

# **Preparing, Responding and Recovering from Disasters, the Canterbury Earthquake Series and The Disability Sector**

**A Report on the Findings from a Research  
Scope to Inform the Future Design of New  
Zealand Red Cross Disability-Inclusive  
Resources**

**October 2017**

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**(Lebern and Associates)**

## Acknowledgements

This project sought to uncover the lessons learned from the experiences of the 2010/2011 Canterbury earthquake series and offer an evidence base with which to consider future opportunities to further strengthen disability-inclusive disaster risk reduction and emergency management strategies in New Zealand.

First, I would like to acknowledge the Earthquake Disability Leadership Trust and the New Zealand Red Cross who provided me with the opportunity to undertake this scoping research project.

I would like to especially thank those who contributed to this scoping research, either through participating in an individual interview or a group interview. The experiential wisdom you brought to this research and your willingness to share your well-considered views and advice has been critical to the assembly of a rich source of data. This data, together with that sourced from the empirical literature, have greatly assisted with better understanding the lessons learned from the Canterbury-earthquake-series experiences of Disability Sector stakeholders in the region.

“To design measures WITH”, and not “to design measures FOR” is crucial for disability inclusive disaster risk reduction.”

Source: United Nations Office for Disaster Risk Reduction, 2014.

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## Executive Summary

Worldwide there is an increasing drive to design and implement disability inclusive emergency management and disaster risk reduction strategies. Moreover, the emphasis has shifted to focusing effort on using the post-disaster recovery and reconstruction periods for regeneration – regeneration efforts that result in more inclusive and accessible social, economic, environmental and built conditions for everyone in communities.

It is within this context that the New Zealand Red Cross commissioned the Earthquake Disability Leadership Group Trust to undertake a brief research scoping project focused on the 2010/2011 Canterbury earthquake events and the Canterbury Disability Sector. The project used two methods to collect the data to achieve the project's purpose – review and synthesis of the literature and in-depth interviews with a purposeful sample of respondents. The findings from this project will inform the New Zealand Red Cross' future decisions and activities concerning the development of best practice resources for inclusive and accessible disaster reduction, readiness, response and recovery activities related to the disability sector.

Several themes emerged in the findings:

- *Build back better*: Use the disaster as an opportunity to enhance the social, economic, environmental and physical conditions for local communities
- *Participation and inclusion*: Sustainable solutions that benefit everyone in communities emerge if people with disabilities are included in emergency management and disaster risk reduction planning and implementation
- *Collaboration*: Following disasters, disability-inclusive response, recovery and regeneration activities require the contributions of a diverse range of stakeholders for collective impact

- *Diversity within disability*: Effective disability-inclusive disaster risk reduction and emergency management strategies require recognition of the needs and capabilities of the diverse range of lived experiences of people with disabilities.
- *Knowledge acquisition and knowledge management*: More is required to draw on lessons learned from international post-disaster research and further develop New Zealand-based research to ensure effective disability-inclusive and accessible emergency management and disaster risk reduction strategies are implemented.

Based on the evidence collated from the review of the pertinent literature and from the interviews with Canterbury Disability Sector stakeholders, a number of recommendations for future actions are listed below:

- Strengthen the disability-inclusive capabilities of the emergency management and disability risk reduction workforce
- Establish mechanisms for collaborative learning and working together to foster disability-inclusive disaster risk reduction and emergency management
- Strengthen the evidence-base related to the Disability Sector and emergency management and disaster risk reduction to support a) the design and implementation of accessible and inclusive response and relief measures, b) the design and implementation of effective ways to mitigate disaster-related risks for people with disabilities and c) the design and implementation of strategies for building and sustaining the psychosocial wellbeing of people with disabilities and their systems of support.
- Support the design and implementation of a culture of resilience-focused emergency preparedness that includes people with disabilities, their family/whānau, care givers and key people and/or groups in neighbourhoods
- Investigate and implement a continuum of strategies for enhancing the psychosocial, wellbeing and quality of life recovery of persons with disabilities
- Support the leadership and contribution of people with disabilities to the design, implementation and evaluation of emergency management and disaster risk reduction strategies that are underpinned by principles of inclusiveness and

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accessibility, that apply universal and accessible design, and that focus on improvements to the social, economic, environmental and built environments for disabled people and the communities within which they live.



## Part One: Introduction and Context

### 1. Introduction and Context

#### 1.1 International Context

1. Over recent years and across international jurisdictions, commentators in the literature have increasingly advocated for the development and implementation of disability inclusive disaster and emergency management and disaster risk reduction (DRR) strategies (Raja & Narasimhan, 2013; Rouhban, 2014). Such inclusive approaches to disaster and emergency management and disaster risk reduction are now mandated by a range of international regulatory and policy instruments. Significantly, they have the potential to minimise the impacts of disasters on population groups identified as vulnerable before, during and after a disaster occurs.

#### *Disasters, Disability and Vulnerability*

2. Earlier research has identified that people with disabilities are often one of the most vulnerable, at-risk and adversely affected population groups in the wake of disasters (Handicap International, 2015; IFRC, 2015; Shakespeare, 2009). For example, there is evidence to suggest that people with disabilities experience higher mortality rates during disasters compared to the rest of the population (UN, 2013). A number of factors within the context of disasters and emergencies appear to contribute to the vulnerability experienced by people with disabilities:

- Lack of public awareness
- Lack of access to information and communications
- Inaccessible facilities and helping services
- Lack of access to needed support resources
- Disintegration of social connections

- Degradation of the environment
- Lack of inclusive and responsive policy frameworks, strategies and programmes for disaster risk reduction (DIDRRN, 2013; Handicap International & Help Age International, 2014; International Federation of Red Cross & Red Crescent Societies, 2007:90; Lovell & le Masson, 2014; Mitchell & Karr, 2014; Paudel et al., 2016; Raja & Narasimhan, 2013).

3. Ha (2016) concludes that the needs of people with disabilities are largely not met in post-disaster situations. According to Raja and Narasimhan (2013), this situation is largely caused by the perpetuation of the structural inequalities experienced by people with disability before the emergency situation. Lord, Sijapati, Baniya, Chand and Ghale (2016) agree stating that structural inequalities increase the negative effects of disasters for people with disabilities and their families and decrease their post-disaster wellbeing, participation and inclusion. Raja and Narasimhan (2013:4) write:

*“(P)ersons with existing disabilities, or those who acquire disabilities in a disaster, face greater inequalities during recovery and reconstruction due to challenges in re-integrating into the workforce, finding accessible housing, getting access to health and social services, and increasing dependency due to inaccessible infrastructure.”*

### ***Disasters, Disability and International Policy***

4. Raja and Narasimhan (2013:6) write that the United Nations Convention on the Rights of People with Disabilities (CRPD) *“and its eight operating principles raise the need to make all disaster and emergency planning accessible and inclusive.”*
5. Countries that are party to the CRPD are required, under Article 11, to take all necessary measures to ensure the protection and safety of persons with disabilities in disaster situations.<sup>1</sup> Moreover, in a disaster context Article 9 requires state parties to provide people with disabilities with equal access to warning systems, evacuation plans and emergency shelters; and Article 29

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<sup>1</sup> United Nations (2006:10). *United Nations Convention on the Rights of People with Disabilities.*

requires signatories to include people with disabilities in disaster risk reduction activities and emergency preparedness policy, planning and implementation. Despite these requirements, Bath (2014) comments that people with disabilities are frequently not specifically considered in the development and implementation of disaster management plans.

6. The 17 Sustainable Development Goals (SDG) adopted in 2015 confirm the United Nations commitment to promoting inclusive societies.<sup>2</sup> In particular, this 2030 Agenda for Sustainable Development is underpinned by the 'leave-no-one-behind' principle. Moreover, it is a response to the repeated calls for action and results around all internationally agreed development goals related to people with disabilities. The SDGs directly refer to disability and disabled people eleven times in the context of educational growth, employment, inequality, accessibility of human settlements and data collection.<sup>3</sup>
7. The SDGs make specific reference to the connection between emergency management, disaster risk reduction, post-disaster reconstruction policies and activities, and inclusion and accessibility. For example, within Goal 11 those responsible for providing disaster relief and response are invited to focus their efforts on people in vulnerable situations to facilitate a reduction in numbers of deaths and the adverse affects often experienced by these population groups.
8. Likewise, within the context of post-disaster reconstruction the SDGs seek "holistic disaster risk management at all levels" and support the creation of non-disabling environments that enable people to access buildings, public spaces, transport, education, work and information.<sup>4</sup> Of the implementation of the SDGs

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<sup>2</sup> United Nations Transforming Our World: The 2030 Agenda for Sustainable Development (consensus reached in New York in 2015). Retrieved from:

<https://sustainabledevelopment.un.org/content/documents/7891Transforming%20Our%20World.pdf>

<sup>3</sup> Source: Envision 2030: 17 goals to transform the world for persons with disabilities. Retrieved from:

<https://www.un.org/development/desa/disabilities/envision2030.html>

<sup>4</sup> Source: Envision 2030: 17 goals to transform the world for persons with disabilities. Retrieved from:

<https://www.un.org/development/desa/disabilities/envision2030.html>

in relation to persons with disabilities, Envision 2030 seeks to promote the mainstreaming of disability by:

- Raising awareness of the 2030 Agenda and the achievement of the SDGs for people with disabilities
- Promoting an active dialogue among stakeholders on the SDGs, with a view to creating a better world for people with disabilities
- Establishing an ongoing live web resource on each SDG and disability.<sup>5</sup>

9. The Sendai Framework for Disaster Risk Management 2015-2030 (Framework) is the first international disaster risk reduction framework in which disability is specifically mentioned. Stough and Kang (2015:140) observe that this Framework is infused with disability-related concepts such as inclusion, accessibility and universal design – concepts that have more recently been adopted as foundation principles guiding disaster risk reduction policy and operations. During the development of this Framework, stakeholders involved in the consultation process highlighted the largely-neglected issues of the accessibility and inclusiveness of disaster and emergency planning and implementation. As a result of these efforts the final form the Framework included the need for:

- Disability perspectives to be integrated into all disaster risk management activities
- Local stakeholders to recognise that disaster risks and vulnerabilities for population groups, such as people with disabilities, will have local nuances and characteristics. These need to be understood through the collection of empirical and experiential data so that tailored responses can be developed
- Disaster resilience to be emphasised in all phases of the disaster management cycle (mitigation, preparedness, response and recovery) and

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<sup>5</sup> Source: <https://www.un.org/development/desa/disabilities/envision2030.html>

in particular ensure that risk reduction for people with a disability is a key area of focus.<sup>6 7</sup>

10. The Incheon Strategy (Strategy) to make the rights real for persons with disabilities in Asia and the Pacific region 2012-2022 (2011) adopted a rights-based approach to disability inclusive disaster risk reduction. It was the first regionally-agreed Strategy that included a disability-inclusive development goal (Goal 7: Integrate disability perspective into disaster preparedness and management). This focus on inclusiveness is further specified in two of the Strategy's targets: Target 7.A Strengthen disability-inclusive disaster risk reduction planning; and Target 7.B Strengthen implementation of measures on providing timely and appropriate support to people with disabilities in responding to disasters.<sup>8</sup>

## 1.2 National Context

11. The statutory basis for the inclusion of a disability perspective in emergency management and disaster risk reduction includes reference to the following documents:

- The Treaty of Waitangi
- New Zealand Sign Language Act 2006
- New Zealand Bill of Rights Act 1990

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<sup>6</sup> Sendai Framework for Disaster Risk Reduction 2015-2030 was ratified at the Third United Nations World Conference on disaster risk reduction in March 2015 at Sendai Japan.

<sup>7</sup> In March 2015 New Zealand made a commitment to the international Sendai Framework for Disaster Risk Reduction. Within 15 years it seeks to achieve: *The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.* (<http://www.civildefence.govt.nz/cdem-sector/national-disaster-resilience-strategy-development/>)

<sup>8</sup> United Nations Economic and Social Commission in Asia and the Pacific (2012, November). Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific. Bangkok: United Nations Economic and Social Commission in Asia and the Pacific. Retrieved from: <http://www.unescap.org/resources/incheon-strategy-%E2%80%9Cmake-right-real%E2%80%9D-persons-disabilities-asia-and-pacific>

- Human Rights act 1993
- New Zealand Public Health and Disability Act 2000
- New Zealand Disability Strategy 2016-2026 <sup>9</sup>

12. At the time of the Canterbury earthquake events the 2001 New Zealand Disability Strategy was in place to guide the work of government agencies in relation to issues concerning disability. In 2010 the Ministerial Committee on Disability Issues agreed to a Disability Action Plan as a framework for agencies to collaborate to implement the New Zealand Disability Strategy and the United Nations Convention on the Rights of People with Disabilities. Following the Canterbury earthquake events, the Disability Action Plan was update in July 2011 to ensure that people with disabilities were included in initiatives associated with the Canterbury recovery. Two main areas of action were agreed by Cabinet:

- Redesigning disability support services
- Improving the accessibility of the built environment, including greater accessibility of public buildings, roads, footpaths and urban spaces. <sup>10</sup>

13. Three main initiatives within this Disability Action Plan focused on the Christchurch rebuild and people with disabilities including: <sup>11</sup>

- Free advisory service on accessible homes: A free information and advisory service on sustainable housing design delivered by Enable New Zealand and funded by the Ministry of Health (MoH)
- Guidance on accessible homes: A range of initiatives completed including a website with information about ways in which to make homes accessible, including a universal design toolkit, designed by the Ministry

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<sup>9</sup> In 2015 government agreed to develop a new disability strategy for New Zealand. The New Zealand Disability Strategy 2016-2026 was launched in November 2016 by the Minister for Disability Issues.

