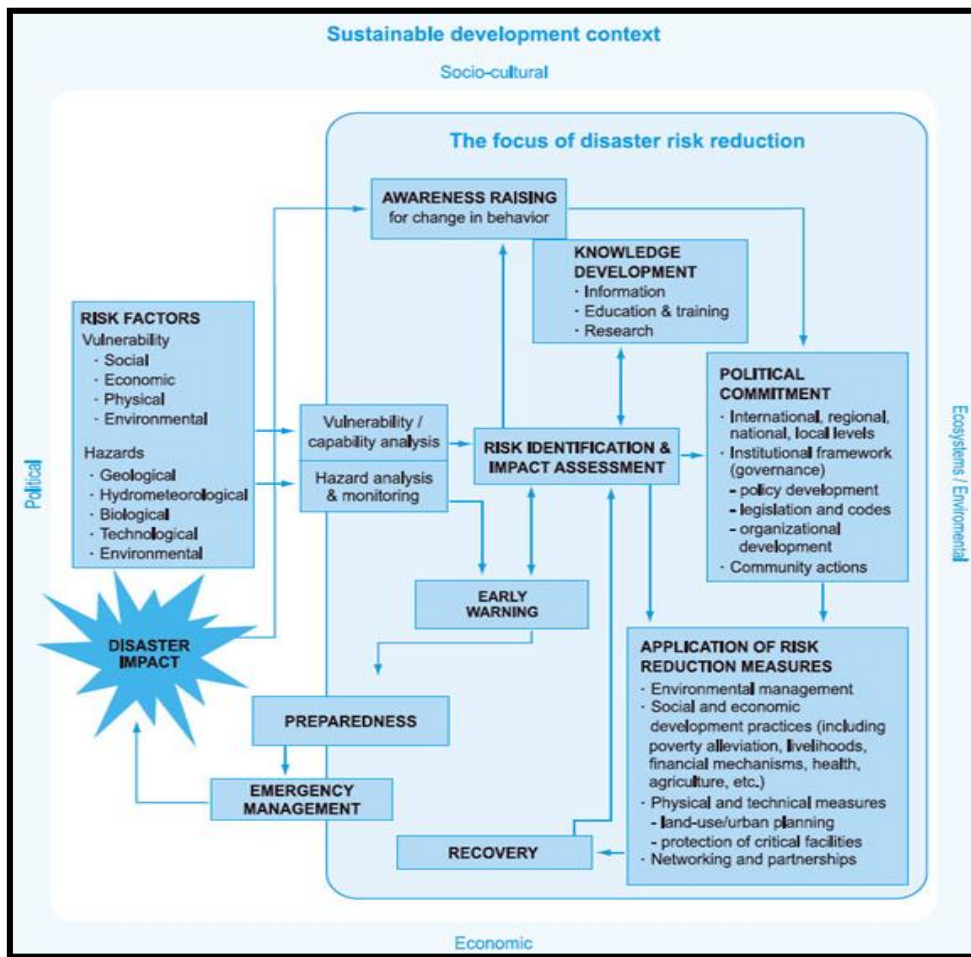
Figure 3.8: The International Strategy for Disaster Reduction Framework for Sustainable Development (Reprinted from UN/ISDR 2004 28 © 2004 United Nations. Reprinted with the permission of the United Nations)

Summary

Contributors to vulnerability emerge from a variety of social structures (Wisner et al. 2003). The capacity of non-profit organizations to reduce vulnerability is contingent upon social relations and structural dynamics of the governing system (Britt et al. 2012; Wisner et al. 2003). Opportunities to intervene in emergency management and disaster risk reduction offer protection for at-risk communities but the contribution pathways of non-profit organizations to disaster risk reduction frameworks have not been explicitly delineated (Patterson et al. 2010; Simo and Beis 2007). Further, the existing models of vulnerability, community resilience, and non-profit management exclude specific references to operating environments that feature co-production. This study contributes both adaptations to existing frameworks that make them more fitting to non-profits and a new model for resiliency in post-disaster settings. Prevailing metrics for vulnerability assessment (Cutter 2006), non-profit management (Dattani 2012), and health care delivery (Oleske 2001) were used.

Chapter 4: Methods

Research Objectives

Questions have arisen regarding population dynamics (Love 2011; Tobin 1999; Whiteford and Tobin 2009), marginalized groups, health and social care, and overall recovery efforts following disasters. Existing research on organizational resilience in post-disaster Christchurch does not address the role of non-profit organizations in facilitating the relationship between community support services and sexual health care utilization. Although the stance toward sexual health care access is progressive in New Zealand, any public health issue linked to or exacerbated by a disaster should address the situation of overlapping jurisdiction in the recovering area, which creates possibility for a lag in care provision during an emergency without significant functional redundancy (Gil 2010, Keim and Abrahams 2012). There are gaps in the literature regarding formal policies and access for marginalized populations, no more so than in disaster settings, as formal disaster management of sexual health services are still vague (Keim and Abrahams 2012).

This study identifies the role of non-profit organizations in maintaining public health and social services that contribute to wellbeing through the lens of sexual health commitments following the earthquake sequence beginning with the 2010 Darfield Earthquake in Christchurch, New Zealand. The primary goals of this research were three fold, to delineate i) aspects of non-profit organizational culture and agency connections that contributed to the resilience of non-profit organizations by maintaining and adapting access to sexual health and associated wellbeing services over the transition from response to recovery ii) integration pathways of non-

profit organizations into disaster risk reduction and iii) appropriate geographic representations of temporal vulnerability change impacting the commitments of non-profit organizations. A critical analysis of literature from the study setting was conducted. Relevant frameworks and models for risk assessment, non-profit management, non-profit collaborative efforts, health care delivery, and disaster risk reduction were applied to interview and focus group results to test adherence and alteration in the Christchurch, setting. Vulnerability applicable to non-profit public health and community engagement was geographically assessed using Cutter's (2006) Vulnerability Index. Functional redundancy to address marginalization was identified through diagrams of non-profit support and maturity. A model was developed from an analysis of organizational resilience by non-profit type and field of focus.

Data Collection

Mixed methods were used for this study. Quantitative data were derived from census records and collective assessment of qualitative results, which included responses from surveys, focus groups, and interviews with non-profit and civil society practitioners. Data were collected over a two-year period 2013-2015. Data collection techniques included census data and qualitative methods including: i) interview surveys ii) focus groups and iii) semi-structured interviews. A total of thirty-six non-profit organizations, civil society partners, and agency connections participated.

Participant Selection

Data were collected from thirty-two non-profit organizations, two civil society partners, and two agency connections that addressed sexual health or a related aspect of community support in post-disaster Christchurch. The non-profit organizations and civil society partners were selected from community health, and welfare organizations listed on the Community

Information Network Christchurch (CINCH) website. The range of organizations selected was based on Britt et al.'s (2012) interpretation of *Bronfenbrenner's Systems and their Interactions*, which highlights the importance of linkages between various scales of health and wellbeing resources. Selection, therefore, included a range of national and community based organizations with policy, infrastructural, livelihood, and voluntary forms of operations. Although CINCH has over ten thousand entries for non-profit, semi-private, and government affiliated community resources from sports clubs to hospitals, 108 were identified as pertinent for this study. Some organizations did not respond to the request or declined to participate based on ideological difference with other organizations contacted or due to strained resources, others provided relevant contacts at other organizations. Christchurch has been an area of heavy research since the earthquakes, which may have reduced participation rates (Patton et al. 2015). Thirty four non-profit organizations and civil society partners agreed to the request for participation in the study. Of these participating organizations, some interviews revealed engagement with agency connections that contributed to the study as a means through which to conduct focus groups or analyze integration into recovery management.

The focus of selected organizations included: (i) sexual health practitioners (nine) - Family Planning, New Zealand Aids Foundation, New Zealand Prostitutes Collective, the Rodger Wright Centre, Youth and Cultural Development Trust, 298 Youth, Canterbury District Health Board Sexual Health Centre, Canterbury District Health Board Public Health Division, and the Sexual Health and Blood Borne Viruses Group; (ii) services for migrants (six) - Canterbury Refugee Council, Christchurch Migrants Centre Trust, Interpreting Canterbury, Pegasus Health, First Union, and Community Language Information Network Group (iii) broader community support organizations (twenty one) with foci on: mental health - All Right

Campaign, Healthy Christchurch, and Problem Gambling Foundation, Social Service Providers Aotearoa; disaster relief – the Red Cross Christchurch and World Vision; collective action - Council of Social Services, Ministry of Awesome, Project Lyttelton, Student Volunteer Army, Volunteering Canterbury, Gap Filler, Greening the Rubble, Canterbury Community Garden Association, and CanCERN; livelihood assistance – Neighbourhood Trust, Christchurch City Mission, Public Service Association, and North Canterbury Rural Support Trust; and mobility limitations - Meals on Wheels and Avebury House.

Of these the District Health Board Sexual Health Centre, District Health Board Public Health Division, Healthy Christchurch, and Meals on Wheels were classified as civil society partners because they were community engagement branches of government ministries. Sexual Health and Blood Borne Viruses Group and Community Language Information Network Group were agency connections formed by non-profit and civil society partners to achieve resource sharing and advocacy goals based on community needs identified by practitioners and organization managers.

Non-Profit Typology

Additional distinctions regarding the categorization of non-profit and civil society organizations based on date of emergence in relation to the earthquakes and advocacy priorities affect analysis due to the variation in the emergency management and community capacity building participation processes (Table 4.1) (Alexander 1993, Vallance 2011b). All Right Campaign, Ministry of Awesome, Student Volunteer Army, Gap Filler, Greening the Rubble, and CanCERN emerged following the earthquakes. This delineation is to test if the time frame of a non-profit organizations' opening alters the means through which it is integrated into

emergency management and contributes to organizational resilience when compared to other organizations in its focus category.

Table 4.1 Non-Profit Typology for Participating Organizations

	Community Based	National Advocacy Driven	Supra-National
Emergent	- Ministry of Awesome - Student Volunteer Army - Gap Filler - Greening the Rubble - CanCERN - Community Language Information Network Group **	All Right Campaign	None
Pre-Existing	- Youth and Cultural Development Trust 298 Youth - Refugee Council - Migrants Centre - Pegasus Health - Healthy Christchurch - Project Lyttelton - Volunteering Canterbury - Community Garden Association - Neighborhood Trust - City Mission - Rural Support Trust - Avebury House	- District Health Board Public Health Division * - District Health Board Sexual Health Centre * - Meals on Wheels * - Sexual Health and Blood Borne Viruses Group ** - Family Planning - Aids Foundation - Prostitutes Collective - Rodger Wright Centre - Interpreting Canterbury - First Union - Public Service Association - Social Service Providers Aotearoa - Council of Social Services - Problem Gambling Foundation	- Red Cross - World Vision

* denotes civil society partner
** denotes interagency connection group

The role of advocacy in an organization's operations also affects its integration into emergency management and contributes to resilience model performance when compared to other organizations in its focus category. The perception of non-profit contribution to service provision and capacity building varies between community based and national advocacy focused non-profits (Kamat 2004). Family Planning, New Zealand Aids Foundation, New Zealand Prostitutes Collective, the Rodger Wright Centre, Interpreting Canterbury, First Union, Public

Service Association, Social Service Providers Aotearoa, Council of Social Services, Problem Gambling Foundation, and All Right Campaign were advocates that have community service provision focus based on a national agenda.

Supra-national non-profit disaster relief organizations experience additional acclimatization requirements for effective integration into emergency management, often requiring a pre-existing network (McLean et al. 2012, Alexander 1993). The Red Cross and World Vision were internationally driven relief organizations.

All other organizations' advocacy platforms originated from community based activities whereas those with advocacy goals set by larger organizing bodies outside of Christchurch may have developed or adjusted to local interest but were obligated to serve their original purpose as well. Although the Christchurch City Mission and Neighbourhood Trust had ties to religious organizations, they were not delineated for analysis purposes because their funding did not carry advocacy commitments that would alter their service provision (Cloke et al. 2005 and Conradson 2008). Rural Support Trust has a national affiliation but is primarily a community based service provider and is consequently not separated for analysis either.

Interview and Focus Group Acquisition

In-depth, interview surveys were conducted via phone or in person depending on the availability of the participants in late 2014 from August to November with managers at all participating non-profit and civil society organizations. Questions centered on: strategic planning, organizational structure, and commitments to service delivery; changes in service delivery and resources following the earthquakes; and integration of internal and external disaster risk reduction opportunities and communication of response and recovery information.

These were analyzed thematically to compare experiences across the non-profit sector and extend individual organization reflections to generalizable sector wide observations.

The survey consisted of twenty question to guide discussions. Some questions were specific to the post-disaster setting; whereas, others were posed from two years before the first earthquake to identify circumstances that may not have been a direct result of the earthquake. The questions used to gather background information on the organization were:

1) What is the mission and or elevator pitch of (organization name)?

2) Do any of (organization name)'s grants have operating costs built in?

Strategic planning was asked about as follows:

1) How often does (organization name) participate in strategic planning, if at all?

Additional insight into organizational structure was derived from four questions:

1) What is (organization name)'s organizational structure?

2) What advocacy materials are most useful for (organization name) to share with partners, government officials, and target audiences?

3) What TSO / government partnerships, if any, does (organization name) engage in?

4) Is (organization name) associated with a national or international entity?

External commitments to service delivery were explored through two questions:

1) Did (organization name) perceive that commitment to provision of continuous access to reproductive health and/or family support services and supplies post-disaster was a national commitment?

2) Which, if any, policy changes impacted (organization name)'s work since 2008?

Internal adjustments to of resources and service delivery were recorded from several questions:

1) For what period of time, if at all, did (organization name) expand services in response to the September 2010 or February 2011 earthquake without dedicated funding?

2) What types of programs were funded by earthquake funding, if (organization name) received any?

3) How does (organization name) convey emergency information to its target audiences, if that is provided?

4) What new audiences have emerged since the September 2010 or February 2011 earthquakes, if any?

5) Has (organization name) recorded any change in reports of emotional stress, family violence, school truancy, divorce rates, sexually transmitted disease rates, pregnancy complications, or abortions since 2008?

6) Were (organization name)'s offices relocated due to the February 2011 earthquake?

7) Did (organization name) have access to GIS maps of earthquake impacts or have staff to create such maps following the February 2011 earthquake?

8) Has (organization name) experienced and or addressed any turnover in staff or volunteers since the September 2010 or February 2011 earthquake?

9) What types of technical assistance would benefit your work now?

Integration of internal and external disaster risk reduction opportunities were discussed in two questions:

1) In what type of recovery planning, if any, is (organization name) involved?

2) What, if any, emergency plans did your organization have before the February 2011 earthquake?

Five focus groups were also carried out with five organizations: the Christchurch City Mission, Neighbourhood Trust, Family Planning, Meals on Wheels, and the Rodger Wright Centre. Three to five staff from each organization were desired to illuminate consensus amongst and variation in experience between staff within an organization without demanding too much reduced organizational capacity at the time of the focus group. Focus groups from each organization were convened at a location of their choosing. Separate focus groups were held for every organization. The researcher facilitated the focus groups in-person, recorded discussions, and later transcribed them. Focus group questions mirrored in-depth interview questions to measure consistency of communication within organizational structures.

There were ten focus group questions. Questions were related to change in service provision, change in utilization of services, the role of partnerships in organizational resilience, change in the work environment, updates to disaster plans. In addition to describing the

circumstances behind their responses, staff were asked to state if change was positive, negative,

or did not occur. Background questions included:

1) Does grant or organizational reporting capture changes in demand and collaboration?
2) What resources empower practitioners to address community recovery needs?
3) What factors outside of the earthquake have changed service demand or delivery since 2008?

The question regarding changes to service provision was as follows:

1) Has service provision changed from the period immediately following the February 2011 earthquake to today?

Changes in utilization of service were derived from three questions:

1) Have clients reported any increased need for services since the earthquakes?
2) In what ways have cases become more or less complex following the earthquakes?
3) Have any groups of clientele emerged or discontinued using services following the earthquakes?

One question dealt with partnerships:

1) Have partnerships with other TSOs or government entities affected the capacity to provide services?

Another question addressed changes to the work environment:

1) Have you experienced any positive or negative changes to the work environment resulting from the earthquakes?

The final question was concerned with disaster planning:

1) How are practitioners preparing for future natural disaster scenarios?

The number of staff needed for deep discussion in the focus groups limited the number of

organizations able to participate due to the prevalence of small (less than 5) staff in Christchurch.

With representation from large organizations from both sexual health and wellbeing non-profits,

commonalities in organizational culture for these united public health concerns can be

illuminated. A larger sample of smaller non-profits is needed to make assumptions regarding the

differences between emergent and pre-existing organizations and a broader swath of

participating organizations for differentiation of advocacy and community based non-profits within and across these fields.

Managers of the five organizations that participated in organization based focus groups also individually participated in an additional semi-structured interview regarding the staff input. Questions to these representatives also included topics of awareness of staff concerns or praises of the organization voiced in the focus groups and potential next steps.

These interviews included five questions for guidance. Managers were asked if the results were expected, if there were applications for the results in their organization, and if they found any gaps in the accounts. Two questions addressed expectations of managers for the staff responses:

> 1) Upon review of the staff focus group responses, are there any points that you expected to coincide or differ?
> 2) Upon review of the staff focus group responses, are there any points that you did not expect to coincide or differ?

Two other questions sought implications of the results to the organization:

> 1) In what ways could these responses be most useful to your organization's future if at all?
> 2) What if any tangible next steps would you identify based on these responses?

The final question dealt with missing information in the focus group responses:

> 1) Are there any identifiable gaps within these responses that you feel need additional investigation?

Sexual Health Organizations

Sexual health focused non-profits in New Zealand addressed a range of ages, ethnicities, and genders regardless of economic status as a result of strong national commitments to service delivery. Formally organized sexual health non-profits operating in Christchurch, New Zealand after the 2010-2011 earthquakes were assessed through interviews and focus groups with eight local non-profit organizations, two Canterbury District Health Board offices, and one agency

connection during 2014. Representation of sexual health services included: maternal health, obstetrics and gynecology, sexually transmitted disease prevention, and sex worker protection. In Christchurch, sexual health services operated as a well-connected group. This sample of sexual health organizations was a comprehensive set of clinical services.

Three approaches were used to examine their roles in disaster recovery: ten in-depth interview surveys were conducted with local non-profit sexual health organizations and Canterbury District Health Board managers; two non-profit organizations, Family Planning and the Rodger Wright Centre, and one agency connection group, Sexual Health and Blood Borne Viruses Group with representatives from nine non-profit or civil society organizations in attendance (Family Planning, New Zealand Aids Foundation, New Zealand Prostitutes Collective, Canterbury District Health Board Sexual Health Center, Canterbury District Health Board Public Health Division, 298 Youth, Youth and Cultural Development Trust, and the Hep C Clinic which is co-located with the Rodger Wright Centre) participated in focus groups; managers of the two non-profit organizations that participated in focus groups, Family Planning and the Rodger Wright Centre, also partook in semi-structured interviews based on focus group responses. The Sexual Health and Blood Borne Viruses Group focus group provided context based on the collective experiences of sexual health non-profits for the individual organization focus groups.

Two levels of analysis were undertaken. The first level of analysis involved assessments of individual organizations based on management and staff perceptions of successful and failed post-disaster strategies, to capture time bound concerns and effectiveness strategies during mid-term recovery. As these organizations had health care delivery priorities Oleske's (2001) *Epidemiological Model for Delivery of Health Care Services* was applied to perceived

management and staff capacities to maintain and expand services to emergent target populations and across the non-profit sector to complementary community engagement organizations. Non-profit organizations were then assessed based on their responses for resilience of their field of work and type using a functional redundancy chart, the *ISDR Framework*, and the resilience model to capture contributing factors to and levels of success in response and recovery.

Migrant Services Organizations

Based on the concerns, expressed by sexual health non-profits, regarding migrant specific health outreach, in-depth interviews were conducted with five migrant focused non-profit organizations, Canterbury Refugee Council, Christchurch Migrants Centre Trust, Pegasus Health and Interpreting Canterbury and First Union. These five organizations advocate on behalf of, provide public services information for, and hold capacity building workshops with a range of local migrant and refugee communities. Although this is a subset of the active migrant support groups in Christchurch, the range of ethnic groups represented by their target populations allowed for generalizations regarding assistance available to migrants and the non-profit sector serving those communities during the recovery; some address migrant rights as a part of a broader workers' rights platform, allowing for insight into the comparative resource availability for migrants versus local ethnicities.

In-depth interview surveys were conducted, and results were analyzed at an organizational level by type to identify perceptions of internal and external vulnerabilities and capacities. Then, non-profits, partners, and their agency connection group Community Language Information Network Group were assessed based on their responses for resilience of their field of work and type using a functional redundancy chart, the *ISDR Framework*, and the resilience model to capture contributing factors to and levels of success in response and recovery.

Community Support Organizations

An array of twenty-one community support non-profit organizations and civil society partners providing support, mental health services, disaster relief, collective action organizing, livelihood assistance, and mobility assistance were also incorporated to assess the resources available to individuals and families struggling with marginalization that was compounded by or resulted from the earthquakes. Theses community support organizations contribute to decreased risk-taking behavior for the general population through community support programs but do not directly provide sexual health services or target migrants.

Three approaches were used to examine their roles in disaster recovery: in-depth interview survey results were compared for the twenty-one non-profits; and three non-profit organizations, the Christchurch City Mission, the Neighbourhood Trust, and Meals on Wheels participated in focus groups; managers of the three non-profit organizations that participated in focus groups also partook in semi-structured interviews based on focus group responses. Of note, the non-profit delegate to CERA was from Problem Gambling Foundation, which provided insight into broader non-profit sector perceptions.

Two levels of analysis were undertaken. The first level of analysis involved assessments of individual organizations based on management and staff perceptions of successful and failed post-disaster strategies, to capture time bound concerns and effectiveness strategies during mid-term recovery. The second level of assessment used functional redundancy charts, existing risk models, and resilience modeling to portray the resilience of the community support field of work and non-profit type.

Geographic Vulnerability Analysis

Geographic assessment of vulnerability offers the opportunity to target disaster risk reduction activities based on the expected event's characteristics, access to response and recovery assistance, socio-economic resources, and the existing levels of preparedness and mitigation in the area at risk (Weichselgartner 2001). A vulnerability index of the Christchurch region was generated using GIS based on the criteria identified by local non-profit leadership with data weighted according to their perceptions of prevailing problems reported in surveys and focus groups. Themes were extracted from the collective responses to identify community vulnerabilities perceived by the non-profit sector to have emerged as a result of the earthquakes.

Vulnerability indicators derived from Cutter's (2006) social vulnerability index, a matrix of seventeen measures and adapted to the New Zealand context. Eleven of Cutter's (2006) metrics were included according to their availability in census data: socio-economic status, gender, age, ethnicity, employment loss, renting, occupation, family type, education, population, and social dependence. Table 4.2 shows which factors from the census were used to represent Cutter's metrics.

Table 4.2: Social Vulnerability Metrics (Adapted from Cutter 2006 118-120)

Cutter's Vulnerability Metrics	Vulnerability Indicators Derived from Census
Socio-Economic Status	Personal Income
Gender	Gender
Ethnicity	Ethnicity
Age	Age
Development	Not Used
Employment Loss	Employment Status
Rural / Urban Area	Not Used
Residential Property Type	Household Composition
Infrastructure	Not Used
Renting	Landlord's Sector / Rents
Occupation	Occupation
Family Structure	Family Structure
Education	Qualification
Population	Usual Resident Population
Medical Services	Not Used
Social Dependence	Personal Income Source
Special Needs	Not Used

Love (2011) found that damage to homes from the earthquake affected pockets across Christchurch. Some areas had two percent or less damage, whereas, the most damaged areas had up to 6.6 percent damage (Love 2011). Five wards had two percent or less damage, whereas, the most damaged wards had 5.6 percent and 6.6 percent damage. The average would, therefore, misrepresent local trends at 2.9 percent (Love 2011). Analysis of vulnerability at the area unit level illuminated the mosaic of geographic effects of and socio-economic results of damages identified by Love (2011). Accordingly, the area unit level of analysis was used for detailed geographic analysis, which is compared to district and national level changes.

To incorporate non-profit input into the vulnerability assessment, social assistance and renting were weighted as two points each. Income based vulnerability components, proposed by Hutton et al. 2015b from comparisons of local income from 2008 to 2013, were weighted at one and a half points each. Other indicators valued at one point. This weighting system was used to clearly identify the varying contributions of income and non-profit identified vulnerability factors without obscuring the impact of traditional metrics. The weighting strategy of community identified vulnerability factors reflects findings from Emrich (2005) that community identified factors should carry additional weight. The formula including non-profit input is as follows:

Increased Vulnerability = socio-economic status + (gender*1.5) + (age*1.5) + (ethnicity*1.5) + employment loss + (renters*2) + (birthplace*0.5+ occupation*0.5) + (family type*0.5 + # children*0.5) + education + population + (social dependence*2)

The total possible vulnerability score is 14.5. These factors were then aligned with those from 2006 to 2013 at the ward and district levels compared to national trends (Christchurch City Council 2014a, 2014b). District and ward boundaries appear in Figure 3.3.

The temporal range of the qualitative and quantitative data allows for analysis of vulnerability trends from before the earthquakes into mid-term recovery on national, district, and

ward levels in the form of data tables of demographics. These tables expand insight into ethnicity and age groups that were obscured in the vulnerability index by nature of the vulnerability index calculation. Discussions of these results are set in the context of participant non-profits' fields of work.

Community boards offer a finer level of jurisdiction within a ward and mesh-blocks (Stevenson et al. 2011) present the finest unit of analysis in the census, however, these units were not comparable for the 2006 and 2013 census and were not used (Christchurch City Council 2014a, 2014b). Further, Aldrich (2012) notes that wards that coordinated their own community organizations in relief efforts were more successful in early recovery as there was increased local knowledge from empowered community organizations. Despite the disconnect that Hutton et al. (2015b) highlights between realities of marginalization at the community level and the amalgamation of vulnerability at larger geographic scales, both ward and district level data are compared in this study because those scales have applications for emergency management. Further non-profit organizations in Christchurch, with the exclusion of community centers, provide services not only for the whole district but in some cases for the entire south island. Implications of all scales of analysis were consequently useful to non-profit participants due to the realities of typical distance traveled for comprehensive services.

Although the New Zealand census is typically conducted in five year increments, the February 2011 earthquake in Christchurch actually delayed the 2011 census to 2013 due to the magnitude and severity of the damages. The direct correlation to the earthquake events is also indeterminate with such a large gap in census years. Further research is needed to determine long-term trends from past censuses, temporal trends within the 2006 to 2013 census period, and

to show variation in ethnic and age related vulnerability at the area unit level, and to identify the extent of vulnerability increases in each unit of analysis.

Data Application

The non-profits participating in the study were plotted on a graph of maturity of organization against support level to identify functional redundancy in their field of service. Criteria for categorization of the organizations were selected based on Dattani's (2012) strategic organization components: goals to capitalize on public value, operational capacity, and political environment. 1) Changes in the number of targeted populations served during the early to mid-recovery period were shown by the size of the plotted point to indicate the degree of variability in demand on various organization types. Size of the organization was determined based on interview responses regarding increased or decreased service demand after the earthquakes. The smallest size was assigned to organizations reporting declines in demand, medium had no change, and large had emergent populations reporting for care. 2) Maturity of an organization was based on the formation of the non-profit or network before or after the earthquakes as well as the longevity of any legalization or promotion of the service in national or international policy. 3) Emergent organizations received low maturity scores whereas pre-existing organizations received higher scores. System support was determined by funding and the partnerships developed with funders; those non-profits operating purely voluntarily scored lowest and those funded internationally scored highest. 4) Organizations with local funding toward the lower end of the axis and multiple funding streams scored toward the higher end of the axis. Those funded by one government department scored higher than those with multiple funders and lower than international funding recipients. In general, pre-existing organizations received high scores because they had recent government directed policy support.

66

The cumulative data obtained from the interviews and focus groups were analyzed using the *ISDR Framework* (Birkmann et al. 2013). Through this framework, routes for building non-profit relationships with donors and authorities for advocacy and internal adaptability were determined for the typology proposed above.

Data Modeling

From the collective survey, focus group, and interview data a model for non-profit resilience in developed, urban post-disaster settings with components from Simo and Bies's (2007) framework was presented to identify components of success in response and recovery for emergent, pre-existing, advocacy, or community based organizations with social interests. Based on the non-profit typology and field categorization used throughout the data analysis the capacity for non-profits to maintain services in a static manner or thrive in the response and recovery continuum was plotted. The impact of the non-profit sector and its connections in addressing overcoming social and institutional impediments to individual, family, and community health and wellbeing following the earthquakes was interpreted through the *Psychosocial Risk Assessment and Management Framework* adapted from Patterson et al. (2010) to reflect the increased influence held by cross-sector partnerships in Christchurch as recovery progressed. The role of community relationships (bridge building) and inter-agency partnerships (linkage building) in organizational success was assessed for both phases according to non-profit perceptions of community connectivity emphasis on the collective of individual good and means of production of services.

Summary

Existing literature from the study setting was analyzed to assess the impact of the earthquake on non-profit organizations and marginalized groups. Non-profit participants from

each field of work participated in surveys. A subset of these organizations also participated in focus groups and in-depth interviews. Figure 4.1 shows the number of organizations participating in each stage of the qualitative assessment. The utilization of surveys with managers, staff focus groups, and then in-depth interviews that returned staff focus group results to managers allowed for insights into organizational communication and experiences across the non-profit sector. Responses regarding increased needs of marginalized groups contributed to weighted mapping of vulnerabilities by area unit across the Christchurch District and guided census comparisons for ward, district and national scales. A non-profit typology was established from the findings of Alexander (1993), Vallance (2011b), Kamat (2004) and McLean et al. (2012) to separate non-profit organizations and their civil society partners by duration of operation and operational strategy. Using this typology, non-profit organizations responses were charted for each field of work to identify functional redundancies. They were also used to adapt existing risk models to incorporate the non-profit sector and propose a model for non-profit resilience in disaster response and recovery. This study addresses gaps at the intersections of sexual health and disaster literature by i) exploring the role of sexual health related non-profit organizations in identifying demographic shifts in vulnerability, ii) adapting existing disaster risk reduction models to the non-profit context, and iii) extending existing non-profit management research into disaster recovery.
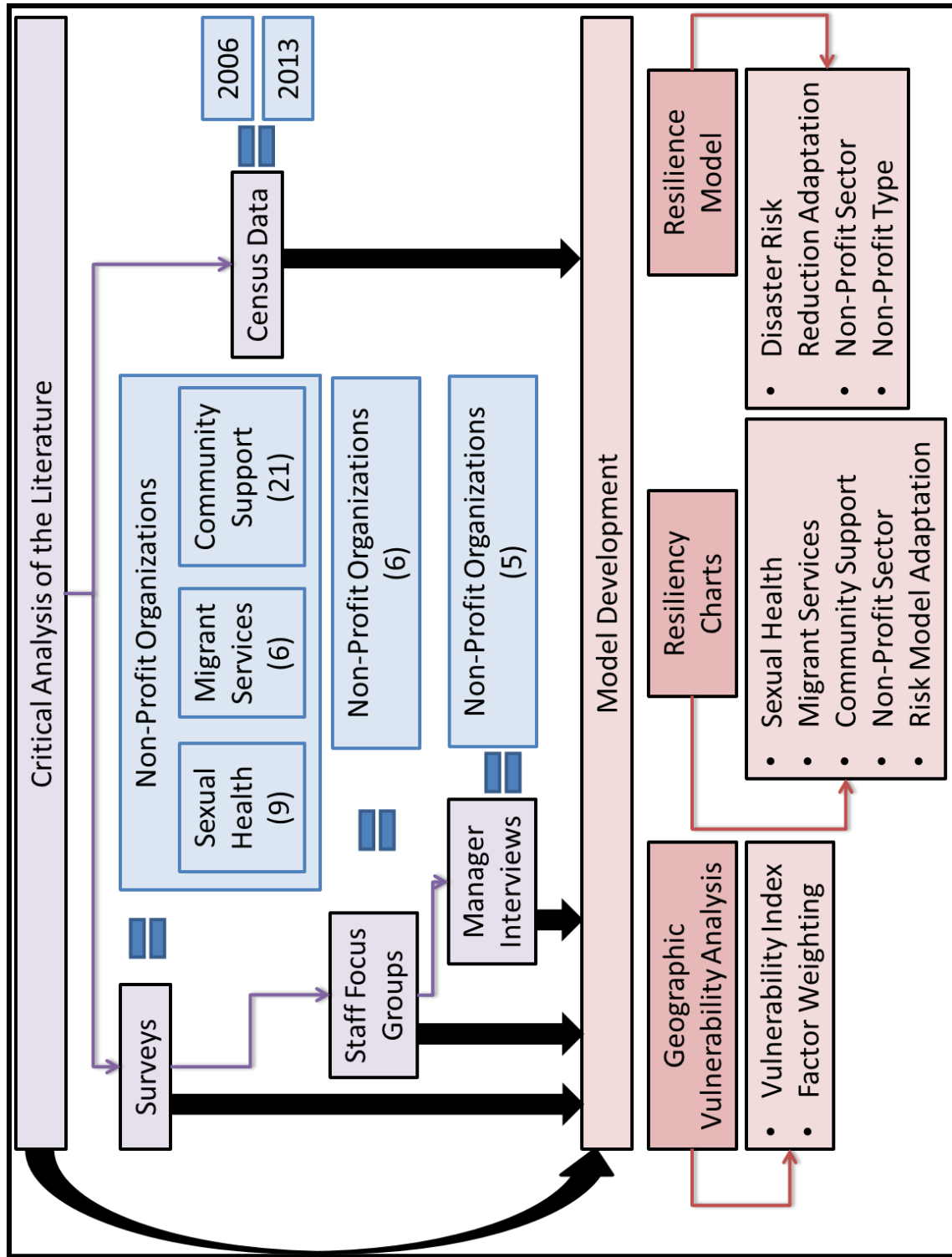
Figure 4.1: Data Collection and Analysis Flow Chart

Chapter 5: Study Setting

A Hazardous Perspective of New Zealand Seismicity, Population, and Health

This chapter sets New Zealand and the Canterbury region into international literature on disasters, health, and non-profit based community engagement for capacity building. The potential for and impact of seismic events is established on national and regional scales. Also, population policy commitments are explored through both sexual health and migrant support programs. Integration of non-profit organizations into social service delivery through co-production is established as a nationally set strategy with positive local connotations for marginalized groups. Although national studies of the contribution of community engagement in disaster risk reduction is sparse, the existing research on resilience and non-profit organization engagement in emergency management following the earthquakes in Canterbury is presented. Implications of disaster risk reduction paradigms adopted in Canterbury are then examined based on New Zealand's role in development of the Asia Pacific region and other high-income nations with similar seismic hazard risk. Areas for expansion are highlighted in terms of the temporal nature of non-profit sector assessments. Additionally, organizational resilience and emergency management integration is thought to require expansion to be applicable to non-profit sector organizations.

Seismicity in New Zealand

Subduction zones, such as that on the east coast of New Zealand, are associated with the largest earthquakes in the world (Pettinga et al. 2001). New Zealand sits at the boundary of the Pacific and Australian plates, which produce shallow earthquake activity. These plates form the

Hikurangi subduction zone that affects the North Island and the northern portion of the South Island (Henrys et al. 2006). Areas from Marlborough in the South Island through Wellington and Hawkes Bay in the North Island are subject to earthquakes from the Hikurangi fault system. Offshore, this seismic threat runs from the Bay of Plenty on the north boundary of the North Island to Kaikoura on eastern coast of the South Island, in the Canterbury Region (Pettinga et al. 2001; Reyners 1998). The capital, Wellington, on the south end of the North Island experiences earthquake activity as a result of this fault system. Historically, the most severe earthquake in New Zealand, the Napier earthquake 1931 was also attributed to activity in the Hikurangi fault zone (Reyners 1998). Earthquake hazard decreases from North West to South East along the two islands (Pettinga et al. 2001).

Additional areas of seismic activity are associated with the Taupo Volcanic Zone on the North Island and the Alpine Fault on the South Island. The convergence of these plates and fault zones can be seen in Figure 5.1 (Stirling 2012). The Alpine fault presents the highest hazard for earthquake on the South Island as the deep fault zone in Marlborough is locked and not projected to be active at a shallow level (Pettinga et al. 2001). This fault is locked at a shallow depth of 6 to 12 km and expected to produce a greater than 7 magnitude event in the foreseeable human future; similar previous events occurred in this system in 1430, 1620, and 1717 (Pettinga et al. 2001; Sutherland et al. 2006). With the Alpine fault holding approximately seventy five percent of the expected motion in the Southern Alps, the Canterbury Plains to the east remain relatively unstudied (Pettinga et al. 2001). Despite 90 sources of faults in the Canterbury region and events over 6.0 magnitude recorded near the city of Christchurch in 1869 and 1870 it was projected as of 2010 for the lowest probability, of earthquake hazard as seen in Figure 5.2 (Stirling et al. 2012; Pettinga et al. 2001).