<sup>10</sup> Disability Action Plan: Including Disabled People in Canterbury Recovery (Cabinet paper, July 2011). Retrieved from: [www.odi.govt.nz](http://www.odi.govt.nz)

<sup>11</sup> Source: <http://www.odi.govt.nz/nz-disability-strategy/about-the-strategy/new-zealand-disability-strategy-2001/progress-reports/2013/disability-action-plan/>

of Social Development (MSD), the Ministry of Health, the Ministry of Business, Innovation and Employment in collaboration with the Building Research Association of New Zealand <sup>12</sup>

- More inclusive emergency guidelines: The Ministry of Civil Defence and Emergency Management have published 'Including People with Disabilities.' This publication provides guidance about working with persons with disabilities for those in the civil defence and emergency management sector<sup>13</sup>

### 1.3 Canterbury Context

14. In 2010 and 2011 the city of Christchurch and the Canterbury region experienced a sequence of earthquakes and aftershocks. As a result of this series 185 people died, several thousands were injured and there was widespread damage to infrastructure and buildings. The psychosocial and economic impacts of this disaster have been far-reaching for the members of the local community. <sup>14</sup>
15. Phibbs et al. (2015:37) observe that people with disabilities are a significant group to consider in a disaster and emergency management situation. At the time of the Canterbury earthquake series, the Canterbury District Health Board estimated that there were 160,000 persons with disabilities in the region. 58,000 of this population group required assistance; and 10,762 received an Invalids

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<sup>12</sup> Source: [http://www.branz.co.nz/cms\\_display.php?sn=215&st=1](http://www.branz.co.nz/cms_display.php?sn=215&st=1)

<sup>13</sup> Source: [http://www.civildefence.govt.nz/memwebsite.nsf/Files/Publications-Information-Series/\\$file/Disability-IS-16-July-2013.pdf](http://www.civildefence.govt.nz/memwebsite.nsf/Files/Publications-Information-Series/$file/Disability-IS-16-July-2013.pdf)

<sup>14</sup> For example, the findings from the April 2015 CERA Wellbeing Survey showed that compared to other population groups those who identified as having a health condition or disability reported poorer wellbeing outcomes across all measures (quality of life; stress; emotional wellbeing; confidence and satisfaction with earthquake recovery decisions and information) (CERA, 2015).

Benefit. <sup>15</sup> 2,100 persons with disabilities attended centre-based services in Christchurch that were funded by the Ministry of Social Development. <sup>16</sup>

16. The Canterbury earthquakes had a significant impact on the various stakeholders operating in the region's disability sector. These impacts included:

- Disruption to a range of disability services, including damage to residential services, schools and early childhood centres, community support services, employment support services and day activity centres
- Of the 25 MSD-funded and MoH-funded centre-based NGO services that provided day services for persons with disabilities, 13 required temporary replacement buildings or new buildings to operate.
- The Needs Assessment Service Coordination agency, that coordinated and allocated MoH-funded disability support services for 4,508 clients residing in Canterbury, could not use their office space after the earthquakes and staff had to work remotely from their homes.
- Accessing those disability support services that were operating was challenging because of the damage to the road and transport infrastructure
- 293 MoH disability support services' clients were evacuated from residential services in February 2011. By April 2011, only 60 had returned to the region.

17. The disability sector landscape had changed somewhat two years after the February 2011 Canterbury earthquake. For example, the 2013 Disability Survey found that 143,000 people residing in Canterbury identify themselves as having a disability. Statistics New Zealand calculates that this is a disability rate of 25%

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<sup>15</sup> Source: Cabinet Paper (2011, July). *Disability Action Plan: Including Disabled People in the Canterbury Recovery*. Retrieved from: <https://www.odi.govt.nz/nz-disability-strategy/disability-action-plan/previous-plans/disability-action-plan-including-disabled-people-in-the-canterbury-recovery-cabinet-paper-july-2011/#cabinet>

<sup>16</sup> Ibid



for the Canterbury region, slightly more than the overall disability rate of 23% for New Zealand.

#### 1.4 New Zealand Red Cross Context

18. The New Zealand Red Cross has identified disability as one of five cross-cutting issues that it has committed to address during all its humanitarian efforts, including disaster risk management.

*“... work to promote inclusive programming and encourage social inclusion of people with disabilities. We will engage with the disability community in programme design and implementation. We note the specific vulnerabilities faced by people living with disabilities in times of disaster and will take measures to ensure their needs are addressed.”<sup>17</sup>*

19. In order to meet its commitments to people with disabilities during humanitarian emergencies, the New Zealand Red Cross pledges to:

- *“Work for greater awareness and inclusion of people living with disabilities during humanitarian crises, to take into account the specific vulnerabilities they face, and to promote their protection under the relevant bodies of law;*
- *Take active measures to seek to ensure that their needs are addressed in the planning, delivery and monitoring of humanitarian assistance activities, so that they can effectively participate in and access support services, including by engagement with the disability community in our programme design and implementation, and by promoting inclusive programming in risk preparedness, relief and recovery”.*<sup>18</sup>

20. In order to contribute to the fulfilment of these pledges, the New Zealand Red Cross seeks to develop and publish a ‘best practice guide or resource materials

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<sup>17</sup> Source: NZRC (2015). Retrieved from: [www.redcross.org.nz](http://www.redcross.org.nz)

<sup>18</sup> Personal communication with Matthew Pratt, NZRC, on 07 July 2017.

to help inform disaster response and recovery related to disability sector, based in part on lessons learnt from the Canterbury earthquakes response'.<sup>19</sup> This intended contribution is in line with its overall commitment after disasters to “*use global best practice and key learning from other international disasters to bring the best possible practices to community recovery programmes.*”<sup>20</sup>

21. It is within the context of this global, regional and organisational background that the New Zealand Red Cross has commissioned the Earthquake Disability Leadership Group Trust to undertake a brief scoping project focused on the Canterbury earthquake events and the Canterbury Disability Sector. The project seeks to bring together existing information from primary and secondary sources concerning the Canterbury earthquake series and the Disability Sector. Then through analysis of this data make transparent areas of strength to be nurtured; identify gaps in inclusive disaster risk reduction and emergency management research, policy and operation; and recommend future strategies.

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<sup>19</sup> Personal communication with Matthew Pratt, NZRC, on 07 July 2017.

<sup>20</sup> Source: NZRC Best Practice through Recovery is founded on a number of principles (use community-led approaches; ensure effective coordination of all activities; acknowledge and build capacity; recognise complexity; share, analyse and apply quality information; provide timely fair equitable and flexible recovery services; ensure vulnerability to disasters is not rebuilt). Retrieved from: <https://www.redcross.org.nz/what-we-do/in-new-zealand/disaster-management/how-we-help-communities-recover-disaster/>

## Part Two: Project Scope and Methodology

### 2. Scope and Methodology

#### 2.1 Purpose

22. The purpose of this research scoping project is to assemble a snapshot of empirical and experiential evidence related to the lessons learned from the Disability Sector's experiences of emergency management and disaster risk reduction associated with the Canterbury earthquake events. This evidence will inform the New Zealand Red Cross' future decisions and activities concerning the development of best practice resources for inclusive and accessible disaster reduction, readiness, response and recovery activities related to the disability sector.

23. In essence this purpose is both instrumental and utilisation-focused. (Henry & Mark, 2003; Patton, 2008).

#### 2.2 Objectives

24. In order to contribute to the purpose, the objectives of this project are:

- To investigate the various roles and responsibilities undertaken by Disability Sector stakeholders during the immediate response to the Canterbury earthquake events of 2010 and 2011
- To collate and describe the disaster response and recovery resources available for use by people with disabilities during the period since the September 2010 Canterbury earthquake
- To collate the recommendations proposed by the empirical and experiential sources of evidence about the post 2010/2011 Canterbury earthquake response and recovery practices and approaches related to

people with disabilities and agencies comprising the Disability Sector. In particular, highlight those recommendations that offer opportunities to increase the disaster preparedness and disaster resilience of disabled people.

- To identify opportunities to address gaps in research and resources required to facilitate a good practice framework that is sustainable, equitable and inclusive of people with disabilities.<sup>21</sup>

### 2.3 Scope

25. This project includes a number of boundaries that define its scope. These boundaries were put in place to take account of the time and resources available in the current project. They include:

- *Focus the investigation on a disaster located in one location:* The investigation was confined to examining the lessons learned from the empirical and experiential evidence base associated with the Canterbury 2010/2011 earthquake events.
- *Focus on the experiences of one sector:* The target group for this research scoping project was the Canterbury Disability Sector stakeholders
- *Provide a summarised overview of the field of study, rather than a detailed analysis of the state of knowledge:* The outcome of this research scoping project has been described by those who commissioned the work as a ‘snapshot’ of the topic under investigation. Therefore, the project examined the empirical evidence that could be sourced in the defined timeframe; invited a small, purposeful sample of Disability Sector stakeholders to describe their views and experiences of emergency management and disaster risk reduction strategies adopted in relation to

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<sup>21</sup> Source: NZRC Contract with Earthquake Disability Leadership Group Trust Appendix A – Project Description (2017:16)

the Canterbury earthquake series; and described the themes that emerged from the data collected.

## **2.4 Data Collection Methods and Procedures**

26. The project used two data collection methods to collect the information required to achieve the project's purpose and objectives. The methods used included:

- Information, resource and research synthesis (secondary data)
- In-depth respondent interviews (primary data).

### ***Information, Resource and Research Search and Synthesis Procedures***

27. This procedure involved searching for and synthesizing what was available in the existing research and grey literature about emergency management and disaster risk reduction practices, approaches and resources adopted in the post Canterbury earthquake environment in relation to the Disability Sector and its stakeholders.

28. A search of the literature was conducted during August 2017 using electronic data bases and a set of search terms.

29. Research literature, information and resources were sourced from a multi-search database link that included a range of bibliographic databases. In addition, the internet was searched using Google Scholar and Google books search engines for additional 'grey' literature.

30. Search terms were selected on the basis of criteria that were established to focus the review on secondary data related to:

- The 2010 and 2011 Canterbury earthquake series
- Emergency management and disaster risk reduction policies and activities
- Disability sector.<sup>22</sup>

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<sup>22</sup> Search terms included: disability; impairment; disaster; emergency management; disaster management; disaster risk reduction; preparedness; Canterbury earthquakes; disaster planning; inclusive; accessible; etc. In

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31. Analysis of the body of literature and information about the Canterbury earthquake series involved collating and presenting the identified gaps in disability inclusive emergency management and disaster risk reduction activities and the opportunities for improvement. Resources associated with emergency planning, preparedness, response and recovery phases and pertinent to the Disability Sector were listed and included in Part 6, section 6.2. Research focused on Disability Sector stakeholders' experiences of the reduction, readiness, response and recovery phases associated with the Canterbury earthquake events were included in the annotated bibliography in Part 6, section 6.1.

### ***Procedures for the In-depth Key Respondent Interviews***

32. In juxtaposition with the findings from the synthesis of the research literature and information, key respondent interviews were undertaken to collect the primary data.

33. Respondents were purposefully selected on the basis that they possessed a body of knowledge, experience and diversity of perspectives on practices and approaches adopted during the reduction, readiness, response and recovery phases associated with the Canterbury earthquake events, the Disability Sector and its stakeholders. The aim was to maximise variability in order to gather multiple perspectives on the topic being investigated.

34. Introductory letters were sent to prospective respondents. The introductory letter described the background, purpose and subject matter of the project; identified the agent who commissioned the research; described the time and focus of each potential participant's involvement in the research; provided an explanation of the ethical issues associated with the research and how they would be managed; and invited the recipients of the letters to consider participating in a research interview.

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order to gain better control over the literature searching process, Boolean operations (AND, OR, OR NOT) were used.

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35. Attached to the introductory letters to key respondents was a Participant Information Sheet. The Participant Information Sheet and a sample introductory letter are located in Appendix 1.
36. Eleven respondents participated in nine individual/group face-to-face in-depth interviews between mid-August and mid-September 2017. These respondents included those working for organisations across multiple sectors (i.e. disability, health, civil defence, local government, non-government); those working for organisations that had either a regional presence only or had both a national and regional presence; those whose organisations provided residential or non-residential services within the Canterbury Disability Sector; those who provided services for people with an intellectual, sensory, physical and/or neurological disability; those who worked for a Disabled Persons' Organisation; and those with an impairment.
37. A semi-structured data collection instrument was used to guide these in-depth respondent interviews. The interview schedule included mostly open-ended questions. This form of questioning was adopted in order to gain an understanding of the full range of experiences and perspectives held by the respondents about emergency management and disaster risk reduction related to the Canterbury Disability Sector and the Canterbury earthquake series. The interview schedule is located in Appendix 1.
38. The average time to conduct each respondent interview was 1 hour and 45 minutes. All interviews were digitally-taped and the researcher took hand-written notes of the respondents' responses to the questions posed.
39. Data collected from the in-depth, key respondent interviews was coded. Each type of response within each response category was tabulated and grouped. The organised data was interpreted and synthesised into general themes.