71
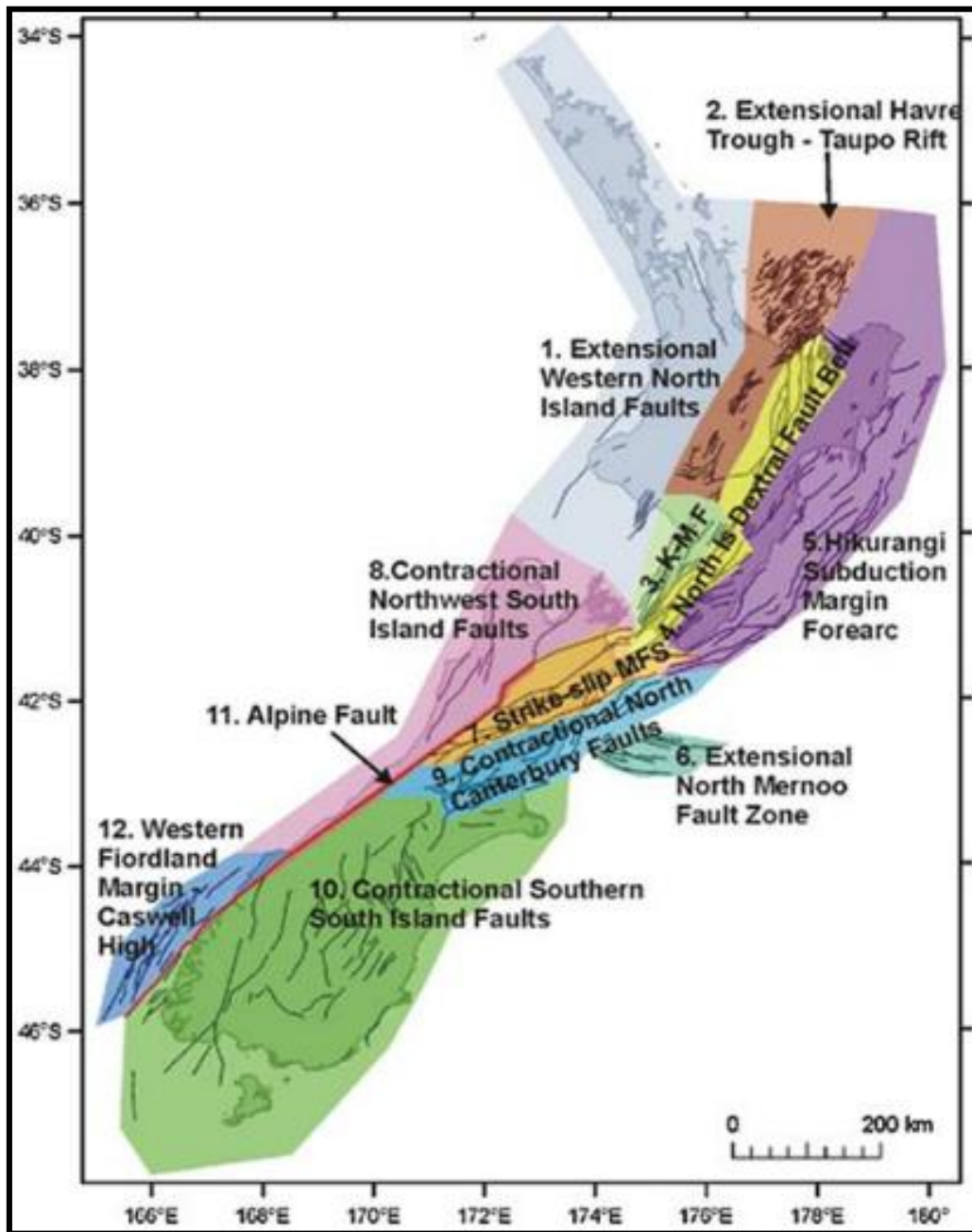
Figure 5.1: Regional Grouping of Active Fault Sources, New Zealand (Reprinted from Stirling et al. 2012 1516 © Seismological Society of America)
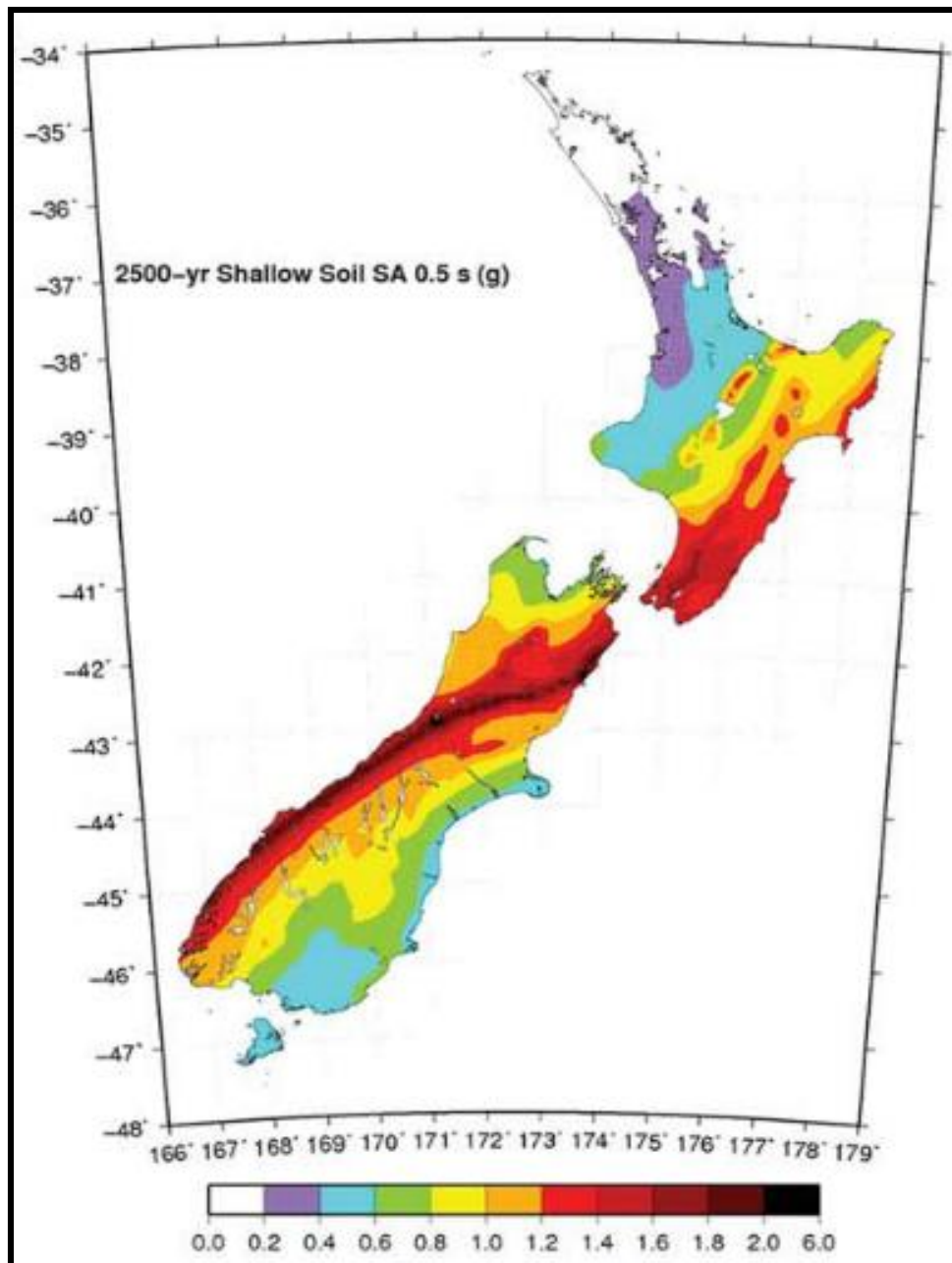
Figure 5.2: 2500 Year 2 Percent Probability Shallow Soil Seismic Hazard Map, New Zealand
(Reprinted from Stirling et al. 2012 1532 © Seismological Society of America)

Seismic hazard management is a feature of New Zealand civil defense and building code to protect its population and especially its largest cities from catastrophe as a reflection of its hazardousness of place (Johnson and Mamula-Seadon 2014). The built environment and public services available must reduce vulnerability of residents and prepare them through capacity building to prevent disastrous consequences of predicted and unexpected fault activity.

New Zealand Population

The population of New Zealand was 4,242,048 at the time of the census in 2013 (Christchurch City Council 2013). As of 2000, New Zealand had a 2.00 fertility rate. McDonald and Kippen (2000) assumed that the fertility rate would decline to 1.85 and then stagnate by 2010. If population policies and migration patterns were to remain constant with high out migration of 20-24 year old residents and in-migration of approximately 10,000 foreign nationals per year the population would grow to 4.8 million (McDonald and Kippen 2000). By 2013 population had increased to 4.4 million (Johnson and Mamula-Seadon 2014). After 2050 the population should be maintained at that level (McDonald and Kippen 2000). In the 2050 projection the elderly portion of the population would double from twelve percent in 2000 with more increases expected in later projections. Migration cannot negate the impact of aging on a population and the benefits of more than 10,000 migrants arriving per year is negligible in terms of offsetting elderly dependent populations (McDonald and Kippen 2000). National aging and migration trends as well as demand for a well-educated national work force that does not experience unsustainable loss of young people may increase reliance on non-profit organizations as partners through co-production for delivery of services under the existing non-profit engagement priorities of the New Zealand government as outlined by Larner and Craig (2005).

New Zealand Migrant Support Services

In New Zealand, non-profits dealing with migrant issues are contracted and trained to address health, livelihood, and language concerns under the national Connecting Diverse Communities Initiative and the Resettlement Strategy. For areas with a high migrant population, agency connections often offer holistic care (Skyrme 2008; Walker 2012). Coordinated resettlement strategies and planned functional redundancy of services offered by non-profits and government agencies offer risk reduction opportunities for migrants by providing comprehensive, integrated services from a variety of sources (Birkmann 2013; Phillips and Smith 2012).

Integration of migrants and refugees into society beyond employment is a priority of culturally driven non-profit organizations. Further, many cultures have different expectations regarding sexual behavior, supply access, and service provision. Awareness raising at employment venues for health care and community engagement opportunities is critical to have empowered, resilient migrant communities. In migrant communities, appropriate messaging is imperative to decrease social amplification of risk due to cultural and linguistic separation (Aldrich 2012; Kasperson et al. 1988). Even into long-term recovery, non-profit advocacy for marginalized groups is necessary to decrease socio-economic vulnerability and prevent spatial environmental injustice (Bohannon and Enserink 2005).

New Zealand Health System

Poor health outcomes negatively affects the livelihoods of individuals and their families and detracts from community capacity. In welfare economies, such as that present in New Zealand, socially focused non-profit and non-governmental organizations operating in what is referred to as the non-profit sector, often partner with government agencies to lend local

knowledge or co-produce public health services to expand access for marginalized groups (Dattani 2012; Phillip and Smith 2012; Zimmer 2010). During the 1980's and 1990's, New Zealand experienced a shift in government engagement with non-profits promoting inclusion in public-private partnerships, especially with respect to education and health needs (Larner and Craig 2005) and are now relied on to champion healthcare policy measures for ethnic minorities (Came 2014). Some of the most impactful initiatives led through non-profit partnerships with government include social mapping and mediation (Larner and Craig 2005).

Due to the disproportionate health burden of ethnic minorities and economically marginalized groups, universal access to health care was phased in to the New Zealand health system through private and government primary health care providers as of 2002. This program demonstrated measurable success, with 200,000 marginalized persons reported to have received increased access in the first fifteen months (Hefford et al. 2005). As an expansion on the pre-existing Community Service Card program, originally deployed to reduce costs for marginalized groups, access pathways were expanded and services offered on a non-profit basis through: new consultation formats, such as email; community outreach campaigns; and an expanded suite of services and delivery options for primary care including sexual health, long-term disease treatment, and clinics offered by schools and community workers. Although the impacts of universal health care will continue to be limited by housing conditions, and employment status, some health inequalities can be reduced. Community outreach by primary health providers may be able to reduce rates of addiction, obesity, and teenage pregnancy. Resilience may be bolstered by targeting marginalized populations for outreach; community health literacy will improve as will awareness of community needs and integration of appropriate services by health care providers (Hefford et al. 2005).

To coordinate efforts and ensure accountability of the regional health systems the Ministry of Health oversees twenty-one District Health Boards (DHB) through the national health board. Planning and information technology are coordinated to provide accessibility for New Zealand residents to hospital or primary and referred care. As of 2008 benchmarks were set nationally and DHBs were compared quarterly (Gauld 2012).

Strong community integration and reporting requirements also impacts non-profit sector health contractors. Through policy based improvement of health, social exclusion declines (Bloom et al. 2003). Following a natural disaster, national benchmarks, coordination of records, and collective service provision data allow local non-profits to temporarily alter service delivery methods to reach their target populations, the communities with which they are most familiar and are often marginalized and may prefer to seek care outside of the government based health system (Tobin and Montz 1997).

The Canterbury Earthquake Series

The Canterbury earthquake series began the night of September 4, 2010 when a 7.1 magnitude earthquake occurred at 4:35am in rural Canterbury 40 km from Christchurch central business district (CBD) (Johnson and Mamula-Seadon 2014). Significant infrastructural damage occurred throughout the Selwyn, Waimakariri, and Christchurch Districts as well as façade damage in the CBD. Due to the time and location of this fault activity a strong response by national authorities there was no loss of life (Ardagh et al., 2012; Johnson and Mamula-Seadon 2014). Estimated costs from the local emergencies issued across the three affected districts were 4 billion USD (Johnson and Mamula-Seadon 2014). However, three additional earthquakes of 6.0 magnitude and higher disrupted this public feeling of safety and initially appeared to overwhelm authorities already involved in the recovery from the September earthquake (Fogarty

2014; Platt 2012). February 2011 a shallow 6.3 magnitude earthquake six km from the CBD hit at 12:51 pm and killed 185 people and resulted in seventy percent of the CBD and over 7,500 homes in the eastern suburbs and port hills being designated for demolition (Johnson and Mamula-Seadon 2014; Chang-Richards et al. 2013). Appendix A visually documents residential and urban damages to facades, water lines, and roadways. Liquefaction produced 500,000 tons of material that had to be removed from across the city.

During the February earthquake, the majority of Christchurch residents with less preparedness remained in place and did not take cover; whereas, those with limited earthquake information evacuated. Both reactions put individuals at greater risk of injury from debris. In all cases, fear was the primary motivator of action, which according to Lindell et al. (2015) indicates high levels of emotional trauma.

Aftershocks in June and December 2011 exacerbated vulnerabilities (Platt 2012). By 2014 estimations of losses rose to 32 billion USD as aftershocks compounded the initial damages (Johnson and Mamula-Seadon 2014). Aftershocks continued into 2015 creating difficulties as response and recovery operations overlapped further traumatizing residents and weakening structures (GNS Science 2009). Figure 5.3 shows a map of the fault line, September 2010 earthquake and aftershocks up to 2014. The 2011 earthquake's proximity to the 2010 earthquake and large number of aftershocks provides insight into running response and recovery operations concurrently (Ambler 2012).

Previous hazard assessments anticipated earthquakes originating from the Alpine fault over 100 km outside of the Christchurch CBD (Figure 5.4) (Johnson and Mamula-Seadon 2014; CERA N.D.). A high magnitude event occurring in an area without previously known faults was such a low probability that the public was largely unaware (Pierpiekarz et al. 2014; Johnson and

Mamula-Seadon 2014). According to Beavan et al. (2012), there is an area near the city where pressure on the fault has not been released, leading scientists to believe that further activity is possible in Christchurch.
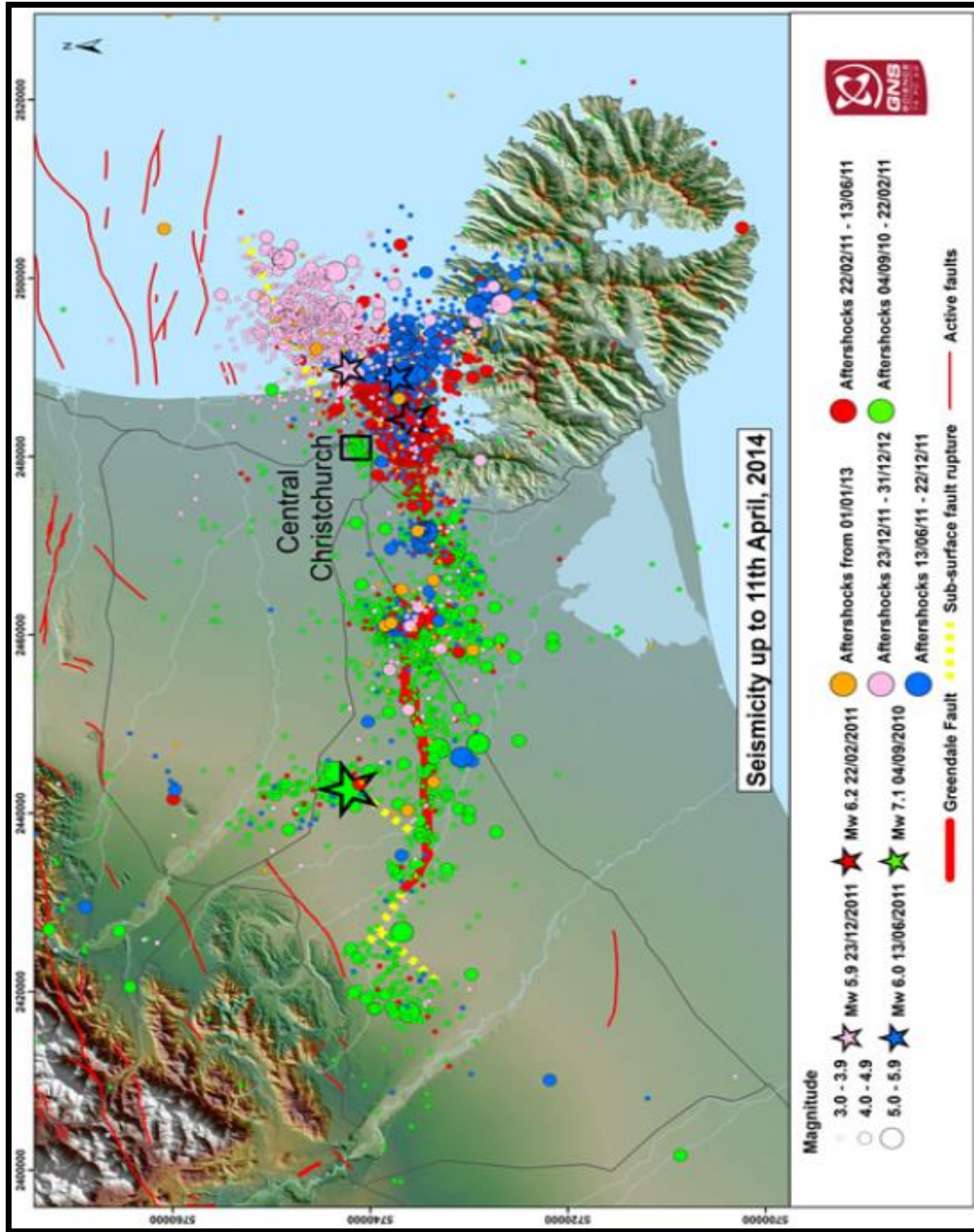
Figure 5.3: Christchurch, New Zealand Seismicity up to April 11, 2014 (GNS 2014 © 2009 GNS Science Courtesy of the GeoNet project and GNS Science)

79

Figure 5.4: New Zealand Alpine Fault (GNS n.d. © 2009 GNS Science Courtesy of the GeoNet project and GNS Science)

Disaster Management

New Zealand had not experienced an earthquake with this level of damages and number of fatalities since the Napier earthquake of 1931. The 1931 event fostered the creation of the Civil Defense system based on the UK model (Johnson and Mamula-Seadon 2014; Seville et al. 2006; Quarantelli 2000). The February 22, 2011 earthquake resulted in the first state of emergency issued by the national government in New Zealand (Fogarty 2014; Johnson and Mamula-Seadon 2014). The multiple events in the Canterbury earthquake series strained governance, construction, and community resources because of set-backs and urgency of the recovery process. To facilitate decision making, the Canterbury Response and Recovery Act 2010 and later the Canterbury Earthquake Act 2011 expanded the powers of the national government oversight authority that would operate in Canterbury until 2016. Navigating emergent government structures and non-profit relief systems to secure assistance and remuneration for damages carried significant social difficulty. Although stakeholder input is a principle of the Australia New Zealand Risk Management Standards adopted in 1995 and the Civil Defense ACT of 2002 the longevity and complexity of Canterbury Earthquake Recovery

80

Authority (CERA), the intergovernmental liaison formed from the national recovery legislation, left communities with limited direct representation (Figure 5.5). The reduced role of the Christchurch City Council taken in the months following the Darfield earthquake added to limitations for community input until well into recovery from the Christchurch earthquake (Johnson and Mamula-Seadon 2014).

The emergency management phases defined by Civil Defense are 'reduction, readiness, response, and recovery' but due to the extent of damages, allocation of Civil Defense to the full recovery operated through CERA on different integration frameworks and extended recovery priorities (Chang-Richards et al. 2013; Fogarty 2014). Due to leadership transitions, experiences with aid distribution during response and recovery were not directly connected (Aldrich 2012). Initial investments in the rebuild incurred a NZ$11 billion deficit to ensure that long-term economic impacts of business failures were cushioned (Stevenson et al. 2011). Ten thousand to 48,000 additional construction workers were expected to be required for reconstruction; these were expected to peak in 2013 (Fogarty 2014). The response to the labor shortage was an influx of construction workers from other countries, which added to the pressure for housing and increased demand for migrant services as the recovery progressed (Chang-Richards et al. 2013; Rotimi et al. 2006).
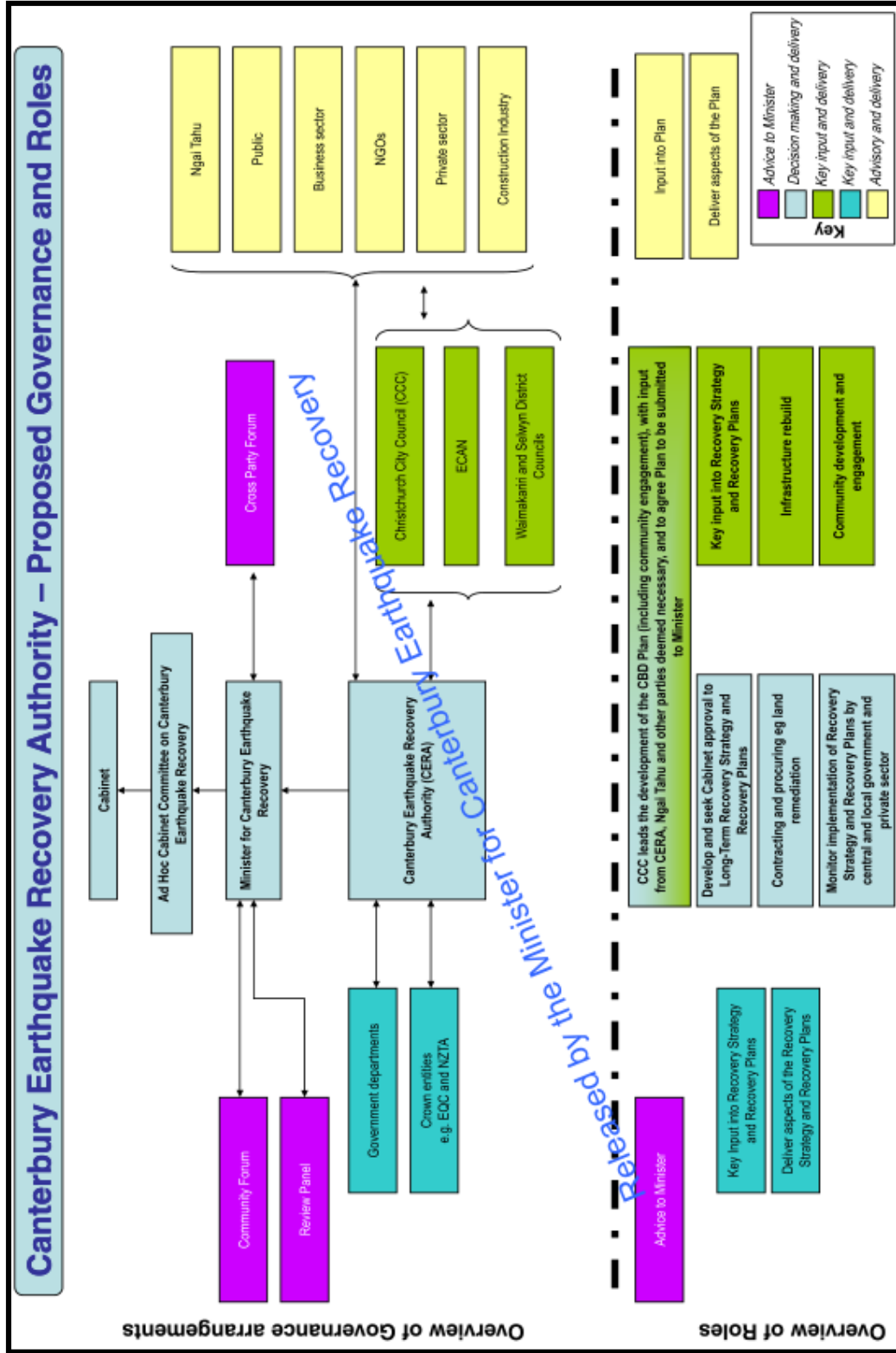
Figure 5.5: CERA Governance and Roles (Reprinted from CERA 2011 Crown copyright © Canterbury Earthquake Recovery Authority)
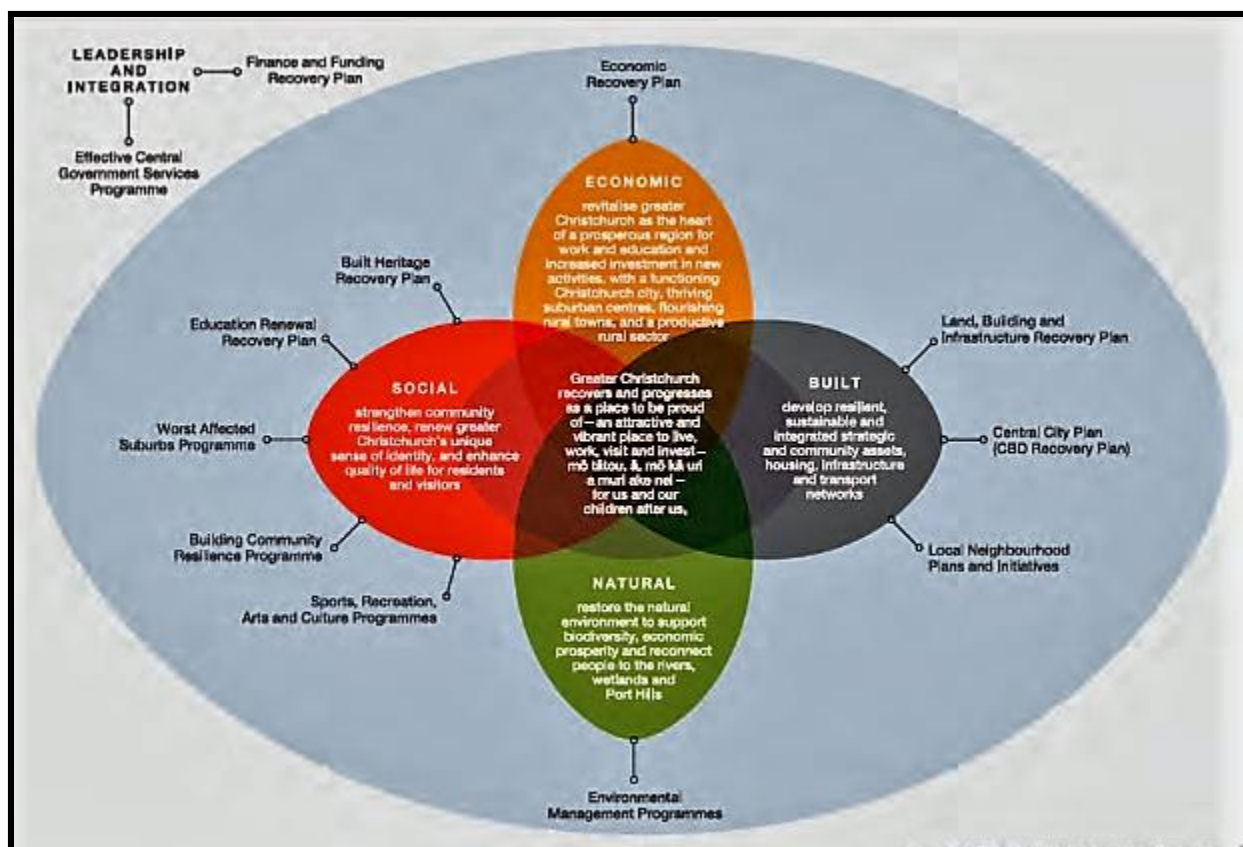
Figure 5.6: CERA Draft Recovery Strategy for Greater Christchurch (Reprinted from CERA 2012 8 Crown copyright © Canterbury Earthquake Recovery Authority)

The multifaceted approach to recovery adopted by CERA can be seen in Figure 5.6 (CERA 2012). Social, natural, built, and economic facets of recovery were considered not only to rebuild but to revitalize the area. Although the economic and natural recovery were manageable under one plan each, repairing the built and social environments required multifaceted approaches. The recovery strategy implemented for the built environment established Stronger Christchurch Infrastructure Rebuild Team to manage infrastructure and Christchurch Central Development Unit that covers the CBD (Chang-Richards et al. 2013; Johnson and Mamula-Seadon 2014). Housing repair, under the purview of the Earthquake Commission, was contracted out to Fletcher Construction. Balancing the efficiency of the demolition and repair process with residents' stress is a sensitive issue for government and

83

contractors a like (Chang-Richards et al. 2013). The involvement of non-profits as inter agency moderators to the community could have better guided these relations. For social recovery education, cultural heritage, suburban renewal, community resilience, and recreation had to be balanced.

As the liaisons for recovery, it is the responsibility of authorities to glean community knowledge and social capacity by reducing barriers to cross-sector and interagency connections (Bourk and Holland 2013). Community input including but not limited to the non-profit sector, private sector and general public share an access point to CERA directly or through the city, district, or regional authority's access point which is shared by those organizations (Johnson and Mamula-Seadon 2014). These channels are expected to provide sufficient input into planning and facilitate local implementation. This governance structure relied heavily on appropriate representation. It is unclear how marginalized groups can compete with the shear amount of interests voiced through these channels. According to Aldrich (2012) though community heterogeneity did negatively influence the ability to leverage post-disaster collective advocacy avenues.

Through sustained advocacy for adherence to commitments to community based emergency management and flexibility of institutional structures, community integration improved over time (Johnson and Mamula-Seadon 2014). Bourk and Holland (2013) propose assignment of a Civil Defense and later recovery authority personnel to not only general non-profit engagement but specifically online campaigns due to their capacity to disseminate information and direct social participation. As CERA prepares to transitions out of Christchurch in 2016, continued calls for engagement with community organizations for revitalizing

communities and the CBD and direction of ongoing psychological needs to traditional practitioners (CERA 2015a).

Recovery in the Built Environment

To facilitate demolition in the CBD, the cordon initially established for search and rescue existed in various iterations for over a year (Taylor 2013). The current state of demolition in the CBD is seen in Figure 5.7 (CERA N.D.). Further, Thousands of homes were "Red Zoned", deemed unsuitable for habitation, and the timeline for repair of others is uncertain (Johnson and Mamula-Seadon 2014). The residential red zone appears in Figure 5.8.
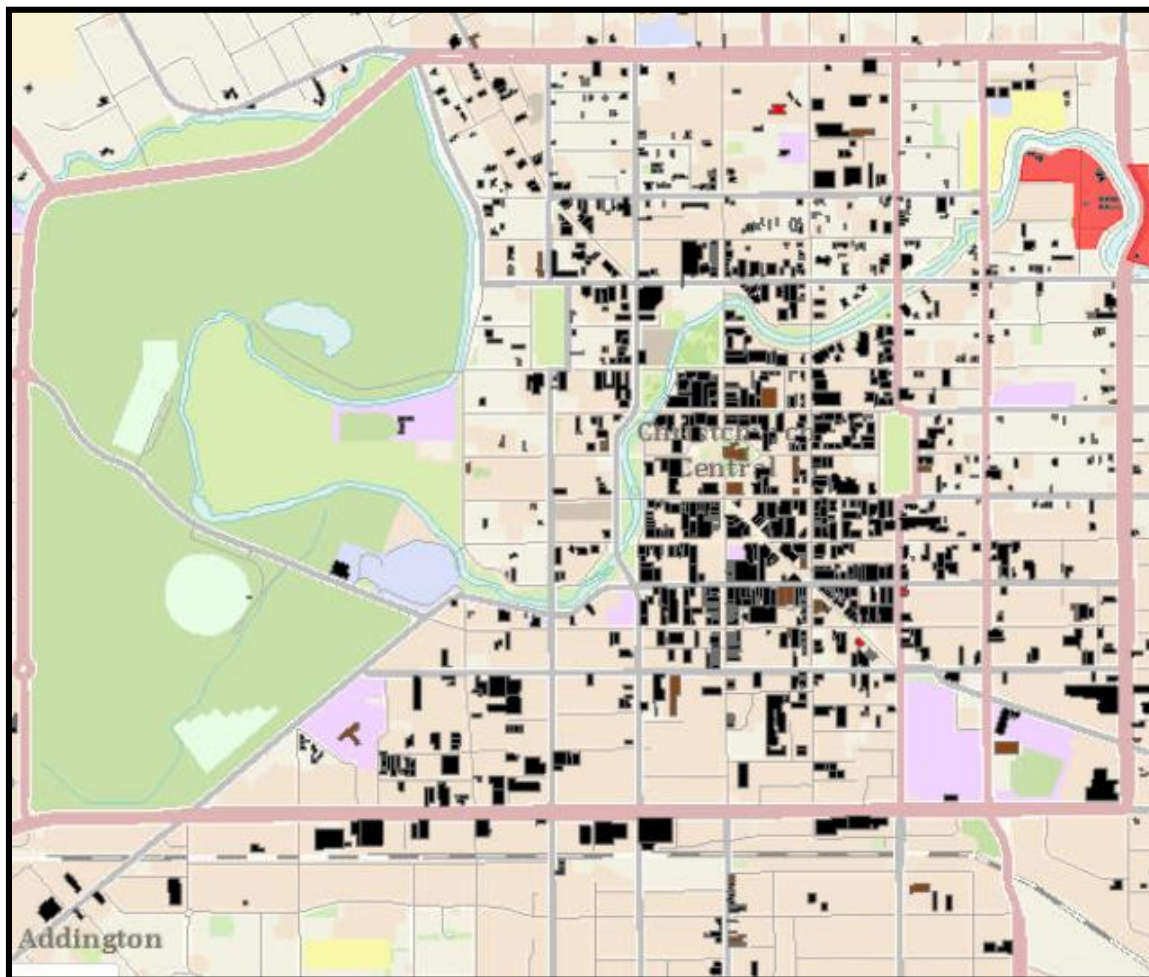
Figure 5.7: Central Business District Demolitions Christchurch, New Zealand (Generated by The CERA Map n.d. Crown copyright © Canterbury Earthquake Recovery Authority)
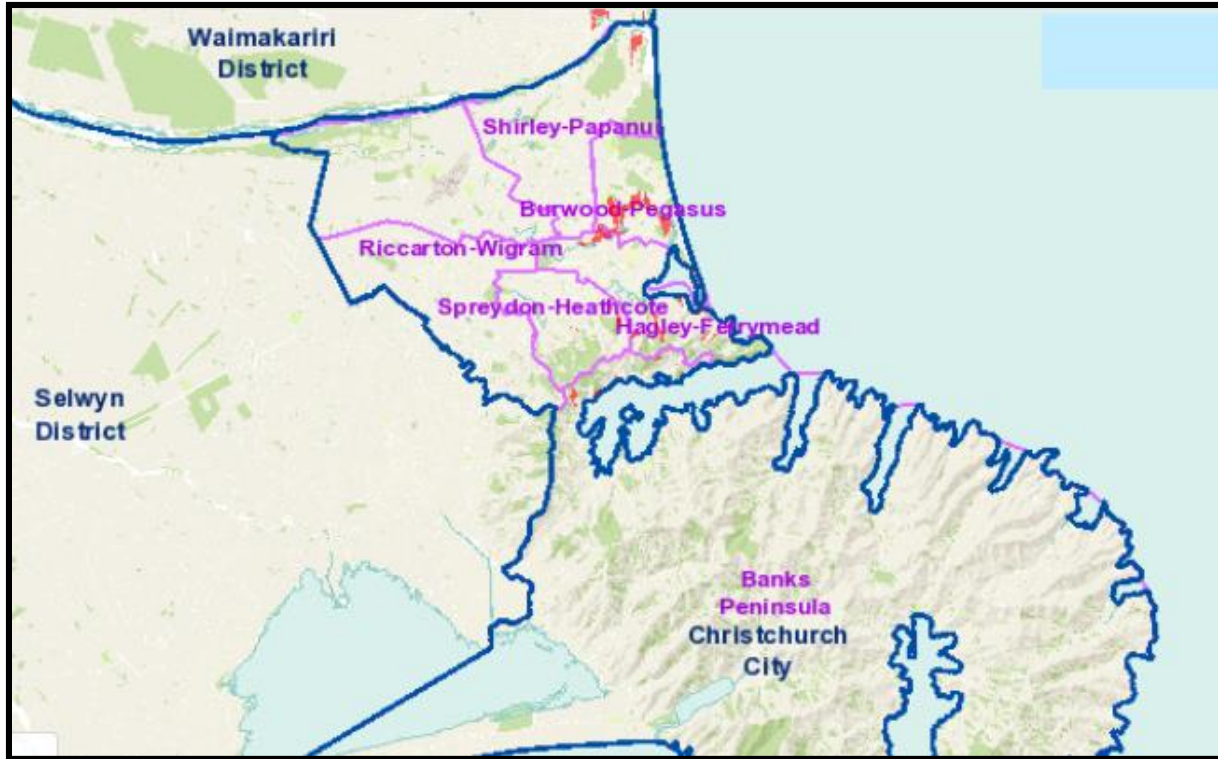
Figure 5.8: Canterbury Districts and Christchurch City Council Wards (Generated from The CERA Map n.d. Crown copyright © Canterbury Earthquake Recovery Authority)

The demolition presented an opportunity to restore the CBD, which had been in decline prior to the earthquake (Pierpiekarz et al. 2014; Taylor 2013). In Christchurch, mid- to long-term recovery hinged on effective resettlement of residents and businesses given the extent of damages. Parenson (2012) argued that integration of non-profits into the rebuilding process would increase ownership of the resulting cityscape. Involvement was not expected to be permanent for community members though as they are often interested primarily in solving immediate problems more so than planning for future gains (Seville et al. 2006). The city rebuild plan presented by the Christchurch City Council received 130,000 resident responses from a website, survey, and community focus group input from the 'Share an Idea' campaign. Residents' desires were expressed for building elevation limits, green spaces, and aesthetically pleasing cityscapes (Platt 2012). However, this plan was later amended by the Christchurch City

Council to emphasize private business input. These modifications increased public distrust of the mayor and Christchurch City Council (Brookie 2012; Fogarty 2014; Platt 2012).

Residential repairs were expected to take four years and commercial up to fifteen (Fogarty 2014). Despite concerns with transparency for finalizing the CBD rebuild plan, the precincts set up reflected non-profit tendencies to co-locate for improved efficiency through connections by designating services such as, public health, safety, and heritage, to areas where they could cluster (Figure 5.9) (CERA 2014). Appendix A shows examples of buildings used for co-located offices during mid-term recovery. Other than staying with family and friends, displaced residents rejected the majority of mid- to long-term housing options which has caused overcrowding and strife as the recovery goes into its fourth year (Giovinazzi et al. 2012). Rentals funded by insurance, the Ministry of Social Development, Housing New Zealand, and the Red Cross for relief have reached maximum pricing capacity and further strain incomes for residents pursuing that option (Fogarty 2014; Stevenson et al. 2011). Also, there have been complications and delays in obtaining payments from the national insurance agency, the Earthquake Commission, because over 450,000 claims were filed as a result of the universal insurance scheme (Johnson and Mamula-Seadon 2014; Platt 2012).
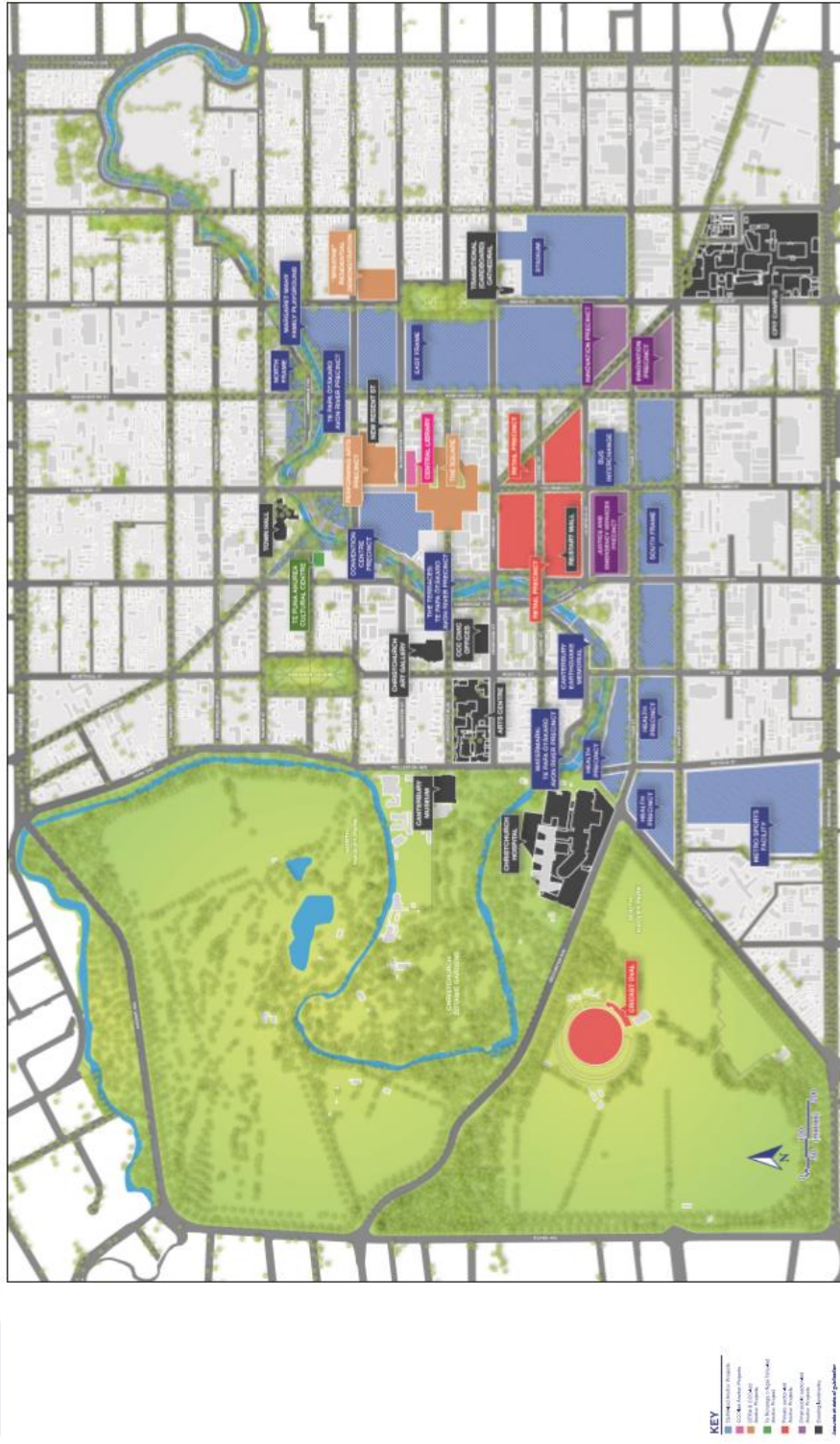
Figure 5.9: Christchurch Central Business District Precinct Plan (CERA 2015a Crown copyright © Canterbury Earthquake Recovery Authority)

Citizens and small business owners were prompted to overcome reduced accommodation options and remain in Christchurch through the extension of government subsidies and social connections (Pierpiekarz et al. 2014; Stevenson et al. 2011). Some non-profits also benefitted from temporary compensation from the Ministry of Social Development (Platt 2012). The entwinement of community organizations with partners in other sectors facilitates vulnerability reduction. In the context of the cultural environment, communication and purposes can be equitably distributed to utilize organizations, community, and the institutional environment to achieve capacity and capital building (Britt et al. 2012).

Social Recovery

Social recovery was gauged by CERA through periodic wellbeing surveys which reflects social participation (Figure 5.10). Through this cross-sector program, wellbeing factors including: awareness of public services, housing conditions, employment opportunities, community cohesion, public safety, access to child care, sexual assault, addiction, and emotional status. Overall quality of life was rated only six percent lower than the average of other cities in New Zealand as of September 2013. Up to September 2013 housing quality and available accommodations remained fairly stagnant, but gains were made in community engagement, recreation, opportunities, work environments, service access, child safety, and relationships. Although surveys had a lower return rate for later dates that may skew the results, this was attributed to reprioritization as the recovery progresses (Morgan et al. 2015).
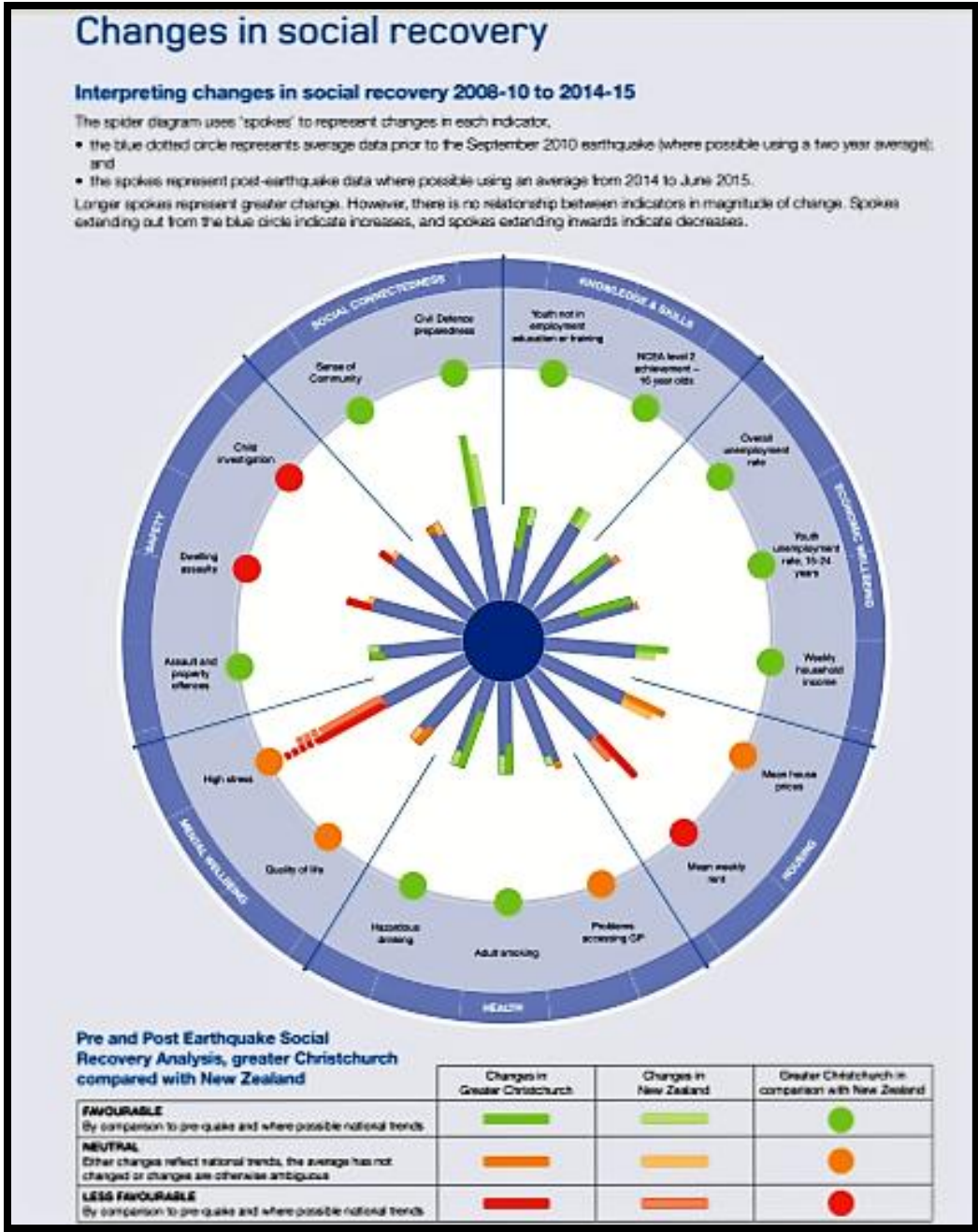
Figure 5.10: Canterbury Wellbeing Index for Social Recovery (Reprinted from CERA 2015b 1 Crown copyright © Canterbury Earthquake Recovery Authority)

Dissatisfaction with high stress levels, poor housing conditions, and child safety concerns was still higher in 2014 than before the earthquakes (CERA 2015 b). Residents that were vulnerable before the earthquakes and the new vulnerable population, which emerged as a result of the disaster, reported low wellbeing scores. Ethnicity, not owning one's home, disability, poor

health, income, and age between 35-49 or elderly were marginalizing factors. The continued marginalization of minority groups indicates that the recovery could still benefit from increased non-profit engagement.

Population and Health in Canterbury

Canterbury is the second largest region in New Zealand, comprised of Christchurch City District, population 376,700, Waimakariri District, population 47,600, and Selwyn District, population 39,600 (McDonald and Kippen 2000). East Christchurch contains some of the most economically marginalized residents in New Zealand (Conradson 2008). Brady and McNaughton (2012) estimated that 50,000 residents temporarily or permanently moved away from Christchurch over the course of the four major earthquake events. By 2012, however, the population had rebounded to within five percent of the pre-event total (Pierpiekarz et al. 2014).

Prior to the February 2011 earthquake that devastated the city center, Christchurch was one of the largest refugee and migrant resettlement centers in New Zealand (Platt 2012; Thornley et al. 2013). Refugees came to Christchurch from a variety of ethnic backgrounds; some of the largest groups were Somali, Kurdish, Afghani, and Bhutanese (Ahmed Tani, Manager Canterbury Refugee Council, 2014, personal communication). Although, Humphrey et al. (2011) found the resilience of the overall community to be strong, after the February 2011 earthquake, many minority groups struggled with messaging, access to care, livelihoods and representation in rebuilding efforts. Migrant support non-profits maintained services through strong relationships with indigenous networks, like-minded non-profits and government contracting agencies such as, the Ministry of Social Development and Department of Internal Affairs (Thornley et al 2013; Walker 2012).

Following the 2011 Christchurch earthquake, the success of the health system during initial response was attributed to the disaster plans of individual hospitals and strong networks within the broader medical community that facilitated the sharing of staff and resources not only among hospitals but also with non-traditional care facilities, such as non-profit organizations (Ardagh et al. 2012). Cordoned areas, limited transportation options, and a disconnect between indigenous networks and emergency management operations, however, created barriers to access during the emergency response phase and to some extent early in the recovery period as demolition continued to block roadways (Johnston et al. 2011; Lambert and Mark-Shadbolt 2012). Alternative means of service access provided by non-profits specializing in the health of marginalized groups ensured that some populations with pre-existing vulnerabilities continued to receive care from a trusted source. At the same time, non-profit connections were leveraged to shared resources to address emerging vulnerabilities that may have been exacerbated by or were a direct result of the disaster, such as family violence or increased sexual risk-taking behavior. In addition to the stressful living conditions of local residents, as debris was cleared and structures were evaluated for occupation, an influx of international construction workers with varying sexual health perceptions and conditions further strained public health resources (Chang-Richards et al. 2013).

Resilient Communities and Organizations in Christchurch, New Zealand

Wellbeing is a function of social participation. The entwinement of community organizations with partners in other sectors facilitates vulnerability reduction (Britt et al. 2012; Simo and Bies 2007). In the context of the cultural environment, communication and purposes can be equitably distributed to utilize organizations, community, and the institutional environment to achieve capacity and capital building (Britt et al. 2012). Research on community

benefits of cooperative organizational response in New Zealand is limited (Johnston et al. 2011). To date, the Edgecumb earthquake in 1987 and TeAnau earthquake in 2003 showed that community participation and planning reduce anxiety; the 1995-1996 Ruapehu volcanic eruption demonstrated a failure of prescriptive social support; and the 1998 Ohura floods and 2005 Matata debris flow shed light on difficulties in community decision making (Johnston et al. 2011).

Community input was used by emergency authorities in the initial response period to collect crowd data through aerial images and hence to identify damaged areas quickly. However, non-profit organizations were not a target of this outreach and consequently the diversity of respondents was limited (Barrington et. al. 2011). Infrastructural and housing systems that were damaged and re-zoned due to liquefaction were also assessed using GIS in the response and early recovery phases. Teams of GIS analysts formed with representatives from various government departments, universities, and the Stronger Christchurch Infrastructure Rebuild Team, which included some non-profit representation from disaster relief agencies (Giovinazzi et al. 2012; Hurley 2013). Unitec Institute of Technology engaged communities in open source mapping activities as the recovery progressed in cooperation with residence associations in severely damaged areas and similar non-profits representing the residents of the red zone. Training community members on GIS technologies allowed for the collection of metrics to support a proposal for community resources, such as a pool (Mismash 2014).

Organizations in the CBD had to adapt to failures of the built environment causing lapses in supply chains, information management failures, displacement, and workforce strain. The Resilient Organisations group, a collaborative research platform for practitioners and university affiliates, identified commonalities of organizations that have sustained themselves through the recovery process (Abraham 2012; Britt et al. 2013). Brown et al.'s (2014) assessment included

over 500 organizations in Greater Christchurch, primarily from the private sector. They posited that many resilience factors differ from traditional literature on organizational management stating that neither the age nor size of the organization impacted outcomes. The most prominent issues were client access and staff wellbeing. Organizations that rented enjoyed slightly smoother recoveries. Otherwise, the level of impact was not significant to the rate of recovery. Industry was the best predictor of recovery outcome. Public services including health, social assistance and community engagement were the most at risk (Brown et al. 2014). These were areas where the non-profit sector was very active and may reflect a shift from privatization to public service availability from government and non-profit sources that was amplified by the disaster.

Stevenson et al. (2014) built on this by reviewing almost fifty, mostly private sector, organizations. Their findings stated that during recovery external support was generated from within the Canterbury region amongst organizations in various sectors working in the same field instead of outsourced. Leveraging resources from regional connections maintained partnerships and created opportunities to co-locate. Pre-existing partnerships and flexibility within organizations facilitated collaboration and allowed for quick distribution of resources and burden sharing through agency connections. Rapid technology adoption and re-evaluation of organizational efficiency affected all types of organizations, which benefitted from shared experiences of emergent and existing agency connections. The application of this cross-sector assessment to non-profit sector management brings a significant shift in organizational culture and amplified role of community engagement into the resilience paradigm. However, connection challenges from any sector are relevant to non-profits due to their participation in cross sector advocacy and service delivery (Robinson and Murphy 2014). Existing studies analyzed

94

organizations from the non-profit and private sectors together or sought to extend private sector insights to the non-profit sector. My research seeks to identify the impact of preparedness and organizational culture in the public health and social services part of the non-profit sector distinctively to determine if recommendations made without consideration of the sector are applicable.

Canterbury based non-profits sought to decrease fragmentation of public services prior to the earthquakes (Johnstone 2013). Partnerships were common to promote efficiency, due to the limited government contracts and philanthropic funding sources on which non-profits rely. Some funding was actually dependent upon participation in collaborative agencies (Scorbie 2013). Additionally, a focus on holistic care for the client was promoted by the health system to unify expert providers through a variety of collaboration mechanism, such as, co-location, partnerships, and mergers (Johnstone 2013).

Since it was more likely for residents to implement low cost disaster risk reduction techniques, the resources and knowledge available to them was critical for their immediate survival and long-term engagement with recovery processes. The psychological toll of earthquake events was underestimated by Christchurch residents before the earthquakes increasing the importance of holistic care from accessible, trusted sources afterward. As complexity of cases increased, partnerships developed and expanded, management strategies and resources were shared and advocacy targets advanced, as was the case in formation of, integration into, or reliance on umbrella agencies for many Christchurch non-profits (Scorbie 2013).

Non-profits in particular benefitted from being the first to respond, carrying local knowledge, and having flexible outreach capacities (Johnstone 2013). With the backdrop of the

recovering city, attention to community engagement and cross-sector accountability was thought by Johnstone (2013) to have the potential to improve service delivery because organizations were less concerned with their organization's success and more interested in ensuring that access to services were maintained. This transition was particularly smooth for partners that had already established strong communication and trust. Due to the long standing collaborative and relative tight knit nature of non-profit actors in Christchurch, organizational values and personal connections drove many partnership arrangements more so than competition (Scorbie 2013). Non-profits' connections to community were expected to result in increased social capital and ownership of the rebuilt city (Johnstone 2013).

In addition to external organizational effectiveness, communication with staff was a prominent driver of organizational resilience. Maintaining staff well-being and commitment to mission improved outreach; staff members were empowered to be creative and autonomous in translating their knowledge of community realities into action. During stressful events that involve displacement, awareness of staff well-being was found to be critical to prevent attrition and lose valuable organizational knowledge and resources (Nicholls 2013; Stevenson et al. 2014). Emergency plans were unfortunately less prioritized in many non-profits due to their organic organizational cultures (Abraham 2013). My research expands upon these exploratory studies by examining the resilience of non-profits over the transition from response to recovery as reported by their management and staff.

Non-Profits in Response and Recovery Phases

The non-profit sector was identified as contributing to community capacity building, by bolstering government services for their target communities before the establishment of Civil Defense in Christchurch. Non-profits were also recognized for their contribution to socio-

economic support and community well-being during the recovery (Brookie 2012; Nicholls et al. 2013; Platt 2012). As of 2014 there remain many displaced individuals, families, and non-profit organizations in the Christchurch area (Sharon Torstonson, Executive Officer, Council of Social Services for Christchurch, personal communication, November 2014). Strong organizational resilience was required for all non-profits and civil society to jointly navigate the transition from response to recovery in the interest of maintaining community cohesion within target populations and the non-profit sector (Carlton and Vallance 2014). Non-profit capacity to integrate outreach with public services and advocate for an increased range of vulnerabilities fluctuated from response to recovery due to linkages with their target populations and decision makers (Mclean 2012, Carlton and Vallance 2014).

Carlton and Vallance's (2013) inventory of non-profit organizations by Carlton and Vallance (2013) undertaken up to two and a half years after the February 2011 earthquake found an attrition of fifty-two organizations as the reviews progressed. These samples of between ninety-two and four hundred and sixty-four community organizations were a subset of the thousands of non-profit organizations in Christchurch, many of which were first to respond to communities affected by the earthquake (Carlton and Vallance 2014). Not surprisingly, there were differences in longevity of non-profits in Christchurch; online initiatives and those organizations focused on singular happenings were most likely to become inactive (Carlton and Vallance 2013). Pre-existing non-profits were also vulnerable due to the compounded financial and structural strain of multiple earthquakes and the concurrent recession (Stevenson et al. 2011).

As the disaster progressed, new non-profits formed to address emergent vulnerabilities and risks posed by the built environment and psychological strain (Scorbie 2012). In a process

parallel to the rebuild, non-profits capitalized on the decreased regulations to fill vacant spaces with gardens and temporary structures that promote community engagement and improve mental health through social participation (Wesener 2015). Emergent non-profits were often initially supported by existing non-profits with similar social interests until they could be formally established. For example, Greening the Rubble, Gap Filler, and CanCERN, founded to address empty spaces in the city and vacant homes in the suburbs, formed partnerships with pre-existing non-profits of varied community interest including gardening, arts, history, and socio-economic support (Vallance 2011 b). The Farmy Army and the Student Volunteer Army, both emergent groups, alternatively, partnered with each other in the early stages of organizational development to reduce silos in volunteer services for rapid response (Bourk and Holland 2013). Even local branches of international non-profits, such as the Red Cross, partnered with branches in other high-income countries to collaborate on recovery operations (Brady and McNaughton 2012). Although many of these non-profit connections endured into latter stages of recovery, some discontinued service after the initial recovery period (Carlton and Vallance 2014).

Not only must non-profit organizations in the affected area respond to their targeted population, connection opportunity, and organizational resource needs during recovery, but they must also prepare for future disasters (Stevenson et al. 2011). The ability to translate organizational resilience from risk reduction techniques to long-term recovery service delivery requires further research focusing particularly on bridging needs of different communities, reducing silos, and linking to decision makers through translation of knowledge to advocacy priorities (Bourk and Holland 2014; Carlton and Vallance 2014; Vallance 2011 a). Also, to optimize non-profit resources into recovery and for future response efforts, better networks with

loosely related target populations and emergency authorities must be achieved (McLean 2012; Stevenson et al. 2011).

Post-Disaster Non-Profit Health Care

The 17th World Congress on Disasters and Emergency Medicine found resilience in the broader health community to be high following the February 2011 earthquake, and attributed this primarily to proximity in time of the 2010 earthquake, practice drills for pandemic scenarios, and interagency collaboration (Humphrey et al. 2011). Despite temporary lapses in water distribution and treatment systems, hygiene awareness limited possible illnesses (Pierpiekarz et al. 2014). Post-disaster patients' methods of arrival, as well as distrust of officials, added additional barriers to care provision, although the organization of volunteers and outsourcing at hospitals benefitted from adherence to advanced expectations set forth in each hospital's Major External Incident Plan (Ardagh et al. 2012). These issues were eventually surmounted for the medical community as a whole in Christchurch because of strong connections allowing integration of outside health professionals and facilities. However, deferment to these internal plans causes Ardagh et al. (2012) concern that emergency management structures were not appropriate in the health sector.

In the immediate aftermath of the February 2011 event public facilities, including hospitals and emergency response, were able to maintain services, although, non-profit organizations provided the majority of social assistance for marginalized communities (Ardagh et al. 2012; Fogarty 2014). Unfortunately, poor connections between the non-profit organizations and outlying areas meant limited services in some suburbs even under the expanded purview adopted by many non-profit organizations (Mclean 2012).

In spite of coordinated efforts, the elderly, indigenous, and disabled populations, as well as those in highly damaged areas, reported poor communication of disaster messaging, differential cultural awareness, and diminished access to community networks (Johnston et al. 2011; Lambert and Mark-Shadbolt 2012; Phibbs et al. 2012). Communication with Community Well-being Managers, tasked with integrating advice from local representatives of at-risk and vulnerable communities into emergency authority decision making processes, was limited due to lack of familiarity with non-profit leaders resulting in lapses in emergency management coordination outreach (McLean 2012).

An earthquake in June 2011 was considered the tipping point for mental health concerns in Christchurch by the Ministry of Health due in part to timing typically exhibited between trauma and presentation of post-traumatic stress associated concerns approximately three to five months or three to five years after the event (Clay and Bovier 2012). An additional earthquake related fatality also added to stress levels. Another earthquake in December 2011 resulted in limited physical damage but an increase in self-reporting for counseling, perhaps a consequence of continued trauma and normalization of counseling services by community outreach programs (Clay and Bovier 2012). Sullivan and Wong (2011) proposed that after an event, such as the 2011 earthquake, psychological screening for post-traumatic stress disorder should be integrated into a primary care visits as part of the recovery phase, thus posing sustained strain on health care providers and pointing to increased need for alternative wellbeing improvement activities. Inevitably, therefore, there has been a concomitant increase in pressure on the functioning of the non-profit sector which has precipitated a refinement of practices of many non-profit organizations. With this increased burden of care falling on non-profits and enhanced

vulnerability across the city, cases seen by pre-existing non-profits became more complex and reliance on partners increased (Parkin 2012).

Post-Disaster Non-Profit Migrant Services

Christchurch based non-profits adapted resources and relationships to produce solutions based activities for risk reduction in the initial response and recovery phase (Parkin 2012). With an influx of migrant workers, sexual health organizations were especially interested in instilling awareness of health resources and cultural norms in new arrivals (Chang-Richards et al. 2013). Non-profit outreach was also particularly important to support displaced refugee communities that often acted as a group, for example, all the Kurdish refugees left within days of the February event (Thornley et al. 2013).

Migrants and refugees were especially vulnerable to earthquake impacts because of diminished social networks, limited incomes, poor housing, pre-existing traumas, and language barriers for emergency messaging (Phibbs et al. 2012; Thornley et al. 2013). In the initial days after the event, migrant-focused non-profits and Maori, the indigenous ethnic group, networks united to provide centralized resource distribution for any ethnicity at risk (Kenney et al. 2015; Thornley et al. 2013). Overtime, police, Civil Defense, and public health officials coordinated with the Migrant Inter-Agency Group that represented the coordinated efforts of migrant-focused non-profits in the response and early recovery phases (Thornley et al. 2013). However, in a study of migrant non-profits, civil society partners, and networks sixteen months after the earthquake, Thornley et al. (2013) indicated that consultations with the Christchurch City Council and CERA were perceived to be insufficient. Carlton (2015) found that refugee youth who participated in voluntary projects organized by organizations, such as the Student Volunteer Army, reported that engagement in the response through clean-up and special events improved their perceptions of

the community capacity and individual wellbeing. Engagement with non-profits agency cohesion most benefitted migrants in the response phase but community cohesion was maintained among some expanded minority connections into recovery (Thornley et al. 2013).

Implications of New Zealand Disaster Risk Reduction for Urban Areas in the Ring of Fire

Applications exist for similarly governed urban areas in high-income countries. The Canterbury earthquakes have already led to earthquake preparation and management policy revision in Seattle (Pierpiekarz et al. 2014) however, the seismicity of the region is comparable to that of California as well (Seville et al. 2006). With changes to the US health care system under the Affordable Care Act of 2010 the successes of the New Zealand Health System are increasingly relevant. Also, in United States disaster scenarios, such as Hurricane Katrina, which was cited in the original legislation to expand authority to emergency management following the Darfield and Christchurch earthquakes, the role of non-profits as sources of social capital is being further illuminated (Comfort 2010). This combination of policy and research developments increases the relevance of integrative disaster management in Christchurch for vulnerability reduction in United States cities with multiple hazards. Decaying urban areas may also benefit from reinvigoration through social participation as begun by non-profits in Christchurch in light of temporarily relaxed land use regulation (Wesener 2015).

In the developing countries of the Asian Pacific, governments are often reliant on foreign aid and international non-profit assistance to respond to disasters. Planning for long-term recovery competes with rapid development goals of many urban governments. To facilitate resilience building through the response and recovery process, organizations such as the Australia-Indonesia Facility for Disaster Reduction incorporate partnership building with civil society, non-profit, and less formal community organizations into aid distribution commitments.

Sakai et al. (2014) are particularly hopeful that indigenous participation will bolster advocacy and increase social capital so that communities are better prepared for future hazards. Disaster risk reduction has also been a topic of interest in the Asia Development Bank. Yodmani (2001) presents the benefits of linking development financing to vulnerability reduction by setting targets for decreased poverty, improved gender relations and public health access. These paradigms not only align with the means through which community resilience has been obtained in post-disaster Christchurch, New Zealand but offer the opportunity for New Zealand to expand its role as a model of public health practice in the Pacific to disaster risk reduction contexts. This promotion of vulnerability reduction through culturally sensitive community organizations represents a departure from the neoliberal traditions that underpin western foreign aid (Guwardena and Schuller 2008).

Summary

The nation of New Zealand is affected by multiple hazards, due to its positioning on the Pacific and Australian plate boundaries. Earthquake hazards are prevalent throughout the country (Henrys et al. 2006; Pettinga et al. 2001). Despite these hazards, New Zealand is an attractive nation for economic opportunities. Its population policies regarding access to sexual health services and immigration set the course for the population to increase until 2050 (McDonald and Kippen 2000). To support its national commitments to sexual health services and migrant support, New Zealand involves non-profit organizations in co-production of these public health and social services, but there are still cultural barriers to utilization of services for minority ethnicities and women (Larner and Craig 2005; Phillips and Smith 2012; World Health Organization 2007).

The Canterbury region is the second most populated area in the country (McDonald and Kippen 2000). Following the earthquake series in Christchurch, the most populous city in

Canterbury, migrant support and sexual health services relied on agency connections to maintain services (Ardagh et al. 2012; Kenney et al. 2015). The severity of the February 2011 shocked local residents (Johnson and Mamula-Seadon 2014). Damages to the built environment and social systems would require years to resolve and oversight from the national government for response and recovery was required well beyond the traditional operating time frames of Civil Defense (Fogarty 2014).

Existing research related to the resilience of the organizations and communities in Christchurch require translation from for-profit to non-profit organization operating models (Robinson and Murphy 2014). Non-profits were some of the first to engage communities in risk reduction activities during response and bolstered government interventions after emergency management structures became established (Nicholls et al. 2013; Platt 2012). The complexity of cases presenting to social services providers increased as the recovery continued (Parkin 2012). Engagement of target populations in recovery activities and adapting services to meet the needs of emergent vulnerable populations were priorities of the non-profit sector (Carlton 2015; Humphrey et al 2011).

The emergency management paradigm adopted for the Christchurch earthquakes both drew from and influenced policy in the United States (Pierpiekarz et al. 2014). With continued reform of the United States health care system, research related to health care delivery in New Zealand will be increasingly relevant to areas along the west coast that have similar earthquake hazard risks (Seville 2006). As a trail blazer for progressive health policy and contributor to development funding institutions in the Asia Pacific region, the implications of these experiences for neighboring countries could influence development patterns to build more resilient cities through marginalization reduction (Gauld 2012; Yodmani 2001). Gaps in the literature remain

regarding extending analysis of the role of non-profit organizations in vulnerability reduction into long-term recovery. Further, findings from for profit organizations regarding the influence of partnerships on organizational resilience must be tested in the non-profit sector.

Chapter 6: Results - Surveys

Note to the Reader

Portions of this chapter have been previously published in *The Professional Geographer*, 2016, In Press, *Papers in Applied Geography*, 2015, 1(4), 365-372 and *Third Sector Review*, 2015, 21(2), 7-29 and have been reprinted with permission from Taylor and Francis. Nicole S. Hutton was the primary author on all of these publications.

Structure for Survey Analysis

Results of individual organization surveys of management were broken down by question type and field of work associated with the non-profit. The first set of questions dealt with strategic planning, organization structure and perceived commitment to service delivery to establish the operating environment of the respondents; changes in service delivery and resources were captured in the next set of questions; and lastly, disaster risk reduction strategies and integration into local and national policy bodies were reported. The collective quantitative survey responses from these themes were discussed by field of work including: sexual health, migrant services, and community support. Where possible, comparison across the fields were noted. The qualitative results of each participating non-profit organization, also in order of their field of work to derive differences within the fields of work based on the non-profit typology. Finally, both quantitative and qualitative results were summarized across sectors to present a perceptions of how shifting demands were addressed collectively. These insights from management provide illuminate procedures behind non-profit services leveraged for health and wellbeing provision in the post-disaster city for marginalized groups.

Sexual Health Non-Profit Organizations: Survey Overview

Tables 6.1 through 6.3 pertain to sexual health related non-profit organizations. Managers of sexual health non-profit organizations and their civil society partners unanimously reported that strategic planning, flexible reporting mechanisms, partnerships, perceived commitment to community health, and national policy changes impacted their work in the aftermath of the earthquakes (Tables 6.2 and 6.3). None reported an interest in technical assistance though (Table 6.3). This agreement on five of the twenty survey questions may be attributed to engagement in co-production which was the operating style used by all of these organizations.

Half of the sexual health organizations altered outreach methods, conveyed emergency information, or offered increased services (Tables 6.2 and 6.3). Of particular interest, three of the four that conveyed emergency information did so consistently with reporting altered outreach methods and additional service provision. The minority not reporting receipt of national input were also the two community based organizations participating in the study (Table 6.1). Access issues, increased complexity of care, emergent target populations, and office relocation were attributed by the majority of sexual health groups to the disaster (Tables 6.2 and 6.3). Reduction in access for some clients, such as Family Planning and the Aids Foundation, was perceived rather than actual, based on concerns with privacy at temporary offices or hesitation in going downtown due to the demolition. Utilization also fluctuated following the earthquakes for certain supplies and treatment methods based on individuals' emotional reactions to the event and/or resultant conditions. Although under Oleske's (2001) health care delivery framework reduced utilization due to perceived access issues limits delivery of services, the continued availability and increased acceptance of services noted by non-profit sexual health care providers indicates

that this may be overcome through awareness raising of office openings and relocations in future

disaster situations.

Table 6.1: Sexual Health Non-Profit Managers' Interview Survey Responses for Strategic Planning, Organizational Structure, and Commitments to Service Delivery

	Followed Strategic Plan	Received National Input	Involved Board Members	Staffing was More Than Four	Used Flexible Reporting Mechanisms	Improved Partnerships	Perceived Commitment to Health and Wellbeing
Family Planning **	✓	✓		✓	✓	✓	✓
New Zealand Aids Foundation **	✓	✓		✓	✓	✓	✓
New Zealand Prostitutes Collective **	✓	✓			✓	✓	✓
Rodger Wright Centre **	✓	✓		✓	✓	✓	✓
Youth and Cultural Development Trust	✓			✓	✓	✓	✓
298 Youth	✓		✓	✓	✓	✓	✓
Canterbury District Health Board Sexual Health Centre	✓	✓		✓	✓	✓	✓
Canterbury District Health Board Public Health Division	✓	✓		✓	✓	✓	✓

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery. (Adapted from Hutton et al. In Press)

Table 6.2: Sexual Health Non-Profit Managers' Interview Survey Responses for Changes in Service Delivery and Resources

	Office Relocated	Experienced Staff Attrition	Received Earthquake Funding	Engaged Emergent Populations	Offered Increased Services	Cases were More Complex	Access Issues Reported
Family Planning **						✓	✓
New Zealand Aids Foundation **	✓						✓
New Zealand Prostitutes Collective **	✓			✓	✓	✓	✓
Rodger Wright Centre **	✓			✓	✓	✓	✓
Youth and Cultural Development Trust	✓	✓		✓	✓	✓	✓
298 Youth			✓	✓	✓	✓	✓
Canterbury District Health Board Sexual Health Centre				✓		✓	✓
Canterbury District Health Board Public Health Division	✓						

(Adapted from Hutton et al. In Press; Hutton et al. 2015 c)

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

Table 6.3: Sexual Health Non-Profit Managers' Interview Survey Responses for Disaster Risk Reduction Integration and Communication

	Updated Emergency Plans	Engaged in Recovery Planning	Desired Technical Assistance	Conveyed Emergency Information	Altered Outreach Methods	Affected by Policy Change
Family Planning **						✓
New Zealand Aids Foundation **	✓			✓		✓
New Zealand Prostitutes Collective **				✓	✓	✓
Rodger Wright Centre **				✓	✓	✓
Youth and Cultural Development Trust				✓		✓
298 Youth		✓			✓	✓
Canterbury District Health Board Sexual Health Centre						✓
Canterbury District Health Board Public Health Division					✓	✓

(Adapted from Hutton et al. In Press; Hutton et al. 2015 c)

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

Only 298 Youth mentioned engagement in recovery planning, receipt of earthquake funding, or board input into post-disaster operations perhaps due to its connections to local resources and fluctuating state of operations at the time of the February event (Tables 6.1, 6.2, and 6.3). Only two other factors had one organizations to indicate their significance: staff attrition and updating emergency plans (Tables 6.2 and 6.3). This may indicate the prioritization of staff support and maintenance of service provision in the majority of local health care offices.

Migrant Services Non-Profit Organizations: Survey Overview

Tables 6.4 through 6.6 pertain to migrant services related non-profit organizations. Managers of migrant support non-profit organizations unanimously stated that strategic planning,

perceived commitment to wellbeing, and altered outreach methods contributed to the success of their organization in the post-disaster city (Tables 6.4 and 6.6). Further, the majority of the migrant support participants also utilized flexible reporting mechanisms, partnerships, relocation of offices to a co-located area, inclusion of emergent populations, increases in services provided, heightened complexity of care, engagement in recovery planning, and national policy change (Tables 6.4, 6.5, and 6.6). These trends may reflect the importance associated with advocacy for underrepresented ethnicities by migrant focused organizations.

No desire for technical assistance, incidents of earthquake related staff attrition or increased role of board members was reported (Tables 6.4, 6.5, and 6.6). A minority also noted national input, a large staff complement, receipt of earthquake related funds, or conveyance of emergency information (Tables 6.4, 6.5, and 6.6). Discrepancies regarding organizational type and size indicate the varied types of organizations operating in migrant support services.

Table 6.4: Migrant Services Non-Profit Managers' Interview Survey Responses for Strategic Planning, Organizational Structure, and Commitments to Service Delivery

	Followed Strategic Plan	Received National Input	Involved Board Members	Staffing was More Than Four	Used Flexible Reporting Mechanisms	Improved Partnerships	Perceived Commitment to Health and Wellbeing
Canterbury Refugee Council	✓				✓		✓
Christchurch Migrant Centre Trust	✓				✓	✓	✓
Interpreting Canterbury **	✓	✓				✓	✓
Pegasus Health	✓			✓	✓	✓	✓
First Union **	✓	✓		✓		✓	✓

(Adapted from Hutton et al. 2015 a; Hutton et al. In Press)

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

Table 6.5: Migrant Services Non-Profit Managers' Interview Survey Responses for Changes in Service Delivery and Resources

	Office Relocated	Experienced Staff Attrition	Received Earthquake Funding	Engaged Emergent Populations	Offered Increased Services	Cases were More Complex	Access Issues Reported
Canterbury Refugee Council	✓					✓	
Christchurch Migrant Centre Trust	✓			✓	✓		
Interpreting Canterbury **	✓		✓	✓	✓	✓	
Pegasus Health						✓	✓
First Union**	✓			✓	✓		✓

(Adapted from Hutton et al. 2015 a; Hutton et al. In Press

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

Table 6.6: Migrant Services Non-Profit Managers' Interview Responses for Disaster Risk Reduction Integration and Communication

	Updated Emergency Plans	Engaged in Recovery Planning	Desired Technical Assistance	Conveyed Emergency Information	Altered Outreach Methods	Affected by Policy Change
Canterbury Refugee Council					✓	✓
Christchurch Migrant Centre Trust		✓			✓	
Interpreting Canterbury **		✓		✓	✓	✓
Pegasus Health		✓		✓	✓	✓
First Union **					✓	✓

(Adapted from Hutton et al. 2015 a; Hutton et al. In Press)

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

Community Support Non-Profit Organizations – Survey Overview

Tables 6.7 through 6.9 pertain to community support related non-profit organizations. In altering services, to address the perceived increase in complexity of cases reported by the majority of community support managers, utilization of strategic plans and perceived commitment to service provision from affiliates had similarly high reports as was the case with other fields (Table 6.7). However, board involvement was also common, a factor not shared across other work areas (Table 6.7). Perhaps the greater likelihood that staff in the majority of these organizations were four or less contributed to the differences in resources leveraged for realignment of operations. (Table 6.7)

There were significant disagreements amongst the community support participants themselves on access issues, flexibility of reporting, earthquake funding availability, impacts of national policy change on their work, and their role in conveying emergency information (Tables 6.8 and 6.9). Ten community support organization managers each thought some combination of these factors impacted their operations. Reflecting on the nature of the non-profit sector's capacities in terms of internal resources, and external commitments, one of the non-profit delegates to CERA, interviewed as a manager at Problem Gambling Foundation but serving both roles said, "It is easier to disseminate information than be heard. […] The organic nature of NGOs [non-profits] is a strength and a weakness. Duplication is sometimes needed." This highlights the diversity of the community support field in terms of including supra-national organizations, and emergent groups where those are absent elsewhere. Increased attrition rates were only reported by six of community support organizations (Table 6.8). Updating emergency plans and the gaining outside technical assistance was also a low priority for community support organizations (Table 6.9).

Table 6.7: Community Support Non-Profit Managers' Interview Survey Responses for Strategic Planning, Organizational Structure, and Commitments to Service Delivery

	Followed Strategic Plan	Received National Input	Involved Board Members	Staffing was More Than Four	Used Flexible Reporting Mechanisms	Improved Partnerships	Perceived Commitment to Health and Wellbeing
Social Service Providers Aotearoa **	✓	✓	✓		✓	✓	✓
All Right Campaign ***	✓		✓			✓	✓
Healthy Christchurch	✓		✓		✓	✓	✓
Problem Gambling Foundation **	✓		✓	✓		✓	✓
Red Cross **	✓	✓	✓	✓		✓	✓
World Vision **	✓	✓	✓	✓		✓	✓
Council of Social Services **	✓		✓		✓	✓	✓
Ministry of Awesome *					✓	✓	
Project Lyttelton	✓		✓		✓		
Student Volunteer Army *							
Volunteering Canterbury	✓		✓				✓
Gap Filler *	✓		✓		✓	✓	
Greening the Rubble *					✓	✓	
Canterbury Community Garden Association	✓		✓			✓	
CanCERN *	✓		✓		✓	✓	
Christchurch City Mission	✓		✓	✓		✓	
Public Service Association **	✓	✓	✓	✓		✓	✓
Neighbourhood Trust	✓		✓		✓	✓	✓
North Canterbury Rural Support Trust	✓		✓			✓	✓
Meals on Wheels	✓	✓		✓		✓	✓
Avebury House					✓		✓

(Adapted from Hutton et al. In Press; Hutton et al. 2015 c)

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

Table 6.8: Community Support Non-Profit Managers' Interview Survey Responses for Changes in Service Delivery and Resources

	Office Relocated	Experienced Staff Attrition	Received Earthquake Funding	Engaged Emergent Populations	Offered Increased Services	Cases were More Complex	Access Issues Reported
Social Service Providers Aotearoa **	✓		✓	✓	✓	✓	✓
All Right Campaign ***			✓	✓	✓	✓	
Healthy Christchurch	✓		✓	✓	✓	✓	
Problem Gambling Foundation **	✓	✓				✓	✓
Red Cross **				✓	✓	✓	
World Vision **	✓	✓		✓	✓	✓	
Council of Social Services **	✓		✓	✓	✓	✓	
Ministry of Awesome *			✓	✓	✓	✓	
Project Lyttelton				✓	✓		
Student Volunteer Army *				✓	✓		
Volunteering Canterbury	✓		✓	✓	✓		
Gap Filler *		✓	✓	✓	✓		✓
Greening the Rubble *			✓	✓	✓		✓
Canterbury Community Garden Association				✓		✓	✓
CanCERN *			✓	✓	✓	✓	✓
Christchurch City Mission				✓	✓	✓	✓
Public Service Association **	✓	✓			✓	✓	✓
Neighbourhood Trust		✓	✓	✓	✓	✓	✓
North Canterbury Rural Support Trust					✓		
Meals on Wheels						✓	
Avebury House		✓		✓	✓	✓	✓

(Adapted from Hutton et al. 2015 a; Hutton et al. In Press; Hutton et al. 2015 c)

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

Table 6.9: Community Support Non-Profit Managers' Interview Survey Responses for Disaster Risk Reduction Integration and Communication

	Updated Emergency Plans	Engaged in Recovery Planning	Desired Technical Assistance	Conveyed Emergency Information	Altered Outreach Methods	Affected by Policy Change
Social Service Providers Aotearoa **				✓	✓	
All Right Campaign ***				✓	✓	
Healthy Christchurch		✓		✓	✓	
Problem Gambling Foundation **		✓				✓
Red Cross **	✓	✓		✓	✓	
World Vision **				✓	✓	
Council of Social Services **		✓		✓	✓	
Ministry of Awesome *		✓	✓		✓	
Project Lyttelton				✓	✓	✓
Student Volunteer Army *		✓			✓	✓
Volunteering Canterbury		✓			✓	
Gap Filler *		✓			✓	✓
Greening the Rubble *		✓			✓	✓
Canterbury Community Garden Association						✓
CanCERN *		✓		✓	✓	✓
Christchurch City Mission		✓		✓	✓	
Public Service Association	✓	✓			✓	✓
Neighbourhood Trust		✓	✓	✓	✓	
North Canterbury Rural Support Trust		✓			✓	
Meals on Wheels		✓				✓
Avebury House					✓	✓

(Adapted from Hutton et al. 2015 a; Hutton et al. In Press; Hutton et al. 2015 c)

** Indicates international or national advocacy organization

* Indicates emergent organization

Check marks indicate that the manager perceived the issue affected successful operations of the organization in recovery.