## **Part Three: Themes Emerging from the Synthesis of the Literature – A Thematic Analysis**

### **3. Themes Emerging from the Synthesis of the Literature: A Thematic Analysis**

40. The thematic analysis of the literature was guided by the scoping review objective to bring to light possible opportunities to enhance the preparedness and resilience of persons with disabilities in the context of the disaster management phases. The themes derived from this analysis are presented in this section.

#### **3.1 Legislation, Policy and Strategy**

41. There is an emerging international emergency management and disaster risk reduction policy environment that emphasizes accounting for the needs and capabilities of people with disabilities, adopting an inclusive and right-based approach, and 'building back better'.<sup>23</sup> Couched within this milieu, the years since the Canterbury earthquake events have afforded New Zealand policy makers with an opportunity to: a) promote more inclusive disaster risk reduction and disaster management to mitigate the potential vulnerability of people with disabilities during future emergencies; and, b) promote more inclusive and equitable planning, decision making and action during the recovery and reconstruction phases following disasters.

42. The literature references a range of policies and plans that have been developed with reference to the learning and evidence gleaned from the experiences of people with disabilities during the Canterbury earthquakes. The policies and plans that were identified in the review of the literature and that were referenced by the respondents interviewed included those in the following text box.

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<sup>23</sup> Refer to Sustainable Development Goals; Sendai Disaster Risk Reduction Framework; United Nations Convention on the Rights of Persons with Disabilities



<b>Legislation, Policy, Strategy</b>	
<b>Canterbury Earthquake Recovery Act, 2011</b>	The <i>Canterbury Earthquake Recovery Act, 2011</i> , included a requirement to mitigate disaster risk for vulnerable groups, in particular disability. <sup>24</sup> For example, the Disability Action Plan noted that the development of recovery plans, under the Canterbury Earthquake Recovery Act, needed to have regard to the New Zealand Disability Strategy. <sup>25</sup>
<b>2010 Disability Action Plan</b>	In July 2011, Cabinet agreed to include a number of cross-government initiatives into the <i>2010 Disability Action Plan</i> to assist the recovery efforts during an initial 18 month period. Of the four priority areas of action identified for Christchurch two were particularly pertinent in the context of the focus of this paper: a) improve accessibility of built environment b) improve emergency preparedness for disabled people in future emergencies. <sup>26</sup>
<b>Disability Action Plan 2014-2018</b>	The more recent <i>Disability Action Plan 2014-2018</i> includes a number of cross-government priorities for action including:  <i>Increase the responsiveness to disabled people of civil defence and emergency management around New Zealand.</i>  <i>a) Promote implementation by local civil defence and emergency management sector of the guidelines for inclusive practice including learning from experiences of disabled people in the Canterbury</i>

<sup>24</sup> The Canterbury Earthquake Recovery Act 2011 was put in place as a temporary response to the Canterbury earthquake series and it expired on 18 April 2016.

<sup>25</sup> Office of the Minister for Disability Issues (2011). Disability Action Plan: Including disabled people in the Canterbury recovery. Cabinet Paper, July 2011. Wellington, NZ: Office for Disability Issues.

<sup>26</sup> See Mitchell (2014) included in the annotated bibliography.

	<p><i>earthquakes.</i></p> <p><i>Lead: Ministry of Civil Defence and Emergency Management.</i><sup>27</sup></p>
<p><b>Including people with disabilities: Information for the CDEM Sector [IS 13/13]</b></p>	<p>Including people with disabilities: <i>Information for the CDEM Sector</i> [IS 13/13] – a publication that “<i>indicates (the Director of Civil Defence Emergency Management’s) commitment to ensure disabled people are included in all aspects of CDEM</i>” (2013:1).</p>
<p><b>National Health Emergency Plan: A Framework for Health and Disability Sector</b></p>	<p>National Health Emergency Plan: A Framework for Health and Disability Sector, published by the Ministry of Health in 2015</p>
<p><b>Christchurch Central Recovery Plan, 2015</b></p>	<p>Christchurch Central Recovery Plan: In July 2012, the Canterbury Earthquake Recovery Authority released the <i>Christchurch Central Recovery Plan</i> for the rebuild of Christchurch city. This plan identified that a key priority for the city rebuild was for it to be fully accessible for all, including public buildings, public places, pathways and roads, parks and playgrounds, and public transport systems. Disabled people’s groups and organisations are involved in contributing to the planning and design phases of the plan’s implementation.<sup>28</sup></p>
<p><b>Ministry of Business Innovation and Employment</b></p>	<p>This plan arose out of a review of the accessibility of public buildings commissioned by the Ministry of</p>

<sup>27</sup> Office for Disability Issues (2014, March). *The Disability Action Plan: Cross government priorities to make a difference*. Wellington: Office for Disability Issues. Retrieved from : <http://www.odi.govt.nz/what-we-do/ministerial-committee-on-disability-issues/disability-action-plan/index.html>

<sup>28</sup> Office for Disability Issues (2012, December). *Achieving a Fully Inclusive Society*. Wellington: Office for Disability Issues.

<b>2015 Accessibility Plan</b>	Business, Innovation and Employment (MBIE) and the Office for Disability Issues (ODI) in late 2013. It outlines a programme of work to achieve the intended goal of 'Equitable access to and use of publicly accessible buildings by all New Zealanders.'
<b>Waimakariri Civil Defence and District Welfare Plan</b>	Waimakariri Civil Defence and District Welfare Plan – a Plan that includes reference to working collaboratively with others to meet the needs of persons with disabilities, including Disability Sector organisations.
<b>National Disaster Resilience Strategy</b>	National Disaster Resilience Strategy (Strategy): This Strategy is under development and will replace the National Civil Defence Emergency management Strategy. <sup>29</sup> To date stakeholder engagement has focused on testing ideas about where best to target efforts to gain the greatest benefit across four priority areas: a) Understanding disaster risk; b) Strengthening disaster risk governance to manage disaster risk; c) Investing in disaster risk reduction for resilience; d) Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction. The significance of this development is its link to the Sendai Framework – a framework that has not only established that persons with a disability are key stakeholders in the design and implementation of disaster risk reduction policies, but also includes disability-related concepts (i.e. accessibility, inclusion,

<sup>29</sup> Source: <http://www.civildefence.govt.nz/cdem-sector/national-disaster-resilience-strategy-development/>

	universal design) as overarching principles to guide disaster risk reduction efforts.
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43. While a range of regulatory mechanisms have been put in place to enhance the inclusiveness and accessibility of disaster management and disaster risk reduction activities since the Canterbury earthquake events, a number of commentators in the literature question whether such measures are sufficient. For example, the New Zealand building code does not mandate disability accessible standards. There are examples of rebuilds and repaired buildings that are not disability accessible. There are two and three story buildings that have been constructed without lifts or the capacity to include them (Bourke et al., 2017; Human Rights Commission, 2013; Rhodda, 2013; Stylianau, 2012).

44. Recommendations in the literature related to legislation, policy and strategy include:

<p><b>Legislation, Policy and Strategy: Recommendations in the Literature</b></p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Review emergency management disaster preparedness and response policies, plans, infrastructure, facilities services and information resources with a particular focus on the needs of disabled people.</li> <li><input type="checkbox"/> Socioeconomic factors are significant drivers of vulnerability, suggesting that an all of government approach to poverty reduction strategies is needed in order to mitigate disaster risk.</li> <li><input type="checkbox"/> Across the emergency management sector, human rights and equal opportunities legislation relating to people with disabilities needs to be taken into account for developing policies and delivering programmes related to emergency preparedness and response.</li> </ul>

□ Address underlying risk factors through implementing poverty reduction strategies and improving accessibility to the built environment for disabled people.

Source: (Phibbs et al., 2015: 44)

### **3.2 Diversity, Disability and Emergency Management and Disaster Risk Reduction**

45. There are a myriad of definitions of disability and the conceptualisation of disability is affected by factors such as culture and context. The United Nations Convention on the Rights of Persons with Disabilities states that:

*“Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others.”*<sup>30</sup>

46. This definition is recognised in the New Zealand Disability Strategy 2016-2026 which emphasizes that disability is the interplay between the inaccessibility of the environment, their impairments, and the barriers they face in accessing services and facilities that impact on their lives.<sup>31</sup> The following text box includes some examples of variability of definitions of disability.

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<sup>30</sup> Source: [http://www.un.org/disabilities/documents/convention/convention\\_accessible\\_pdf.pdf](http://www.un.org/disabilities/documents/convention/convention_accessible_pdf.pdf)

<sup>31</sup> Office of Disability Issues (2016). New Zealand Disability Strategy 2016-2026. Wellington: Ministry of Social Development

## Definitions of Disability: Some Examples

### Human Rights Act

The ground of disability covers:

- physical disability or impairment (e.g. respiratory conditions)
- physical illness
- psychiatric illness (e.g. depression or schizophrenia)
- intellectual or psychological disability or impairment (e.g. learning disorders)
- any other loss or abnormality of psychological, physiological or anatomical structure or function (e.g. arthritis or amputation)
- reliance on a guide dog, wheelchair or other remedial means
- the presence in the body of organisms capable of causing illness (e.g. HIV/AIDS or hepatitis).

Source: <https://www.hrc.co.nz/enquiries-and-complaints/what-you-can-complain-about/disability/#what-does-the-human-rights-act-mean-by-disability>

### New Zealand Disability Strategy 2016- 2016

Disability is something that happens when people with impairments face barriers in society; it is society that disables us, not our impairments, this is the thing all disabled people have in common. It is something that happens when the world we live in has been designed by people who assume that everyone is the same.

Source: <https://www.odt.govt.nz/assets/New-Zealand-Disability-Strategy-files/pdf-nz-disability-strategy-2016.pdf>

### Statistics New Zealand

In the New Zealand Disability Survey, disability is defined as long-term limitation (resulting from impairment) in a person's ability to carry out daily activities. The

limitations identified are self-reported or reported on behalf of the disabled person by their parent or primary caregiver.

Source:

[http://www.stats.govt.nz/browse\\_for\\_stats/health/disabilities/DisabilitySurvey\\_HOTP2013/Commentary.aspx](http://www.stats.govt.nz/browse_for_stats/health/disabilities/DisabilitySurvey_HOTP2013/Commentary.aspx)

47. These and various other definitions in the literature suggest that there are varying understandings associated with the concept of disability. Smith, Jolley and Schmidt (2012) and WHO (2011) note that disability is a multidimensional construct and persons with a disability are a heterogeneous population group. Thus, persons with different disabilities and different levels of severity will have different experiences, needs and contributions to make in the context of emergency management and disaster risk reduction.

48. A number of the published research papers note the failure to consider variability of experiences in disaster settings and the heterogeneity of people with disabilities (Bourke et al., 2017; Good et al., 2016; Mitchell, 2014; Ronoh et al., 2015).

*“Needs are different for each person, depending on personality type, extent of disability and geographical area of the city they reside in” (Good et al., 2016)*

*“...existing mobility, cognitive and other challenges associated with disabilities when participating in disaster drills. For example, the use of a warning bell caused more stress to children with autism. (This is) a recurring gap in the appropriateness of protective actions for people with disabilities and MCDEM action messages (e.g. drop, cover, hold)” (Ronoh et al., 2015: 99).*

49. For example, some academics maintain that emergency preparedness information needs to be tailored to suit a range of disability types (e.g. sensory

disability; physical disability; cognitive disability; psychological disability; etc). Moreover, designing this information and methods of dissemination needs to be done in partnership between emergency planning and response agencies and people with disability.

50. Attention also needs to be given to the varying experiences, across the stages of emergency management (reduction, readiness, response, recovery) of those who have a pre-existing disability and those “who have been injured and/or who have developed disabilities from the earthquake” (HRC, 2013:92).<sup>32</sup>

### **Diversity, Disability and Emergency Management and Disaster Risk Reduction: Recommendations in the Literature**

- More is needed to understand the specific needs of certain groups in the disability community during disasters (Bourke et al., 2017).
- Research is needed to understand how different people access and use resources in a disaster; the perceptions, skills and strategies they use in a disaster; and how and when to provide support (Ronoh et al., 2015).
- Need to develop age- and ability-appropriate resources and approaches and target messages that consider and address the specific requirements of children in disasters (Ronoh et al., 2015).
- There needs to be a coordinated solution to mitigate the experiences of vulnerability of those whose vulnerabilities are invisible (and not yet identified) and those whose experiences of vulnerability have emerged as a result of their experience of the earthquake or their experience of processes associated with

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<sup>32</sup> Ministry of Social Development (2011: 14). New Zealand Government Strategic Planning Framework. Wellington: Ministry of Social Development. Retrieved from: <http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/planning-strategy/strategic-lanning-framework/> . This framework was developed by the National Psychosocial Response Subgroup with the support of the Psychosocial Recovery Advisory Group. It was intended to support individual recovery and community wellbeing, and to build community resilience following the 2010 Canterbury and 2011 Christchurch earthquakes.