A representative, of the Council of Social Services, reported that it took until late 2013 to integrate non-profit delegates into the CERA. The non-profit delegate to CERA expanded that this was after a meeting of over 100 non-profits 'One Voice' just months after the February event. Even after years of waiting for appropriate representation, only two delegates from the non-profit sector, one Maori and one other, were incorporated. She noted that outside of those delegates, which participate primarily through the Psychosocial Focus Group and as Community Wellbeing Planners, non-profits were "not really consulted but had the opportunity to provide input via forms." However, contrary to the responses of the sexual health or migrant services fields, the majority of community support organizations believed they were connected to recovery planning in some way (Table 6.9). Although the representation may be minimal, these non-profits were less likely to be held back from adding this to their scope of work as there was a reduced number of national advocates in the community support group; in fact, eighteen of the twenty-one respondents altered their outreach methods in this field of work (Table 6.9). Additionally, personal connections with officials held by staff members and connections, which were believed by most to improve after the earthquakes, amplified their local efforts.

Collective Survey Responses

Non-profit managers' survey responses were compared to identify insights for the non-profit sector as a whole. Several commonalities in experiences emerge from sexual health provision to migrant support services: there was no desire for outside technical assistance; all of the organizations followed strategic plans and perceived commitment to health and wellbeing from national and local authorities and affiliates; low prioritization was given to emergency plans and involvement of the board for earthquake specific issues; a majority engaged emergent populations, noted increased complexity of cases, and were affected by policy change; and staff

attrition and increased funding resulting from the earthquakes remained low in both fields of work. Flexible reporting and partnerships were still common amongst migrant support organizations but not to the same degree.

Office relocation was more common and thus capitalized upon by migrant services causing reduced access issues for their target populations. Migrant organizations were more likely to engage in recovery planning than sexual health organizations. However, few migrant support organizations received national input when compared to sexual health organizations, which may have contributed to the increased local connections and ability to alter outreach methods reported by migrant support practitioners. To meet the needs of the emergent target population of migrant construction workers, sexual health providers relied on the connectivity of migrant support organizations with local communities and appropriate authorities rather national or local to holistically address health and wellbeing needs.

Most of the community support organizations increased services and engaged emergent populations, whereas, only half of their colleagues in other fields were able to do so (Table 6.8). Although, the impact of policy change on operations seemed to be much less reported by community support non-profit organizations, organizational culture was consistent across fields of work in the non-profit sector in valuing staff.

The sector wide frustration with outside technical assistance was voiced by the non-profit delegate to CERA, "CERA offered well-being and capacity building workshops but NGOs were overloaded by too many of these. […] Community efforts were viewed as controllable." This sentiment translated into the perception that organizations were engaged in recovery planning as a result of long fought for representation.

Sexual Health Non-Profit Organizations: Survey Detail

Eight sexual health organizations participated in the survey portion of the analysis: Family Planning, New Zealand Aids Foundation, New Zealand Prostitutes Collective, the Rodger Wright Centre, Youth and Cultural Development Trust, 298 Youth, Canterbury District Health Board Sexual Health Centre, Canterbury District Health Board Public Health Division. The interviews with representative of sexual health service non-profits indicated that despite strong national commitments problems still arose. For example, sexual health, distribution of emergency packs and materials did not have a tangible impact on sexual health supply access. There was also limited additional funding available for sexual health related programs generated by the earthquakes. Unfortunately, quantifying emergent need resulting from the earthquakes was difficult because complexities of care were often hand written on reports and identification of appropriate demographics was based on client statements.

Limited awareness of service availability in the immediate aftermath of the earthquakes and perceived access issues to temporary locations were common for sexual health non-profit clients. The Sexual Health Centre representative recalled, "The clinic stayed open after the February earthquake but there were not visits for weeks after. Communication that the clinic was open was an issue." Relocation of services also decreased access for the majority of sexual health organizations. For instance, the New Zealand Aids Foundation experienced multiple moves; the effects on their clients were characterized by the health services manager,

> "After the February earthquake our offices moved to the DHB. [There was] decreased use of services but some supplies were accessed. We were next located in a home in St. Albans, then on Cashel St. Testing numbers and counseling hours decreased. Although access was maintained, we could not put signs out at residential locations. Parking was also an issue of discretion."

The Rodger Wright Centre also experienced relocation and both organizations reported funding strains associated with moving expenses. Funding at 298 Youth, which had led to its temporary closure just before the February earthquake, coupled with rising rental costs for office space limited its ability to advertise. When questioned about outreach strategies, its representative responded, "We use word of mouth. We can't advertise because there are only 0.25 FTE [full time employees]. There is a two week waiting list to see a Doctor." As client's perception of the CBD and awareness of service availability returns, Family Planning and the Youth Cultural Development Trust reported increases in drop-in clients going into mid-term recovery.

In the transition from response to recovery, the Rodger Wright Centre and the Prostitutes Collective incorporated alternative delivery methods for supplies ranging from driving supplies to areas known to be frequented by clients or to residential brothels. At the Rodger Wright Centre, the outreach coordinator, noted that, "We captured additional issues following the [February] earthquake. Some came for connection initially after the quakes not just supplies." This expansion of complexity of care was reported across the sexual health services field of work.

According to the Sexual Health Centre of the District Health Board and the Youth Cultural Development Trust, risk-taking behavior changed in Christchurch based on the perceived success or failure of the city in weathering large aftershocks and frustration with ongoing repair processes. A District Health Board representative recounted, "The November quake was seen as a success. Families came together. [There was an] increase in sex. The February quake caused a decrease in sex because people were afraid." These shifts in behavior were also reported by sex workers when seeking services coordinated between the Sexual Health Centre and the Prostitutes Collective. The general manager of Youth Cultural Development

120

reiterated that the trend in increased risk-taking behavior was not limited to the major aftershocks for some marginalized populations, "Youth had JDELs [implants] removed and there was a decrease in the number of implants asked for because of the desire to feel together. The treatment of STIs [sexually transmitted infections] was a lower priority amongst youth because of moves." Risk-taking behavior was a typical emotional reaction that emerged from the earthquake shocks and evolved with the rapidly changing circumstances associated with the rebuild. Non-profit organizations were relied on to address these issues due to familiarity with their target populations and specific expertise.

Non-profit managers were concerned about emerging marginalized populations with varying unmet needs for sexual health service rather their office specifically targeted that population or not. The manger from Family Planning on the south island reflected, "There is a new migrant worker audience." Due to translation costs and cultural messaging barriers, sexual health information did not target emergent vulnerable groups in the city, such as immigrant construction workers, in the initial recovery period outside of migrant support services. However, outreach to construction companies and migrant specific seminars were organized as recovery progressed by the District Health Board Public Health Department in collaboration with appropriate non-profits, including the Prostitutes Collective. Engagement with local police, Child and Family Youth Protection, and the Crimes Act also contribute to a united front for addressing livelihood and safety concerns expressed to sexual health organizations, which can sensitize authorities to appropriately address legal issues for their target populations.

Youth and sex workers were also at higher risk of sexual health problems because of compounded marginalization from the earthquakes. The Youth and Cultural Development representative's survey response captures the impact on youth,

"Homeless youth, closed social spaces, and overcrowding are forcing youth from families. Youth are assuming adult roles for stressed families. Ages of youth seeking services are getting younger post-quake. We are now seeing youth that were nine or ten years old at the time of the [February] quake."

To assist with comprehensive treatment, 298 Youth leveraged earthquake funding for an additional counseling position and co-located its office with other youth engagement non-profit organizations. Youth specific outreach from the Youth Cultural Development Trust maintained age appropriate connectivity via facebook, as well as on site counseling and referrals programs for care from before the earthquakes. For example, glow in the dark condoms and sperm key chain were awarded as incentives for District Health Board health visits depending on the services received. For sex workers, the Prostitutes Collective, represented by their regional coordinator explained, "For many workers, bridges have been burnt so with increased rents, homelessness increases." Not only did the economic circumstances for existing sex workers decline after the earthquakes but more sex workers both youth and adult were on the streets as family dynamics deteriorated and brothels were condemned. Organizations ranging from the Salvation Army to the City Mission were collaborated to offer comprehensive services that would be perceived to be accessible by target populations.

Reports of family violence to sexual health practitioners also increased as emotions became strained following the disaster, as stated by the manager of Family Planning, "stress became insidious and abuse rates increased." Consequently, cases encountered by practitioners became increasingly complex. In one iteration of the connectivity of family stressors, 298 Youth experienced an increase of youth reporting for services with family members. Local non-profits adapted to meet these needs despite limited earthquake specific funding, high relocation costs, and wide reaching changes in national reporting requirements.

Non-profit staff members, who typically showed strong personal commitment to maintaining access to supplies and services for their target populations, were likely to address health more holistically as trauma was presented in regular appointments. Partnerships with the District Health Board and other non-profits allowed medical facilities to tackle sexual health as one health system. The representative of the Rodger Wright Centre expressed not only a shift in the usage of services but in needs of target populations as an underlying factor to their decision to co-locate with other services,

> "The Hep C Clinic is next door, onsite. If [the client is] missed [he or she] won't get treatment at all. Pharmacies are on the program as well. But clients prefer to come to a dedicated exchange. We captured additional issues following the [February] earthquake."

Sharing of the health burden post-disaster was paramount to successful recovery characterized by maintaining uninterrupted and access. Technology, for example, was widely shared amongst the sexual health non-profits allowing for a collective view of shifting demands.

Sexual health non-profits in Christchurch benefitted from strong national commitments and maintained business as usual while addressing the demands of a recovering city on its organizations and clients. Further, strong connections with similarly focused non-profit and government partners through networks, such as the Sexual Health Blood Born Virus group, of which all of the participants were a part, assisted in connecting target populations to appropriate resources and sharing best practices for recording complex cases. Sexual health non-profits with government contracts may have experienced temporary office relocation difficulties or required additional staff support but they remained accountable for service provision to the population that they targeted. Regular reporting was required to keep up with the expanded and creative means of service delivery utilized by non-profits during response and early recovery periods.

Migrant Services Non-Profit Organizations: Survey Detail

Six organizations offering services for migrants were involved in surveys: Canterbury Refugee Council, Christchurch Migrants Centre Trust, Interpreting Canterbury, Pegasus Health, First Union, and Community Language Information Network Group, which was not surveyed directly but the members of which offered insights for the collective agency. Migrant-focused non-profit organizations and their civil society partners provided individual and collective contributions to non-profit sector resilience and community capacity building during mid-term recovery regardless of whether they were community based or advocacy driven. Variance in approaches to care access through workshops, consultations, and information allowed migrant support services to support their target populations with a net of capacity building opportunities. These organizations also supported each other through agency connections and co-location into mid-term recovery. Although it was outside of the scope of this study, Maori agency connections were critical to the support of the migrant services during the response phase (Kenney et al. 2015). Their success in long term recovery relied on the resilience of each organization to continue to provide niche services to support the whole.

Refugees were not being resettled in Christchurch during mid-term recovery but were expected in 2016 or 2017 when housing stock should be available. Regardless, the Refugee Council convened forums of government officials and Maori agency connections to advocate for the needs of refugees in Christchurch to address over-crowding and increased family stress through revision of the 2003 Resettlement Strategy. Good relationships with Immigration and Housing New Zealand assisted in tackling long standing cold issues as a part of recovery in old and damaged homes with poor insulation that were compounded by earthquake damages. Workshops on family violence were convened for each gender separately to empower families to

deal with increased stress. Even food distribution was altered post-disaster to ensure availability in the absence or delay of some cultural festivals.

For both refugees and migrants, it was difficult to measure the relocation patterns of each ethnic community following the earthquakes, so connectivity of non-profit staff to their target population was critical. The chairperson of Canterbury Refugee Council stated that refugees in particular related the experience with those in war zones. It was "different from war in that there was no negotiation but similar in terms of water and food loss and living together because [everyone] would go to one place." Non-profit outreach efforts gained from this cohesion among individual ethnic groups and concentration toward the west of the city. Despite, or perhaps because of the damages from the earthquake, Migrant Centre identified trends of Filipino construction workers and Chinese business interests continuing to take root in Christchurch. Between March 2011 and the 2013 census, 1,320 Chinese and 1,080 Filipinos arrived in Christchurch, the second and third largest migrant groups only behind the English, whom experience reduced cultural barriers as that was the background of the majority of New Zealand's locally born population as well (Statistics New Zealand 2014).

A concern of Migrant Centre in mid-term recovery was funding opportunities for migrants. Similar to the Refugee Council, the Migrants Centre held workshops regularly on social enterprises including leadership, entrepreneurship, volunteering, health, and food assistance. But, funding was not sufficient for family needs. The transitional manager of Migrant Centre, recounted optimism for these workshops to improve the capacity of migrant communities despite the complexity of engaging all migrant groups appropriately "…next year a social enterprise workshop involving food catering to spread culture and sustain the center will be shared." It was noticeable that acknowledgement of migrant issues and the contribution of non-

profits to migrant social assistance increased following the earthquakes. Migrants were involved in temporary garden installments in the city through Places of Tranquility, a Greening the Rubble installation, and the Ministry of Health was engaged in projects on diabetes and age concerns of Maori, Asian, and Pacific Islanders. Messaging was also improved by City Council through an ethnic leaders meeting and through continued participation in the regional chapter of the national Federation of Multicultural Councils, an umbrella organization for ethnic community groups.

Advocacy efforts of Community Language Information Network Group, noted by Interpreting Canterbury and Pegasus Health in surveys, took three years to effect change for culturally and linguistically appropriate messaging and availability of interpreters for public sessions from CERA, the Earthquake Commission, and City Council. This was negatively perceived by non-profits as an exceptionally long period required for emergency managers to produce results. Another measure that improved livelihoods and recovery outcomes for migrants by engaging non-profit and civil society organizations, such as Interpreting Canterbury, was the Safe Build program, which protects construction workers rights and ensures adherence to safety measures. However, individual migrant-focused non-profit organizations did not perceive that construction companies welcomed their outreach.

Interpreting Canterbury provided interpreter training and coordinated services across New Zealand. It focused on training native speakers who resided locally. Services were provided for a fee that was covered by a government agency depending on the nature of the interpreting request. In Christchurch, Interpreting Canterbury co-located with other migrant support services, including Migrant Centre and the Refugee Council among others. By re-establishing this

combined office space, referrals for services, such as interpreting, and for culturally specific support were made more easily accessible.

Although Pegasus Health was not co-located with other migrant support services, it had agency connections of care providers and field staff extending beyond the city of Christchurch into rural Canterbury and received government funding from health and labor related ministries, which other migrant support services relied on for referrals of coordinated of care. Interpreters for appointments, culturally specific workshops on nutrition, and translated emergency or health messaging were available prior to and with increased emphasis after the earthquakes going into long-term recovery.

Through interpretation of the 2013 census, interviews, and shared reporting of health concerns with the District Health Board, Pegasus Health sought to "improve holes found in the health system following the earthquakes." Collaboration and analysis of the census was thought by their migrant health manager to have the capacity to improve the understanding of age, gender, language, relocation patterns and declines in minority populations, which he believed to be poorly studied. Contributing to these demographic shifts, reunification still took place in Christchurch despite the suspension of resettlement after the earthquake.

First Union benefitted from national advocacy and resource platforms and relatability of staff to workers in various sectors. The interpretation of labor statistics had to be closely monitored by both unions participating in various parts of this study to ensure that reporting was not skewed to misrepresent unemployment and migrant employment opportunities. After the earthquakes, internal labor supply did not receive the necessary investment to meet construction job demand despite ongoing advocacy of First Union. Migrant workers consequently took opportunities for employment in Christchurch for the rebuild but the conditions of their visas and

employment required additional support. Housing conditions for migrants were found to be particularly concerning in the aftermath of the earthquakes; the south region secretary of First Union recalled the work of the construction union and the City Council "Accommodation set up through [employment] agencies can be overcrowded or substandard; at least 16 not in compliance." Consequently, First Union negotiated a charter with construction companies to protect migrant rights. To address broader concerns, Unimeg, a network for migrant workers, was convened in approximately 2010 to build social capital and guide the "behavioral change agenda" adopted by the union in representing worker's rights to employers and politicians.

Several commonalities were identified from these interviews. Migrants were not expected to self-advocate by the Migrants Centre, the Refugee Council, Pegasus Health, or First Union organizations. The endurance and political connections required to generate change amongst recovery management authorities or construction companies were extensive. The duration of engagement required to effect change led local non-profits and semi-public civil society partners to engage migrants directly in capacity building workshops. Although many of the non-profit organizations and agency connections were established relatively recently, some just a few years before and others emerging following the earthquake or forming new collective agencies to address needs identified from the earthquakes, their organizational resilience was high in the mid-term recovery due to conceptualization of their target populations and their shifting needs.

Construction workers, migrant entrepreneurs, reunification, and short term moves contributed to the gradual influx of migrants into Christchurch and increased demand for services despite the suspension of resettlement. Long-term advocacy for housing and livelihood priorities had to be maintained with increased post-disaster needs to address family violence, additional overcrowding, altered food distribution opportunities, employment regulation, and

engagement with authorities. Migrant focused non-profit and civil society organizations benefitted from pre-existing government commitments to engagement and an inclusive indigenous culture at various points throughout response and recovery.

All migrant services organizations struggled to track population shifts due, in part, to misrepresentation of data from outside sources that interpreted the census subjectively. However, Migrant Centre, the Refugee Council. Interpreting Canterbury, and First Union benefitted from relatability of staff to migrants. Additionally, the Refugee Council and Migrant Centre used gender specific programming to respect cultural traditions and increase utilization of services for fluctuating domestic concerns. A mosaic of organizational structures and funding strategies allowed migrant support services to flourish into long-term recovery through continued relevance to social support.

Community Support Non-Profit Organizations: Survey Detail

Twenty one community support organizations participated in surveys including All Right Campaign, Healthy Christchurch, Problem Gambling Foundation, Social Service Providers Aotearoa, the Red Cross Christchurch, World Vision, Council of Social Services, Ministry of Awesome, Project Lyttelton, Student Volunteer Army, Volunteering Canterbury, Gap Filler, Greening the Rubble, Canterbury Community Garden Association, CanCERN, Neighbourhood Trust, Christchurch City Mission, Public Service Association, North Canterbury Rural Support Trust, Meals on Wheels, and Avebury House.

Emergent community support groups exhibited common strengths in organizing community energy for clearing earthquake debris, use of vacant city lots, displaced residents advocacy, and recognizing trauma. All Right Campaign, Ministry of Awesome, Student Volunteer Army, Gap Filler, Greening the Rubble, and CanCERN emerged following the

earthquakes. Reflecting on the community energy contributing to this rise in engagement, the trustee at the Ministry of Awesome, noted "A new, expanded audience of introspective people came out after the earthquakes." Following the initial set up of events and organizations, fledgling organizational cultures led to uncertain futures for emergent groups. Some of this could be attributed to the nature of the organizations' missions, as illuminated by their trustee, "Our projects cannot be self-organized to avoid labels. The Ministry of Awesome brings together, provides proof, supports. Provides introductions, and mentoring. We developed an Innovation Ecosystem map and attended meetings and conversations with officials." That same fluid aspect of work applied to Greening the Rubble according to the coordinator, who stated, "Our first project was completed in January 2011; now there is a building there. The goal is to foster biodiversity in the city and create green spaces for time out." Capitalizing on community energy, national media attention in the immediate aftermath of the disaster, and international interest in exporting ideas to other urban areas assisted in sustaining emergent groups into mid-term recovery.

The representative of Greening the Rubble described the thought process behind her organization's desire to export its activities, "We are trying to see how to do this in a city without earthquake damage. The Department of Conservation is interested or [there is an] international focus through a collaborative to build resilient cities." Despite many emergent groups just beginning strategic planning themselves and losing national media attention, ideas were already being exported to other disaster affected areas and new urbanism centers. Student Volunteer Army had already consulted on disaster situations in other parts of New Zealand, Japan and, the United States and been invited to contribute to the revision of the United Nations Hyogo Protocol based on the volume of its work in the response phase even though one of their

founders noted that their organization was still in transition from the 2014 floods for which it retrospectively formed a foundation to complement the original student club. Even though many of these organizations were reactive, they may represent a common need in disaster affected areas for engagement that can be organized only after an event. Christchurch was selected as one of one hundred resilient cities by the Rockefeller Foundation in 2013 due, in part, to the contributions of emergent non-profits to social capital. The time frame for emergent non-profit operation needs to be considered further though to ensure that limited resources for the sector are allocated to reflect the shifting needs of different disaster management phases.

Although some organizations adopted limited planning, such as student clubs, others benefitted from guidance from boards or continuous planning and assessment. Overwhelming board interaction was reported by Greening the Rubble, "Our board is potentially too active in directing project locations and priorities." She went on to explain that this was due to the project-by-project operation style of their operations as a makeshift organization. The Ministry of Awesome and Greening the Rubble were both forming strategic plans as the study took place.

However, tensions with other non-profits, short funding time frames, and shifting target population concerns threatened the continuation of emergent groups into long-term recovery. The director and co-founder of Gap Filler expressed both frustration and hope for the shifting community, sector, and political will for emergent non-profit projects in the city,

> "Gap Filler is a response to a disconnect with the city. […] The mood is shifting to frustration and excitement over the rebuild phase. Local volunteers decreased because projects are more demanding of the same audience. But we have collective impact through Life in Vacant Spaces and Greening the Rubble. Life in Vacant spaces was created for City Council, as an intermediary for funding. […] Art non-profits are not happy with new non-profits in the city because of competition."

CanCERN experienced similar attrition in community participation as the recovery phase progressed. The relationship manager explained their experience as so,

> "CanCERN is the voice of communities in the red zone, placing residents' expectations and experiences on the table of decision makers. Now [there is] a more individualistic mentality amongst residents. The network has dissolved. Now there are no residents in the red zone because of moves. The Port Hills, Flats, and Richmond include an array of affluent and poor. Communities are still dealing with relocation expenses. Street level networks are broken. Neighbors are unaware of their neighbourhood."

In response to the shifting sentiments regarding emergent energy for city revitalization the representative from the Ministry of Awesome added "The anti -'tall poppy' sentiment must be changed." Non-profit leaders of emergent organizations were concerned that any new idea, referred to here as a tall-poppy to demote its difference from traditional ideas, was subject to increased public and non-profit community scrutiny. The All Right Campaign, a temporary iteration of the Ministry of Health and the Ministry of Social Development concerns about mental health in the recovering city had a unique approach, perhaps due to its roots in the health field. Its mental health promoter discussed how its organizational strategy fluctuated with stress levels of the city,

> "People are hitting [their threshold for stress] at different times. We continually take the pulse in the interest of stemming need. […] We will miss some because of gentle messaging, […] but there is a hunger for wellbeing knowledge. Like an ache in a muscle you didn't know you had."

This approach to organizational reform allowed for input into the Red Cross and Canterbury Earthquake Authority initiatives and subtle coordination with a variety of government and non-profit partners to disseminate their message to the largest target population possible.

Take-a-ways from the earthquake experience were

> "Start where you are. Don't provide solutions. Ask. Give general messaging. Be properly resourced to carry out your own best practices. Produce useful resources.

Pre-existing high connectivity contributes but [it is] about the ability to respond at the response time. Enthusiasm is key. [It] makes a landscape."

These sentiments brought the interactions of organizations, regardless of their maturity into perspective for a disaster setting, especially the importance of holistic care through complementary programs offered by trusted organizers.

The relationship between pre-existing and emergent non-profits was not smooth in all cases though. The representative stated frustration with other non-profit types "Non-profit flexibility was needed. Initially they [pre-existing non-profits] were still carrying out government funded priorities even though needs changed. The mentality to act on needs is better. Initially NGOs were in 'fix mode', not focused on people which led to missed opportunities to advocate for target populations." Although the scope of work at a pre-existing, particularly national advocacy non-profit could not change immediately, many incorporated innovative outreach methods to adapt their services to the response and recovery circumstances of their target populations, rather expanded or not.

Several pre-existing community based non-profits reported that their operations were more fluid in the initial period following the disaster before the authorities assumed control. The former coordinator of Healthy Christchurch recalled, "Non-profits benefitted from the broken system until the big machine stepped in but have managed to hold some space now." The combined efforts and earthquake related funding for Healthy Christchurch and the Council of Social Services led to coordinated non-profit meetings by ward to voice common concerns and initiate advocacy for additional representation with emergency management authorities during the initial recovery phase. Familiarity of non-profits with pre-existing sector organizers benefitted Healthy Christchurch and the Council of Social Services. The representative of Healthy Christchurch stated, "People go to familiar organizations. Some organizations did not

133

know how they worked with churches for example. We encouraged members not to ditch their strategic plans and prepare for the next phases. The structured communication network helped with staff stress." Other external improvements leveraged over time for the non-profit sector included shared emergency plan templates and well-being tools that Healthy Christchurch developed with government partnerships. However, it was suggested by the Rural Support Trust and the City Mission respectively that, increased awareness of community needs for mental health support and adequate housing that benefitted their pre-existing advocacy goals may be difficult to sustain into long-term recovery. In line with these evolving concerns with appropriate engagement channels with government structures, changes occurred in 2013 through the election of new City Council members, which then funded non-profits to act in their own right in their communities.

Board management relationships were supportive of maintaining commitment to strategic priorities through creative forms of outreach with the exception of a board that was disconnected by re-zoning experienced at Avebury House, which remained open despite being surrounded by the red zone. Going into later stages of recovery additional building spaces and assets to manage complex needs were re-sourced through partnerships, in particular the work of the Council of Social Services to keep the non-profit sector informed of shifting building regulations and availability. Unfortunately, the temporary space waiver for in-home offices is set to expire in 2016 which may compound stress levels for many small non-profit workers.

Reputation was a concern of Volunteering Canterbury as unassociated student volunteers flocked to the city to clean up liquefaction debris without its official oversight. These concerns were remedied after the first few weeks of response when Volunteering Canterbury assumed some of the student roles. Volunteering Canterbury made decisions in the initial response that

could have damaged its reputation as well by decreasing the review process for linking volunteers to projects. Although this was later deemed appropriate by management given the state of emergency, it created vulnerability for the organization, volunteers, and service recipients. However, it benefitted from the good will shared among citizens after the earthquake not to abuse the system. The nature of volunteers change though. The manager, stated, "Volunteers are hesitant to commit to long term projects now versus before." This burn-out was similarly reported by emergent organizations as recovery progressed due to the continuous burden on active volunteers.

Cohesion of the target population was paramount to the success of community based pre-existing organizations. Avebury Houses' manager, who just started the year of the study reported failure to capture the changing demographics of its service area. Her concern was for the homeless, but due to its strict heritage goals shifting program priorities was not possible. This was attributed to the board of directors becoming detached from the service area following earthquakes. The Neighbourhood Trust's target population both increased in traditional users and experienced an influx of new demographics to the suburb it serviced as the recovery continued. It established itself as a one-stop shop for holistic community and individual care. Programs were focused on neo-natal, elder care, pre-school support, social assistance application assistance, referrals for counseling support, and a collective entrepreneurs' market. Commitment to its strategic plan helped the Neighbourhood Trust to scale up its services during the emergency response phase and back down in long-term recovery while continuing pre-existing services and expansion plans. Further, as a result of its funding streams, the Neighbourhood Trust became part of a cluster and benefitted from organizational effectiveness strategy sharing with other MSD funded non-profits.

Project Lyttelton captured cohesion by organizing gardens, markets, and an economy of service in its community and had to reformat its outreach as the demographics of its target area shifted in response to the earthquakes. The treasurer of the organization, described how target populations were shared across projects and the demographic shifts were handled,

> "The time bank [economy of service] is getting more involved, getting people from garage sales and the gardens that are traditionally involved in other parts of Project Lyttelton. Some of the community has moved. New people are arriving in town all the time. Some residents are suspicious. Fatigue is setting in even though operations are still producing. The vegetable co-op base is not working anymore because of the influx of residents. It is like a marathon. A return to a hybrid is possible."

Strain on volunteers and staff was again a concern but overcome in this case through expansion of target population.

Both Project Lyttelton and the Canterbury Community Garden Association had pre-existing gardens that benefitted from expansion to newly vacant lots. Project Lyttelton expanded gardens into vacant spaces on its own volition after the earthquakes, whereas the association continued to garden original allotments and advocated for policy change and outreach funding from City Council reflecting the different approaches to managing government relationships and for Lyttelton, the benefits of community input into the city master plan. The chairperson of the Community Garden Association, elaborated that even the relationship with the City Council demonstrated community cohesion through successful projects,

> "There was a wave of interest in gardens but not due to the earthquakes. Gardens offer stress relief but the council is not listening. Some funding was leveraged to teach in schools. Diamond Harbor and Brighton Bay have faster uptake. She continued, to reflect that gains for target populations, such as the socio-economically and elderly marginalized populations through the 'Grow your own lunch' skill building program and sending buckets of produce to local community houses. The Council disempowered individual groups but the collective is endorsed."

Decentralized participation had more tangible organizational effectiveness.

The City Mission was well known in urban areas across New Zealand for its work with homelessness. In addition, the City Mission gained from partnership with Christian Social Services for initial response logistics and staff involvement with community input forums. Consequently, it benefitted from both partnerships and target population cohesion even when services had to expand to meet increased demands and emergent populations of need. The manager of social services indicated that these partnerships were critical across the non-profit sector after the earthquakes, stating that they "pulled non-profits and churches together because funding has quantity but not quality or interaction denoted." Further, the representative was connected to recovery planning through the men's welfare group, school board, and housing issues. By offering wrap around services for target populations with other non-profit utilization backgrounds, the City Mission was able to apply its organizational strengths to sustain homelessness programs until affordable housing came back on the market in 2014, address new target populations of the working poor and expand programs for community engagement through sports and other creative outlets.

Engagement with government partners greatly benefitted response activities and recovery planning engagement for national advocates too but was perceived differently. The Rural Support Trust benefitted from engagement with the territorial authority in emergency training, whereas, Social Service Providers Aotearoa perceived non-profit partnerships among similarly focused organizations to be the best way to influence recovery efforts and funding streams, which they were concerned did not always cover the full program costs. The strategy of Social Service Providers Aotearoa was to address increasingly complex cases presenting during recovery and expanding its connections. This was explained by a representative, affiliated through Start Healing Stop Abuse as follows, "Right service, right time with one number to

connect to services. A panel is available to plan action on the most complex cases, weekly or monthly as needed." Information sharing during recovery also assisted continuation of collaboration and awareness of different service availability as agency connections re-established their offices. Contrastingly, the Rural Support Trust had great success leveraging national connections with Federate Farmers to assist in re-starting area farming operations but struggled to sustain post-earthquake interest in mental health to address pre-existing and continued mental health concerns among its target population. The chairperson stated, "Rural areas were better at returning to normal. The emotional toll was not as big because farms must run." He went on to say that the Darfield earthquake "Allowed the organization name to get out and increased the profile." He was cautious to add, "There is a peacetime crisis of suicide too." This divide in national advocates may reflect the target populations of their organizations rather than the organization type.

Problem Gambling Foundation offered expert counseling for individuals and families affected by gambling addictions and advocated for safe spaces. Meals on Wheels provided subsidized meals to the elderly and socio-economically disadvantages but also referred clients for additional social or mental health assistance. Problem Gambling Foundation and Meals on Wheels maintained service accessibility in spite of initial decreases in demand for services. They were recovering their target population numbers and addressing increasingly complex concerns reported by clients in the latter stages of recovery. For Meals on Wheels, the decline in target population was a national trend. Meals on Wheels, however, enjoyed strong relationships with the local health system and the Red Cross that allowed for efficient operations. The reduction in office visits at Problem Gambling Foundation was attributed to the need to take care of other priorities in the initial aftermath of the earthquakes. For Problem Gambling Foundation, national

funding was in flux at the time of the earthquakes. Also, it was difficult to advocate for a slot machine free city against stakeholders from private casinos as the rebuild progressed. The Problem Gambling representative explained her frustration,

> "Pub and club gambling increased after the earthquake, but the casino was one of the first buildings restored. A quiet period at the foundation after the earthquake was attributed to 'survival mode'- more complex cases now. […] Policy says no new gambling machines but many petitioned to have an exception for relocation. Problem Gambling Foundation lobbied against the exception and for a [slot] machine free CBD."

Both of these national advocates actually experienced detrimental effects of national direction.

The outreach adaptability of the Public Service Association was particularly dependent on policy trends. Nationally, the Public Service Association sought to publicize the failure of training programs to produce an internal labor force for construction need. It added context to unemployment rates and demographic distributions from the census to advocate for workers' rights. Although these echoed the work of First Union, the focus was broader and consequently able to organize social-psychology speakers and additional information for members to address local interests of businesses outside the construction industry as well. The post-earthquake coordinator accounted for shifts in attitudes amongst workers in all fields, "The impact of life on work changed additional feelings of bullying and harassment. Personnel cases increased. […] Conversations were best initially and now the latest studies are the best for advocacy purposes." Specifically for non-profit practitioners, he expressed concerns with secondary trauma from exposure to the stresses of others. These were addressed by many organizations individually and through public counseling resources made available across the city for a limited time into the recovery process. Additionally, the Public Service Association collaborated with the Ministry of Social Development on a post-earthquake engagement group to address shifts in local social

service employee need collectively by removing silos, mainstreaming disaster preparedness, and increasing community activism opportunities for staff.

Supra-national non-profit organizations brought international disaster management expertise to the Christchurch setting through their local offices. Support from international affiliates for strategies of engagement and transition to recovery also assisted in appropriate supply and staff allocation. The Red Cross immediately disseminated emergency information to local residents via door knocking and then provided millions of dollars in small relief grants and fifty thousand NZD in recovery grants. The regional manager of World Vision, explained a different approach, "HEA, [humanitarian and emergency assistance] and food and water safety, were a new role for New Zealand offices. Feeding and housing shelters could not scale up. We offered Salvation Army and the City Mission assistance to run the logistics of response and diverted staff from fundraising." Expanding the outreach methods to address the local emergent populations was natural for these organizations but their ability to make that transition often depended on the will of decision makers within their own organizations from Christchurch.

External factors contributing to the success of supra-national non-profits in emergency management were partnerships with similarly focused local groups and respectful government agencies. The Red Cross and World Vision had dramatically different experiences here. On the one hand, the Red Cross's recovery program manager highlighted that they were "at planning tables in their own right early and before the earthquakes for issues such as poor housing." Even at the local level the Red Cross was engaged with Safer Christchurch Infrastructure Recovery Team. On the other hand, the representative from World Vision noted, "because this was a first world disaster help was not initially wanted. […] International non-governmental organizations

were not included in any way in future disaster planning." Consequently, World Vision relied on

its partnership with Te Ra Ranga Christian Coalition to gain entry into disaster relief efforts.

World Vision's fundraising, when it resumed in the recovery phase, experienced a

decline because surrounding schools contributed to Christchurch for that year instead. The most

damaged school, however, had great participation that year though, further reflecting the desire

of Christchurch to be engaged in community activities. World Vision shared a different transition

story going into long-term recovery as staff were being redirected from recovery tasks,

> "The national board is challenged to understand Christchurch's situation. The
> board is not sold on an advocacy role. Consequently, there is not a lot of primary
> data. Policy brief papers are common. More outreach data is needed. This can be
> collected through partnerships but we may not need. We just did housing. Mini-
> partnerships are new as recovery transitions."

These different experiences of supra-national organizations only reflect and extended time frame

before the return to normal operations was required.

Summary

In looking at the progression of sexual health commitments from sexual health, migrant

support, and community support non-profits, the identification of emergent target populations

and increased complexity of care was addressed through partnerships. Depending on the type of

non-profit, various resources and skills were leveraged to maintain services and provide a trusted

care provider as the organizations themselves transitioned to new offices and outreach methods.

Changes in demands and responsibilities were characterized by the representative of Healthy

Christchurch, "The previously vulnerable are more vulnerable now and harder to access. New

vulnerable have emerged. Those who used to access services were much more resilient. […]

There are new ways of working with more support with networks and via public understanding

now." Through combined efforts, non-profits that kept their operations relevant to the local

circumstances were able to comprehensively address risk-taking behavioral contributors for families, youth, and migrants and improve community capacity through increasing awareness of services available for marginalized groups and the non-profit sector organizations addressing those needs.

Chapter 7: Results – Focus Groups

Note to the Reader

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Composition of Focus Groups

Staff focus groups were convened at five organizations, with three to five staff participating at each organization. Questions revolved around changes in provision and utilization of services, work environments, and disaster plans. Also, the influence of partnerships on organizational capacity was addressed. The themed results were compiled in quantitative form in Table 7.1. These were discussed collectively. Then, qualitative details from each theme were explored for each organization individually. A cross-sector analysis was produced from the combined quantitative and qualitative data. To establish the representative nature of focus group results for the sexual health sector, an additional focus group was held at a Sexual Health and Blood Borne Viruses agency connection meeting. Qualitative findings were shown in Table 7.2 and discussed for that field of work in the context of relevant individual organization focus groups. Finally, organization managers received transcripts of the individual organization focus groups to assess communication, possible applications, and any additional information required for implementation of findings within the organizations. The section summary identified cross sector organizational culture similarities.

Collective Focus Group Responses

The most noticeable trends in staff focus group responses (Table 7.1) were that: 1) partnerships were seen to increase capacity; 2) there was no perceived change to disaster plans in four of the five organizations; and 3) those organizations were not the same for both responses.

Heightened service provision mostly occurred in the early stages of response or indicated compounded need expressed by target populations. The most varied responses came from change in utilization of services by the target population where two noted an increase, two a decrease, and one no change. Emergent population contributed to utilization, aversion to the damaged city, and relocation of the elderly outside of Christchurch caused perceived utilization of services to decline amongst staff.

Table 7.1: Sexual Health and Community Support Staff Focus Group Responses

	Changed service provision	Utilization changed	Partnerships altered capacity	Work environment changed	Made future disaster plans
Family Planning	NC	-	NC	-	NC
Roger Wright Centre	+	NC	+	+	NC
City Mission	+	+	+	+	+
Meals on Wheels	-	-	+	+	NC
Neighbourhood Trust	+	+	+	-	NC

The signs indicate change as follows: (+) positive, increased, or completed; (-) negative, decreased, or removed; and NC no change. (Adapted from Hutton et al. In Press)

Positive perceptions of work environment changes and increased service provision followed with three of five groups in agreement on each. Negative perceptions of changes to the work environment were largely related to staff stress; whereas, positive changes were associated with staff empowerment, consistency, and adaptability of the organization that maintained service provision.

The improved disaster plan resulted from strong internal management procedures. The four with no change varied in their reasoning. Plans may have come from national affiliates,

144

been in process, been revisions of existing plans, or were not completed due to resource strain on management.

Changed Service Provision

Although the initial management interview at Family Planning reflected a concern about migrant sexual health care demand increasing as the rebuild progressed, practitioners strongly stated that Pegasus Health was a more common resource for that target population. Reliance on partnerships to reach extended populations following the earthquake is beneficial in limiting workload but does not allow the organization to thrive in initial response because it is not bridging building with additional target populations.

For the Rodger Wright Centre staff, service provision changed because of damages to their offices but was perceived to be positive because of the ability to maintain services through creative outreach methods and strong relationships with their target population. Staff members recounted,

> "We went from a building to a car boot to a portable. We did a lot of delivery. Anyone that I recognized from work I would approach. I just drove around with a boot full of condoms all the time, and I never got a negative reaction from anybody. If you did that right now you would get a negative reaction. There was no money changing hands for equipment at that time. That way there was no danger from carrying money. I don't really feel scared. That was directly from management. There were more important things for [our clients] to focus money on."

Support from management was empowering to committed staff, allowing them to maintain services in the response phase and capitalize on social cohesion that emerged immediately after the earthquakes. In this environment, organizational capacity was not reliant on the built environment rather the social capital of practitioners and their target populations.

Staff of the City Mission identified increased service provision continuing well into the recovery phase. Service delivery evolved from temporary outreach, to limited term assistance

145

with navigating relief opportunities, to ongoing community development training. Similar to the experience of staff at the Rodger Wright Centre, staff from the City Mission recalled their reliance on strong relationships with their target population and empowerment of staff to engage in creative outreach methods in the initial response phase,

> "Immediately post-earthquake, the city mission was in the red zone [cordon]. We took our services to our clients. We were based somewhere else that was not easy to get to so we went out to assist our clients […] taking food parcels for those that needed food. We set up on street corners. We had these posts around the city. […] We approached people."

Maintaining services for their target population during these initial days demonstrates the commitment of staff and management to the mission of the organization.

As the City Mission transitioned to recovery, funding was leveraged to employ a social worker to take the additional burden of guiding clients through insurance and relief claims. Staff recalled the circumstances eliciting this decision, "We had an outreach social work service, which was a result because we had to go out into the community more than clients came to us. That was a two year fixed term which stopped." Staff were pleased that this new staff person could handle the complex issues surrounding client claims. They perceived that filing claims was indicative of more individualized care needs than existing staff were able to provide in light of their continuing workload to handle pre-existing need. Several staff members verbalized the frustrations that emerged amongst residents, "I don't think before the earthquakes some even knew for example what an insurance company was [...] It actually has gotten more complicated as the years have gone on […] It lends to more one on one social work because each situation varies so much." For already socio-economically marginalized individuals, this event may have deepened their experience with poverty. To address individual and family rehabilitation

comprehensively, communication within the organization had to remain strong as did advocacy for continued relief funding and integration of social services into the future city vision.

In addition to this limited term social worker who focused on insurance and relief, the City Mission suggested that their target population as a whole participate in public awareness initiatives offered by the recovery authority or local government. Staff indicated that for their target population, interaction in public forums was a struggle,

> "For the community we highlight all community learning workshops and things like that and encourage people to access those, but very often when we get involved it is because those kinds of things have not been enough. Bearing in mind that they are a kind of group that don't necessarily easily fit into community group forums so that is the reason we run pre-community development, because some are not able to easily access resources due to lack of understanding or tolerance."

Raising the social capital of their target population beyond individualized care increases preparedness for future emergencies by illuminating complementary access options. Further, this allows for burden sharing with partners and awareness of marginalized population perspectives into management dialogues.

The Meals on Wheels network delivered Emergency Packs in 2011 and Winter Warmer packs in 2012 to affected portions of its target population that remained in the service area. This occurred in collaboration with Salvation Army based on reports called-in by clients. Further, programs involving outings and integration into cooking programs available through other sources at the hospital were being considered to combat loneliness amongst elderly clients. Due to the nature of meal delivery, it was not possible for Meals on Wheels volunteers to combat loneliness on their own. The extension of services beyond subsidized meal delivery indicates the interest in serving the target population to the full extent of its ability and the long-term struggles caused to elderly and low-income residents from the extended repair process.

Characteristic of a community center, the Neighbourhood Trust responded to a variety of compounded and emergent vulnerabilities through targeted programs based on the demographic and damage realities of its service area. Consequently, staff reported an increase in service provision resulting from the earthquakes. Examples of emergent need were provided for elderly, artisanal, transient, and migrant populations.

Staff associated increased services with awareness of well-being in the post-earthquake city,

> "We have had to sort of target our services because we have had to cater more to elderly people living by themselves because they are more likely to be isolated. We have exercise classes in the morning that are just post-quake because one of the things about wellbeing is keeping active. We offer these at a reduced cost."

Increased interest in wellbeing was reported by the All Right Campaign and Healthy Christchurch, so this assessment of services as related to wellbeing may reflect their receipt of wellbeing materials (All Right 2013; Whitaker 2012). Damages to roadways and relocation of services were also commonly reported, echoed by Avebury House and Meals on Wheels in individual organization surveys, as being detrimental to elderly populations.

The service area of the Neighbourhood Trust included a concentration of small scale artisans in the area. One staff member referred to a new program, "We noticed a lot of the shops were getting a bit run down. The art center in town was getting rebuilt so that was a problem for a lot of artisans. So we formed a cooperative." This addition indicates an organic nature that allows the organization to engage in community capacity building through evolving relationships with their target population.

The Neighbourhood Trust not only increased services for existing populations with increased need but expanded its target population due to the influx of migrants and released prisoners arriving in Christchurch to work on the rebuild through visa and probation programs.

148

As the programs of the Neighbourhood Trust transition into long term recovery, the importance of expanding services further for its target population was noted by several staff, "There are a lot of transients […] and we have a lot of new migrants, so that changes the balance of our community. So our ESOL [English as a Second Language] services grow. We are looking at how to work with that community as well." The transition from response to recovery for staff of the Neighbourhood Trust is a continuing cycle as the effects of the earthquakes on their area

Utilization Changed

For Family Planning, office visits tended to run late because clients experienced traffic delays for years after the earthquakes due to construction. For several days after the February event clients missed appointments, despite the clinic remaining open. Some clients, especially those in their 20s and young couples were wary about going into the city at all even years after. Management, however, reported that these numbers were recovering by early 2015. Even follow-up from appointments had become more difficult because of address changes. Instead, drop in visits were more common.

The Rodger Wright Centre staff did not perceive changes in utilization of services. The same services were offered and additional interests in hygiene that emerged from concerns about water quality in the initial weeks were easily addressed by practitioners, who believed this to be a logical follow-on to engaging the community. Recollections of staff members were as follows,

> "I think people were all looking at their own mortality. People were really not [caring] for themselves before that. When you wake up and there is a chimney lying next to you or that has come through your roof you kind of start reflecting on things. […] There were a lot of people coming in for referrals to go on methadone or to go get clean and that continued for about a year or two. […] It was normal for them to come to us. We do kind of bend to whatever our clients want."

The organic nature of the organization presented here allowed staff to react appropriately to the shifting needs of their clients.

Residence associations expressed discomfort with drug users and sex workers who had to temporarily occupy more residential areas following the earthquakes. Staff characterized these changes in their focus group, "There were certainly a lot of syringes being found in the streets and a lot more used condoms in people's front yards." This correlates with reports from the Prostitutes Collective and the City Mission that prostitutes were displaced by the earthquake damages and sought work in more residential areas. To approach prostitutes in this unfamiliar setting required existing awareness of types of services available to them from various organizations and discrete access to those services. Accessibility of services as a function of discretion also concerned the Aids Foundation and the All Right Campaign in individual organization surveys. The perception that utilization of services at the Rodger Wright Centre did not change indicates that their services were already well integrated with the needs of this target population.

The consensus of staff members at the City Mission on the change in target population was voiced as follows, "The level of clients we used to deal with was with the very marginalized […] We have also had different clients because they have had to access our services here because of the different issues of their personal lives who wouldn't normally have accessed our services." Not only did the type of care offered expand, but significant bridge building with emergent populations took place over the course of recovery as financial burdens shifted for individuals and families.

The earthquake impacts were not specific to a gender or age group. The City Mission staff saw an uptake in homelessness amongst youth, the elderly, women and men. Both men's and women's shelter staff identified this indiscriminate housing crisis,

> "More women have been presenting to the women's night shelter. There was a
> period where we had mostly women that were 55 and older because they had been

housed by families who were no longer able to do that. We have had more women presenting with children who are struggling from anxiety disorders, sleep problems. And, actual housing conditions have worsened considerably – what people are living in."

Men's shelter staff reported additional reasons for exclusion from secure housing and the social dynamics that faltered in the absence of secure inter-personal relationships,

"It is harder we find in men's services to access housing. They tell us that persons [landlords] that are renting out properties that are not fixed […] are asking for more money. Some of them have lost their jobs, their homes, their families since the earthquakes. So there is a lot of grief. Some of the people that were in recovery from alcohol and drugs, from mental health issues, now that's all resurfaced. […] There are not a lot of jobs for unschooled people or people that have been in jail. […] The men even after the earthquakes would go to the inner city to all the haunts they used to go to and they were really dangerous. They are still sleeping in some of those places around here. These are places they used to meet each other and they feel a great sense of loss."

Utilization of the City Mission as a trusted organization for whole family services regarding housing and mental health needs occurred before the earthquakes. Afterward, utilization increased among target populations due to increased economic strain on the working poor. Family and community breakdown trends weighed on the minds of staff, "We see mental health service uptake. That was already on the uptake but may not have been so noticeable if we had not had the earthquakes." Although this was perceived to be a pre-existing trend, the impact of mental health issues on family and community dynamics for marginalized groups compounded existing financial strain and created increasingly complex cases.

The absence of social spaces and economic opportunity for marginalized groups was not only the burden of parents but also youth in post-earthquake Christchurch, a concern also voiced by Youth Cultural Development in their organization survey. Although not specifically the target population of the City Mission, due to the location of shelters in the city near services for other marginalized groups and connectivity within the third sector, staff were able to share these

151

concerns as well, "More youth are on the streets too, more gangs, more prostitute work for women- not always safe." To address safety beyond shelter, nutrition, and mental health services for youth, prostitutes, or gang members partnerships with more focused non-profit organizations were critical for referrals rather direct or through informal resource sharing based on staff connections.

A primary concern of staff in capturing the increased utilization of services involved the reduced role of qualitative information in reporting practices. One staff member directly stated, "It [statistical reporting] is dangerous though because when you talk about quantity you are not capturing quality." This was a condition of contracts from prior to the earthquakes but with heightened complexity of cases elevated in its perceived importance. For the City Mission, internal reporting is capable of expressing such detail from staff to management to ensure that programs are effective but is largely lost as it is translated to contractors.

The target population for Meals on Wheels declined following the earthquakes because of re-zoning, relocation of elderly clients, and shifts in community demand for services. For example, Lyttelton used resources from Navy ships docked in the harbor for meal service in the immediate aftermath of the earthquakes and has since seen a decline in service from Meals on Wheels based on self-reliance interests that emerged after the rock falls made tunnels temporarily impassable. This decline was coincident with national trends and had still not returned to pre-quake levels by early 2015.

In addition to the altered needs of the elderly and artisans and heightened prisoner and migrant populations, practitioners at the Neighbourhood Trust noticed strained family dynamics for families that stayed after the earthquakes, which changed utilization of pre-existing services by traditional residents. Staff recounted,

"Mental health issues are huge. Most of the children coming in, all they have ever known is post-quake Christchurch. It has actually affected preparedness for school [and] perceptions of safety among adults. […] Certainly, we are seeing a lot more single parents. So, there is a lot of marital strife, a lot of tension at home. Financial tension, as well as, post-quake stuff, like rents. Family violence is […] all linked to these other things. It is actually very complex."

Increased complexity of cases was also evident to managers in over half of the individual organizations surveyed. Linkages between family violence and earthquake experiences were drawn by managers at Family Planning and the City Mission as well.

The capacity of the Neighbourhood Trust to leverage health and financial resources for socio-economically marginalized families depended partially on partnerships with government agencies and other non-profits to achieve advocacy goals. An example of long-term advocacy goals compounded by the earthquakes was housing:

"Some of the things were existing problems before the earthquakes but the earthquakes have made them so much worse. Housing was an issue. The price of electricity was an issue. But, we lost about 10,000 homes so housing was an issue but now it is an emergency. There are homes that are barely able to be heated now. Social services were bringing up these issues before. As soon as it happened everyone in social service said there is going to be a housing crisis. […] now it is just that affordability has changed."

Although staff at the Neighbourhood Trust are well versed in social benefits and public housing processes, national policy shifts were not conducive to the financial burden caused by the housing crisis in Christchurch. As stated above, non-profit advocacy on housing was a long-term goal that existed before the earthquakes. Despite the structural concerns following the earthquakes, the emergency authority still required quantitative results despite the closeness of non-profits to their target populations. As previously stated by Torstonson and Whitaker (2011) and in the Council of Social Services survey that is a part of this study, delays in representation of the non-profit sector in recovery planning extended the impacts on target populations. In spite of poor connectivity with the emergency authority, Meals on Wheels involved its partners in

distribution of winter supplies and many non-profits continued to access services for their clients through partners or traditional channels.

The Neighbourhood Trust staff members highlighted the disconnect between advocacy and policy, saying, "Government attitude to local situations have changed. The philosophy about what benefits should be has changed. [...] The idea that everyone can work is not aligned with our population, but they still have needs and they still have families." Through holistic service provision, the Neighbourhood Trust practitioners interested in addressing underlying causes of socio-economic marginalization found themselves balancing community bridging and linkage building along the transition from response to recovery particularly taxing due to the increased burden of proof placed on clients to receive social assistance. The increased workload was not always associated with increased funding, which caused strains on resources.

Partnerships Altered Capacity

Amongst staff of Family Planning, the perception was that the situation of Christchurch was understood in national policy discussions and that participation was still available. It was not specified whether this pertained to internal or external policy discussions or to which partnerships contributed. Staff provided patient services but were fairly detached from meetings with partners. Referrals of care were the most frequent partner interactions by staff and these were perceived to offer limited options for clients by the cost of other services.

There were two needle exchange buildings serving Christchurch prior to the earthquakes. Both buildings were damaged, but services were maintained because the target population was well known to staff from both locations. For this reason, it was interpreted from staff interviews that internal partnerships within the Rodger Wright Centre national organization were beneficial to response and recovery operations. Referrals were difficult for staff to make though until

154

partner organizations disseminated temporary service locations. Although partnerships were still valuable as recovery progressed, in initial stages target population engagement was limited to the capacities of individual organizations because of relocation issues.

As was the case with many organizations with national or international ties, the City Mission received increased funding initially but this did not last. Local collective action amongst non-profits offered a more lasting solution to maintaining services for long-term recovery. Staff reported increased collaboration with existing partners and those working in similar fields, "There has been a lot of outreach to food banks and working closely with churches." However, there was also strain put on the City Mission, as an established provider following the earthquakes noted by one staff member,

> "A lot of services have gone under. People are beginning to use the city mission more. Some organizations that planned to re-strategize before the earthquakes said it was a result of the earthquakes or funding. Larger agencies would bring what they had done in America of England here and we would copy that; it wouldn't work. But, not they are gone and agencies like us are here to clean up."

In light of struggles within the non-profit sector that shifted target populations from one organization to another, partnerships and co-production with government helped ensure people were not lost in the social service system.

The emergency authority however was not identified by staff as a partner sensitive to the advocacy concerns of the City Mission. One staff member remembered, "We were asked to give input on the first CERA surveys. They didn't even acknowledge. They don't want them [marginalized groups] in the inner city. It is about asking for input." This feeling of being brushed aside in recovery planning was not uncommon amongst non-profits; it was also noted by the Council of Social Services and others in surveys.

To capitalize on efficiency, all subsidized meals for the city fell under the purview of Meals on Wheels in Prince Margaret Hospital. However, the hospital housing Meals on Wheels was set to close due to aging of the facility not related to earthquake damages. Meals on Wheels was involved in planning for the hospital reorganization associated with the closure of Prince Margaret Hospital and rebuilding of Christchurch Hospital's Riverside Block, which was damaged in the earthquakes.

In describing the contribution of partnerships to organizational capacity, the Neighbourhood Trust staff were optimistic that the increased demands on their time to participate in collaborative schemes brought more benefits than detriments. Recalling the creation and early contributions of the Ministry of Social Development run cluster of non-profits that was formed after the earthquakes as an extension of national priorities for their grantees, staff members agreed that

> "There is a great sense of collaboration between not-for-profits. We work far more collaboratively than we did prior to the earthquakes. We are looking at strong collaborative projects and evaluating together. We share information […] about policies and practices. There is not as much patch protection. People used to be really worried about competition for funding because funding is the bottom line but that is not really accepted."

Opportunities for resource sharing had improved organizational effectiveness in the view of staff. Further, the linkage building with other non-profits allowed for services to be more readily referred instead of duplicated by the already strained staff.

Work Environment Changed

Family Planning practitioners experienced general anxiety. Because Family Planning must ask clients about medications, an increase in anxiety and depression was noted. Also, incidents of returning to smoking were common. Practitioners noted that overall complexity of

care rose and the ability to refer cases of addiction, mental health, and safety was cost restrictive for the clients.

Unlike other focus group participants, staff reported that "There were moments where we basically didn't exist. People didn't know where to go for us […] We walked into an empty shell, so could build a better organization […] more discrete." In the transition between offices, the Rodger Wright Centre staff reported feeling as if they were on call all day for weeks. Further, office staff were disadvantaged by separation from their colleagues with whom they typically shared experiences. However, the new offices were well received by staff and the target population because it moved further from law enforcement offices to a heavily trafficked area that offered improved anonymity of clients.

Seeking services from the Rodger Wright Centre became more socially acceptable. Public perception outside of neighborhoods where sex workers and drug users temporarily relocated improved. Staff stated, "I think society has become more accepting of us. I think the earthquake has made people think a little different; that people have different needs." Staff assessed that improved public views of client need was beneficial to their work environment and complimented delivery of care.

The City Mission benefitted from not needing to relocate its primary offices but with wide spread demolition in the city center, staff highlighted alternative uses of space even once access to the premises was restored, "We used some of the facilities at the women's shelter for alternate purposes because we couldn't use other areas." Through utilization of organic strategies to maintain and expand services, the organizational recovery started on a positive note for staff.

The organizational culture also assisted in distributing the workload and creating appropriate opportunities for staff to take leave. The most striking recount of the burden of care

on practitioners was as follows, "The workload has increased, and the complexity of the clients we are seeing, the issues they have increased too - triple edged sword." However, this did not deter staff from continuing. Another staff member reflected, "Mindful that each person had something going on in their personal life, people just worked. People kept an eye on each other. People wanted to come back to work early. We were thinking about the clients." Health and wellbeing focused non-profits may demonstrate unique experiences with staff management following a disaster due to the nature of their work and relationship to their target populations.

At Meals on Wheels, staff reported interest in meal competitions, based on the popular New Zealand show *My Kitchen Rules*, to foster creativity and engagement at work and were pleased with the flexibility and services available to them following the earthquakes. The entire hospital was able to get meals at the hospital during the immediate response and enjoyed increased access to social media to communicate with family as the hospital reviewed procedures based on emergency performance and needs. Staff perceived the option of continuing to work and assist clients via phone as beneficial to the routines and commitment to the organization. The availability of Red Cross volunteers for service delivery did not decrease when services resumed the day after the February event. These volunteers were empowered to safely preform their service with snow and flood plan based routing information.

One staff member reflecting on the increased demands for reporting and collective action stated, "It takes a lot of extra work for us to bring along those stories and show evidence of what is working but it is all part of it." With a small staff and the tendency to provide individualized care plans, the resources at the Neighbourhood Trust were strained after the earthquakes by both staff stress and demands on their time at work. Similar concerns with accurate reporting on the time commitments for care needed for complex cases were voiced by staff of the City Mission

and were actually noted as a potential driver of non-profit closure following the earthquakes. This creates a problem as the burden of care then falls on other non-profit organizations with ties to that community requiring them to engage in bridge building for additional target populations regardless of their resources or point in organizational recovery.

Made Future Disaster Plans

Family Planning had pre-existing emergency plans. Staff used snow day plans in addition to specific procedures for completion of surgeries, such as vasectomies and IUD placement, and evacuation.

Staff at the Rodger Wright Centre had not participated in or received updated formal emergency planning materials that reflected their experiences from the earthquakes due to staff allocation and management priorities. A staff member stated, "A lot has been learned but not put into practice. A lot of the staff are still here but have not written it down." This statement was qualified by the understanding that local staff and management were dealing with personal stress resulting from the earthquakes. Most of the response and recovery transition was reactive. The idea of capturing lessons learned to proactively plan for future hazards was of interest to the staff. However, staff believed that management consent was required for formal planning.

The City Mission staff provided an emergency plan based on their experiences to management in the initial days following the February event. This plan was perceived to be utilized in leveraging partnerships and resources over the course on long-term recovery.

The emergency management plans for Meals on Wheels involved using their snow plan to continue services in areas passable for volunteer drivers from the Red Cross. Although these plans did change in terms of population served and road closures it was not perceived by staff to be additional disaster planning for future events because protocols did not change.

The Neighbourhood Trust participated in disaster planning the cluster organized through partnership with the Ministry Social Development. Although staff were not always a formal part of these meetings, they were aware of the opportunity for the organization. Due to the size of the organization and increased demand for services staff had not recorded their own experiences formally.

Cross Category Focus Group Analysis

The sexual health organizations participating in staff focus groups had different experiences with all of the topics at hand except disaster planning, which was not changed at either organization based on staff responses. Family Planning staff reported no change in three of five categories, (service provision, partnerships, and disaster planning) and negative change in the other two (utilization and work environment). Staff at the Rodger Wright Centre perceived three of the topics to positively affect their work (service provision, partnerships, and work environment) and two remained unchanged (disaster planning and utilization of services). These variances may be a result of varying staff expectations or perceptions of success.

Wellbeing organizations unanimously agreed that partnerships improved capacity but varied on all other issues. The City Mission results showed positive changes across all categories and the Neighbourhood Trust in three (service provision, utilization, and partnerships). Meals on Wheels had the most varied responses with declining utilization and service provision but improved partnerships and work environment. Again, no change was reported in disaster planning for Meals on Wheels and the Neighbourhood Trust. Differences may be attributed to target population trends outside of the organizations control or resource constraints.

Sexual health and wellbeing organization staff both reported variances within their field for perceptions of service provision, utilization, and work environment. There was agreement on

disaster planning for sexual health organizations but not for wellbeing organizations; whereas the opposite was seen for partnerships. When viewed through community based or advocacy driven lenses, there is agreement between community based organizations (the City Mission and the Neighbourhood Trust) on service provision, utilization, and partnerships but not work environment or disaster planning, and there is agreement between advocacy based organizations (Family Planning, the Rodger Wright Centre, and Meals on Wheels) there were no instances of complete agreement except for disaster planning. With limited consistency for field of work or organizational structure staff perceptions likely reflected a combination of organizational culture and resource access variables that differ based on other factors, such as the connectivity, size, and maturity of the organization.

Sexual Health Blood Born Viruses Focus Group Responses

Table 7.2 shows the factors that were deemed important in influencing organizational capacity as expressed by organization representatives in the Sexual Health and Blood Borne Viruses focus group. For the most part, these representatives came from management teams of the partner organizations. All of the sexual health non-profit organizations participating in surveys for this study were also involved in the Sexual Health Blood Born Virus Group; these organizations actually made up the majority of members. The concerns addressed aligned with those in Table 7.1 from organization staff from separate sexual health and community support non-profit organizations. The inclusion of the Sexual Health and Blood Borne Viruses Group data allow for an understanding of how the individual sexual health organizations selected for surveys and focus groups represent the sexual health sector. Further, it allows for additional trend analysis with the community support organizations that participated in focus groups to identify alignment or divergence of organizational processes that may impact service provision or

161

organizational resilience for those seeking comprehensive services. The Sexual Health and Blood Borne Virus Group was convened by the District Health Board as a forum for discussion of policy issues concerning partners non-profit organizations. Because results were anonymously reported, no assessment of the contribution of organization type beyond its field of work was possible.

Table 7.2: Sexual Health Blood Born Viruses Group Focus Group

	Changed service provision	Utilization changed	Partnerships altered capacity	Work environment changed	Made future disaster plans
SHBBV Group	+ , - (55.6%, 44.4%)	- , + (55.6%, 44.4%)	+ (100%)	-, +, NC (33.3% each)	+ , NC (33.3%, 66.6%)

The signs indicate change as follows: (+) positive, increased, or completed; (-) negative, decreased, or removed; and NC no change.

The majority of sexual health organizations experienced decreased utilization of services due to perceived access issues at temporary locations or the city center. Alterations of service to attend to the needs of emergent target populations or increased complexity of care required by traditional target populations, such as family violence or mental health concerns reported in association with sexual health, was also reported by the majority of participants. Similar trends for both changes in service provision and utilization of services appeared in individual sexual health organization focus groups of staff. The need for planned functional redundancy in the health sector and non-profit organizations that serve their expanded target populations or address the increased needs of traditional target populations was evident from the decreased target population capture, increased emergent target population demand, and unanimous perception that partnerships improved comprehensive service delivery in the Sexual Health and Blood Borne Virus Group as well as individual sexual health organization focus group results.

Work environment and future disaster planning changes were fairly static or split across sexual health practitioners. An even spread of responses were received from the Sexual Health

and Blood Borne Virus Group members regarding changes to the work environment. The individual sexual health organizations' staff focus groups also had varied responses, although, 'no change' was not represented in work environment change perceptions. Only three Sexual Health and Blood Borne Virus Group Members reported change to their future disaster plans following the earthquakes. Of those, one, Family Planning, did not see this as a result of the events rather a progression of national directives. The representative of Family Planning in this case contradicted the opinions of staff. The opinions of individual sexual health organization focus groups reported no change, which reflected the overall perception of disaster planning for the Sexual Health and Blood Borne Virus group members despite the dissent within the Family Planning statements. This is aligned with results from the individual sexual health organization focus groups of staff seen in Table 7.1.

Comparative Focus Group Analysis

Variances between the Sexual Health and Blood Borne Virus Group and individual sexual health organization focus groups was attributed to the low number of organizations engaged in focus groups for this study. When compared to the focus group responses for community support organizations: trends in changed service provision, partnerships, and future disaster plans were similar; utilization of services was the opposite with more of an increase in utilization reported by community support staff; and the work environment was seen to be improved by the majority of community support staff instead of being an even mix of improved, no change, and declining as stated by the Sexual Health and Blood Borne Virus Group. Commonalities in changed service provision and the role of partnerships indicated consistent need to alter organizational processes to be resilient and the key role of partnerships in sustaining resilience following the transition from response to recovery regardless of field of work. Similar

experiences with future disaster planning was associated with the prioritization of current service delivery over allocation of local staff resources to long-term planning throughout the non-profit sector. Differences in utilization were attributed to bridge building with emergent target populations, which was more of a feature of community support organizations rather than reliance on partnerships, which was more common amongst sexual health organizations. It should be noted, though, that newly emerging vulnerable groups of youth, migrant workers, and families were recognized as problematic by a majority of the Sexual Health and Blood Borne Virus Group and individual organizations involved in focus groups.

Management Responses to Focus Group Results

Manager responses to staff focus group transcripts seen in Table 7.3 indicated that there was a consensus amongst staff and management regarding the general outreach methods and changes in demands on staff. Managers were likely to know additional detail regarding the correlation of outreach to the organization's mission and long term target population trends. The perspective of management allowed for a broader view than that of the staff members who were involved in service delivery on a daily basis but may not be as aware of organizational shifts from national directives or overall statistics used for reporting purposes.

Table 7.3: Sexual Health and Community Support Non-Profit Managers' Semi-Structured Interview Responses

	Staff Results were Expected	Possible Applications of Results	Follow-up Research Needed
Family Planning	X	X	X
Rodger Wright Centre	X	X	
Neighbourhood Trust	X	X	X
Christchurch City Mission	X		
Meals on Wheels	X		X

X indicates the managers perceived that staff focus groups were associated with organizational values and operations.

Expected Staff Results

As shown in Table 7.3, all the managers from organizations that participated in focus groups expected the results reported by staff regarding the shifts in organizational operations over the transition from response to recovery. Representatives of the City Mission, Family Planning, and the Neighbourhood Trust specifically stated that they expected and agreed with the staff reflections from the years following the earthquakes. The representatives of the Rodger Wright Centre and of Meals on Wheels anticipated the statements made by staff but believed they required additional clarification. Neighbourhoods Trust's and Family Planning's representatives, although they generally agreed with the focus group results, were also interested in clarifying some staff statements. The correlation of response outreach and target population shifts to the organization's mission was supported by management from these four organizations.

Possible Application of Results

Organization managers reported different experiences in terms of organizational application of and reasoning for focus group results. On the one hand, Family Planning's representative noted, "The post-earthquake era coincides with a lot of necessary change for the organization nationally; it has certainly brought disaster planning to the fore, and probably has enhanced collaborative ventures." On the other hand, in reviewing the responses of staff at the Rodger Wright Centre, their representative noticed,

> "It draws attention to the fact that we did not have a response programme in place
> and still haven't and we should look at this sooner rather than later. I think we
> could have brought in a counselor to be here for our staff and clients during the
> early stages of the aftermath but I am also aware that during this time all services
> were stretched and it was hard to locate people for quite some time."

Although both of these organizations were nationally connected, the alignment of structural change benefitted Family Planning by disseminating resources in a parallel manner to earthquake

demands. The Rodger Wright Centre's response and recovery management appeared to be more reactive and potentially delayed due to staff strain. Consequently, the applications of staff reported results varied and as shown in Table 7.3, results were only thought to have future applications by three of the five organization managers.

The applicability of focus group results reflected the sense amongst management of the Rodger Wright Centre that emergency operations should be captured from local staff in formal emergency management plans. This sentiment was mutual at the Neighbourhood Trust, which engaged in resource sharing through the cluster convened by the Ministry of Development. The capacity of agency connections to bolster organizational capacity was found to be an application of the results by Family Planning's representative, whose organization already had national emergency management guidance but leveraged local partnerships for policy advocacy and client referrals following the earthquakes. For management at the City Mission and Meals on Wheels, however, it was perceived that findings from staff results had already been addressed through reporting practices both internally and to funders, by adherence to existing or formation of new emergency plans, and through continuation of agency relationships. Only one of the organizations that participated in focus groups, the City Mission, received additional staff, and that was not from earthquake specific funding leveraged from a government source.

Staff management, was consequently, more of a reflection of organizational culture than resource sharing. Counseling resources were publically available and many organizations reported in individual organization surveys that flexible leave was imperative to staff retention. Despite the strain reported by staff of the Rodger Wright Centre, the management representative emphasized that even without additional support, "It draws attention to the dedication of our team of workers and how quick they were to respond in any way they could to help our clients

through a very difficult time." Meals on Wheels' representative and the City Mission's staff focus group also reflected that staff were eager to return to work both to maintain consistency in their routine and to serve their target population. The importance for clear communication of wellbeing protocols for staff and outreach procedures was, therefore, even more critical to maintain services and organizational capacity. As many of the managers were not surprised by staff responses, the overall consistency and dissemination of messaging amongst non-profit management and staff was high over the course of response and recovery.

Follow-Up Research Needed

Also shown in Table 7.3, the representative of Neighbourhood Trust and two other mangers called for additional research to identify temporal trends in organizational management as recovery continued, "It is a point in time for Christchurch at this stage of the recovery process and it will be interesting to see how long it takes to turn the trend with some of these issues." This was a sentiment of continuous change was also evident in the concerns of managers from Family Planning and Meals on Wheels who reported that target populations perceived to be declining by staff were returning to pre-earthquake numbers or were associated with national trends rather than a direct result of the earthquakes. The absence of two organizations from the list prioritizing future research again reflects differing organizational objectives, demands, and resources based on interpretations of the staff focus group reflections at those organizations.

Cross Category Organizational Cultures of Communication

Managers illuminated the time bound nature of focus group results as a part of the long-term recovery process. The consensus amongst management that staff results were expected indicated strong internal organizational communication, which was also presented by staff in accounts of empowerment to adapt outreach and working conditions. Variation in the perception

that focus groups had applications for organizational improvement highlight the differences in resources available to different non-profit types. Those that leveraged agency connections at the managerial level were more likely to see a progression of ongoing commitments whereas those with strained local staff resources identified gaps in organizational resilience from staff comments. Regardless of the reactions of managers to focus group results, they showed that organizational strength in outreach to target populations and partnership building were critical to successful operations but had to be balanced as response turned to recovery.

Comparison of collective results from the sexual health sector were more varied than the comparison of the sexual health agency connection to community support organizations. This alignment of organizational cultures suggests that sexual health commitments may be addressed in a variety of ways depending on available resources, but commitment to delivery of care hinges of strong internal communication of priorities regardless of field of work.

Through functional redundancy, the utilization of partnerships, sexual health commitments were achieved in spite of demographic shifts. Although staff agreement on the role of partnerships was only consistent for community support organizations the variance amongst sexual health organizations resulted from staff time commitments, not the absence of partnerships. Disagreement on working conditions and the need to update disaster plans also originated in staff time management. Further, the perceptions of increased service provision and utilization of services reflected different staff expectation management strategies, when the full reasoning for shifts in target population were derived from management. Staff from individual and combined focus group analyses found resilience to be contingent upon factors beyond the non-profit type including: prioritization of outreach, partnerships, and planning based on resources.

Chapter 8: Results - Demographic Change Analysis

Note to the Reader

Portions of this chapter have been previously published in *Third Sector Review*, 2015,

21(2), 7-29 and have been reprinted with permission from Taylor and Francis.

Visualizing Non-Profit Reports of Shifting Vulnerability

GIS was used to create vulnerability indexes for area units within Christchurch City

District. Data and larger scale context for vulnerability shifts in Christchurch between 2006 and

2013 census. Trends of increased vulnerability reported by non-profit organizations in surveys

and focus groups were used to weight Cutter's (2006) vulnerability factors. The most common

vulnerability concerns of all fields of work undertaken by non-profit participants expressed

during surveys and staff focus groups were rents and social assistance, which were reported by

seventeen organizations as contributors to increased complexity of cases. The non-profit

representative to CERA captured the frustration felt by the non-profit community in relation to

compounded low income housing needs,

> "Housing was not being addressed outside of insurance. CERA was more
> concerned with NGO [non-profits] accommodation. NGOs had to produce data to
> get housing issues heard. A wellbeing survey [generated by CERA and the City
> Council] followed including a Maori survey. Now the District Health Board is
> looking at housing."

These vulnerabilities increased target populations, and, therefore, utilization of services amongst

youth, families, migrants, and the elderly. The number of organizations reporting each

vulnerability factor of increased concern were shown in Figure 8.1.

Ethnicity was identified by ten organizations as a compounding factor of marginalization,

as well as the isolation of the elderly and changes to schooling for children, which were

mentioned by four and three community support organizations respectively. Domestic violence reports were more common at six organizations. Reports were typically attributed to gender differences in coping with stress. Three sexual health or community support organizations had lobbied for altered access to the city center for livelihood opportunities and social safety concerns of their target population as result of these compounded vulnerabilities.
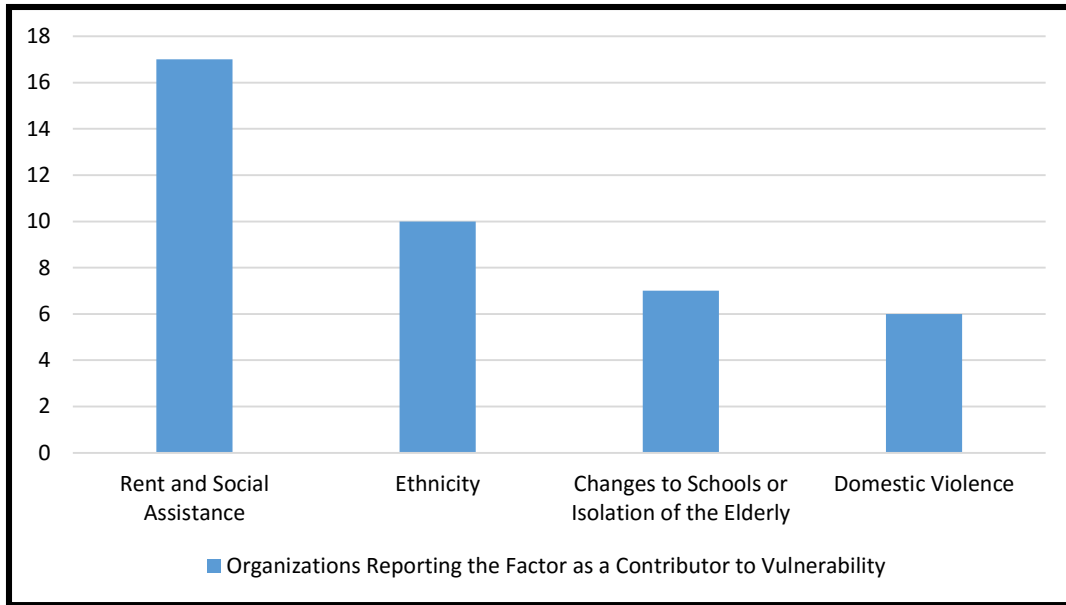
Figure 8.1: Incidence of Vulnerability Contributors Reported by Non-Profit Organizations

Ethnicity, age, and gender were consequently treated as underlying unsafe conditions for vulnerable populations. This supported the findings of Hutton et al. (2015b) that income based vulnerability factors increased risk. Income based factors included: ethnicity, age, and gender. However, these factors were not attributed directly to the earthquakes by the non-profit organizations and are thus dealt with as income based factors for the remaining analysis. Many non-profit organizations addressed these income based factors as a part of their traditional advocacy and outreach, making them aware of compounding factors that were more related to the earthquakes.

A weighted formula based on the survey and focus group responses was proposed for Cutter's (2006) vulnerability metrics. Earthquake related vulnerability factors identified by non-profit organizations were prescribed two points. Underlying vulnerability factors identified by Hutton et al. (2015b) by income were given one and a half points. Other factors from Cutter's (2006) vulnerability metrics, found to be relevant to the New Zealand context, were weighted one point. Only factors with comparable census indicators were used for analysis. When more than one factor could represent a metric both were used and each weighted half of the weight. The formula including non-profit input is as follows:

Increased Vulnerability = socio-economic status + (gender*1.5) + (age*1.5) + (ethnicity*1.5) + employment loss + (renters*2) + (birthplace*0.5+ occupation*0.5) + (family type*0.5 + # children*0.5) + education + population + (social dependence*2)

If the population associated with a vulnerability factor increased from 2006 to 2013 a score between one and two was put into the formula depending on the weight of the variable; if the population remained the same or declined for a vulnerability factor, the factor received a score of zero. The maximum score was 14.5.

The geographic scale of analysis was set based on availability of data. Area units were used for detailed analysis using GIS. National, district, and ward level trends were also explored to provide context. These geographic scale comparisons offer the opportunity to more closely analyze age, ethnicity, and family dynamics that influenced the collective factor represented in the vulnerability index. This also assisted in delineating where national trends diverged from Christchurch and possible earthquake specific vulnerabilities. Vulnerability and the contribution of non-profit input to identifying vulnerability were discussed in relation to each area's proximity to the CBD because that is where the majority of non-profit services were located, with the exception of Lyttelton Harbor, which had its own local non-profits in the port.

Areas were affected by non-profit identified, income based, generic, or a combination of vulnerability factors. The potential score in this additional level of analysis was two: generic factors received a zero score; those with at least one income or non-profit identified factor received a score of one; units with at least one factor increase from both non-profit and income identified vulnerability received a three.