### 3.3 Inequalities, Disability and Disasters

51. There is general agreement within the international research literature that persons with disabilities are disproportionately affected by disasters and that disasters often exaggerate existing inequalities (Raja and Narasimhan, 2013: 7; Wisner et al., 2004; World Health Organisation, 2013). Be this as it may, the WHO (2013: 9) observes that “not all people who have disabilities are equally disadvantaged.”
52. The data from the Canterbury Wellbeing Survey indicated that some structural inequalities (e.g. low income household; residing in rental accommodation – social housing; unresolved insurance claims; damaged infrastructure) experienced by people with disabilities did appear to exacerbate their experiences of stress and reduced quality of life in the aftermath of the Canterbury earthquake events (CERA, 2015).<sup>33</sup>
53. However, the research literature notes that more is required to gather evidence about the pathways leading to increased vulnerability during disasters and what emergency management and disaster risk reduction strategies have the greatest impact on reducing risks for persons with disabilities.

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<sup>33</sup> Interestingly, definitions of vulnerability within the Strategic Planning Framework somewhat align with the findings from the Canterbury Wellbeing Survey: “Individuals and families who, due to pre-existing conditions, are at a greater risk of developing stress related responses following the earthquakes.” Or “Individuals and families who, due to a pre-existing condition, or as a result of the earthquake, have more barriers to accessing support to help deal with stress” (HRC, 2013: 93).

Moreover, Lord et al. (2016:9) found that “structural inequalities that perpetuate pre-earthquake discrimination create feedback loops that increase the negative effects of the earthquake for the disabled person and their households and which decrease post earthquake wellbeing and resilience.”

## Inequality, Disability and Disasters: Recommendations in the Literature

- Further research is needed on how disability and socioeconomic status increase exposure to hazards and impact upon recovery needs (Phibbs et al, 2015: 45).
- Address underlying risk factors through implementing poverty reduction strategies and improving accessibility to the built environment for disabled people (Phibbs et al., 2015: 45)
- An understanding of vulnerability and a demographic profile of the affected areas – including an assessment of vulnerability – is important to ensure response is equitable and addresses the needs of all sectors of the community. This is particularly important since the poor, the elderly, the disabled and other marginalised groups inevitably fare worst in such situations (HRC, 2013:92).

### 3.4 Social Construction Model, Disability and Disasters

54. Some studies of the post-Canterbury-earthquake experiences of people with disabilities draw attention to the continued conceptualisation of such experiences from within the ‘medical model’ framework. For example, Ronah et al. (2015) state that emergency management response and recovery actions continue to focus on people’s vulnerability and deficits. Rather, these authors argue that more can be achieved if the focus is shifted to better understand the ways in which disabled people can use their capabilities and strengths to contribute to emergency response and recovery.
55. Moreover, Bourke et al. (2017) argue that ‘recovery efforts need to expand beyond the notion of individual vulnerability and acknowledge the role that environmental barriers play in disabled people’s experiences in post-disaster settings.

## Social Construction Model, Disasters and Disability: Recommendations in the Literature

- Emergency management policy and planning needs to be couched in terms of the social model of disability to create incentives to remove the attitudinal and institutional barriers experienced by disabled people in emergency management and disaster risk reduction settings (Bourke et al., 2017)
- Consistently apply the social model of disability framework to disaster risk reduction and emergency management policy and planning documents (Ronoh et al., 2015)

### 3.5 Response and Recovery in Disaster Management: People with Disabilities and the Canterbury Earthquake Series

56. The International Federation of Red Cross (IFRC) (2015: 40) states:

*Emergencies have particularly serious consequences for persons with disabilities. New physical barriers are created and support networks are disrupted. Access to information is difficult for everyone, especially persons with sensory disabilities. Relief services are often not adapted to persons with disabilities, who struggle to cover basic needs and become increasingly dependent on outside support.*

57. This section summarises the way in which the Canterbury-earthquake-series research has considered the impact of disaster management response and recovery activities on people with disabilities. In particular, previous research on this matter has considered the following stages and activities from a disability lens:

- Capability of rescue and relief personnel and people with disabilities
- Evacuation

- Area civil defence centres and relief resources
- Consultation and representation in recovery and reconstruction
- Recovery and reconstruction research

### 3.5.1 Capability of Rescue and Relief Personnel and People with Disabilities

58. Mitchell (2014) and Good et al. (2016) found that first responders, police and other emergency staff and volunteers lacked confidence and competence about how to appropriately identify, engage and assist people with different types of disabilities in the context of the Canterbury earthquake events.

59. For example, Good et al. (2016) advised emergency services to train staff to safely evacuate people who use wheelchairs via stairways from buildings when lifts are not working. Mitchell (2014) called for enhancing the New Zealand Police's knowledge of autism.

#### Capability of Rescue and Relief Personnel and People with Disabilities: Recommendations in the literature

- Provide regular disability awareness training and up-skilling for all rescue and relief workers
- Understanding of disability and its diversity should be part of any preparation and training of frontline personnel, international organisations like Red Cross, and emergency managers (Mitchell, 2014)
- Psychosocial aspects of a disaster need to be part of professionals' training and education (Anor, 2014)

### **3.5.2 Evacuation**

60. Evacuation within the context of an emergency response involves moving people to safe locations. The disability-inclusive disaster risk reduction literature suggests that evacuation operations do not always take into account the needs of persons with disabilities. In addition, there can be barriers to evacuating persons with disabilities. For example:

- buildings and transport might be inaccessible
- care givers and family may not be able to reach the person with the disability to assist
- elevators in multi-storey buildings may not be operating and people with mobility disabilities need assistance to evacuate
- assistive devices might be left behind which then curbs the independence of persons with disabilities.

61. There is a paucity of information in the Canterbury-earthquake-series literature related to the Disability Sector's experiences of evacuation. However Ryan (2015: 170) noted that children should be evacuated with their parents. The findings from this study suggest that children found strength and resilience through their families.

### **3.5.3 Area Civil Defence Centres and Relief Resources**

62. Arnor (2014), Mitchell (2014), Bourke et al., (2017), Good, Phibbs and Williamson (2016) Human Rights Commission (2013: 123) and Hedlund (2016) drew attention to a number of barriers reported by disabled people during the immediate aftermath of the Canterbury earthquakes. These identified barriers precluded access for some to area civil defence centres, relief and disability-specific resources and temporary accommodation. For example, this body of research found that:

- People did not know where to go for help

- The physical layout and design of area civil defence centres made them inaccessible for people with disabilities (i.e. wheelchair users were unable to enter the area civil defence centre buildings; the toilet and shower facilities were inaccessible; and sometimes people were turned away because such centres were inaccessible and/or the people assisting at the centres did not have the knowledge and skill to appropriately support disabled people).
- Access to lost or damaged assistive devices (e.g. hearing aids, cochlear processors), essential medications, and other resources (e.g. food, water, etc) and services was challenging due to the damaged infrastructure (e.g. damaged roads), closed shops and businesses and the inaccessibility of some buildings where lifts were out of order. Of the availability of medical treatment, prescription medicines and assistive devices, such as oxygen /compressors/cylinders, Ryan (2015) found that in post-earthquake Christchurch these were only temporarily disrupted as help arrived from other district health boards across New Zealand.
- There was limited availability of accessible temporary accommodation.

### **Area Civil Defence Centres and Relief Resources: Recommendations in the Literature**

- Develop and use guidelines on the provision of accessible welfare centres
- Ensure physical accessibility of welfare centres and facilities (such as showers and toilets) and accessibility of essential resources
- When building or renovating community-based buildings that might be used as centres after disasters that occur in the future ensure that they are accessible
- Disaster budgets should include contingency funds to cover assistive devices or equipment lost or damaged in disasters

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- Prepare stockpiles of assistive devices such as wheelchairs, canes, hearing aids, batteries, charges, etc for use in centres and deployment during the disaster relief and response phase.

Sources: Arnor (2014), Mitchell (2014), Bourke et al., (2017), Good, Phibbs and Williamson (2016) Human Rights Commission (2013: 123)

### **3.5.4 Consultation and Representation in Recovery and Reconstruction**

63. Earlier research undertaken in a range of international jurisdictions has noted that people with disabilities are rarely involved in any phases of emergency management planning and implementation and their potential value in helping shape future policies is largely ignored. Moreover, their advice and needs tend to be overlooked during post-disaster rebuild and reconstruction efforts. Thus, there is a continued failure to meet their needs in disasters and the opportunity is lost to create cities that are accessible and inclusively resilient to future emergencies (Kett et al., 2005; Kilham, 2014).

64. The findings from the post-Canterbury earthquake research suggest that there is some optimism for ‘building back better’ and an opportunity to develop a fully-accessible and inclusive city. Mitchell (2014) and Ryan (2015) call for a participatory and inclusive approach in emergency planning, preparedness, responses and recovery process with good representation of disabled people and their organisations. The Christchurch City Council (2012) provides examples where persons with disabilities are involved with the design and implementation of mainstream rebuilding programmes.

65. Alternatively, other research has reported a lack commitment by decision makers regarding accessibility within rebuild initiatives (Bourke et al., 2017). The findings from the 2015 CERA Wellbeing Survey showed that people with disabilities had a lower level of satisfaction and confidence in recovery decisions compared to

the general population. (CERA 2015). This suggests that more is required to include the experiences, advice and views of people with disabilities in the reconstruction projects across the Canterbury region.

### **Consultation and Representation in Recovery and Reconstruction: Recommendations in the literature**

- Consider the perspectives of children with disabilities when designing and delivering disaster risk reduction resources and ‘building-back-better’ projects. For example, children should be involved in helping to design and build spaces where they play (Ronoh et al., 2015).
- It is especially important that the voices of children and adolescents with disabilities and their families are heard at a planning level in the aftermath of disasters to assist in the design of systems that meet their specific needs (Ryan, 2015).
- Disabled people should be routinely involved in thinking about escape and evacuation routes and in planning buildings and designing policies to deal with hazards (Dunn et al., 2017).
- People with disabilities comprise nearly one quarter of all New Zealanders. This means there is a critical need for a comprehensive plan of further work and research to enable a truly inclusive emergency planning approach to future emergency events. In order to achieve this outcome, it is essential that emergency planners, responders and researchers actively partner with disabled people and their communities. This will help to ensure that planning and associated information meets the needs of, and improves outcomes for, disabled New Zealanders in emergency situations (Dunn et al., 2017).



### 3.5.5 Recovery and Reconstruction Research

66. There is a paucity of research that focuses on the longer term experiences and perspectives of people with disabilities during the post-disaster recovery and reconstruction phases (Bourke et al., 2017). In particular, more is required to better understand

#### Recovery and Reconstruction Research: Recommendations in the literature

- More research is required that focuses on examining the longer term experiences and perspectives of people with disabilities during the post-disaster recovery and reconstruction phases and includes their first-hand narratives (Bourke et al., 2017).
- The prevailing discourses on disability and vulnerability are often focused on individuals rather than on structure. There is little structural will to address the implications of disaster risk reduction for children with disabilities because they are rendered largely invisible by the society and its economically fundamentalist social policies. It is therefore important for disaster researchers to first identify and recognize the capacities specific to children with disabilities to enable disaster risk reduction planners to develop strategies that make use of these capacities (Ronoh et al., 2015).

### 3.6 Resilience in Disaster Management and People with Disabilities

67. Earlier studies undertaken in a range of international jurisdictions have shown that enhancing community resilience is a significant factor in effectively preparing for, responding to, and recovering from disasters (Doran, Gibb, Kaufman, & Settle, 2010).

68. The Victorian Council of Social Services (2014: 24) describes disaster resilient communities:

*“... as one where people work together with local leaders using their knowledge and resources to prepare for and deal with disasters. They use personal and community strengths, and existing community networks and structures. A resilient community is enabled by strong social networks that offer support to individuals and families in times of crisis.”* <sup>34</sup>

69. Thornley, Ball, Signal, Lawson-Te Aho & Rawson (2015) examined the factors that enhance community resilience in the context of the Canterbury earthquake series. They found that four main factors influenced the resilience of communities and those who resided in them: 1) connectedness and a community infrastructure of local agencies, marae and leaders existed before the disaster occurred; 2) people participated in disaster response and recovery; 3) people had the opportunity to participate in official decisions; 4) support was provided from agencies outside the community.

70. Within this framework the Canterbury post-earthquakes literature that focused on the experiences of people with disabilities refers to a number of emergency management and disaster risk reduction factors associated with the concept of resilience. These factors included:

- Preparedness
- Social connectedness
- An existing network of community agencies and marae
- Information
- Participation: Consultation and Representation in disaster risk reduction and emergency management <sup>35</sup>

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<sup>34</sup> Victorian Council of Social Services (2014). *Disaster and Disadvantage: Social Vulnerability in Emergency Management*. Melbourne: Victorian Council of Social Services

<sup>35</sup> See section 3.5.4 for a summary of the research on the way in which disabled people’s participation in planning and decision making contributes to resilience in the context of disaster management.