Weighted Trends from the 2006 to 2013 Census

Figure 8.2 showed vulnerability changes from 2006 to 2013 for each factor at the ward, district, and national levels. The 2013 Census data indicated that social assistance increased in 57 percent of wards, ethnic groups in 43 percent, and dependent ages decreased in all wards. Median rents in Christchurch since 2006 rose 38.9 percent, and the percentage of people renting rose by 8.63. Similarly the percentage of those receiving social assistance increased 1.74 percent. Dependent age groups (those 19 and under and 65 plus), women, and ethnic groups, however, decreased (-0.69 percent, -0.81 percent, and -1.40 percent respectively) in the Christchurch City District. These trends were marginally higher than national trends: 0.04 percent lower median rent, 2.25 percent higher numbers of renters, 5.55 percent lower social assistance, 0.26 percent lower dependent population loss, 0.67 percent lower female population, and 0.21 percent higher ethnic population loss. Nevertheless, trends reported by non-profit organizations may reflect more localized patterns, and increased vulnerability at the local level probably correlates with earthquake impacts.
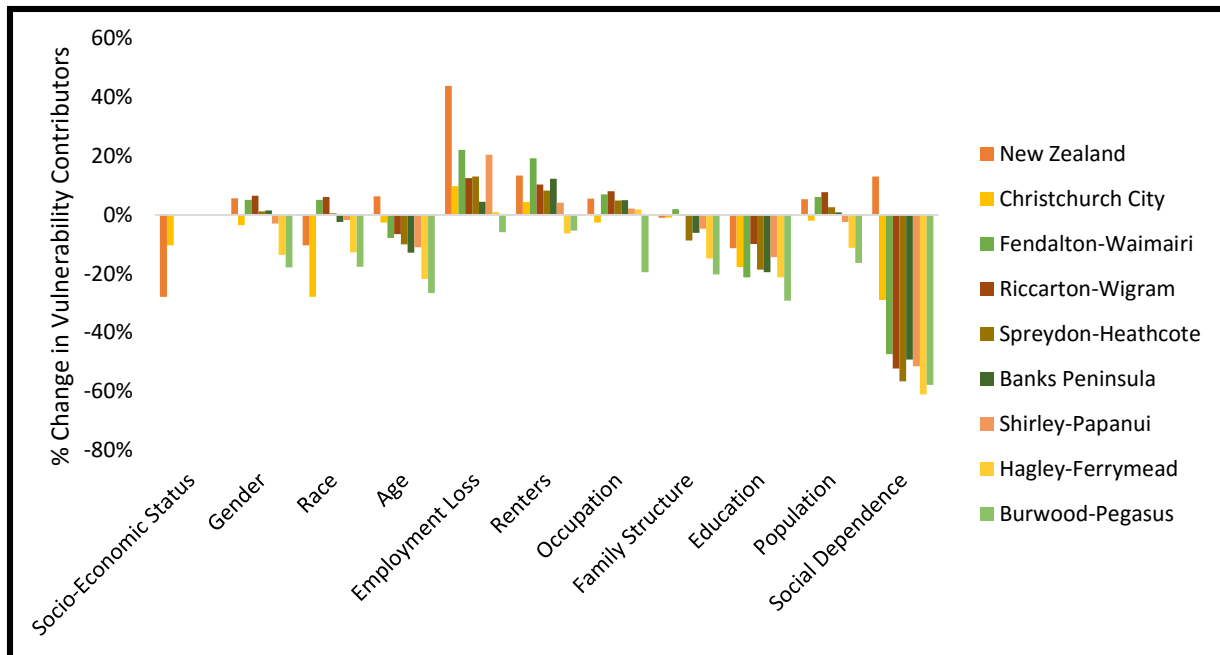
Figure 8.2: 2006 to 2013 Vulnerability Change - New Zealand, Christchurch City District, and Wards

Since some non-profit organizations were specifically concerned with age related issues, further analysis of shifts in these age groups follows: Ages 65 plus increased nationally, in Christchurch City District, and in seven of the eight wards. However, ages 19 and under declined or remained the same in all wards, Christchurch City District and New Zealand. Figure 8.3 shows these opposing trends in dependent age groups of the elderly versus the children and youth. The combination of these age groups for the age factor in the vulnerability model may have skewed results more to the absence of this vulnerability factor due to the widespread decline in young people compared to the somewhat mixed change to elderly populations.
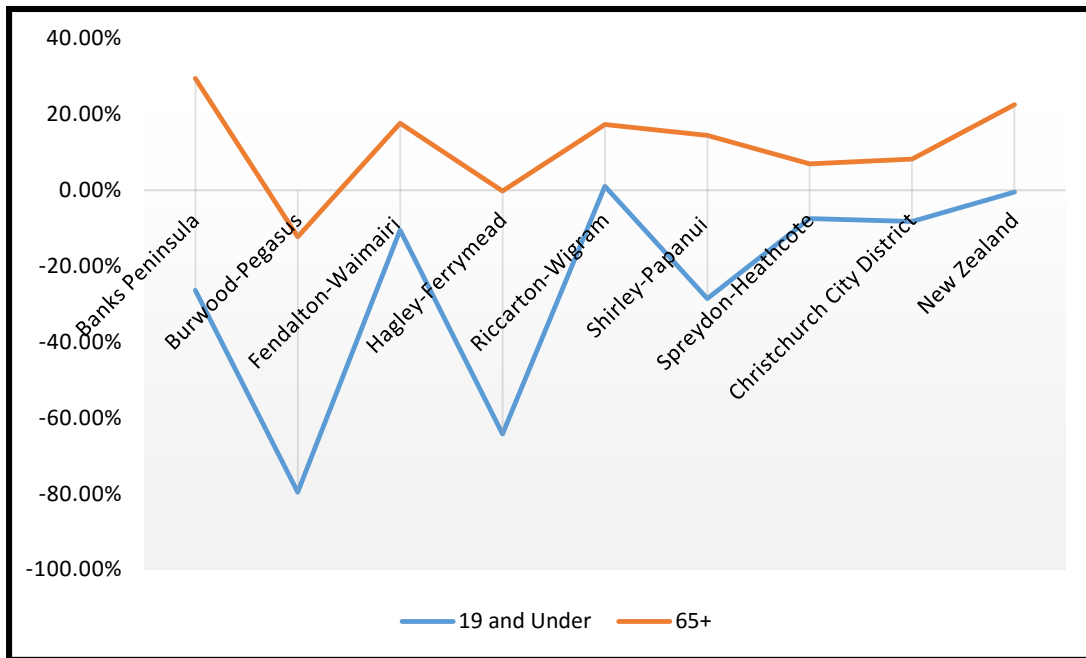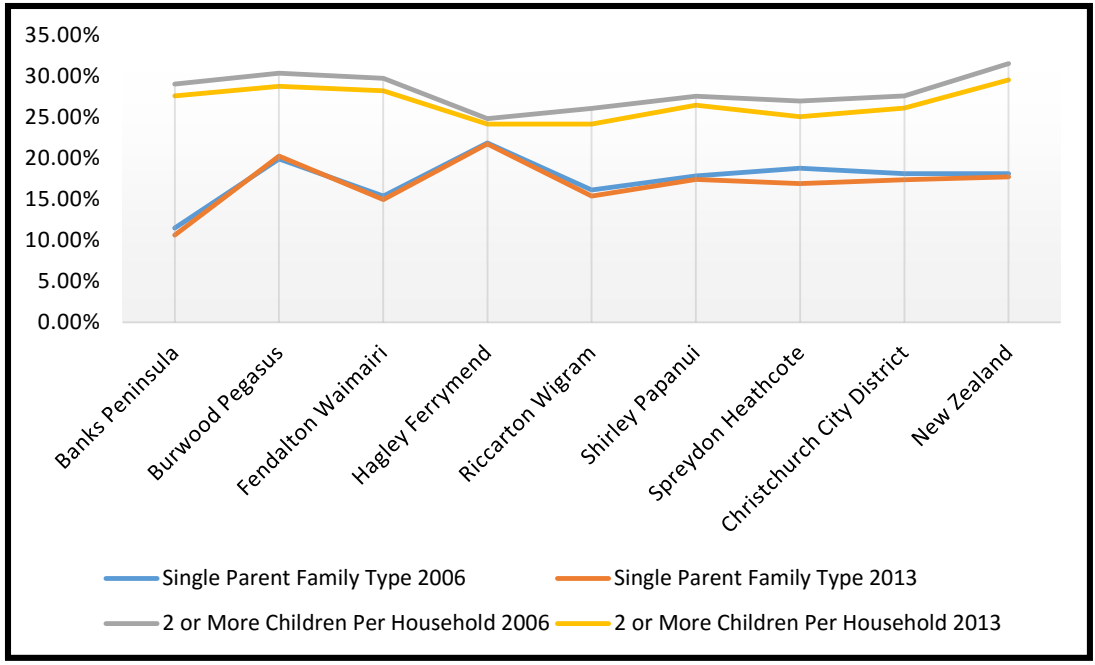
Figure 8.3: 2006 to 2013 Vulnerability Change - New Zealand, Christchurch City District, and Wards: Age Detail

In Christchurch City District non-European ethnicities have decreased from 108,465 in 2006, 33.13 percent of the population, to 78,246 in 2013, 22.91 percent of the population (Christchurch City Council 2006; --- 2013). As depicted in Figure 8.4 all ethnicities increased in New Zealand, Christchurch City District, and half of the wards with the exception of the other category which declined in all large units measured. Of the ethnicities that declined, Maori and European populations declined in two wards and pacific peoples in one ward. This reduction in ethnicities is contrary to the increase in overall population for Christchurch reflecting amplified ramifications of the earthquakes on culturally diverse groups.
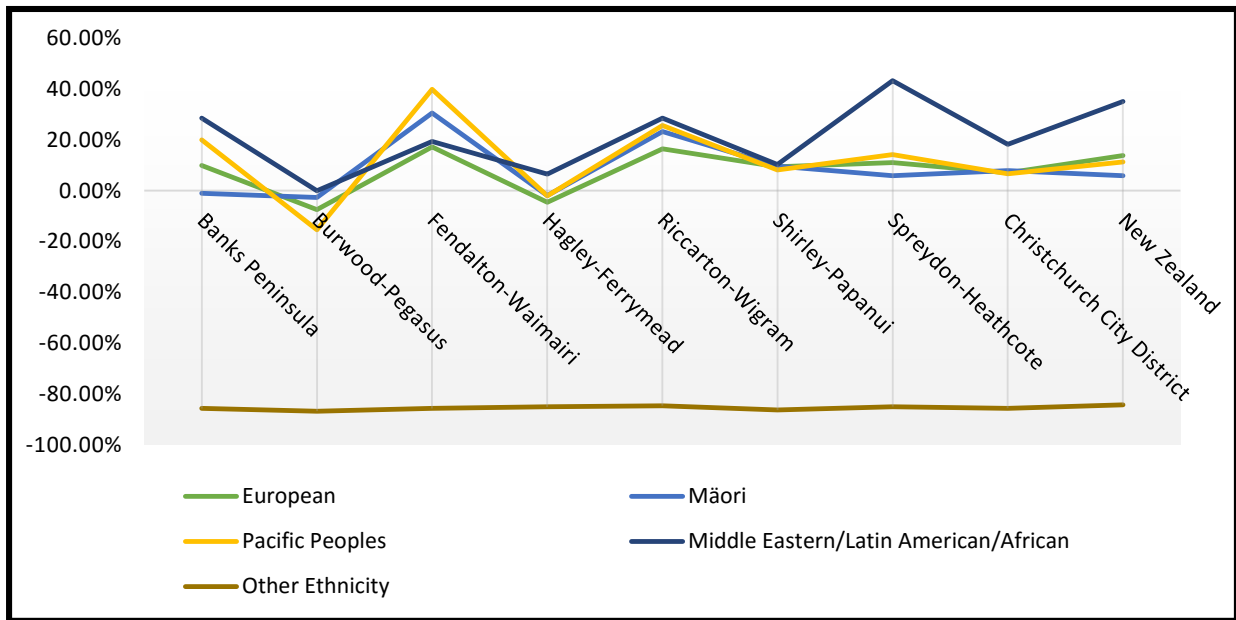
Figure 8.4: 2006 to 2013 Vulnerability Change - New Zealand, Christchurch City District, and Wards: Ethnicity Detail

In addressing sexual health and the wellbeing activities associated with reduced risk-taking behavior for emergent target populations of youth, migrants, and families through culturally and age sensitive outreach, collective action on the part of non-profit organizations promoted national priorities for health care and delivery. As seen in Figure 8.5 National, Christchurch City District and six of seven wards decreased in reporting of single parent family structure. National, Christchurch City District and all wards showed decreases in households with two of more children from 2006 to 2013. These demographic trends reflected adherence to national sexual health priorities and maintenance of access to associated social services.

Figure 8.5: 2006 to 2013 Vulnerability Change - New Zealand, Christchurch City District, and Wards: Family Type Detail

Vulnerability Change Index 2006 to 2013

For area units, 82 percent of area units increased in ethnic populations, 37.6 percent in female population, and 41.6 percent in dependent age groups (Figure 8.6). In addition, 64.8 percent of area units showed an increase in renters, 53.6 percent in those receiving social assistance, both factors identified as compounding vulnerability by non-profit organizations seen in Figure 8.1.
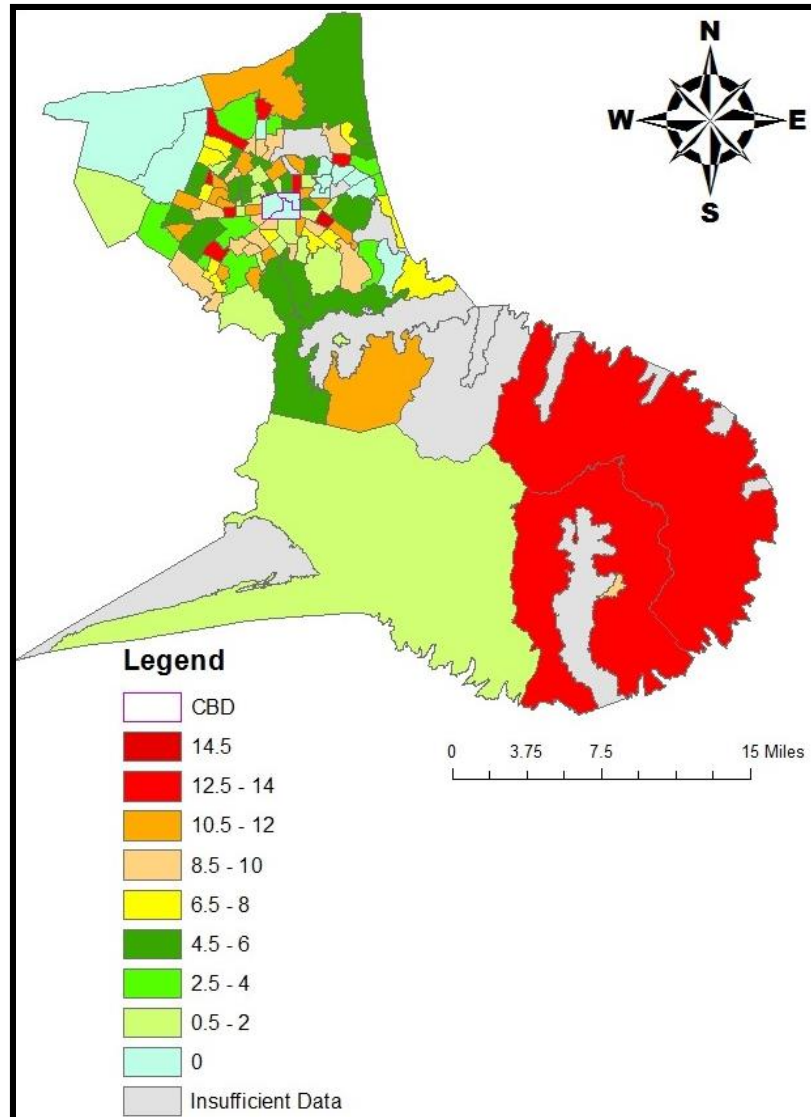
Figure 8.6: Weighted Vulnerability Change Index 2006 to 2013 Census – Area Units within the Christchurch City District (Reprinted from Hutton et al. 2015 c)

The index ranges from high vulnerability, indicated in red on the graph, to no vulnerability, indicated in blue.

Figure 8.6 depicts the distribution of weighted area unit vulnerability change across the Christchurch City District. Areas to the north east of the CBD showed no or low increases in vulnerability between 2006 and 2013 in part due to the red zone. Area units in the north-west and west of the CBD increased most in vulnerability score between 2006 and 2013 as well as those on the Banks Peninsula and Akaroa Harbor. To the south of the CBD area units reflected mid to

177

upper range vulnerability as well. Areas on the west border of the district had relatively low vulnerability increase scores. Coastal areas north of Banks Peninsula showed mid-range increased vulnerability scores including areas on the north coast of Lyttelton Harbor. Twelve area units had no vulnerability change increases and only one area unit had the highest score with no area units of the second highest score indicating discrepancy in concentration of vulnerability increases. Further, there was a patch of mid-range vulnerability increase above Lyttelton Harbor. Vulnerability increases to the north and west of the CBD were more of a mosaic. The most northern and southern area units in the district though exhibited area units with high vulnerability right next to those with low vulnerability increase scores.

Indicator Weighting Analysis – National, District, and Ward

Non-profit organizations addressed factors contributing to marginalization prior to the earthquakes but newly marginalized groups emerged due to the earthquakes. Areas impacted by non-profit organization identified factors may have indicated earthquake related emergence of marginality. Areas with both income and non-profit organization related factors impacting their vulnerability indicated compounded pre-existing vulnerability.

Changes in vulnerability levels from pre to post disaster, broken down by non-profit weighted, income weighted, and un-weighted metrics, for national, Christchurch City District, and Christchurch ward units are shown in Figure 8.7. No wards were affected by both vulnerability indicators identified by non-profit organizations (rent and social dependence) or all three indicators weighted for income based purposes (gender, age, and ethnicity) indicating that vulnerability indicators were most evident on a small scale. Five out of seven wards Fendelton-Waimairi, Riccarton-Wigram, Spreydon-Heathcote, Banks Peninsula, and Shirley-Papanui were affected by non-profit based weighting of one factor, whereas, four, Fendelton-Waimairi,

178

Riccarton-Wigram, Spreydon-Heathcote, and Banks Peninsula were impacted by income based weighting to some extent. Christchurch City District was impacted by one non-profit based vulnerability component and New Zealand by both.

No wards were affected by both vulnerability indicators identified by non-profit organizations (rent and social dependence) or all three indicators weighted for income based purposes (gender, age, and ethnicity) indicating that vulnerability was factor specific on a local scale rather than a regional phenomenon (Figure 8.7). Five out of seven wards Fendelton-Waimairi, Riccarton-Wigram, Spreydon-Heathcote, Banks Peninsula, and Shirley-Papanui were affected by non-profit based weighting of one factor, whereas, four, Fendelton-Waimairi, Riccarton-Wigram, Spreydon-Heathcote, and Banks Peninsula were impacted by income based weighting to some extent. Christchurch City District was impacted by one non-profit based vulnerability component and New Zealand by both. Christchurch City District was impacted by one non-profit based vulnerability component and New Zealand by both. Non-profit perception based additional weighting of rents and social dependence affected ninety-one out of the total 125 area units.
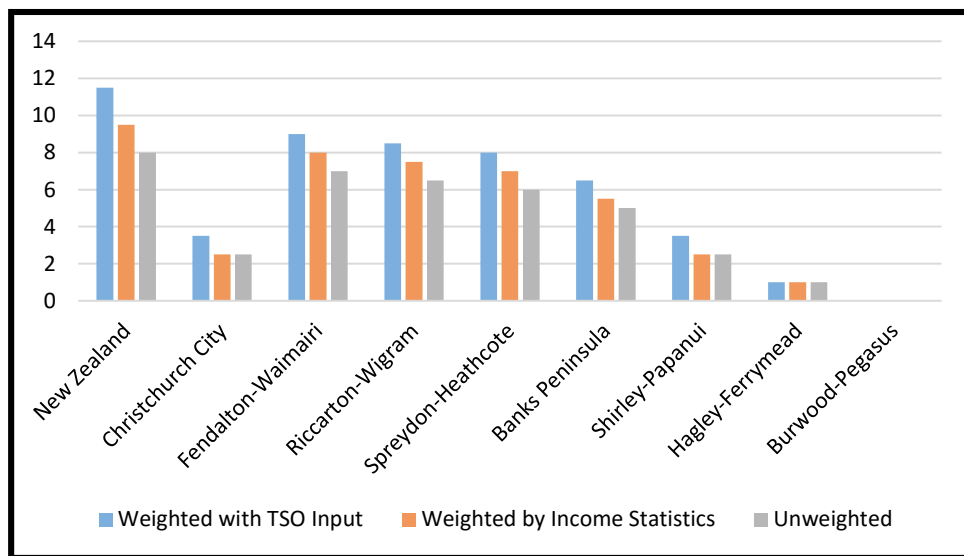
Figure 8.7: Variation in Types of Weighting: New Zealand, Christchurch District, and Wards

179

Indicator Weighting Analysis – Area Unit

Non-profit based additional weighting of rents and social dependence affected ninety-one out of one hundred twenty-five area units. Both non-profit weighted factors were evident in fifty-four area units. Income based weighting change was identified in sixty-two area units. Both income and non-profit factors affected sixty area units.

In Figure 8.8 area units were differentiated by type of weighting, if any, which influenced the vulnerability score. This comparison indicates which areas experienced marginalization that was evident based on the difference in their income, the advocacy priorities of non-profit organizations, both, or neither. Non-profit organizations addressed factors contributing to marginalization prior to the earthquakes but newly marginalized groups emerged due to the earthquakes. Areas impacted by non-profit identified factors may have indicated earthquake related emergence of marginality. Areas with both income and non-profit related factors impacting their vulnerability indicated compounded vulnerability.

Areas on the outskirts of the CBD to the south west, south east, and west, where businesses and residential demands were directed due to damages in the CBD and the surrounding suburbs to the north east, increased in vulnerability as defined by non-profit organizations and income identified factors (Figure 8.8). Areas in the east and north also showed increased vulnerability based on change in vulnerable populations indicated by non-profit organizations and income based weighting due to their proximity to the red zone. Further, Lyttelton Harbor and the Port Hills to the south east of the city were impacted by both types of vulnerability identifiers. The east, a traditional area of poverty (Conradson 2008) had some areas with only non-profit organization identified and others with both types of vulnerability contributors evident. Whereas income alone only affected areas to the south farther from the

CBD; no weighting factors impacted the most outlying area units on the south-west and north-west corners of the map perhaps due to the more rural nature of these outskirts.
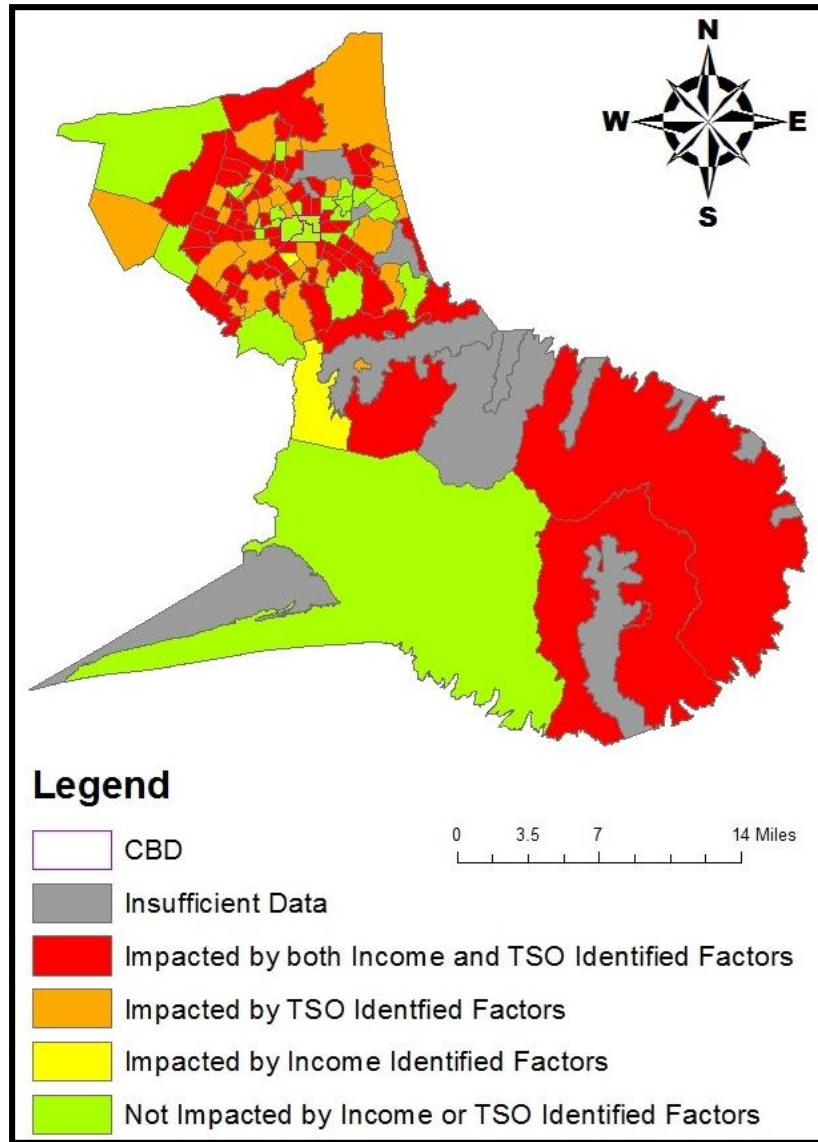

Figure 8.8: Variation in Types of Weighting: Area Units within the Christchurch City District (Reprinted from Hutton et al. 2015 c)

Areas with only generic vulnerability factors appeared in green, those with income based factors in yellow, those with non-profit identified factors in orange and those with a combination of income and non-profit identified factors in red.

181

Summary

Changes in the demographics of marginalized populations and livelihood expenses showed minimal difference on larger spatial scales in terms of numbers, comparable to national trends. These findings expanded on Hutton et al. (2015b) by testing non-profit identified vulnerability factor weighting in the context of Wisner et al.'s (2003) unsafe conditions. Income based weighting was determined to be an underlying vulnerability contributor for many areas affected by earthquake related vulnerability. Vulnerabilities from both types of weighting were addressed by non-profit organizations committed to public health and social service provision as part of the holistic care paradigm. Non-profit organizations were attuned to the compounded needs of their communities' and must continue to champion underlying factors of marginalization, such as access to family, age, and culturally appropriate health services, as part of and beyond earthquake recovery. In addition to income based vulnerability, the factors which many non-profits addressed as part of their mission, non-profit organizations surveyed suggested that additional weight should be given to other unsafe conditions, rent and social assistance. Through quantitative communication of shifting realities of their target populations and amplified collaboration with government providers, non-profits can build community capacity before upcoming disasters and contribute to a more resilient Christchurch.

Chapter 9: Results – Non-Profit Sector Roles in Risk Reduction

Note to the Reader

Portions of this chapter have been previously published in *Papers in Applied Geography*, 2015a, 1(4), 365-372 and have been reprinted with permission from Taylor and Francis.

Non-Profit Sector Resiliency

The work of Brown et al. (2014) suggested that field of work or industry was the most relevant predictor of an organization's resilience or vulnerability for post-disaster Christchurch. To apply their findings to the non-profit sector, survey responses related to longevity, funding, and collective action commitments were graphed based on the perceptions of managers regarding how these factors impacted their work post-disaster. From these, an assessment of vulnerability for the non-profit sector was derived because these organizations all shared commitments to public health and social service provision. Finally, traditional risk assessment models were modified to reflect the strengths and weaknesses of the non-profit sector.

The resilience of non-profit organizations, civil society partners, and inter-agency connections grouped by field of work was assessed based on maturity or age of the organization, type of funding or support, and shifts in target population following the earthquake. Then data were graphed based on maturity of the organization and inter-agency connections. Maturity was represented on the y-axis from zero to one with one being the oldest and zero the youngest. Organizations were evaluated based on the date of their opening or latest publically available merger information. Type of funding appeared on the x-axis, which indicates a variety of funding sources from completely voluntary to state funded with a value from zero to one respectively.

The size of the symbol on the chart depicted reports of change in target population from survey data. Three sizes were utilized to represent target population fluctuation: the smallest symbol indicated a decrease, the middle size was used when population remained static, and the largest size showed an increase.

Existing risk models were then modified based on the vulnerabilities of the collective findings for non-profit organizations engaged in social service and health care delivery. Three models were modified to incorporate non-profit specific risk experiences. Risk factors acted upon by non-profit organization or contributing to the vulnerability of the sector were identified through adaptation of the *PAR Model* (Wisner et al. 2003). The means through which the non-profit sector addressed vulnerabilities before and after the earthquakes was then imposed on the *Access Model* (Wisner et al. 2003). This provided additional detail for the *PAR Model* as to how risk translated to disaster. Finally, partnerships with government were assessed for their contribution to risk reduction, since these were seen to improve the resilience of organizations throughout the sector in functional redundancy charts (Patterson et al. 2010).

Sexual Health Non-Profit Organizations

Support systems were defined for each organization as follows: Sexual Health and Blood Borne Viruses Group was convened by pre-existing organizations with a self-funding mandate; the Youth and Cultural Development Trust was supported by local funders; 298 Youth and the Rodger Wright Centre were funded by the Ministry of Health; New Zealand Aids Foundation was funded by the Ministry of Health and provides on-site testing itself; the Prostitutes Collective was funded by the Ministry of Health and utilizes on site District Health Board testing; the Public Health and Sexual Health Centre branches of the District Health Board were

184

government organizations; Family Planning was internationally affiliated but had Ministry of Health funding as well.

Maturity was defined for each organization as follows: 298 Youth was defunded before the disaster but received a contract renewal shortly after; the Aids Foundation, the Prostitutes Collective, and the Rodger Wright Centre were created due to government concern with transmission rates in order from oldest to newest; both sections of the District Health Board were created as an expansion of the Ministry of Health in 2008; Family Planning and the Youth Cultural Development Trust were pre-existing in advance of the disaster; Sexual Health and Blood Borne Viruses Group was convened prior to the disaster by the District Health Board for its contractors.

As can be seen in Figure 9.1 the Sexual Health and Blood Borne Viruses Group ranked low on support, primarily because it is voluntary organization, although, it included some government agency support. However, Sexual Health and Blood Borne Viruses Group had a higher level of maturity and will likely be sustained into long-term recovery, despite a temporary reduction in meetings during the early recovery stage so that participants could focus on immediate needs rather than long-term policy advocacy. Family Planning was by far the most supported and mature non-profit in sexual health of those examined due to its international affiliates but was seeing decreased utilization of services due to its central downtown location. The Youth and Cultural Development Trust and 298 Youth had varied support from local and national government funders making some components of their support more vulnerable due to having aligned themselves with different priorities for each funder. Further, these three non-profits were experiencing increased demand for services from emergent groups that inevitably strain their organizational capacity.

185

The missions of New Zealand Aids Foundation, New Zealand Prostitutes Collective, the Rodger Wright Centre, and the District Health Board branches were guided by recent policy commitments that expand on longer standing commitments to more traditional sexual health services but saw variable experiences with emergent populations: the Aids Foundation lost target populations due to anonymity concerns in temporary locations; the Sexual Health Centre added emergent populations because it is easily accessible in location to migrant construction workers; the Rodger Wright Centre experienced increased demand for referrals to recovery aids; and the Prostitutes Collective remained the same.
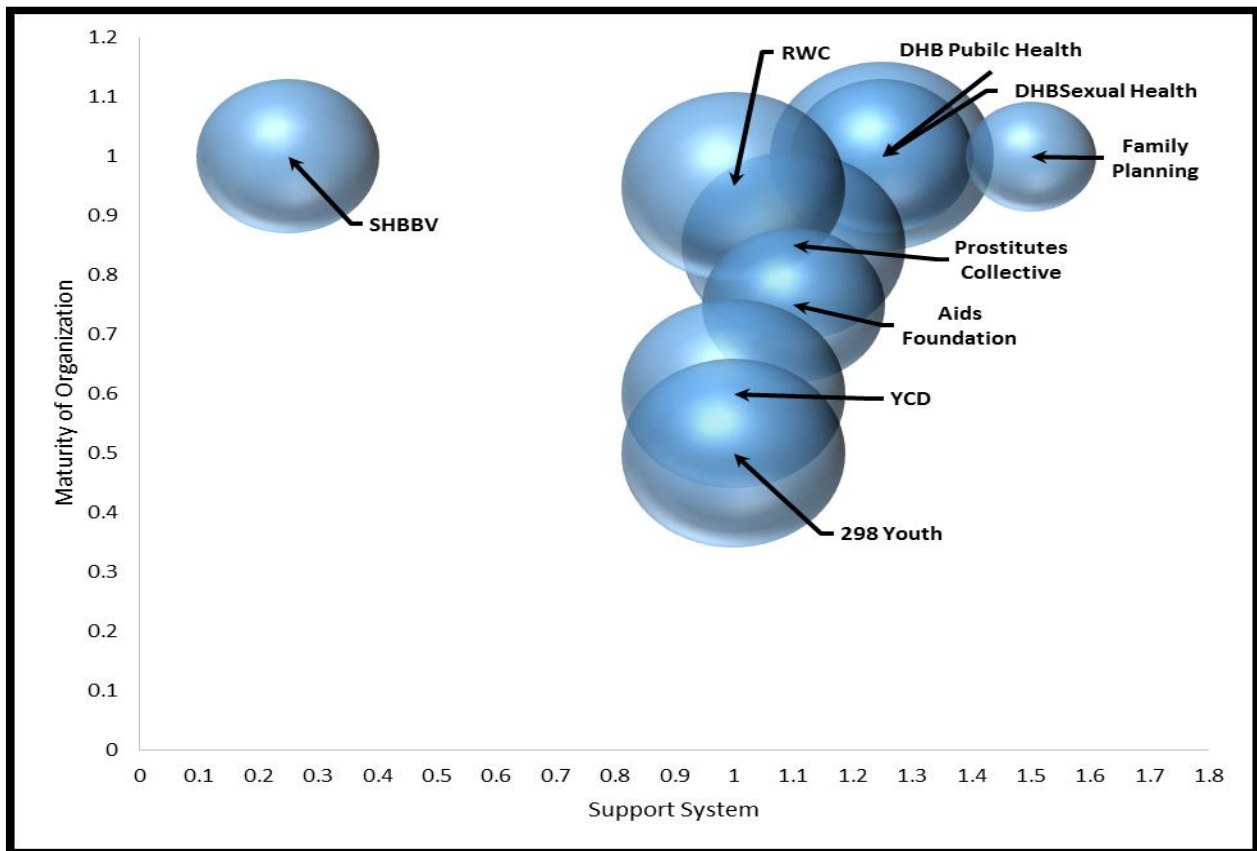
Figure 9.1: Sexual Health Non-Profits Functional Redundancy
Arrows go to the center of the organization point.

There were similarities between sexual health non-profits and civil society partners in that none were emergent. The maturity and strong support systems within the health sector of

individual organizations caused a cluster on the graph that represents functional redundancy of resilient non-profits based on their partnerships, funding streams, and longevity operating in their communities. The health related groups in this study gained from functional redundancy that allowed them to maintain service access following the earthquakes even with less than ideal facilities (Oleske 2001). Mature organizations with national funding were the most common and resilient sexual health providers and were able to overcome relocation and messaging concerns into the mid-term recovery phase. Shifts in target population size resulting from the earthquake or local population trends were accounted for in reporting so that resources are appropriately available for Ministry of Health funded organizations. One sexual health group associated with youth was less mature than others despite government funding due to a lapse occurring just before the earthquakes indicating perhaps that youth issues were less secure in terms of sustained national support. The transition to long-term recovery will benefit from partnerships formed during and strengthened by the earthquake aftermath that capitalize on the functional redundancy of sexual health organizations operating the Christchurch.

Migrant Support Non-Profit Organizations

Migrant support related non-profit organizations and their associated agency connections appear in Figure 9.2. Going into mid-term recovery the Community Language Information Network Group and the Inter-agency Migrant Health Group (not included in this analysis) were formed as voluntary agency connection groups from the original Migrant Inter-Agency Group. The Migrant Inter-agency Group was established by Settling In, an organization associated with the Ministry of Social Development Department for Child and Family Services. The initial group was supported by the Migrants Centre and advised by a Maori leader and the Refugee Council. Service provision peaked from February to May 2011 with six migrant groups involved at the

time (Thornley et al. 2013). No participants mentioned Inter-agency Migrant Health Group in the interviews, so the longevity or perceived separation of that agency connection from Community Language Information Network Group is uncertain. The latter agency connections, Community Language Information Network Group and Inter-agency Migrant Health Group, had similar origins and structures. However, Inter-agency Migrant Health Group was not mentioned by any migrant support organizations in surveys. Agency connections were all characterized by low maturity, since they emerged after the earthquakes. Although Migrant Interagency group was government supported as it was formed by a semi-public organization to work more closely with locally funded non-profits on response efforts, Community Language Information Network Group was voluntarily convened by non-profits and self-funded. However, it did collaborate with Pegasus Health, which was supported by national agencies. The migrant support sector as a whole appeared to have a comprehensive support system that allowed for flexible, robust partnerships to meet the changing needs of the target population and sustain advocacy during periods of reduced public awareness.

Regarding individual non-profit organizations seen in Figure 9.2, Pegasus Health had the most stable support structure with funding from the Ministry of Health and other government agencies for migrant health services. The Refugee Council and Migrant Centre were still on the high end of the support axis as they had a combination of City Council, local philanthropy, Ministry of Social Development and other government funding and partnerships. The union was centered because it was membership based with strong ties to political campaigns, and Interpreting Canterbury was on the lower end because it was self-funded with only limited government funding received from third parties for migrant use.
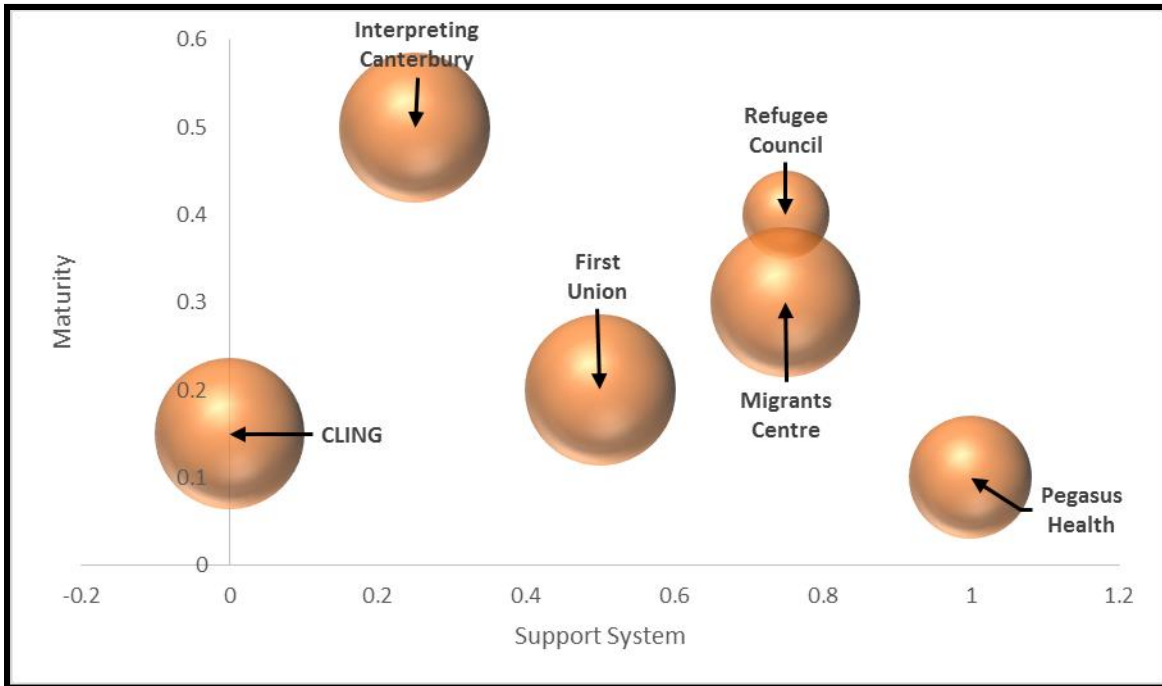
Figure 9.2: Migrant Service Non-Profits Functional Redundancy (Adapted from Hutton et al. 2015a)

Arrows go to the center of the organization point.