### 3.6.1 Preparedness

#### ***Preparedness of individuals with disability and their households***

71. In line with best practice advice from multiple international jurisdictions, New Zealand's Ministry of Civil Defence and Emergency Management (2010) states that emergency preparedness is one of the most effective disaster risk reduction strategies. Phibbs et al. (2015) and others note that preparedness is an effective indicator of resilience (Arnor, 2014; Hedlund, 2016). The MCDEM advises people that they need to prepare to be self sufficient for three days after a disaster. For persons with disabilities, effective emergency preparedness includes having a stockpile of food, water and medications; a plan to contact key support people, including carers; contingencies for essential equipment in case it is lost or damaged; and a survival plan for home and away contexts that includes an evacuation route plan.
72. Of the disaster preparedness of people with disabilities who experienced the Canterbury earthquake events, the available literature indicated that many reported low levels of preparedness and few expected a disaster of that nature to occur in this region (Dunn et al., 2017; HRC, 2013:123; Phibbs et al., 2014; Ventom, 2015).
73. Dunn et al.'s (2017) study of the disaster preparedness of people who use wheelchairs found low levels of preparedness for a future disaster compared to the general population in New Zealand. Moreover, for those who had prepared for an emergency, such preparations proved inadequate with few having included strategies that met their disability-specific needs in the context of an emergency.
74. Phibbs et al. (2014), Ronoh et al. (2015), and Dunn et al. (2017) noted an increase in the emergency preparedness amongst people with disabilities from the experience of the 2010 Canterbury earthquake event to that in February 2011. However, even this improved emergency preparedness proved ineffective for some disabled people. For example, this group discovered a range of implementation barriers despite a commitment to emergency preparedness:

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- the need for help from others to implement their emergency preparedness plans
- inability to stockpile disability-related consumables, such as medications;
- cost
- lack of awareness of and access to emergency preparedness guidance tailored for people with disabilities (Dunn et al., 2017; Phibbs et al., 2014).

75. Several papers noted the efforts taken by a range of Disability Sector stakeholders, since the Canterbury earthquake series, to learn from their experiences and improve their preparedness for future disasters. Some of the improvements noted included:

- More comprehensive advice about an emergency preparedness kit and planning for those with sensory disabilities (Good et al., 2016)
- A range of disaster preparedness initiatives designed and delivered by people with intellectual disabilities (Ventom, 2015).

### **Preparedness of Individuals and Households: Recommendations in the literature**

- More is required to learn from the experiences of disabled people about what strategies best assist them to maintain their independence immediately following a disaster (Phibbs et al., 2014).
- More is required to ensure individual and household preparedness plans and emergency kits can sustain people with disabilities over a 72 hour period as a necessity (Mitchell, 2014).
- Need to better prepare individuals, families, agencies and communities to support each other in emergencies (Good et al., 2016)

- Nationwide preparedness needs reviewing regularly and needs to be frequently brought to the public's attention, for example via public awareness campaigns, Disability Sector workshops, etc. (Mitchell, 2014)
- Work with stakeholders within the disability community to identify ways to increase disaster preparedness among disabled people (Phibbs et al., 2015: 45).
- Research is needed on how disabled people prepare for and respond to disasters, as well as how they are included in recovery related initiatives (Phibbs et al, 2015: 45).
- More is needed to promote disaster risk reduction and preparedness amongst children with disabilities and their access to appropriate preparedness resources and survival strategies, for example safe places to shelter during an earthquake event (Ronoh et al., 2015).

### ***Preparedness of organisations and the sector***

76. Some commentators in the literature considered the preparedness of organisations to meet the needs of disabled people during an emergency (Arnor, 2014; Christchurch City Council, 2012; Human Rights Commission, 2013; Ronoh et al., 2015). These studies suggest that there was variation in the level of preparedness amongst agencies following the Canterbury earthquake events.
77. For example, the Human Rights Commission (2013) observed that some residential and home and community support services reported not having up-to-date client information; that more was required to ensure data was backed up; few had lists of clients assessed as high risk and high need; and, disaster preparedness plans were focused on pandemic emergencies with little guidance about what to do in other kinds of emergencies.
78. Arnor (2014: 13-14) noted that “*government agencies on multiple levels were not prepared for disasters on this scale. As a result they had to invent best practice and learn new methods along the way*”. Also noted in this publication was the

*“(l)ack of unanimously agreed guidelines and working methods combined with poor information-sharing made first-response slow and ineffective”.*

79. In similar vein Hickman and Mills (2016) explored issues associated with the interagency emergency team’s response after the Canterbury earthquake events. The findings from this study included:

*“complexity of navigating multiple agencies communication channels; understanding the different hierarchies and communication methods within each agency; data communication challenges when infrastructures were severely damaged; the importance of having the right skills, personal attributes and understanding of the organisations in the response; and the significance of having a liaison in situ representing and communicating through to agencies geographically dispersed from Canterbury”.*

80. Ronoh et al.’s (2015) study also reported interagency tensions (i.e. between agencies in the Education Sector, Civil Defence Sector and the New Zealand Red Cross) concerning the most appropriate way to deliver disaster risk reduction messages for people with disabilities.

81. In contrast, the 2012 profile of the disability sector’s response in the 2011 post-earthquake context reported that the *“sector responded quickly and effectively to support persons with disabilities”* – a response that was underpinned by collaboration, innovation and information sharing. Be this as it may, this same report noted that agencies within the Disability Sector reported enhancing their emergency management and business continuity plans following the Canterbury earthquake events, including the identification of ‘at-risk’ clients and plans for supporting them in the event of future emergencies (Christchurch City Council, 2012).

82. Mitchell (2014) noted that disability support service agencies that had a national presence took the opportunity to review and enhance their respective agencies’ disaster preparedness plans following the 2010 earthquake. Good et al., (2016) agreed that plans had become more inclusive of persons with disabilities but observed that the extent to which their needs were met at implementation varied.

83. Ronoh et al. (2015) also noted that the 2010 Canterbury earthquake event provided schools in their study with the opportunity to enhance disability-inclusive disaster preparedness plans that improved the appropriateness of emergency equipment and policies.

### **Preparedness of Organisations: Recommendations in the literature**

- Collaboration and cooperation between disability organisations, government and volunteers should facilitate support for disabled, building on local capabilities (Mitchell, 2014).
- Rather than an emphasis on narrow focused and specialised orientated silo services, the collaboration that occurred should be harnessed and reflected in comprehensive coordinated approaches (Mitchell, 2014)
- Using research evidence, determine a future framework for interagency cooperation, communication and role clarity best practice and policy (Hickman and Mills, 2016)
- More collaboration and better understanding of the different agency perspectives is needed to facilitate the development of agreed disability inclusive communication strategies for the future (Ronoh et al., 2015)
- Design and deliver disability-inclusive coordinated approaches to emergency preparedness (Ventom, 2015)
- In order for the disabled community to be well prepared and ready to act, further work is needed to develop participatory and collaborative approaches that engage stakeholders within the disability sector in strategies for disaster risk reduction, as well as in emergency management and planning. This requires an ongoing effort to incorporate inclusive disaster mitigation, preparedness and response initiatives across natural, built, social and economic environments that take into account the

needs of disabled people. (Phibbs et al., 2015: 44).

- Review emergency management disaster preparedness and response policies, plans, infrastructure, facilities services and information resources, with a particular focus on the needs of disabled people (Phibbs et al., 2015: 45).

### 3.6.2 Social Connectedness

84. Several research papers noted the importance of creating and enhancing robust social connections as a key aspect of disaster risk reduction for people with disabilities (CERA, 2015; Good et al., 2016; Human Rights Commission, 2013; Mitchell, 2014).

85. For example, Good et al. (2016) noted that in the immediate aftermath of a disaster people with vision impairments were more likely to receive help from their personal support networks than their professional support networks or agencies (e.g. Civil Defence, government organisations, agencies within the Disability Sector, etc) during the immediate aftermath of a disaster. Moreover, their research found that following disasters sharing experiences had assisted respondents initiate and/or maintain social connections.

#### Social Connectedness: Recommendations in the literature

- Strategies are required that enable people with disabilities to foster social connections where possible and for their neighbours to be responsive in emergency situations (Mitchell, 2014).

- People with minimal social supports reported feeling isolated and panic stricken, while those with good social networks recovered more quickly from the trauma. Emphasises that more is required to ensure people with disabilities have neighbourhood and community support (Good et al., 2016).

- Social connectedness for persons with disabilities may be adversely affected by



earthquakes to a greater degree than usual. Providing access to the built environment would enable them to be included in the economic and social life of the community, make social connections and contribute to society (CERA, 2013).

### **3.6.3 An Existing Network of Community Agencies including Marae**

86. Maori cultural practices facilitated disaster risk mitigation, recovery and community resilience. Dunn 2017. For example, Kenny and Phibbs (2014) noted that disabled people took advantage of the rapidly mobilised support provided by local Marae following the Canterbury earthquake events.

### **3.6.4 Information: Was Disability Inclusive Disaster Risk Reduction and Emergency Management Information inclusive and accessible?**

87. The Human Rights Commission (2013:10) writes: *“rights to participation or access to information have been affected”* in the context of the Canterbury earthquake events. *“These challenges have been especially acute for those who were already disadvantaged or facing discrimination in the pre-disaster context, such as people with disabilities, ...”*

88. Information about disaster preparedness and impending and on-going disasters is critical for people to prepare adequately for disasters, remain safe during emergency situations, access support and resources and maintain their wellbeing (Human Rights Commission, 2013). However, when such information is inaccessible to people with disabilities they are at greater risk of harm to themselves and more likely to experience stress and anxiety about emergencies (Mitchell, 2014; Ronoh et al., 2015).

89. At the time of the 2010 and 2011 Canterbury earthquake events there was a paucity of disability-inclusive and accessible information and communications (Arnor, 2014; Dunn et al., 2017; Good et al., 2016; Human Rights Commission, 2013; Phibbs et al., 2014). For example, persons with disabilities had difficulty

gaining up-to-date information about the earthquakes, the location of support and resources, and information about the state of the roads and changes in public transport routes. The Human Rights Commission (2013) noted that in the immediate aftermath of the Canterbury earthquakes people who are deaf were without information about the emergency as sign language interpreters were not used in television broadcasts and messages delivered via the radio were of no help.

90. Moreover, in a recent evaluation of New Zealand's 'ShakeOut' Becker et al. (2016) found that the Ministry of Civil Defence and Emergency Management's 2012 drop-cover-and-hold advice was inappropriate for a number of persons with disabilities.
91. More recently MCDEM has developed a range of disability-inclusive emergency preparedness information and advice.<sup>36</sup>
92. The paucity of disability-inclusive information at the time of the Canterbury earthquakes was not the only information issue reported in the literature. For example, Arnor (2014) reported that there was a lack of information about the locality of persons with disabilities and what their needs might be in an emergency situation. This issue undermined the responsiveness of services in the immediate aftermath of this disaster because of the challenges of locating people with disabilities in affected areas.
93. The Christchurch City Council (2012) also recognised that more was required to hold information about the location and needs of persons with disability as well as information about the resources within communities and neighbourhoods to assist in emergency situations. The following text box includes a summary of the region's response to this issue.

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<sup>36</sup> Examples of MCDEM's disability-inclusive emergency preparedness information is located in section 6.2.

*“The 4 September 2010 and 22 February 2011 earthquakes taught us, as a community, many lessons. One of these was that Civil Defence, Council, Key Stakeholders and Neighbourhood Support groups needed to work better and more closely together. As a result Neighbourhood Support groups across Canterbury and Civil Defence created two web-based databases ([www.selwyn.getsready.net](http://www.selwyn.getsready.net) and [www.christchurch.getsready.net](http://www.christchurch.getsready.net)). Working in partnership with the Christchurch City Council's Emergency Operations team, they developed an internet-based system that now links emails and texts, and holds information of people with various skills, resources and equipment. This can be accessed in times of emergency and Civil Defence.*

*The key to this initiative is that it lists the resources and skills of local neighbourhoods and assists them to be better prepared in the event of another disaster. The information and resources can be accessed to help those who need it the most. The system is built on a community development principle – it is community owned and managed, from the bottom up. Each neighbourhood has a combination of street coordinators and an area coordinator to ensure that the information and resources go where they are needed, including Fire Service, Red Cross and Civil Defence.*

*The coordinator of the database met with the Christchurch City Council's Disability Advisory Group and established a disabilities tab within the site. This enables people with disabilities or special needs to register on the database if they wish. By registering, addresses can be marked with a pin using Google maps. Contact information regarding a personal carer or support person can be added to a profile, and the street coordinator can arrange for someone from the network to check in on individuals in a time of need. It also helps people become more proactive within their neighbourhoods, as they may have skills or equipment to offer the database. People can join by contacting the website (Christchurch City Council, 2014).*

### Information: Recommendations in the literature

- Disability appropriate information on preparedness needs to take account of the diversity of experiences within the disability sector (Arnor, 2014)
- For those who are blind or partially blind the best way to obtain information about an emergency is to glean that information from established networks in the community (Good et al., 2016)

### 3.7 Wellbeing, Psychosocial Recovery and Persons with Disabilities

94. Previous research has shown that certain population groups will experience poorer wellbeing outcomes following disasters (CERA, 2012, 2013, 2014, 2015; Gluckman, 2011; Ryan, 2015:159). Amongst these identified groups are people with disabilities.
95. There are a number of publications in the literature that examined the psychosocial wellbeing of people with disabilities in the years since the Canterbury earthquake events.
96. For example, findings from the analysis of the data collected by the Canterbury Wellbeing Survey across the years 2012 to 2016 found that those who identified as having a health condition or disability reported poorer wellbeing outcomes across all measures (CERA, 2014, 2015; CDHB, 2016).
97. A number of studies that examined the post-earthquake experiences of children and adolescents with disabilities found heightened experiences of anxiety and stress and decreased psychological wellbeing and quality of life (Ronoh et al., 2015; Ryan, 2015, Mitchell, 2014).
98. In a similar vein, Bourke et al.'s (2017) study of the post earthquake experiences of people who use wheelchairs found that they reported increased levels of stress and rated the quality of their lives less positively.

99. A number of papers presented at the 2016 People in Disasters Conference described the mental health impacts of the Canterbury earthquake series for the population including persons with disabilities. In summary, these presenters noted that people felt marginalised, isolated, abandoned and fearful, experienced stress and relationship problems and their reported quality of life remained compromised over the longer term (Hedlund, 2016).<sup>37</sup>
100. These studies have also sought to better understand the factors in the post-earthquake environment that exacerbate and/or counter the psychological issues and deteriorating quality of life experienced by the people with disabilities that participated in these studies. Factors that contributed to experiences of stress and isolation included reduced access to the built environment, changes to public transport routes, loss of community venues and having to navigate through damaged roads and footpaths (Bourke et al., 2017; CERA, 2013, 2015; CDHB, 2016; HRC, 2013).
101. In contrast, these studies found that having good levels of social support and connection contributed to overcoming the longer-term negative effects of the disaster (Good et al., 2016, Mitchell, 2014; Ronoh et al., 2015; Ryan, 2015; Thornley, Ball, Signal, Lawson-Te Aro, & Rawson, 2013). Moreover, Gluckman (2011) and Human Rights Commission (2013) suggest implementing strategies that provide people with agency and control. Such strategies might include providing opportunities for social connectedness and providing psychosocial assistance, including counselling.

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<sup>37</sup> Memon (2016) Disabled People's Experiences in Disasters

Bourke et al., (2016). Wheelchair users' experiences of community inclusion following the Canterbury earthquakes: A thematic analysis.

Kaewdok (2016) Characteristics of flood evacuation: lessons learned from the 2011 Thailand flood

ODI (2012) Disability-inclusive emergency preparedness and response symposium 28 to 29 May 2012, Christchurch. <http://www.odi.govt.nz/resources/guides-and-toolkits/emergency-preparedness-and-responsiveness/symposium-may-2012/>

CERA (2015) CERA Wellbeing Survey, April 2015  
<http://www.cph.co.nz/Files/CERAWellbeingSurveyApril2015.pdf>

## Wellbeing, Psychosocial Recovery and Persons with Disabilities: Recommendations in the literature

- More research that draws on the voices of disabled peoples to better understand and share the factors that enhance coping, adaptability and resilience amongst persons with disabilities following disasters (Thornley et al., 2013)
- Provide psychosocial support and counselling in conjunction with recovery initiatives, such as the provision of temporary housing (Gluckman, 2011)
- Design campaigns based on best practice to help individuals and families cope with psychological issues associated with the earthquakes (Gluckman, 2011).
- There is a need for ongoing human and organisational resources, perhaps even those of a conflict resolution team, as well as a long-term commitment to ongoing psychosocial support (Gluckman, 2011: 9).
- Apply measures to ensure psychological wellbeing (Human Rights Commission, 2013).
- Future studies should follow and measure the QOL of persons with disabilities in the aftermath of disasters to assist in development of plans and policies that can be put into action to aid long-term rehabilitation for children and adolescents with disabilities (Ryan, 2015).
- Conduct future research with families of children with disabilities to identify, test and analyse coping approaches that are effective in reducing fears and anxiety experienced following disasters or trauma (Ryan, 2015).
- Quality of life research provides an insight into personal lived experiences of people with disabilities and can help guide future policies and programmes for rebuilding and growth (Ryan, 2015).
- Self esteem, self-worth, capability, usefulness and social support need to be strengthened for visually impaired disaster survivors (Good et al., 2016; Duyan & Karatas, 2005).

## Part Four: Themes Emerging from the Interviews

### 4 Themes Emerging from the Interviews

#### 4.1 Preparedness: Reducing the impact of future disasters on people with disabilities and Disability Sector organisations

102. Respondents' reflections on the level of emergency preparedness of their respective agencies and their agencies' clients varied.
103. Of the emergency preparedness of the organisations discussed at interview, respondents noted that all had emergency preparedness and business continuity plans. Some suggested that agencies with statutory responsibilities, agencies delivering residential services, and agencies that had a New Zealand-wide presence may have had more comprehensive plans compared to smaller, less well resourced Disability Sector agencies. They believed that this enhanced preparedness was largely as a result of legislative mandates, requirements to meet the Health and Disability Sector standards and a greater level of resources with which to support planning of a specialist nature such as this.
104. Almost everyone interviewed referred to the lessons learned and improvements to organisations' emergency preparedness made following the September 2010 earthquake and again following the February 2011 earthquake. Examples of such improvements included those related to:
- *Client information*: For example, electronic storage and retrieval of client contact details; and introducing methods for identifying and contacting people with disabilities who required daily support.
  - *Business continuity*: For example ensuring company vehicles are full of petrol to mitigate against petrol shortages that might preclude the continued delivery of disability support services in the community; ensuring files are backed up on an external hard drive; and ensuring

essential equipment is stored in multiple locations so that some of it can be accessed even if there are some storage facilities inside a cordon.

- *Staff training:* For example, ensuring staff working with persons with disabilities know how to keep themselves and others safe; and, ensuring staff have first aid training (as gridlocked traffic might hamper access to primary and secondary health care services) and emergency management training, particularly those working in residential, supported independent living, and day service settings
- *Remote working:* For example, introducing policies to support remote working in case office space is damaged in an emergency.

105. Emergency preparedness for individuals with disabilities might include a number of elements:

- A plan that meets their needs
- A strong social network they can rely on
- A plan for their service animals
- Having an emergency kit that is tailored to meet their particular needs for up to 72 hours after the disaster occurred.

106. While some respondents did not know the degree to which people with disabilities were prepared for an emergency, others observed that, like most Cantabrians, people with disabilities did not expect an earthquake to occur in this region and most were not prepared for an emergency of this nature. <sup>38</sup>

107. In contrast, 2012 data concerning the personal stories of 14 people with disabilities about their experiences of the Canterbury earthquake events suggest that most had stockpiled food and water and had a plan for contacting

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<sup>38</sup> These observations are supported by findings from a UN global survey of persons living with disabilities on how they cope with disasters. The findings from the Oceania region, that included New Zealanders who made up 48% of this respondent group, showed that 71.4% of those surveyed did not have a personal preparedness plan for disasters (UNISDR, 2014:28).



family and/or supports.<sup>39</sup> Moreover, some people with disabilities who work with an independent living support worker have emergency preparedness plans.

108. Respondents noted a number of emergency preparedness matters that remained a concern for them. In particular, more is required to institutionalise emergency management and more is required to understand how to prepare for and reduce the risks associated with different types of emergencies.

*“... our community always seems to be one step behind. We prepare for a pandemic and we get an earthquake. We prepare for an earthquake and we get a fire. We have not learned ... made same mistakes in Kaikoura. People are tired and can't remember what we learned and also the workforce changes.”*

109. Other suggested preparedness opportunities included:

- Civil defence and local government representatives holding regular forums to update the Disability Sector on emergency management legislation, policies, strategies and activities; and to gain a shared understanding about roles and responsibilities in an emergency, for example where to best locate people with disability sector expertise during emergencies
- Civil defence holding meetings to offer regular training and advice to the Disability Sector about keeping themselves and their clients safe in disasters
- More is required to understand the level of emergency preparedness amongst people with disabilities.
- Map resources available within the Disability Sector for use in an emergency (e.g. people with lived experience of disability; those with learned knowledge about disability; assistive equipment; etc.)

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<sup>39</sup> These personal stories were exhibited at the Disability Inclusive and Emergency Preparedness and Response Symposium held in May 2012. They were given to the researcher as data to support this scoping project.

- Earthquake Disability Leadership Group Trust could share their disability inclusive disaster risk reduction and emergency management learning and expertise with other New Zealand regions to ensure best practice is consistently applied throughout the country.

#### **4.2 Response and Relief: What can we learn from the Disability Sector's experiences of the Canterbury earthquakes?**

110. The response and relief phases of emergency management often refer to a range of activities including: search and rescue, evacuation and access to essential services (e.g. medical, shelter, housing, food, water, sanitation, transportation), welfare services and government services.<sup>40</sup>

111. Respondents were asked to describe their experiences and views about the way in which agencies from across sectors and disciplines met the needs of persons with disabilities in the immediate term following the Canterbury earthquake events of 2010 and 2011. These experiences and views have been grouped under three themes:

- Physical inaccessibility
- Evacuation
- Developing disability inclusive human resource capability

##### **4.2.1 Physical Inaccessibility**

112. Respondents noted a range of examples where there was inadequate access for persons with disabilities to resources and services made available to support residents after the Canterbury earthquakes. These examples included:

- More was required at the Emergency Operations Centre to ensure that personnel seconded to provide advice about the operation of the Disability Sector and the location of needed resources and expertise had

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<sup>40</sup> Source: Raja & Narasimhan (2013: 13-14)

the right level of experience, skill and knowledge. Moreover, some respondents were concerned about the effectiveness of the triage procedure that operated from this Centre. For example, some people with disabilities who were assessed as high risk and high need did not receive needed medical and other services in a timely manner.

- For people who use wheelchairs, people with sensory disabilities and people traumatised by the earthquake, the facilities at some area civil defence centres were inaccessible and lacked the infrastructure required for these people to independently carry out daily living tasks.
- Respondents noted that the assistance persons with disabilities received was well received. However, they noted that accessing such help was hampered by bureaucratic registration and assessment procedures which created inefficiencies and added to people's feelings of frustration and stress. Moreover, it was recognised that infrastructure damage and disrupted public transport precluded some people with disabilities accessing such area civil defence centres. Instead, a 'door knocking' strategy was initiated to facilitate their access to resources. Respondents reported that a number of difficulties arose with the implementation of this strategy. For example, there was confusion amongst agencies concerning which was responsible for this strategy – a confusion that resulted in some people with disabilities being contacted multiple times and assessed in multiple different ways, while others were not contacted at all. As a consequence this group of persons with disabilities did not access various forms of relief aid and services.
- There was a paucity of temporary accommodation that was accessible. Respondents commented that this was a critical issue in light of the fact that many people supported by disability support services resided in areas that were most affected by the earthquake events and many resided in social housing accommodation which on balance fared worse than other types of housing.

## 4.2.2 Evacuation

113. Respondents recalled a range of experiences of evacuating people with disabilities.
114. Providers of community-based residential services, that specifically catered for people with disabilities and that had a national presence, noted they took full responsibility for the decisions and logistics associated with evacuating their clients. These agencies' clients were evacuated to alternative accommodation within their Christchurch portfolio of residences or to their respective agency's residences located in other New Zealand cities.
115. Overall, respondents reported that those who were evacuated coped well with the change. Two key factors assisted them to cope with such changes: a) the support provided by family and care givers b) counselling. Respondents stated that the counselling helped people with disabilities build understanding about the disaster and the reasons for people's changed living circumstances; provided support for people, who had lost their personal possessions, through a grief process; and helped people who were experiencing anxiety and stress to build coping skills.
116. In contrast to this evacuation experience, other respondents reported less positive experiences of evacuating people with disabilities to locations of safety. Difficulties seemed to be associated with confusion about the location of the authority for making decisions concerning evacuation. This difficulty was exacerbated by a lack of criteria with which to guide such decisions and that "*cost centre concerns overrode person-centred concerns.*" Moreover, respondents stated that some people with intellectual disabilities were evacuated who did not want to leave.

*"People's rights and needs were overridden. If a person's safety is not compromised and they have agency, then they have a right to be involved in decisions to evacuate. It felt like their rights were trampled on and they were very distressed."*

117. Some of those who commented on this issue stated that more research was needed to better understand the evacuation experiences and outcomes for people with disabilities.

#### **4.2.3 Developing Disability Inclusive Human Resource Capability**

118. The experiences of the respondents suggest several groups could benefit from training that built capability and confidence to engage with people with disabilities (e.g. using assistive devices; connecting with people who are distressed) and understanding their needs. The groups of workers they mentioned were:

- First responders
- Those providing support and services in area civil defence centres
- Those responsible for repairing damaged roads and footpaths

119. They relayed instances where staff refused to evacuate a person with an intellectual disability, mistakenly interpreting their challenging behaviour as intentional violence, rather than their expression of anxiety and fear.

120. They noted the police's handling of the case involving a man with a diagnosis of Asperger's Syndrome, who was apprehended inside the cordon and arrested for looting after the February 2011 earthquake.