Most migrant support organizations were established or merged fairly recently. The Refugee Council was formed in 2005 and Migrant Centre in 2010. Pegasus Health and First Union, which involves a Union Network of Migrants to combat labor exploitation and specifically a Philippines Collective that was critical to migrant construction worker advocacy as the majority were Filipino, merged with other organizations around the time of the earthquake. For analysis purposes mergers were seen to reduce the maturity of the organization because strategies had to be revised and could not be assessed for contribution to organizational resilience because that depended on the nature of the merger (Comfort et al. 2010).

Target populations for Interpreting Canterbury, First Union, Migrant Centre, and Community Language Information Network Group increased during the recovery phase indicating increased demands on operational capacity that may strain partnership building and advocacy potential. The target population of Pegasus Health remained the same, thereby

189

allowing it to strategize for recovery specific advocacy without increased demands on staff. Only the target population for the Refugee Council decreased. The Refugee Council, therefore, continues to provide public value added for a temporarily stagnant target population to prepare for relocation targets to return that will Christchurch as recovery progresses.

Resilience amongst migrant support services in the non-profit sector was a reflection of the varied support structures that allowed issues to be addressed through multiple funding streams. Through functional redundancy, services were maintained for migrants despite fluctuations in government or social interests. Secure funding for social entrepreneurship was critical not only to the non-profit and civil society groups serving migrants but to individuals and families in the migrant communities as well. The maturity of the organization in this case was not as important as its connectivity to appropriate governing agencies. Collaborative potential within the non-profit sector bolstered advocacy priorities, in light of continuing and emergent vulnerabilities, due to the range of approaches to service provision present amongst migrant support organizations.

Community Support Non-Profit Organizations

The community support non-profit organizations showed the emergence of a variety of community engagement non-profits in the aftermath of the earthquakes (Figure 9.3). These were primarily funded by temporary grants including local government, earthquake relief funds, or by philanthropists and benefitted from the increased media attention in Christchurch as their initial programs were implemented. The support for these ventures frequently featured volunteerism to carry out projects and move the mission of the organization forward.

These emergent group traits contrasted with those of some of the oldest public service organizations in New Zealand, the Public Service Association and the City Mission, which had

190

roots in the early 1900s, and by the Red Cross. These organizations acted on a local level to carry out operations with the support of religious affiliations, in accordance with supra-national ties, and as lobbyists, depicting a range of support structures for early social services in Christchurch. Nationally directed outreach to farmers and those in need of food assistance through membership organizations and the national health system emerged in the mid-1900s.
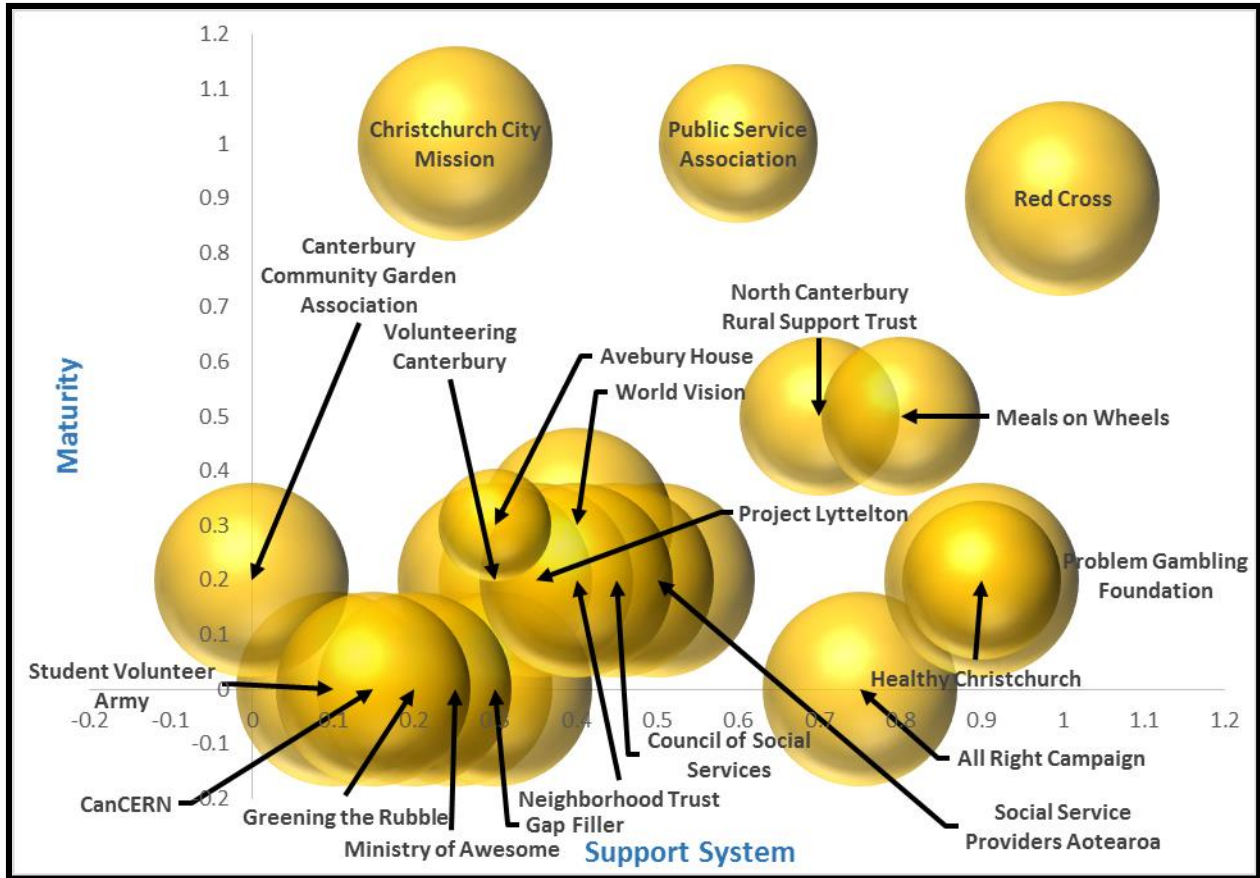

Figure 9.3: Community Support Non-Profits Functional Redundancy
Arrows go to the center of the organization point.

The remaining non-profit organizations were founded in the late 1900s and early 2000s with support structures either from national health system initiatives or local volunteer and membership-based initiatives. The distribution of these non-profits showed that, although, local volunteer organizations may be the quickest way to address social service gaps, long-term commitments to service evolved from a variety of support systems. Additionally, the cluster of

191

local volunteer based organizations in the lower left portion of the graph may need to diversify their support systems for continuation past long-term recovery from the Canterbury earthquakes.

The organizational structures of emergent organizations varied. The Student Volunteer Army was a university club that developed a relationship with Civil Defense to provide immediate relief for city residents, whereas Greening the Rubble and Gap Filler organized with the support of other non-profits initially and began providing temporary installations of architecture and gardens throughout the city in the absence of strict permitting requirements. Ministry of Awesome grew out of local energy for local programs to attract people back to the central city. These four organizations are volunteer reliant and were solidifying their core functions for extensions or shifts of funding beyond the earthquake recovery phase at the time of this research. CanCERN had a different support system because it represented communities in the red zone. As memories of the earthquake receded, however, community and media interest diminished and the gains made with the emergency authority and funders had to take a different route to continue operating. Other emergent organizations associated with the national health system experienced similar funding terms but could consolidate their work back into their originating foundations as need declined.

The two supra-national organizations on this figure also had differing support structures and histories in New Zealand which altered their effectiveness in the response and recovery. The Red Cross benefitted from ties to Civil Defense whereas World Vision had to rely on Christian Social Services partners to find entry into disaster relief operations. Although these are both well-established international disaster assistance organizations, the perception of their capacity to address disaster situations in New Zealand differed greatly. World Vision, in particular, was not

initially a desired actor in emergency management because its work was associated with relief for developing countries.

The City Mission also benefitted from affiliation with faith based organizations through an initial influx of funding and greater awareness of its services amongst members of marginalized communities and local authorities. These connections proved critical in maintaining and adapting services and advocacy efforts to the post-disaster city.

Support from unions as national advocates reflected the needs of Christchurch as a part of the whole of their membership unless there were synergies with other campaigns specific to the earthquakes. The Public Service Association lobbied for the training of Canterbury residents to participate in the rebuild and the rights of immigrant construction workers but did not see significant progress for years due to the political climate. The Rural Support Trust on the other hand, saw significant gains in awareness of farmers' mental health concerns after the earthquakes because of the parallel efforts of the All Right Campaign, an emergent branch of the Mental Health Foundation that enjoyed the Ministry of Health, emergency authority, and local government support. Further, the Rural Support Trust's affiliation with the Federate Farmers maintains its readiness to serve its target population in times of personal or natural crisis. The national health affiliation for Meals on Wheels contributed to both its ability to respond to the earthquakes through organizational resources and strong partnerships with the Red Cross, as well as its continued decline in target population. Media attention contributed to the success of unions through its coverage of the arrival of migrant workers and rising mental health concerns in Christchurch.

Pre-existing organizations with other types of membership bases included the Council of Social Services, Social Service Providers Aotearoa, and Healthy Christchurch. The Council of

Social Services, a membership organization, leveraged its connections to share information and resources throughout the non-profit sector in Christchurch, whereas Healthy Christchurch, a signatory group associated with the District Health Board, addressed well-being concerns of Christchurch-based non-profit staff. Both services though were beneficial in re-establishing the non-profit sector after the earthquakes.

The Neighbourhood Trust, the Problem Gambling Foundation, and Avebury House also pre-dated the earthquake and carried out various community capacity building activities. The Neighbourhood Trust was a one-stop shop for holistic community and individual care in a specific suburb with programs focusing on neo-natal, elder care, pre-school support, social assistance application assistance, referrals for counseling support, and a collective entrepreneurs' market. Problem Gambling Foundation offered expert counseling for individuals and families affected by gambling addictions and advocated for safe spaces. Avebury House offered socialization opportunities to the elderly in a specific neighborhood, as well as space rental for non-profit and private uses. In this regard, the Neighbourhood Trust received ministry and local funding; Avebury House operated on primarily local philanthropy sources; and Problem Gambling Foundation received funding from gambling taxes and the Ministry of Health as applicable. The Neighbourhood Trust also depended on volunteers but reported a decrease in volunteers following the earthquakes due to the scale of the community it served.

Volunteer organizations that pre-dated the earthquakes however relied on community cohesion and continuous flow of volunteers to continue operation. Volunteering Canterbury benefitted from its relationship with City Council, which funneled interested volunteers to it throughout the response and recovery process. Like the Student Volunteer Army, Volunteering Canterbury received an allowance from Civil Defense to work in the city after the earthquakes

despite the cordon. This connection with local government sustained its volunteer numbers as the recovery progressed. Project Lyttelton, which operates outside of the Christchurch city center, found that as the composition of their volunteers shifted so did the outreach and engagement opportunities. Canterbury Community Gardens Association has members throughout the Canterbury region and is a hybrid of a membership organization because all the members are voluntarily a part of the association and rely on volunteers to run their gardening operations. The volunteer base was not perceived to be very stable among these groups but the benefits to the community were evident and in the process of being promoted for additional funding at the local government level as the study was being conducted. Although it seemed to be a struggle for these gardens to maintain their funding, the cohesion of their communities supported their long-term use.

Collective Resilience

The complementary roles of non-profits in Christchurch regardless of field of work built capacity for marginalized groups in advance of the earthquakes and rose to address emergent target populations in the aftermath through collective action. The concentration of voluntary emergent non-profits reflects commitment to provide comprehensive social support services to marginalized groups and connectivity to target populations but must diversify of organizations are to continue to have long-term impacts on the wellbeing of the area.

Adaptation of Existing Risk Models for the Non-Profit Sector

The New Zealand government has taken a progressive stance on sexual and mental health issues, as well as, welfare allowing for significant functional redundancy to facilitate a range of public health and social services to a variety of target populations (Gauld 2012; Clay and Bovier 2012). Also, the health system currently benefits from the "one health system" mindset

established in the 2008 national priorities (Gauld 2012). Consequently, non-profit organizations traditionally addressed many of the unsafe conditions identified by Wisner et al. (2003) through co-production of health care and social service provision (Crisp et al. 2000). Reported impacts of these national commitments facilitated by non-profit partnerships were shown in Figure 9.4.

The unsafe conditions in Christchurch included limited funding for non-profits, and unpreparedness for an earthquake directly impacting the city center. Although most livelihoods within the city were not vulnerable due to earthquake impacts, many jobs were relocated, which strained economic opportunities for some households. The influence of non-profits on unsafe conditions occurred at the institutional level, wherein these organizations offered a more palatable alternative to direct government service (Patterson et al. 2010). Non-profit organizations addressed unsafe conditions affecting households and increased household resources before the disaster occurred by building social capital and through partnerships. Diversity of organizations and agency connections facilitated resilience of the public health and social support services in the post-disaster setting. Unfortunately for pre-existing non-profits, the trigger event, i.e. the earthquake, altered their capacity to achieve their mission due to building and staff concerns. Further, as responders arrived, the ability of the affected area to cope and adapt was altered because some non-profits were sidelined.
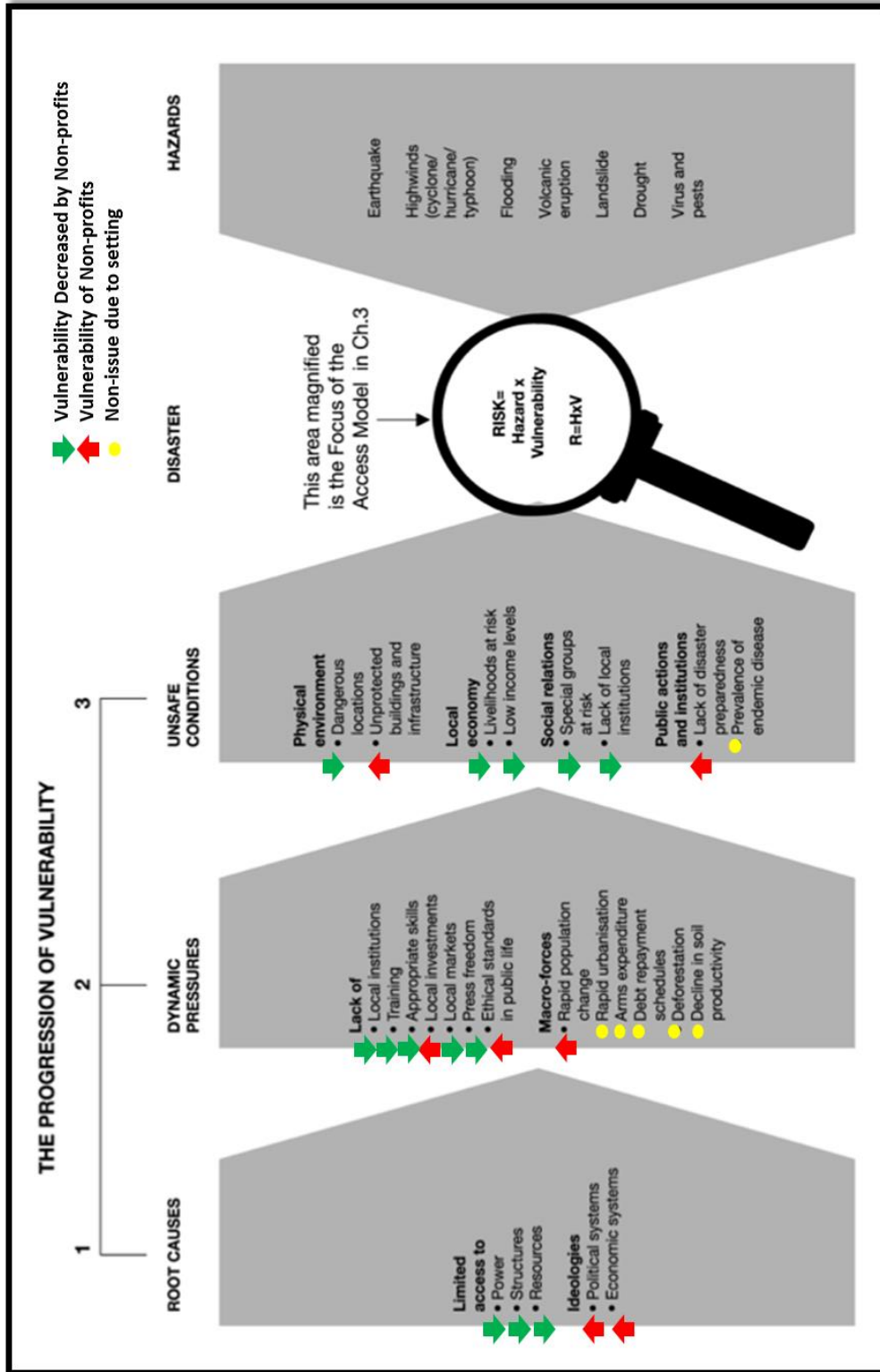
Figure 9.4: Pressure and Release Model (Adapted from Wisner et al. 51)

Red arrows indicate a risk to non-profit sector organizations. Green arrows indicate a risk addressed by the non-profit sector for their target populations. Yellow dots indicate a factor that is not operating in the high-income urban context.

Non-profit social programs also ameliorated some dynamic pressures for target marginalized groups, including: culturally and linguistically appropriate communications, accessible care facilities, and advocacy initiatives to build awareness (Thornley et al. 2013). Many of the macro-forces identified in the *Pressure and Release Model* were only marginally applicable to Christchurch before the earthquakes due to its state of development and long-term standing as an urban center (Wisner et al. 2003). These circumstances were worsened only after the initial earthquakes due to overcrowding (Chang-Richards et al. 2012; Giovinazzi et al. 2012).

With the increasing complexity of cases caused by declining conditions in the aftermath of the earthquakes, flexible funding structures were required to catch up to the adjustments already made by non-profit organizations to maintain access and assist target populations. This was attributed to root causes of political and economic ideologies that made non-profit organizations vulnerable to shifting funding and integration priorities (Wisner et al. 2003). This became problematic because of shifting in power structures under the emergency management authority. For example, following the earthquakes, budgets had to be modified to pay for the temporary office space and increased costs of permanent building rentals. Through endurance and connections both pre-existing and emergent non-profit organizations, however, contributed to equitable recovery and preparedness through collective advocacy for community capacity building of the non-profit sector vulnerable populations.

The impacts of root causes of risk on non-profit organizations is better illuminated by the *Access Model* as modified in Figure 9.5 (Wisner et al. 2003). Compounded vulnerabilities voiced to the recovery authority and local government were widely perceived by non-profit management and staff to be overlooked in the favor of commercial business interests. This was a result of poor integration of the non-profit sector into initial emergency management structures. Such concerns

198

were mentioned by twelve of the organizations from across all fields of work. The non-profit sector still sought to rectify unsafe conditions by capitalizing on social cohesion as a part of emergency response (Wisner et al. 2003).
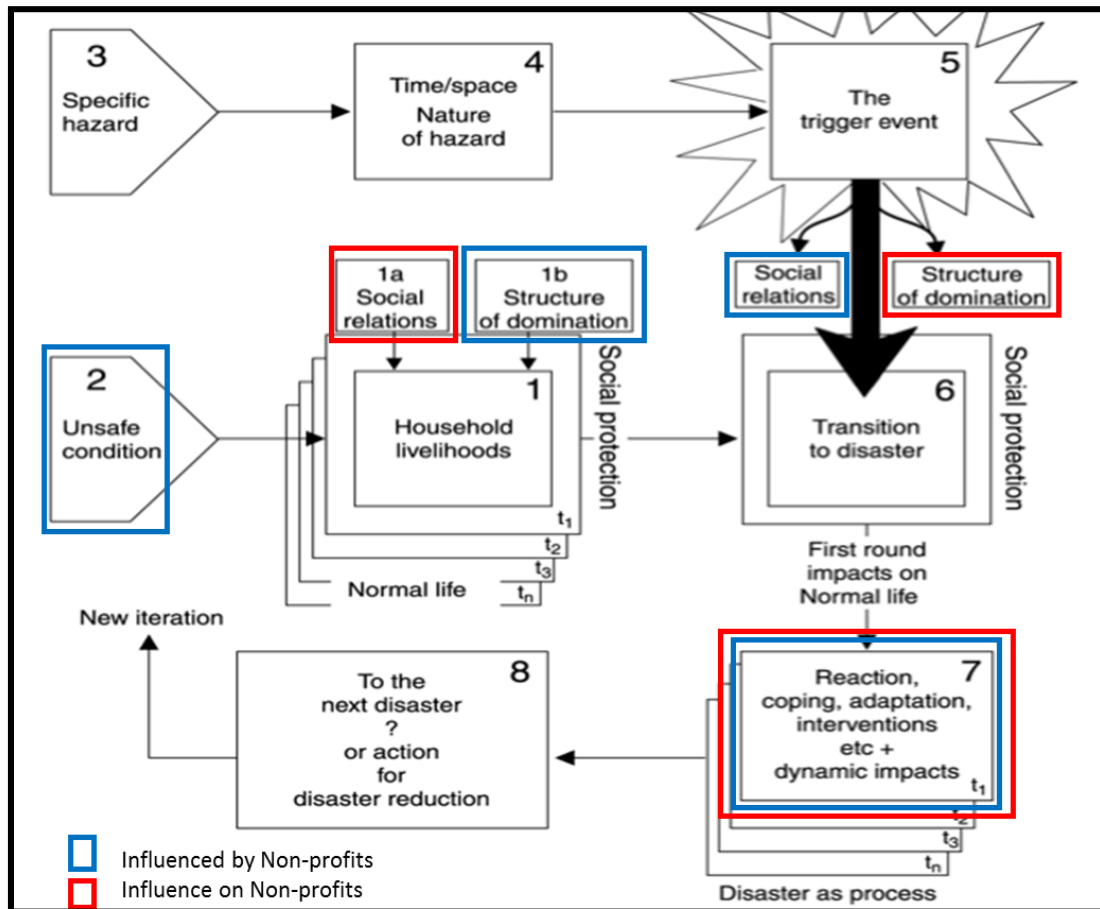
Figure 9.5: Access Model (Adapted from Wisner et al. 2003 89)

Blue boxes are risk factors improved by non-profit organizations. Red boxes are access risk factors that limit non-profit organizations. These influences shift after a disaster occurs.

Non-profit organizations also served as local representation for groups marginalized by unsafe conditions before the earthquakes (Wisner et al. 2003). However, their capacity to effect change was limited by their fit into social systems (Britt et al. 2012).Consequently, pre-existing sexual health and associated social service non-profit organizations capitalized upon the interchanging components of strategic organizational management through co-production,

wherein non-profits provide legitimacy to government decisions and governments facilitate the advocacy goals of non-profits by opening avenues of communication and continuing contracts. Figure 9.6 identifies that co-production allowed government and non-profit practitioners to provide additional social protections under a united front that bolstered what interventions of either sector could achieve alone in terms of reducing risk (Patterson et al. 2010). In Christchurch, non-profit organizations engaged in public health service delivery were able to maintain their identity as community advocates to policy makers while engaging in co-production due to the 'one health system' mentality. The way national programs incorporated non-profit organizations in co-production, with the interest of providing legitimacy amongst marginalized groups, facilitated the maintenance of organizational identity and public value.
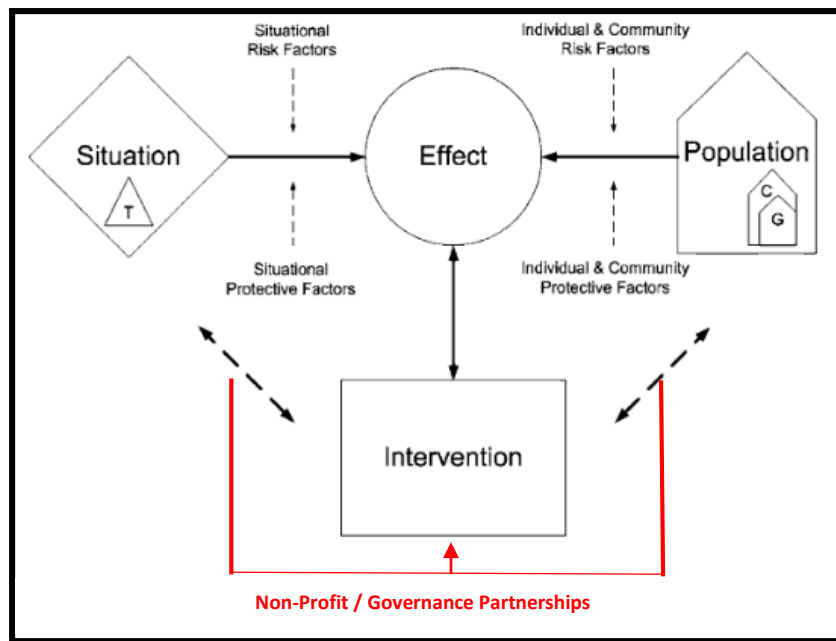
Figure 9.6: Psychosocial Risk Assessment and Management Framework (Adapted from Patterson et al. 2010 135 © Springer Science+Business Media B.V. 2009 With Permission of Springer)

Red connections are additional means of influencing risk management through coproduction. These compliment the original roles of government in providing situational intervention and non-profits in strengthening community protections.

Although non-profits in Christchurch typically had low staff numbers (five and above constitutes a large non-profit) government funding did cover staff time as long as the work was a priority and the contract was renewed. This allowed for adaptation of outreach to some extent for many advocacy organizations. For organizations with community foci operating outside government contracts, philanthropic and local government funding covered operational costs, as well as, program expenses but often carried limited terms making the support system of these organizations vulnerable in long-term recovery.

Summary

Maturity and support systems were varied across the sexual health, migrant support, and community support fields of work within the non-profit sector. The emergence of organizations to support new target populations following the earthquakes allowed for services to be appropriate for demand during the response phase; however, it was perceived by management that continuation into long-term recovery was more likely for organizations with support systems associated with the government and consequently for pre-existing organizations. Because the field of work was not found to be the most prominent factor in resilience for non-profit organizations, alterations to existing hazards models could be made to existing hazards models to indicate the role of non-profit organizations in reducing risk through commitments to public health and social service provision. Findings, however, must be qualified because some were a result of the way non-profit organizations are integrated into public service provision in the welfare state, such as the absence of some dynamic pressures in the *PAR Model* (Wisner et al. 2003), the contributions to risk reduction prior to disasters in the *Access Model* (Wisner et al. 2003), and compounded interventions attributed to co-production in Patterson et al.'s (2010) *Psychological Risk Assessment and Management Framework*.

Chapter 10: Results - Modeling Resilience of Non-Profit Types

Note to the Reader

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Non-Profit Contributions to Risk Reduction

Although it is possible to assess the contributions of the non-profit organizations to risk reduction as a sector (Chapter 9), it is also useful to determine which types of organizations were most successful in navigating emergency management structures and their overall resilience for each phase of recovery. The data obtained from the surveys and focus groups were analyzed by non-profit type using the ISDR Framework (Birkmann et al. 2013). Through this figure, routes for building non-profit relationships with donors and authorities for advocacy and internal adaptability were determined. From this a model for non-profit resilience in high-income nations', urban post-disaster settings was presented to identify components of success in response and recovery.

Although various types of non-profit organizations engage in disaster risk reduction, as seen in the *ISDR Framework* adaptation, strong communication of mission and external partnerships provided entry points into response and recovery activities. Two categories were pertinent to the resilience model proposed by this study, means and emphases. The means were based on changes to the work environment, including staffing resources, service delivery, and partnerships as reported in manager interviews and staff focus groups. The emphases categories were developed from population shifts and flexibility of contract reporting requirements of

partners and funders for non-profits. Success within the model for each non-profit type was determined by partnerships and engagement with target audiences depending on which phase of emergency management was assessed. Additional detail was then provided for each field of work to highlight synergies in service delivery.

Adaptation of Existing Risk Models by Non-Profit Type

Setting non-profit interactions into the *ISDR Framework* (Birkmann et al. 2013) showed integration points and pathways used by different types of organizations in the non-profit sector (Figure 10.1). The *ISDR Framework* identified parts of the response and recovery process where each non-profit type studied here adapted to maintain and expand services for at-risk populations and integrate themselves into dialogues with partners (Birkmann et al. 2013). Interview and focus group responses regarding service provision changes and shifting target populations guided by a disaster plan or influenced by staff resources informed the path derived for the various non-profit types in the *ISDR Framework*. This framework shows the importance of continuing identification of at-risk communities and assessment of programs that may be overlooking the most marginalized members of society before the disaster, during recovery, and as preparations are made for future hazards, as marginalization shifts. Categories of non-profit assessed here include: emergent, pre-existing, national advocacy, and international relief. Community based non-profit organizations are not specifically delineated as national advocacy and international relief organizations have been removed from the pre-existing and emergent categories making those categories primarily community based because national advocates and international relief organizations were dominantly pre-existing.
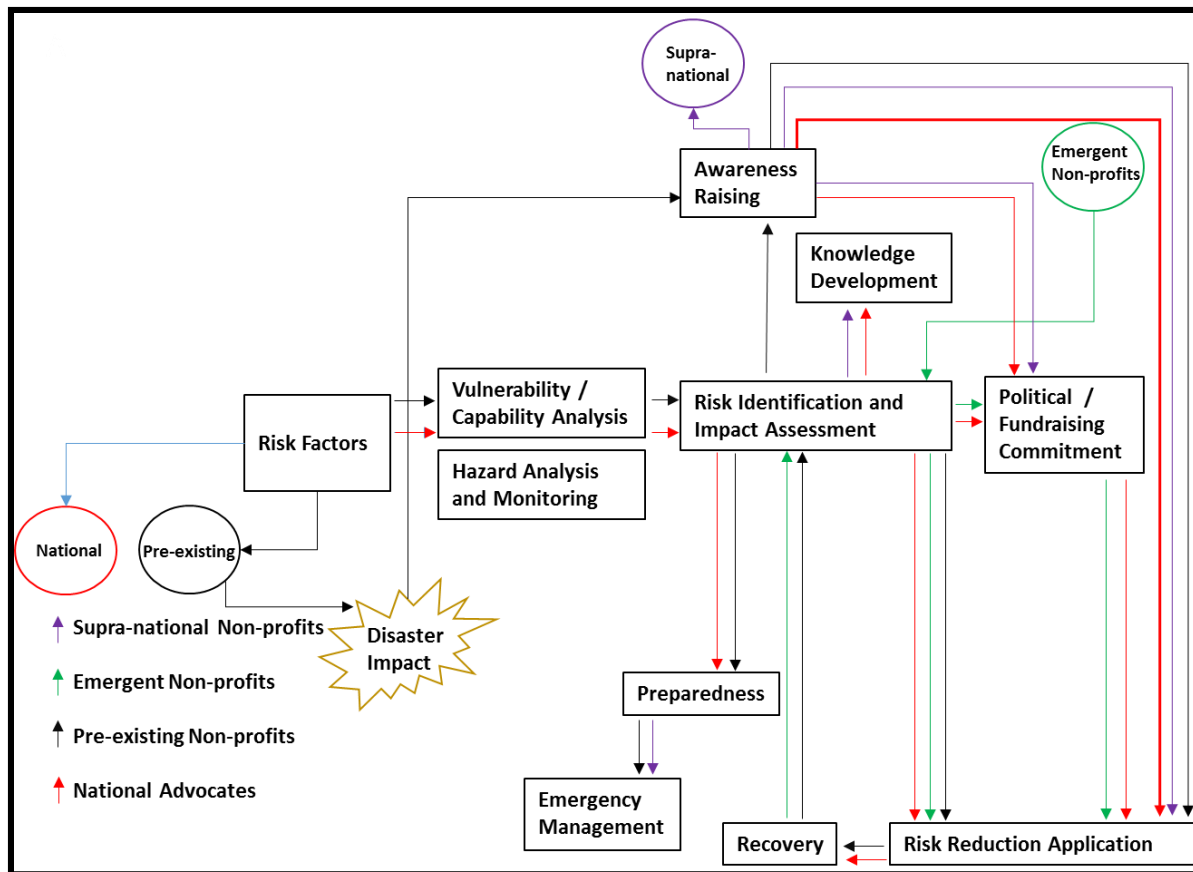
Figure 10.1: Non-Profit Integration into Disaster Risk Reduction (Adapted from Hutton et al. In Press a)

The point of formation for organizations is identified by circles bearing the organization type. Their influence upon a portion of the risk reduction process is indicated by an arrow terminating at that point.

A number of non-profit organizations formed after the disaster due to heightened risk awareness. These emergent organization pathways to integration appear in green in Figure 10.1. From their origin, these emergent non-profits identified risks of and impacts on the communities they represented. After solidifying their initial mission, they pursued political commitments to temporarily secure their organizations and then engaged in risk reduction activities for their target populations. Often commitments were leveraged due to the attention brought to these organizations by media coverage of the crowds of volunteers participating in initial community

outreach events. Emergent non-profits did not always persist into recovery phase due to the targeted nature of their missions; for some their mission was accomplished.

The integration pathways for pre-existing non-profit organizations, are shown in black in Figure 10.1. These organizations engaged in vulnerability assessment before a disaster by the nature of their work with marginalized groups. Further, pre-existing non-profits raised awareness of risks for their target populations immediately following the hazard events. Political commitments typically already existed for pre-existing non-profits to sustain themselves, and they often responded to the disaster and began risk reduction activities for their target populations before emergency management authorities were established because of their established local connections. Also, as the awareness of the role played by pre-existing non-profits broadened following the disaster, many temporarily expanded their targeted populations to nearby or similarly marginalized groups. These organizations typically continued operations into the recovery phase, and the majority were poised to inform target populations if there was a culturally or linguistically inaccessible warning in the aftermath of the disasters. Actions in response, recovery, and preparation for future disasters were facilitated by standing relationships with local government, advocacy for integration into emergency management forums as a sector, and network building undertaken by management on behalf of individual organizations. Neither emergent nor pre-existing non-profits were likely to engage in knowledge raising due to limited staff resources unless it was their direct mission.

National advocates followed the red pathways to integration, as shown in Figure 10.1. National advocacy non-profits organized by traditional government partners identified vulnerabilities before the disaster occurred, they accessed their political connections and strengthened networks following the earthquakes to reduce risk and increase resources for their

target populations. Such networks were well received by non-profits during recovery and organized shared resources amongst similar non-profits that would otherwise have lacked the staff resources to pursue organizational effectiveness reforms. Engagement for most government organized networks terminated with preparedness as the networks were not likely to expand to emergency management authorities. Participating non-profit organizations engaged with emergency managers on an individual or sector basis.

Some locally operating international disaster relief non-profit organizations (pathways shown in purple in Figure 10.1) had to raise awareness among authorities and partner non-profits to gain entry into emergency response in Christchurch due to the perception that their work was only applicable in developing countries. Then they received political commitment allowing them to build knowledge amongst local authorities and participate in emergency management. Others were invited to emergency management forums based on pre-existing relationships with government entities noting their contribution to preparedness if operationalized. Regardless of point of entry, these organizations had clear plans in place to transition their typical activities to response and recovery. Not all international disaster relief non-profit organizations continued with Christchurch specific services into the recovery phase based on their expertise and international commitments.

Collective action was one of the most effective means of political action for non-profits in Christchurch. As international and national interest waned, advocacy and community action opportunities also changed. This was especially evident in the application of non-profit action in the *ISDR Framework*. Analysis of staff focus groups indicated limited time for best practice collection, which as staff leave can mean that valuable information is lost, increasing the utility of the *ISDR Framework* for temporal modeling of integration.

Energies of pre-existing groups were more focused on risk reduction during response and early recovery leaving little staff time for collection of earthquake specific quantitative metrics to leverage increased attention from emergency managers for vulnerabilities compounded by the earthquakes, such as housing. Alternatively, non-profits with national connections were able to continue to participate in policy discussions through national offices or networks organized by traditional government partners but ran the risk of violating policies to expand services. Finally, emergent non-profits, which would not have been working to improve vulnerabilities before the earthquakes, could integrate into emergency management at a later stage as awareness increased about resulting marginalization and leverage new avenues for action, although, much of these efforts were temporary.

Resilience Model for Non-Profits by Types

Although various types of non-profits may engage with disaster risk reduction, strong communication of mission to expanded target populations and external partnerships carried non-profits through the turbulent transition from response to recovery. A model for success in response and recovery environments is posed for the non-profit sector depending on the traditional resilience contributors, maturity and support system of the organization (Figure 10.2). The theoretical underpinning for this model came from Simo and Bies's (2007) *An Expanded Framework for Understanding Cross Sector Collaboration during Extreme Events.* This framework was interpreted based on survey, focus group, and semi-structured interview data from this study. This expands on the work of Vallance (2011) which also suggests that building relationships with emergent vulnerable populations and finding appropriate connections to emergency management are imperative to achieve organizational resilience in the post-disaster Christchurch setting.
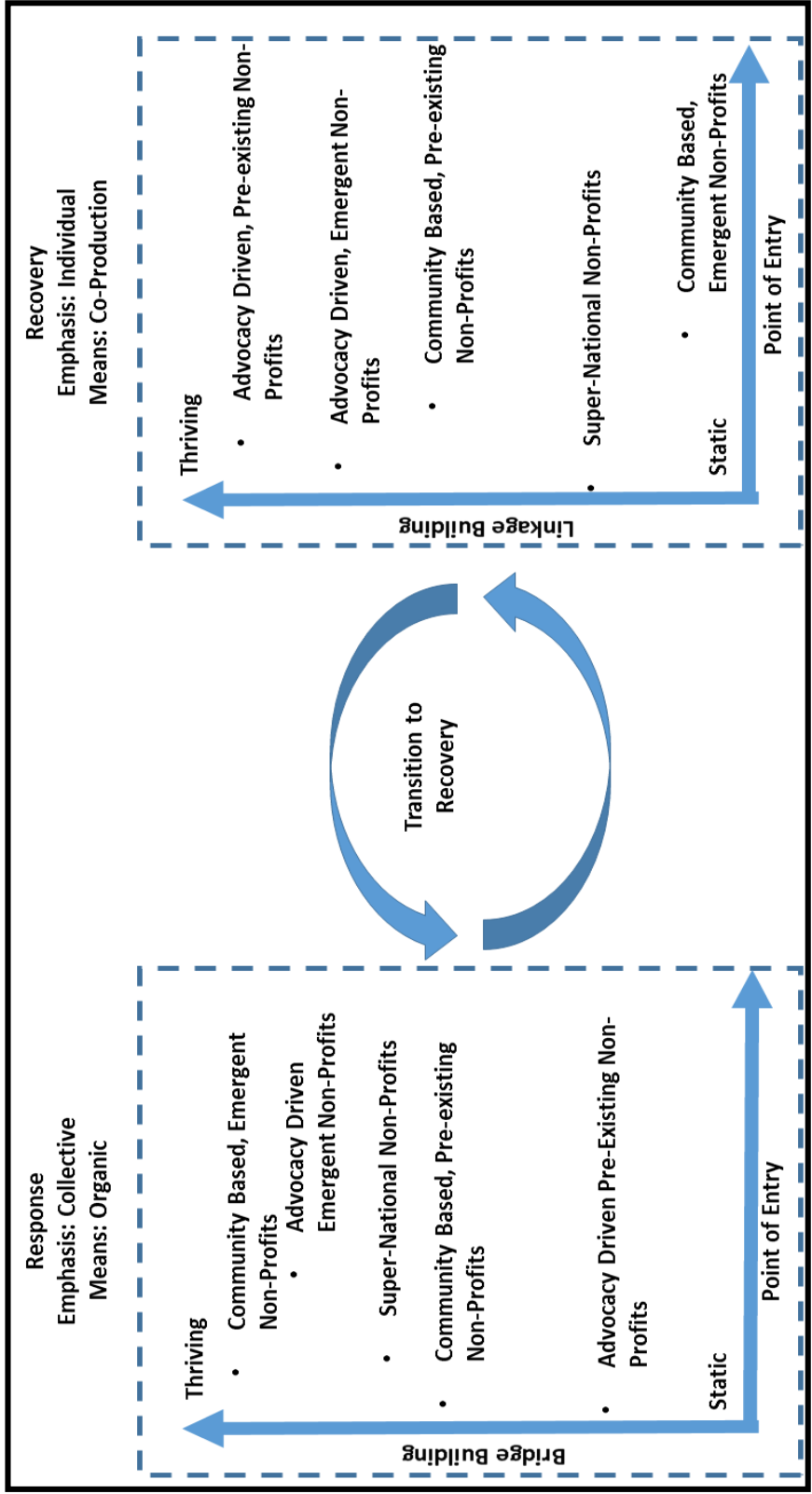
Figure 10.2: Resilience for Non-Profits in High-Income Urban Settings by Typology (Adapted from Hutton et al. In Press a)

The means and emphasis categories for response and recovery were derived from Simo and Beis's (2007) assessment that after an extreme event cooperation emerges to soften traditional competitive elements, individuals engage in increased social behavior, and non-profits emerge through informal processes. Further, that emergent non-profits had to build legitimacy by establishing themselves in the social and governance structures that affected their target populations. Finally, the resilience of a type of organizations was established based on their ability to offer contingencies for care and operate within the restraints of each phase. Resilience ranged from remaining static but maintaining services, to thriving in the operating environment by altering service delivery methods to adhere to the means and emphasis of that emergency management phase, which would allow organizations to address increased target populations.