121. Another respondent described the need for area civil defence centres' staff to have knowledge about how they might best assist people with sensory disabilities.

122. Lastly, they described how training had been offered to the Stronger Christchurch Infrastructure Rebuild Team (SCIRT) on how to support people with disabilities safely through road works – a capability building exercise that had, for example, enabled people with sight impairments and physical disabilities to continue their daily work and shopping routines despite changes to the infrastructure landscape.

### 4.3 Information and Communication in Accessible Formats & Information Sharing

123. Respondents agreed that having comprehensive information and communications in accessible formats before, during and after an emergency contributes to the resilience of persons with disabilities.
124. A key lesson learned from the Canterbury earthquake events was that more was required to ensure emergency preparedness information was adequately distributed and accessible. Respondents noted that this was an issue particularly for those with sensory and/or intellectual disabilities. In addition, they noted that communication in the post-Canterbury earthquake context should have been accessible to all via multiple formats and through the use of technology. Respondents reported that since the Canterbury earthquakes efforts had been made to address some of these identified communication and information issues.
125. When asked to identify opportunities for enhancing information to support disability risk reduction strategies and emergency management, respondents offered the following advice:
- Draw on the experiential and empirical knowledge from international jurisdictions as the basis for developing disability inclusive emergency management policy, practice and plans
  - Develop guidelines on information sharing across agencies during an emergency <sup>41</sup>
  - Strengthen information about persons with disabilities within communities including numbers, locations and specific requirements so that first responders and disability support services have information with which to appropriately assist in a disaster.
  - Map disability inclusive resources across communities to enhance the efficiency of access during emergencies.

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<sup>41</sup> Note that in 2013 the Privacy Commissioner published a Civil Defence Emergency (Information Sharing Code) applicable from 14 April 2014. Retrieved from: <https://www.privacy.org.nz/assets/Files/Codes-of-Practice-materials/Consolidated-Civil-Defence-National-Emergencies-Information-Sharing-Code-incorporating-Amdmt-2-current-at-14-April-14.pdf>

- Review the effectiveness of different frameworks to conceptualise and operationalise emergency management for persons with disabilities and publish the findings as an evidence base for developing policy and practice <sup>42</sup>
- Review the Disability Sector's experiences following emergencies by asking the following questions: 1) Was the emergency response equitable? 2) Were any people with disabilities excluded from an emergency response, and if so why? 3) What needs to be done in the future to facilitate a disability inclusive emergency management process?
- Collect and collate the experiences of diverse groups within the disability sector (e.g. people with different types of disability; people with disabilities who identify as Maori; people with disabilities who identify as belong to culturally and linguistically diverse groups) to gain greater understanding about what challenges they experienced; what methods helped them to cope; and what helps to build resilience, social capital, wellbeing, etc.

#### **4.4 Collaboration and Coordination for Disability Inclusive Collective Impact**

126. Respondents described the contributions of multiple and diverse stakeholders during the years since the Canterbury earthquake events. They highlighted the importance of adopting a coordinated and collaborative approach to ensure disability inclusiveness is incorporated into all phases of the disaster management cycle.

127. They noted examples of the collaborative efforts of cross-sector and cross-discipline agencies to deliver wrap-around services for people with disabilities within the post-earthquake context. For example, the Salvation Army met people's general needs post earthquake while a disability support service met

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<sup>42</sup> Frameworks noted by respondents included: human rights; 5 ways to wellbeing; social and medical models of disability; 4 Rs of emergency management

their specific requirements. They also noted that the cross-sector work undertaken during the response, recovery and reconstruction phases of emergency management had built understandings about different agencies' positions and mutual respect.

128. Be that as it may, many respondents noted some challenges that continued to frustrate efforts to "*institutionalise the build back better vision*" into recovery and reconstruction activities and create a city that was inclusive and accessible for all. For example, respondents noted that multiple theoretical positions underpinned recovery and reconstruction decisions and actions – positions that at times resulted in "*putting right what was damaged by the earthquake*" and "*recreating the status quo*" and at other times contributed to addressing inequities and enhancing the quality of life experienced by people with disabilities.<sup>43</sup>
129. Moreover, in the immediate aftermath of the Canterbury earthquakes respondents commented that the effectiveness of the relief and response services provided to people with disabilities was, at times, frustrated by requirements for "*national decision making on local experiences*"; command and control approaches in situations where collaborative and adaptable solutions would have been more efficient and effective; and role confusion that either resulted in duplication of effort or frustration when expectations were not met.
130. A couple of respondents referred to the recent development of the Waimakariri District Civil Defence Emergency Management Welfare Plan as an effective process for clarifying roles and building disability inclusive disaster risk reduction across a network of local government and NGO agencies. They noted several positive aspects about this initiative:
- Built on the relationships within existing community networks

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<sup>43</sup> The respondents discussed a range of frameworks underpinning recovery and reconstruction decisions and actions since the Canterbury earthquake events and the different outcomes that occurred as a result of these different positions. Examples of these frameworks included: 1) the social and individual models of disability; 2) framing disability in terms of 'vulnerability' and separatist as opposed to framing it as a cross-cutting matter that is considered in all policies and practices; 3) focusing solely on the built environment, instead of integrating the social, natural, economic and built environments into recovery



- Included disability sector organisations that had local knowledge about accessible and inclusive resources
- Providing disability sector organisations with the opportunity to specify disability-inclusive needs (e.g. accessibility and inclusiveness requirements at area civil defence centres)
- Clarified roles and responsibilities
- Included regular meetings of the network of agencies to ensure all were up to date with changes in the regulatory environment and had the opportunity to refresh their emergency management capabilities.

131. Respondents identified some opportunities to strengthen the collaborative nature of disability inclusive emergency management including:

- Build the emergency management capability of the disability sector by providing knowledge about the different regulatory requirements and agency roles and responsibilities that apply in different types of emergencies (pandemic; fire; bio-security; etc)
- Provide the disability sector with opportunities to share best practice disability inclusive disaster risk reduction strategies.

#### **4.5 Voices of People with Disabilities: Supporting Knowledge Production**

132. Respondents described the powerful impact of hearing the voices of people with disabilities describing their lived experience of disability and disasters and drawing on that experience to guide programmes of work with others concerning disaster preparation, ways of coping during emergency response and recovery and ways of contributing to rebuild and reconstruction.

133. They noted the way in which the earthquake experiences of people with disabilities recounted at the May 2012 symposium (entitled 'Disability inclusive emergency preparedness and response: Learning from the Canterbury earthquakes'), influenced the disability-inclusive emergency management

policies and strategies that were subsequently developed by the Ministry of Civil Defence and Emergency Management.<sup>44 45</sup>

134. Reference was also made to the programme of work developed by the Earthquake Reflection Group: ‘Shaken but not Stirred workshops;’ two films about the Group’s experiences of the Canterbury earthquakes soon after these events and three years later; and their publication entitled ‘How to prepare for an emergency.’ All who knew of this programme of work were keen for it to continue.
135. Respondents observed that there is a paucity of studies that have collected the lived experiences of disasters from diverse groups of people with disabilities. They argued that more is needed to hear about the specific needs and coping strategies used by diverse groups within the disability sector and use these insights to develop disability inclusive emergency management programmes, practices and policies.

*”When we think about the response needs and contribution people with disabilities can make to emergency management, we need to understand the experiences of people within residences, those in their own home ... with and without the support of services, and all the diversity within disability.”*

136. In addition, respondents argued that the significant role played by family and community support workers, who assist people with disabilities throughout the emergency management phases, need to be recognised. They maintained that a similar experiential evidence collection approach could be adopted to develop

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<sup>44</sup> MCDEM put into action lessons learned from this Symposium including: a home page link to ‘instructions for people with disabilities or special requirements’; cross impairment information; informational videos for Deaf and hearing impairment community conducted in NZSL done in conjunction with Deaf Aotearoa; MP3 recording videos for the blind and visually impaired community done in conjunction with the Blind Foundation; a ‘drop, cover, hold’ brochure for persons who use wheel chairs or have physical impairments; information for people with asthma or respiratory problems and those with special food requirements.

<sup>45</sup> See MCDEM (2013). *Including people with disabilities: Information for the CDEM Sector*. Wellington: MCDEM.

materials for workshops and other information dissemination opportunities for families, support workers.

#### **4.6 Disasters Increase the Number of People who Experience Disability**

137. Some respondents noted that the Canterbury earthquake series created an increased number of people who experience disability due to injuries (e.g. spinal cord injuries; amputations; traumatic brain injuries; etc.), and/or disaster-induced mental health, wellbeing and psychological problems (e.g. depression, anxiety, post-traumatic stress disorders) and/or breakdown of support structures.
138. They noted a number of consequences resulting from this increased number of people experiencing such disaster-induced disabilities including:
- A long-term pressure on the health and social services systems
  - Lack of data about the size and timeframe of the impact of the Canterbury earthquakes for people with existing or new impairments with which to guide decisions about the level of financial support to set aside to meet individual and system-wide needs
  - The ‘invisible’ nature of mental health and psychological issues experienced by some members of the Disability Sector (for example, people with an intellectual disability).

#### **4.7 Disability Inclusive Psychosocial Support**

139. Respondents noted that the psychosocial response to the Canterbury earthquake series was founded on an empirical evidence base.<sup>46</sup> Moreover, they noted the range of support services (e.g. 0800 earthquake support line; earthquake counselling) put in place to assist those affected by the earthquake series and those affected by the secondary stressors associated with this disaster.

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<sup>46</sup> Several respondents referred to Gluckman’s (2011) publication.

140. Some respondents reflected that such psychosocial responses were of a generic nature and that little was provided to accommodate the needs of particular population groups. For example, several respondents stated that the earthquake counselling service did not meet the needs of people with intellectual disabilities and sensory disabilities that they respectively worked with.
141. Alternatively, two respondents described counselling services that were operating prior to the Canterbury earthquakes and that specialised in working with people with disabilities noting that demand for their services increased substantially during the years since 2010.
142. Respondents also noted the utility of the data collected via the Canterbury Wellbeing Survey for planning psychosocial responses during the recovery and reconstruction phases. In particular, this year-on-year data indicated that people who identified as having a disability consistently reported less positive outcomes on a range of quality of life domains compared to the general population.

#### **4.8 Recovery and Reconstruction: Don't Rebuild Barriers, Build Back Better**

143. The respondents all agreed that Canterbury's post-earthquake recovery phase offered a unique opportunity to create a fully accessibility and inclusiveness city. They reflected that the community's mandate for this recovery outcome was evident in the results of the 'Share an Idea' conversation in which those who participated in that conversation stated they wanted an inclusive and accessible city for all people, including persons with disabilities.<sup>47</sup>
144. They visualised the 'building back better' process as involving more than the reconstruction of the built environment. Rather, many spoke about using the opportunity to take a holistic approach to 'building back better' Canterbury's

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<sup>47</sup> Christchurch City Council (2011). Central City Plan: Draft Central City Recovery Plan for Ministerial Approval Christchurch: CCC. Retrieved from: <https://www.ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Plans/central-city/CentralCityPlanTechnicalAppendicesA-D.pdf>

psychosocial, physical and economic environment. Moreover, they hoped for an approach that addressed not only inclusiveness and accessibility issues, but that also considered futures-focused drivers (e.g. climate change, aging population, the increasing incidence and visibility of disability, etc). In summary, they wanted a 'regenerated' city and community that had the capacity to be sustainable, adaptable, safe, and recover effectively in the event of any future emergency.

145. Respondents reported a range of reconstruction and recovery initiatives and projects that were of interest to Disability Sector stakeholders. The initiatives and projects they described spanned a continuum. At one end of the continuum there were initiatives that replicated pre-earthquake conditions and thus did not address existing structural and psychosocial vulnerabilities. At the other end of the continuum there were initiatives that reduced risks associated with the built environment and improved the community's social and economic conditions, including accessibility, inclusiveness and wellbeing.
146. From one perspective, respondents believed that, to date, initiatives had *"completely missed the opportunity to build an accessible city that allowed all kinds of people to participate"* and that some infrastructure developments had *"created an environment that would increase harm"*. For instance, they reported examples of newly constructed road crossings, footpaths, cycle ways, public spaces and parking facilities that were unsafe and inaccessible; public transport developments that exacerbated accessibility; no 'sensory-focused' experiences; and new buildings that failed to meet accessibility standards producing a situation of *"another 40 years of a building's life where they are inaccessible to persons with disabilities, ... both as a citizen and as a potential employee"*. In addition, they noted a range of situations in which people with disabilities continued to be treated with discrimination and where they were economically and socially excluded.

*"... frustration is that there are a lot of people out there with lived experience and learned experience that can give good advice about*

*accessible environments ... but people making the decisions want to get the job done and don't consult."*

*"(People with disabilities) were closed out of the old city and will be closed out of the new city unless they are an integral part of helping the rebuild."*

147. From another perspective, respondents described a range of initiatives that incorporated disability inclusive disaster risk reduction strategies, incorporated principles of universal and accessible design, and sought civic, social and economic inclusion and wellbeing outcomes for persons with disabilities. Examples of such initiatives are listed in the following text box.