Means of organic service delivery or co-production indicated changes to organizational operations including staffing resources, outreach methods, and partnerships as reported in manager interviews and staff focus groups. Organic means indicated that the organization was able to adapt its services to maintain and possibly expand services through creative outreach and empowerment of staff. Co-production as a means of operation was more aligned with traditional operations that provide social services based on government partnerships characterized by adherence to prevailing policy commitments and clearly defined roles. In adopting these operating paradigms, the non-profit sector overcame social and institutional impediments to individual, family, and community health and wellbeing following the earthquakes by leveraging community and situational protections differently for each phase of response and recovery to fit the prevailing constraints of the operating environment (Patterson et al 2010). The emphases categories, collective or individualistic, indicated such shifts in social cohesion and flexibility of contract reporting requirements. Success within the model, placement on the y-axis, was

determined by partnerships and engagement with target populations that were associated with adoption of appropriate means of operation and capitalization on prevailing emphasis for services. The x-axis indicates the time of entry into the response or recovery phase reiterated from the adapted *ISDR Framework* (Birkmann et al. 2013).

The model identified shifting success factors as emergency management phases progressed. During the response phase bridge building was imperative to the success of non-profit organizations, but during recovery linkage building became more important. The shift from bridge building with analogous or nearby target populations and with non-profits sharing similar goals to linkage building with partners including funders, local, and national authorities as the driving force for non-profit success resulted from a change in emphasis within target communities from a collective perspective immediately after the disaster event to individualistic one in mid- to late-term recovery. Increased media attention to communities brought together or marginalized further by the earthquakes also contributed to the successes of organizations in expanding their target populations to include or creating engagement organizations for these groups during response.

The means by which non-profits carry out operations changed from organic during response before emergency management authorities were established to a more competitive atmosphere underpinned by traditional co-production as recovery progressed. The transition to recovery featured a feedback loop indicating that, with multiple hazards, an area may experience set-backs or have response and recovery operations occurring simultaneously. Non-profit organizations maintained services without adopting these strategies but remained static. Non-profits that integrate these strategies into their operations during the transition to recovery were

210

more likely to be successful, and those that already utilized these operating procedures before the hazard event thrived.

Figure 10.2 explored the resilience of non-profit organizations with the united goal of achieving sexual health commitments through public health and social service provision. These were organized by the overarching typology proposed based on the work of Alexander (1993) and Kamat (1994) instead of field of work. This typology was adopted because findings from the functional redundancy charts showed that the support system was more relevant than the field of work in assessing resiliency for organizations with shared commitments.

Community based, pre-existing organizations arrived on the scene from the start of the emergency response phase. They embraced emergent target populations, increased advocacy, produced useful well-being tools, and leveraged relocation supplies for their target populations during response but were not integrated with emergency management until mid-term recovery thereby limiting their success over time. Contrastingly, pre-existing, national advocacy driven organizations benefitted from familiarity amongst partners and target populations as recovery began. They sustained increased attention into recovery by creating and continually adapting community specific messaging and service access options.

Transition was especially shaped by government partnerships and connectivity with other non-profits. Organizations with government driven commitments before the earthquakes were secure in their funding to maintain services based on reported population shifts although many with Ministry of Health contracts, such as Family Planning, did not take on additional services. The Ministry of Social Development, however, offered temporary earthquake funds to a variety of welfare oriented organizations, such as Neighborhood Trust, to facilitate relocation and staff capacity or support community focused risk reduction activities. Organizations, such as the City

211

Mission and Meals on Wheels, also benefitted from pre-existing partnerships with churches, volunteer support agencies, and government partners to address sustained shifts in demand. Regardless of funding type, communication of mission to staff, partners, and the public was imperative to the continuation of organizations.

Emergent, community based organizations received significant media attention in the aftermath of the February earthquake for their ability to mobilize new volunteers quickly via social media but struggled to communicate their mission to funders and target populations as recovery progressed. For example, the Student Volunteer Army and Greening the Rubble experienced immense support from local residents and media during response, but as recovery progressed and interest waned, their foci had to shift to explore international applications for their work. In contrast, Emergent organizations with national contracts, such as the All Right Campaign, experienced a combination of the successes of emergent community based organizations as they formed to respond to new or compounded needs during response but did not experience the same dramatic drop in organizational success because they formed connections with various levels of government partners to continue the terms of their contracts.

Supra-national organizations, both of which were pre-existing, rallied support from their international affiliates and local authorities to establish a role in response but returned to more traditional roles as recovery continued and their expertise could be redirected to international objectives. These organizations had clear transition plans for recovery that allowed them to shift roles relatively smoothly.

Resilience of Non-Profit Types by Contribution to Sexual Health Commitments

Characteristics of performance for the various non-profits were broken down by field and type in Figure 10.3 to provide additional detail of contributions to shared public health and social

service commitments. For the purposes of brevity, advocacy driven organizations were referred to as advocates and community based organizations as practitioners in the model. National and supra-national affiliations of organizations within the type are not separated. These affiliations were excluded because other levels of analysis cover the composition of each type and those with national ties tended to either dominate their grouping of be only a minor part of it. International relief organizations were separated from pre-existing community support organizations for this level of analysis because of their dramatically different experiences with integration as noted in the *ISDR Framework* (Birkmann et al. 2013). Fields of work remained in the model because it is important to see how these complementary services performed as components of a whole in comprehensively addressing the needs of youth, families, and migrants.

Community based, pre-existing community support organizations were on the scene from the start of the response. They embraced emergent target populations, increased advocacy, produced useful well-being tools, and leveraged relocation supplies for their target populations during response but were not integrated with emergency management until mid-term recovery thereby reducing their success. Pre-existing, advocacy based community support organizations benefitted from familiarity amongst partners and target populations. They sustained increased attention into recovery by creating and continually adapting community specific messaging and service access options. Emergent, community based organizations received significant media attention in the aftermath of the February earthquake for their ability to mobilize new volunteers quickly but struggled to communicate their mission to funders and target populations as recovery progressed and the emphasis of the community and primary means of service delivery changed. Emergent wellbeing advocates experienced a combination of the successes of emergent

213

community based wellbeing organizations as they formed to respond to a new or compounded need during response but did not experience the same dramatic drop in organizational success because they formed connections with various levels of government and civil society partners to continue the terms of their contracts.

Advocacy based sexual health non-profits maintained services in spite of less than ideal operating environments, some through creative means of delivery made available by committed staff, and relied on established non-profit agency connections and government partnerships to promote their advocacy commitments for recovery. Community based sexual health organizations also experienced an improvement in performance during recovery resulting from existing partnerships but not to the extent of advocacy groups. During response, community based sexual health organizations had slightly reduced performance compounded by advocacy directed organizations due to resource limitations. Both community based and advocacy organizations dealing with sexual health benefitted from strong connectivity with their existing target populations and partners that allowed for immediate entry into relief reduction activities once it was communicated that they remained open. No emergent sexual health organizations were operating in Christchurch during this study, thus that type was excluded from the model.
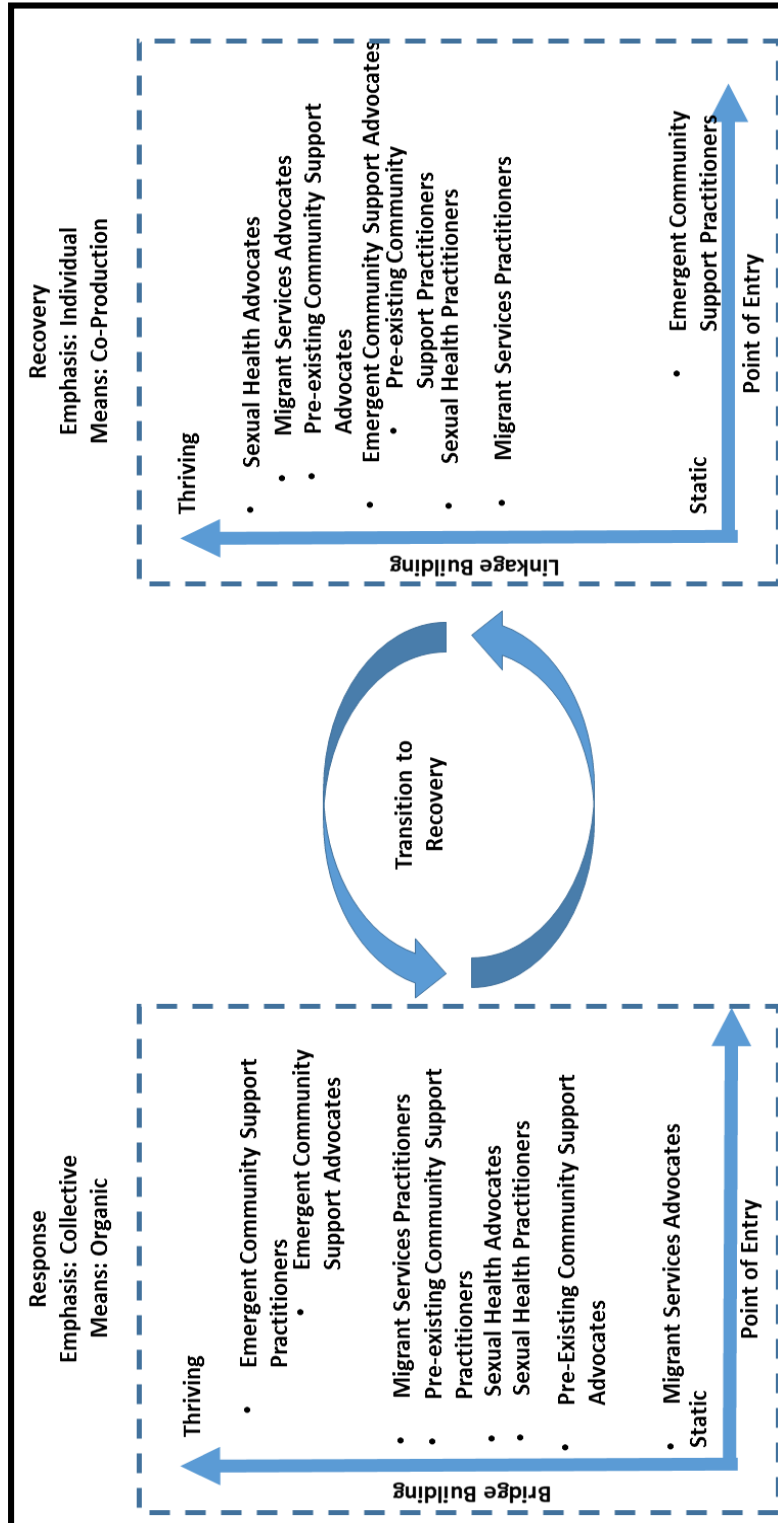
Figure 10.3: Resilience for Non-Profits in High-Income Urban Settings by Field within the Typology (Adapted from Hutton et al. In Press a)

Pre-existing, community based migrant support services used partnerships to expand or alter services during response, and again utilized partnerships from before the earthquakes to

maintain commitments for their target populations in the recovery. Although Community Language Information Network Group emerged after the earthquakes, it was from existing partnerships and was consequently not included in the model as a separate type. The formation of new collective agencies did bolster the position of community based migrant support organizations during response by taking advantage of expanded target population resources that were readily available. During recovery however, these connections were less of a focus but co-location allowed for increased collaboration with partners, leaving organizations with an above static operating capacity. Migrant support advocates remained primarily static although they were familiar to their target population during response but saw the benefits of long-term advocacy for emergency management communication change after several years through collaboration with Community Language Information Network Group and thrived during recovery.

Advocacy groups with connections to local government were more likely to continue in long-term recovery regardless of being emergent or pre-existing or field of work. Whereas, emergent community based groups attempted to solidify their identities to maintain interest in recovery.

Transition was especially affected by government partnerships and connectivity with other non-profits. Organizations with government contracts before the earthquakes were secure in their funding to maintain services based on reported population shifts although many with Ministry of Health contracts, such as Family Planning, did not take on additional services. The Ministry of Social Development, however, offered temporary earthquake funds to a variety of welfare oriented organizations, such as the Neighbourhood Trust, to facilitate relocation and staff capacity or support community focused risk reduction activities. Organizations, such as the City

Mission and Meals on Wheels, also benefitted from pre-existing partnerships with churches, volunteer support agencies, and government partners to address sustained shifts in demand.

Regardless of the driving force, communication of mission to staff, partners, and the public was imperative to the continuation of organizations. Emergent groups, such as CanCERN and the All Right Campaign were concerned with longevity as public interest faded, and Gap Filler and the Ministry of Awesome were focusing more resources toward strategic planning as media attention diminished and competition amongst non-profits for funding increased going in mid-term recovery.

Summary

Partnerships and organizational capacity of participating non-profits influenced contributions to post-disaster risk reduction activities in the *ISDR Framework* (Birkmann et al. 2013). Pre-existing non-profits obtained or were a result of political or funding commitments in advance of the disaster event, which allowed for advanced social capital building and direct involvement in risk reduction activities in their communities. National advocates also had pre-existing political commitment but may have been limited in their ability to engage in risk reduction by the flexibility of national priorities. These groups, however, enjoy improved advocacy venues and knowledge sharing opportunities in the aftermath of a disaster through information sharing structures. Emergent non-profits were a result of increasing awareness. Due to the nature of risk addressed by emergent non-profits, they may not have been sustained into recovery or may have emerged as recovery began to represent a population experiencing delayed psycho-social or socio-economic impacts of the earthquake. Pre-existing non-profits were most likely to continue into recovery due to non-profit sector advocacy for representation on emergency management panels and personal networks of organization managers. International

217

disaster relief organizations also engaged with emergency managers after raising awareness of their own relevance to disasters in high-income countries and contribution to knowledge development and logistics of risk reduction activities.

The resilience model further illuminates the impact of these integration pathways on non-profit resilience. Non-profits that enjoyed great success in initial response phases because they unified emergent marginalized groups struggled to maintain the same level of success in the recovery phase when partnerships with other non-profits, government agencies, and donors were not developed. Likewise, non-profits that sustained services as usual in the initial response phase thrived in the recovery phase if they were able to maintain linkages to their co-production partners. Since the transition to recovery may cycle between response and recovery, strength in both bridging services and linkages to authorities was necessary to hold ground and continue advocacy as an organization.

The resilience of various non-profit types was found to be accessible throughout the emergency response and recovery phases based on incorporation of bridge and linkage building depending on the prevailing operating environment and point of entry into the emergency management phase. Diversity in strengths for each field of work associated with public health and social service delivery allowed for maintained and increased service delivery for marginalized youth, migrants, and families through collective action throughout the response and recovery.

Chapter 11: Conclusions

Key Research Findings

Through national priority setting and common organizational cultures non-profit organizations and their partners succeeded in maintaining sexual health related services following the Canterbury earthquakes into the long-term recovery period. Increased vulnerabilities of youth, migrants, and families were addressed efficiently through collaborative service delivery during recovery. Common organizational cultures involving community outreach that was perceived to be accessible by marginalized groups allowed non-profit organizations to maintain and at times expand their target populations during the response phase. The transition to recovery benefitted from partnerships formed during and strengthened by the earthquake aftermath that capitalize on the varied forms of functional redundancy found in sexual health, migrant support, and community support organizations operating the Christchurch.

Collaborative review of recovery needs has already benefitted migrant sexual health through increased cultural relevancy of messaging. Mental health, community engagement, and communication issues, which reduced risk-taking behavior were addressed through co-production and partnerships within the non-profit sector. These connections benefitted public health and social service delivery through collaborative review as response waned and recovery progressed. Appropriate geographic scales of vulnerabilities addressed by non-profit organizations were investigated. Further, strategies and efficiency modifications to address long-term disaster recovery needs were recorded.

Results from each research question were as follows:

219

1. What is impact of non-profit identified factors associated with a disasters on geographic vulnerability assessment?

    A. Non-profit organizations identified social assistance and renting as vulnerability factors in need of additional consideration in post-disaster vulnerability assessments.

    B. The finest local scales of geographic analysis reflected the most evidence of earthquake exacerbated vulnerabilities.

    C. Non-profit identified vulnerability was identified in more area units than income based vulnerability factors, although, there was significant overlap of factors identified through both methods.

These findings indicate that increased marginalization identified by non-profit organizations following the earthquakes often compounded pre-existing vulnerabilities.

2. To what extent do existing risk assessment, risk reduction, and organizational effectiveness frameworks capture response and recovery contributions of non-profit organizations to the vulnerability reduction of marginalized groups?

    A. Comparisons of functional redundancy amongst non-profit organizations with the collective goal of achieving sexual health commitments suggest that the findings of Brown et al. (2014) are not applicable to the non-profit sector. Reliance on connections for holistic care negated differences in post-disaster experiences that would otherwise originate from varied fields of work.

    B. Non-profits were found to alter structures of dominance at the household level which reduced unsafe conditions before a disaster and decreased dynamic impacts of disasters based on Wisner's (2003) *Access Model.* Consequently, risk as expressed in Wisner et al.'s (2003) *Pressure and Release Model* was experienced differently for marginalized

groups depending on their access to public health and social services offered by non-profit organizations.

C. The influence of co-production added an additional social protection by uniting government and non-profit interventions that were identified by Patterson et al. (2010) to reduce risk.

D. Because of the structure of dominance that Wisner et al. (2003) finds to emerge after a disaster, non-profit integration into disaster risk reduction was affected by date of emergence and community or advocacy focus. Emergent organizations had to develop political commitments and funders before engaging with risk reduction, whereas pre-existing organizations had already established those before the disaster. An organization's contribution and success in recovery often depended on its partnerships with government actors.

Non-profit success in disaster risk reduction was connected to participation in co-production and organizational cultures that made them accessible to marginalized groups.

3. How can the impact of the response to recovery transition on non-profit organizations be best conceptualized?

A. The capacity to build bridges with emergent target populations contributed most to non-profit success during the response phase. Emergent community based organizations thrived during this phase.

B. The capacity to build linkages with government partners and funders contributed most to non-profit success during the response phase. National advocacy driven organizations thrived during this phase.

The shift in factors contributing to resilience in the response and recovery phases were attributed to shifting emphasis and means as proposed by Simo and Bies (2007) and Vallance (2011b).

Geographic Representation of Vulnerability

It was found that non-profits identified compounding vulnerability factors, increased rents and difficulty in obtaining social assistance, aligned with national trends, although, at the district level only rent was evident. Rent and decreased social assistance may be relevant vulnerability factors for non-profit organizations' target populations in Christchurch, but the dissemination was not fully aligned with large political boundaries and may correlate more with catching up to a national trend with the earthquake as an instigator rather than a strictly earthquake related emergence.

Non-profit organizations, however, were attuned to the needs of their communities at the area unit level of analysis and must continue to champion underlying factors of marginalization, such as access to family, age, and culturally appropriate health services, as part of and beyond earthquake recovery. In addition to income based vulnerability, the factors which many non-profit organizations address as part of their mission, non-profit organizations surveyed suggested that additional weight should be given to rent and social assistance for vulnerability analysis. These factors were found to contribute to vulnerability in fifty-four to sixty-five percent of the area units in the Christchurch City District and overlap with income based vulnerability in forty percent of area units. Additional research is needed to determine appropriate weighting schemes for community identified vulnerability factors. Through quantitative communication of shifting realities of their target populations and amplified collaboration with government providers, non-profit organizations can build community capacity before upcoming disasters and contribute to a more resilient Christchurch.

These recommendations reflect the variances in non-profit and government organizational cultures and will help build better partnerships for long-term service provision outside of natural disaster scenarios through resource sharing based on mutual understandings of vulnerabilities. In other high-income nations' urban areas, the resources and connections of non-profit organizations should be considered when allocating representation in planning authorities and assessing vulnerability contributors to improve utilization of local knowledge in decision-making.

Implications of Non-Profit Sector Resilience for Hazards Modeling

Functional redundancy charts showed that for organizations in the non-profit sector engaged in collaborative initiatives industry or field of work was not the most influential factor in resilience. By working together, the sector as a whole maintained and expanded services during the response phase by embracing emergent groups. Only during recovery did competition highlight disparities between organizations related to their support system. Because age of the organization in relation to the earthquake events was often related to voluntary, temporary, or not diverse funding arrangements these traditional indicators of resilience identified by Alexander (1993) and Kamat (2004) were found to be applicable to the non-profit sector.

The sector was also found to require additional modification of risk models to account for the influences of co-production and capacity building contributions of non-profit organizations to their target populations. Non-profit organizations reduced vulnerabilities that were attributed to dynamic pressures in Wisner et al.'s (2003) *Pressure and Release Model* through co-production and advocacy. Following the earthquakes, unsafe conditions that contributed to the disaster impacts received increased outreach to physically alter the built environment and heightened advocacy attention from non-profit organizations. This is a result of where the participating non-

profit organizations perceived themselves to contribute to the *Access Model* (Wisner et al. 2003). They reduced root causes of risk by altering political and socio-economic power structures to where they were more accessible to vulnerable populations. Partnerships and co-production increased the capacity of non-profit and government organizations to delivery appropriate interventions to improve social capital for marginalized groups beyond what either sector could have contributed alone.

Partnerships and organizational capacity of non-profits influenced contributions to post-disaster risk reduction activities in the *ISDR Framework* (Birkmann et al. 2013). Pre-existing non-profits obtained or were a result of political or funding commitments in advance of the disaster event, which allowed for advanced social capital building and direct involvement in risk reduction activities in their communities. Non-profits with national contracts or engaged in networks organized by traditional government agency partners had pre-existing political commitment but may have been limited in their ability to engage in risk reduction by the flexibility of national priorities. These groups, however, enjoy improved advocacy venues and knowledge sharing opportunities in the aftermath of a disaster through information sharing structures. Emergent non-profits were a result of increasing awareness. Due to the nature of risk addressed by emergent non-profits, they may not have been sustained into recovery or may have emerged as recovery began to represent a population experiencing delayed psycho-social or socio-economic impacts of the earthquake. Pre-existing non-profits were most likely to continue into recovery due to non-profit sector advocacy for representation on emergency management panels and personal networks of organization managers. International relief non-profit organizations also engaged with emergency managers after raising awareness of their own

relevance to disasters and contribution to knowledge development and logistics of risk reduction activities.

Non-Profit Organizations' Resilience Model

The resilience of each non-profit type was found to be measureable throughout the emergency response and recovery phases based on incorporation of bridge and linkage building, on the sentiments of their target populations, and on operating environments. Pre-existing non-profit organizations that expanded services to similar and nearby target populations thrived during the response phase in the absence of emergency authorities but had to commit significant staff resources to reporting or engaging with non-profit sector organizers for representation in emergency management forums and derivation of updated organizational effectiveness strategies during recovery. In contrast, non-profits with national advocacy direction, thrived during recovery but were more likely to maintain pre-disaster levels of service during response. Emergent non-profit organizations thrived during the response phase but often struggled in the competitive recovery environment unless they formed strong partnerships with government partners or philanthropic funders. International relief non-profit organizations also succeeded during response after they transitioned their target population and partner perceptions to be locally focused but their traditional international linkages limited their participation in recovery.

For Christchurch, the contribution of non-profit organizations to response and recovery was a success, with all non-profits involved in this study maintaining or adding services for marginalized groups through staff commitment, partnerships, and adaptive organizational cultures into long-term recovery. Sexual health and associated migrant and community support services benefitted from functional redundancy available from the varying stages of maturity and connectivity amongst non-profit organizations with similar goals. Overlap and referrals allowed

225

for continued options for services post-disaster. Balancing these shifting opportunities and demands in a post-disaster environment will dictate the success of non-profits in long-term recovery and the future city.

Contributions to the Literature

This study contributes to the intersection of non-profit management and disaster risk reduction research. Geographic analysis built on the suggestion of Emrich (2005) that community input should carry additional weight in vulnerability assessment. This study proposed a way to appropriately weight Cutter's (2006) vulnerability metrics for the community capacity of the affected area based on perceived relationships between non-profit sector organizations, across sectors, and with target populations as suggested in *Bronfenbrenner's Systems and their Interactions* (Britt et al. 2012). Analysis of the vulnerability factors identified by non-profit organizations was compared to annual government data on income. When Wisner et al.'s (2003) *Pressure and Release Model* was compared to vulnerability factors addressed by the non-profit sector, the model could be adapted to urban areas of high-income countries.

Qualitative data adds to the work of Brown et al. 2014 on resilient organizations by contributing non-profit sector specific data to primarily private sector research that has only been extrapolated out to have implications for non-profit organizations before. Also several research studies on non-profit organizations were built upon. The advice from Vallances's (2011b) *Early disaster recovery: A guide for communities* was interpreted through the lens of long-term resilience in post-disaster settings. Reasons for and solutions to burn-out in the non-profit sector identified in Vallance and Carlton's (2013) inventory were explored based on the perceptions of the organizations participating in this study. The work on initial response by Thornley et al. (2013) on migrant experiences was expanded into long-terms recovery.

The resilience model conceptualized the components of organizational resilience proposed by Vallance's (2011) work *Community, resilience and recovery: building or burning bridges?* By combining these local insights with the international model from Simo and Bies' (2007) *An Expanded Framework for Understanding Cross-Sector Collaboration during Extreme Events* and *Moore's Strategic Triangle* (Dattani 2012) a planning tool was proposed for non-profit organizations depending on their type for either improved performance or expectation setting for future disasters. Further, the application of the qualitative findings to the *ISDR Framework* (Birkmann et al. 2013) identified the contribution of non-profit resources suggested by Vallance (2011) to contribute or detract from and integration into disaster risk reduction activities.

The combined qualitative and quantitative analysis addressed gaps in the literature on the contribution of non-profit organizations to long-term disaster recovery, specifically for sexual health commitments. The comprehensive nature of co-production in the welfare state allowed for insights from multiple fields of work and non-profit types. By expanding the literature on non-profits, this study also bolsters the understanding of population dynamics for marginalized groups in recovery. These components and contribution pathways are applicable to a range of urban areas of high-income countries with multiple-hazards.

Future Research

Sexual health related concerns are particularly relevant to disaster situations because poor health or a lapse in care impact both the individual's resilience and that of the household and social network of which the individual is a part. Non-profits and government partners were positioned to address the parenting support and sexual health access needs of marginalized groups in post-disaster Christchurch due to trust of the target populations, resource sharing to

provide organic solutions to change, and strong adherence to contracts and missions. The resulting resilience model must be tested in other high-income nations with natural hazards, especially on the United States' West Coast as the health care debate in the United States continues.

Limitations

The qualitative components of the study were designed for the non-profit sector in terms of tone of the questions and time requirements for participation. However, the number of participants was limited because non-profit organizations operating in Christchurch perceived themselves to have been over-researched as a result from the earthquakes. As a result of reduced participation, the findings related to the non-profit sector as a whole were exploratory in nature. Further, representation of Maori and informal community groups was beyond the scope of the study because of limitations on time for field work and the tendency for public health and social services in the non-profit sector to have a counterpart staffed by and specifically dealing with Maori. Also, quantitative analysis of demographics associated with reports of increased complexity of care was not possible because clinic records, which were hand written by practitioners, were not accessible to researchers without transcription or ethics approval. Transcription was cost restrictive because it would have had to be completed by researchers at the University of Otago in Christchurch to protect the anonymity of the clients. Also, ethics committee from the Canterbury health system could not allow the data to be accessed outside their facilities to ensure its protection. Instead, the impact on operations of general increases to the complexity of care were utilized for the purposes of this study. The absence of measureable components to participation and resilience also caused the study to rely on qualitative data from management and staff, which although comparable and inclusive lacks a degree of objectivity.

By focusing only on formal non-profit organizations, the full dialogue regarding appropriate levels of representation in the recovery authority and local governance was not captured. Centrally located sexual health and social service non-profit organizations were fairly well connected due to their limited number and shared skill set. Consequently, the sample size was appropriate to make generalizations for the non-profit sector.

It was not possible to fully demonstrate shifting vulnerabilities for community based organizations operating outside of the central city because the scale of their operations would have been better represented at the meshblock level, for which census data was not publically available. This was evident from the responses from Neighborhood trust regarding the changing demographics of its community. Neighbourhood Trust was still included in the study though because of its proximity to the city and formal organizational structure, which other community houses often lacked. Further, due to the nature of the formula used to represent combined vulnerability from a variety of factors, maps do not represent the percentage change within each unit of analysis for each factor. This may over or under represent the influence of each factor in the unit of analysis depending on the overall population of that area and the percent of the population that became more vulnerable. For areas with small populations, lower percentages of change may increase vulnerability more than it would in more populated areas. Also, the time between census the 2006 and 2013 census, absence of annual breakdown of change for each factor, and lack of comparable publically available data for past census limited the temporal analysis that could have improved linkages to response and recovery by separating out pre-existing trends. Survey responses were expanded to include practitioner perceptions from two years before the beginning of the earthquake sequence to address at least in part this limitation of the census data.

Researcher Bias

The author's professional background with reproductive health advocacy non-profit organizations in the United States may have contributed to researcher bias through the wording of requests for participation and survey questions. These questions were reviewed and approved by the Internal Review Board at the University of South Florida. However, additional explanation of terms was requested by some survey and focus groups participants. One organization considered for participation in the study suggested it not be included due to the term sexual health. Although this organization was associated with sexual health, this primarily counseling related organization was not comfortable being compared to practitioners.

The selection of the term 'third sector organization' and 'third sector' for questions may have altered the number of organizations self-identifying as relevant to the study. This term is interpreted differently in American, British, and European contexts. For example, 'non-[rofit organization' and 'non-profit sector were substituted for this analysis where possible because it is more commonly used in the United States. The utilization of non-profit rather than non-governmental organization reflects the disagreement in the role of government funding and partnerships in the non-profit sector and required some fluidity in how organizations self-identified and were categorized for the purposes of this study based on their missions and funding types. The term non-profit also discounts some voluntary organizations, which are a large component of the non-profit sector in New Zealand. Further the relationship with the Maori indigenous population in New Zealand is unique in its inclusion of interests in government and social services through representation based on the Treaty of Waitangi. The lack of incorporation of specifically Maori representatives in the study is a result of cultural disparity in research population selection opportunities between the United States and New Zealand.

Survey questions regarding funding captured another disconnect between the researcher and the participants. Grant funding for overhead funding for staff salaries that are not project specific and office rental costs were found to be more inclusive, especially for Ministry of Social Development contracted non-profit organizations, making the survey process more informative on the part of the participants about the national nature of non-profit operations rather than local earthquakes specific changes for some questions. These questions despite not being completely aligned with the prevailing sentiments and language did, however, build a rapport of learning together between the researcher and participants.

The limited time for field work, review of local media, and attendance of urban community engagement events, non-profit conferences, and partnership meetings may also have impacted the researcher's ability to objectively interpret fully the perceptions of participants regarding the commitment of national and local officials to sexual health and recovery priorities. To counterbalances these personal experiences, the full circle review of transcripts by a sub-set of managers participating in all aspects of the qualitative study was incorporated to ensure that the meaning of comments was interpreted appropriately and expressed in the appropriate context.

The contribution of non-profit organizations to national population policy commitments through agency connections was clear. Over the course of disaster recovery, non-profit organizations not only maintained health care and social services but some addressed emergent vulnerable populations. The trend of not dedicating valuable staff resources to capturing best practices for disaster management and interest expressed by staff and target populations for wellbeing knowledge, however, indicated that organizations may benefit from third party analysis or organizational effectiveness practices leading to the long-term recovery phase. For this study area, which is at risk of multiple hazards, results from this research may improve

integration into disaster management and raise preparedness for future disasters. This research and the associated publications will be presented back to the participants to ensure that their reflections are available to them; the applications thereof can then be determined by each organization individually.

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243

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Appendices

Appendix A: Photos – Christchurch, New Zealand 2013 to 2014

Photo 1: Blocked City Street and Unusable Buildings in the CBD - July 2013

Photo 2: Vacant Homes in the Suburbs - July 2013

Photo 3: Progress toward Private Sector Rebuild in the CBD - November, 2014

Photo 4: Damaged Home on the Outskirts of the CBD with Lot of Demolished Home in Foreground - November 2014

Photo 5: Temporary Garden Project in the CDB - November 2014

Photo 6: Temporary Architecture Project for a New Urbanism Festival in the CBD being used by Construction Workers to Play Cricket - November 2014

Photo 7: Christchurch Cathedral Damages - November 2014
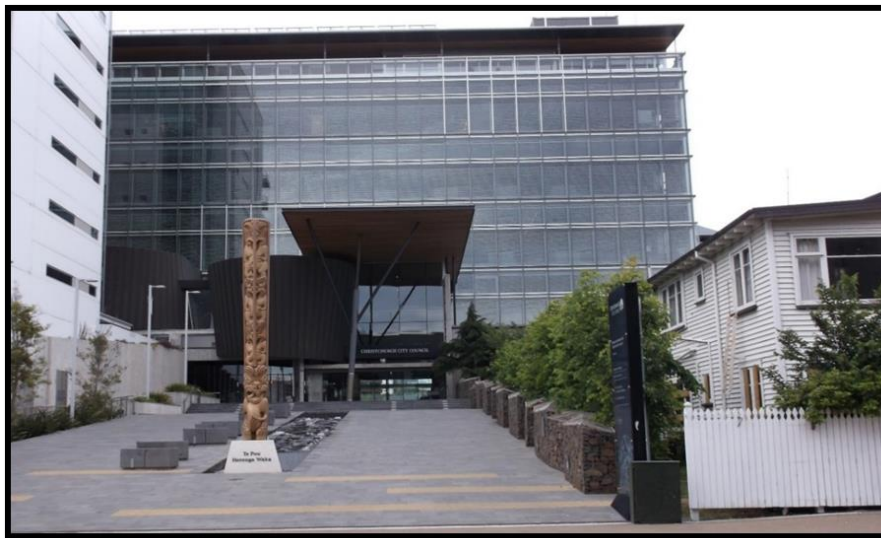
Photo 8: New City Council Building - November 2014

Photo 9: Temporary Viewing Center for Rebuild Plans in the CBD – November 2014

Photo 10: Co-located Migrant Support Offices in the CBD – November 2014

Photo 11: Co-located Community Support Offices in the CBD – November 2014
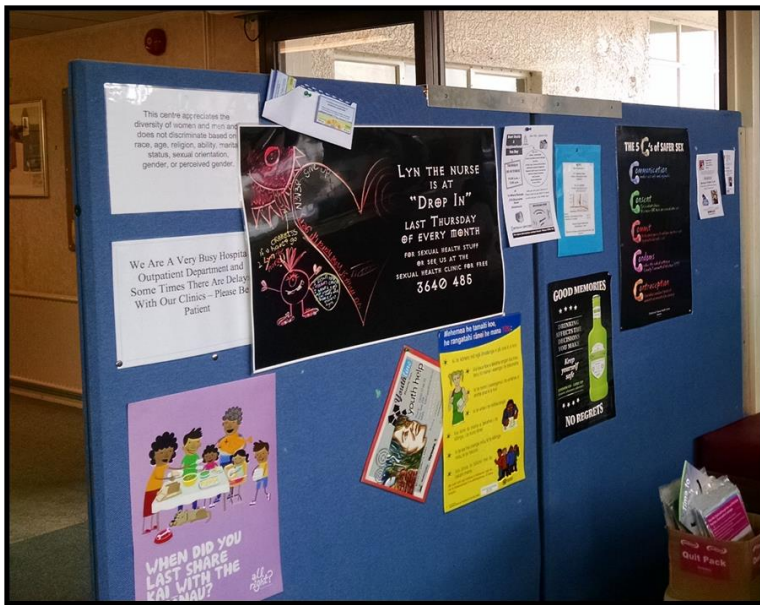
Photo 12: Ongoing Public Health Promotions Posted in the District Health Board's Sexual Health Centre – November 2014

Photo 13: Ongoing Public Health Promotions Posted on a Façade in the CDB – November 2014

Appendix B: IRB Approval - Third Sector in Disaster Recovery (Pro00016564)

March 31, 2014

Nicole Hutton
School of Geosciences
Tampa, FL   33612

RE: **Expedited Approval for Initial Review**
IRB#: Pro00016564
Title: Third-Sector Organizations in Disaster Recovery: Family Planning in Christchurch, New Zealand

Study Approval Period: 3/30/2014 to 3/30/2015

Dear Ms. Hutton:

On 3/30/2014, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents outlined below.

Approved Item(s):
Protocol Document(s):
Protocol nh.docx

Consent/Assent Document(s)*:
RH & Family Support provider Version #1_3_27_14.docx.pdf
Immigrant construction workers Version #1_3_27_14.docx   (**granted a waiver of informed consent documentation)

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent document(s) are only valid during the approval period indicated at the top of the form(s). **Waivers are not stamped.

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR

56.110. The research proposed in this study is categorized under the following expedited review category:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your study qualifies for a waiver of the requirements for the documentation of informed consent as outlined in the federal regulations at 45CFR46.117(c) which states that an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval by an amendment.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board

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From a Library point of view you would give the map a title

Seismicity up to the 11th April, 2014 (I think that is probably better than Recent aftershock map)

Then see a couple of options from Caroline below for the credits...possibly the *Courtesy of......*

Hope this helps?

Regards Maggie

Maggie Dyer
Manager Library Services
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From this webpage: http://info.geonet.org.nz/x/BYIW

This image is sort of a grey area as it is geonet data, but compiled by a GNS Scientist.

Perhaps we could recommend the citation: 'Courtesy of the GeoNet project and GNS Science' to go with the picture. And in the references: Something like the above in bold?

The same image is published on the geonet website (http://info.geonet.org.nz/x/KoEO), and all our images are covered under creative commons.

Cheers,
Caroline

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Nicole
--
Nicole Suzanne Hutton
PhD Candidate
University of South Florida
School of Geosciences
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Hutton, Nicole S; Tobin, Graham A and Whiteford, Linda M. Third sector organisations and earthquake recovery planning in Christchurch, New Zealand [online]. <u>Third Sector Review</u>, Vol. 21, No. 2, Nov 2015: 7-29.

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Carolyn

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About the Author

Nicole S. Hutton holds a Bachelor of the Arts from Rollins College in *Environmental Studies* and *Political Science* from 2008. She went on to complete her Master of Arts in *International Affairs: Natural Resources and Sustainable Development* in 2010 through a dual degree program offered by American University in Washington, DC and the University for Peace in Ciudad Colon, Costa Rica. Following her Masters work she began her career in organizational effectiveness at Population Action International (PAI), a research to advocacy non-governmental organization focused on international reproductive health and climate change policy. Ms. Hutton began her Doctorate of Philosophy in Geography, Environmental Science and Policy at the University of South Florida (USF) in 2011. Her research has focused on the role of non-profit organizations in long-term disaster recovery in Christchurch, New Zealand. The USF Provost's Office awarded her a fellowship including travel funding and a research assistantship. She was later appointed as an instructor in the School of Geosciences. Ms. Hutton's work has been published in the *Professional Geographer*, *Papers in Applied Geography,* and the *Third Sector Review*.