- Anchor projects and other initiatives (e.g. website design; NGO office space; etc.) subject to an accessibility audit
  - Local government social housing that provides accessible accommodation
  - Accessible Charter
  - Access Matters – a collaborative effort to introduce legislative requirements for government agencies to ensure accessibility across all strategic and operational functions <sup>48</sup>
  - Accessible advocacy training – provides people with disabilities with the tools and skills to advocate for legislative and policy changes that have the potential to enhance accessibility and inclusiveness
  - Earthquake Disability Leadership Group Trust
- "a quiet, clear voice in a post-disaster phase of disillusionment"*

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<sup>48</sup> Access Matters: The Access Alliance engages with Parliamentary Parties inviting them to commit to introducing accessibility legislation that will ensure disabled Kiwis have the same opportunities and choices as everyone else ( <http://www.accessalliance.org.nz/>).

*advocating for an accessible and inclusive city”*

- The voice of lived experience of disability at the Psychosocial Governance Group table
- Learning from Canterbury Quakes Symposium (May 2012) – a symposium “*that enabled disabled people and their families to have a voice about their earthquake experiences.*” These stories helped identify what needed to be done to improve the emergency preparation and response for people with disabilities.
- All Right Campaign

“*... (helps) build a resilient mindset ... care for your own and others wellbeing*”.
- Five Ways to Wellbeing integrated into personalised planning course for people with learning disabilities
- Arts Integrated

“*... a pathway to gain skills and paid work as assistant teachers*”

148. Respondents commented that more effort was required in this Canterbury earthquake recovery and reconstruction phase to contribute to community wellbeing and an inclusive and accessible environment for persons with disabilities. Their suggested actions included:

- Explore effective methods for ensuring that accessibility and inclusiveness are structurally embedded so that future disaster risk reduction and emergency management policies, practices and decisions are disability inclusive

- Create opportunities for building public awareness and advocacy for disability inclusive and accessible strategies including updating the building code; accountability for the government's Accessibility Plan; etc.<sup>49</sup>
- Design and deliver programmes that foster wellbeing (i.e. that make transparent and are inclusive of mental health, physical health, disability inclusive, etc.) by applying the 5 ways to wellbeing framework and the quality of life framework to recovery and reconstruction phase initiatives
- Include social and economic inclusiveness for people with disabilities as a key focus for recovery and reconstruction.

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<sup>49</sup> Respondents identified a number of references whilst discussing suggested actions including:

- Accessibility Plan: Public Buildings outlines a programme of work to achieve the intended goal of 'Equitable access to and use of publicly accessible buildings by all New Zealanders'. Retrieved from: <http://www.mbie.govt.nz/info-services/building-construction/safety-quality/disability-access-review/accessibility-plan-public-buildings>
- NZTA (2015). RTS 14 Guidelines for facilities for blind and vision impaired pedestrians. 3<sup>rd</sup> Ed. Wellington: New Zealand Transport Association. Retrieved from: <http://www.nzta.govt.nz/assets/resources/road-traffic-standards/docs/rts-14.pdf>
- NZTA (2009). Pedestrian Planning and Design Guide. Wellington: NZ Transport Agency. Retrieved from: <https://www.nzta.govt.nz/resources/pedestrian-planning-guide/>
- Standards NZ (2001). NZ Standard Design for Access and Mobility – Buildings and Associated Facilities. Wellington: Standards NZ. Retrieved from: <https://www.standards.govt.nz/assets/Publication-files/NZS4121-2001.pdf>



## Part Five: Summary of Themes within the Evidence and Recommendations

### 5.3 Summary of Themes

149. This scoping review sought to make explicit the lessons learned from the research literature and from Disability Sector stakeholders' experiences of emergency management and disaster risk reduction associated with the 2010/2011 Canterbury earthquake series.

150. Several overarching themes emerged from this evidence base.

- **Building back better:** Using the period following the disaster as an opportunity to improve the social, economic, environmental and physical conditions and thereby create a more resilient community for all Cantabrians, including people with disabilities.
- **Participation and inclusion:** If people with disabilities participate in the reduction, readiness, recovery and reconstruction phases of emergency management and disaster risk reduction, then sustainable solutions will be promoted that benefit everyone in the community.<sup>50</sup>
- **Collaboration:** In post-disaster contexts large numbers of stakeholders are involved. To achieve disability-inclusive responses and collective impact, effort is required to ensure role clarity and effective coordination of capabilities.
- **Diversity within disability:** Effective disability-inclusive disaster risk reduction and emergency management strategies require recognition of the needs and capabilities of the diverse lived experiences of people with disabilities.

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<sup>50</sup> Articles 11 and 32 of the UNCRPD require persons with disabilities to participate in disaster relief and response and DRR strategies and to benefit from such involvement.

- **Knowledge acquisition and knowledge management:** More information is needed to build understanding and improve emergency management plans and their implementation for people with disabilities

## 5.2 Recommendations

151. The recommendations outlined below are based on the evidence from the empirical literature and the respondents' experiences and expert knowledge synthesised in this review. This report recommends that work is undertaken to:

- i) Strengthen the disability-inclusive capabilities of the emergency management and disaster risk reduction workforce:** The evidence suggested that first responders and others delivering disaster rescue and relief services lacked the confidence and competence to identify, engage and assist people with diverse types of lived experience of disability. Therefore, providing periodic briefings and workshops for this workforce about the principles inherent in the Sendai Framework for Disaster Risk Reduction and the UNCRPD and best practice disability-inclusive emergency responses is recommended.
- ii) Establish mechanisms for collaborative learning and working together to foster disability-inclusive disaster risk reduction and emergency management:** The evidence suggests that more is required to build understanding about the regulatory environment covering different types of emergencies and the roles and responsibilities of Disability Sector stakeholders in disability-inclusive emergency responses. It is recommended that support is provided for a networking mechanism, such as regular symposium, for Disability Sector stakeholders to share disability-inclusive disaster risk reduction strategies; learn about changes in the regulatory environment; develop a memorandum of understanding about their respective roles and responsibilities within an emergency management context; and learn about business continuity and agency

disaster preparedness strategies, including ways in which to foster the resilience of staff and clients in emergencies.

**iii) Strengthen the evidence-base related to the disability sector and effective emergency management and disaster risk reduction strategies:**

The evidence suggests that there is a paucity of research that focuses on the experiences of people with disabilities in the context of disasters. Moreover, the research that has been undertaken has a number of limitations, such as the small convenience sample sizes and lack of comparative data. Also most of the research is focused on the immediate period after a disaster. Recommended areas for further information and knowledge gathering include:

- Undertake a community mapping exercise with Disability Sector stakeholders to identify the location of disability-inclusive emergency management resources (e.g. accessible accommodation, expert advice on the system of response within the Disability Sector, disability-inclusive counselling services, assistive devices, etc)
- Collect information about persons with disabilities within the community (e.g. numbers, needs, etc) that will ensure appropriate and equitable relief and recovery services are delivered.
- Undertake research that explores the pathways leading to at-risk/vulnerable situations for people with disabilities during disasters as well as uncovering strategies that mitigate such risks.
- Collect and collate the lived experiences of disaster from diverse groups of people with disabilities to better understand the challenges and barriers they respectively faced; effective methods of coping for each group; and ways in which such challenges and coping mechanisms are respectively impacting on recovery and reconstruction. Apply this learning to resources and programmes led by people with disabilities for people with disabilities.

- Undertake research that enables a better understanding of the factors that enhance coping, adaptability and resilience in the aftermath of disasters for both people with disabilities and the Disability Sector workforce. This research will provide an evidence base for effective policies and strategies that enhance psychosocial wellbeing.
- Review the effectiveness of different frameworks (e.g. social constructionist, human rights, etc.) to conceptualise and operationalise emergency management for people with disabilities and publish the findings as an evidence base for developing policy and practice.

In addition a coherent programme of knowledge management is recommended to ensure the transfer of the evidence to those who can most benefit from it. This knowledge is expected to allow disability-inclusive emergency management to constantly be improved.

- iv) Support the design and implementation of a culture of resilience-focused emergency preparedness that includes individuals with disabilities, their families/whānau, care givers, and key people and groups in neighbourhoods:** The evidence suggests that there were low levels of emergency preparedness amongst people with disabilities prior to the Canterbury earthquake events. Those who had attempted to implement some emergency preparedness strategies, experienced barriers to implementation (e.g. cost, needing the assistance of another person, inability to stock pile medicines). Respondents advised that having social connections (e.g. neighbours, care givers, support workers and family) was a critical factor that contributed to the resilience of people with disabilities during the first week after disasters. They argued that more was needed to understand ways in which to support these groups during different types of disasters in order for people with disabilities to maintain their independence. It is therefore recommended that further work is undertaken to explore the

way in which individual resilience factors and community resilience factors can be effectively applied to emergency preparedness for people with disabilities and the people within their ecology.

- v) **Investigate and implement a continuum of strategies for enhancing the psychosocial, wellbeing and quality-of-life recovery of persons with disabilities:** The evidence suggests that in the years since the Canterbury earthquake series, people with disabilities have consistently reported poorer wellbeing outcomes compared to the general population. They also report that, in the longer term, their quality of life has been compromised by their experiences of this disaster and a range of secondary stressors. Moreover, respondents reported that the psychosocial supports, including counselling, provided for the general population were not responsive to the needs of people with disabilities, particularly those with sensory and/or intellectual disabilities. It is recommended that effective strategies for strengthening wellbeing (e.g. five ways to wellbeing, could be included in personalised planning and other community-based services; programmes that build social capital; programmes that support social and economic inclusiveness; etc.), are investigated and implemented.
- vi) **Support the leadership and contribution of people with disabilities to the design, implementation and evaluation of emergency management and disaster risk reduction strategies** – strategies that are underpinned by principles of inclusiveness and accessibility, that apply universal and accessible design and that focus on improvements to the social, economic, environmental and built environments for disabled people and the communities within which they live.

The evidence suggested that people with disabilities are not always included in the planning, design and implementation of emergency

management and disaster risk reduction decisions and actions. For instance, the literature and the respondents provided examples where people with disabilities were not included in designing emergency management communication and information distribution strategies. In addition, they were not always consulted about the rebuild of the physical environment to ensure its accessibility by all in the future (i.e. public buildings, civil defence centres, etc.).

The inclusion of people with disabilities in such activities not only enhances their individual resilience, but also ensures their wisdom is used to develop effective emergency response and recovery management measures.

## Part Six: Annotated Bibliography and List of Resources

### 6.1 Annotated Bibliography

152. This annotated bibliography lists the current evidence that exists within the post 2010/2011 Canterbury earthquake response and recovery landscape, related to the Disability Sector.
153. Each citation is followed by a brief description to inform the reader about its content in relation to the subject of this research scope project. The language used in the brief descriptions is that of the authors of the publications listed.
154. The bibliography is principally intended to be a resource for the New Zealand Red Cross. However, compiling the bibliography has also enabled an exploration of the relevant literature to discover recommendations within the research concerning opportunities to increase the preparedness and resilience of people with disabilities in disasters and address identified research or operational gaps.
155. The references gathered here suggest that a considerable amount of research was undertaken in this field during the first year or two after the Canterbury earthquake series. More recently less has been published, although there may be studies part completed that are yet to be released in the public domain.
156. Significant new research questions have been posed within this body of literature and there is clearly more to do to address the research and operational gaps.

Arnor, A. (2014). *WBU Report on Disability-Inclusive Disaster Management*. World Blind Union.

This report addresses challenges and existing gaps in disaster management practices from a disability perspective. The first section of the report explains the interrelation of displacement in natural disasters and armed conflict with regard to persons with disabilities (PWDs). The second section provides information on

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relevant international actors within the UN system and civil society organizations. The third section highlights good and bad disaster practices from a disabled person's perspective. The last sections are appendices with specific recommendations/checklists to blind and partially sighted people, the WBU and non-governmental organizations.

This report includes a summary of the themes that emerged from the first-hand experiences of the Canterbury earthquake events as reported by people with disabilities in 2012. These themes included the main factors that led to marginalisation, isolation, fear and dependency on others experienced by persons with disabilities during and after the 2010/2011 Canterbury earthquake series.

Becker, J.S., Coomer, M., Potter, S., McBride, S., Lambie, E., Johnston, D.M., Cheesman, B., & Guard, J. (2016). Evaluating New Zealand's "ShakeOut" Drills: A Comparative Analysis of the 2012 and 2015 Events. Paper prepared for the 2016 NZSEE Conference.

**Abstract:**

New Zealand ShakeOut is a national earthquake drill that was first held on 26 September 2012 at 9.26am. The New Zealand ShakeOut campaign was based on international ShakeOut drill activities and was organised by the Ministry of Civil Defence & Emergency Management. The campaign focussed on educating New Zealanders about what to do in an earthquake, communicating the "Drop, Cover, Hold" message, and requesting people practise the "Drop, Cover and Hold" action in an official drill. People were asked to register their participation in ShakeOut on the website [www.shakeout.govt.nz](http://www.shakeout.govt.nz). In addition to the drill, other activities were also promoted including undertaking preparedness for earthquakes, emergency response planning and exercising emergency plans. A second ShakeOut drill was conducted on 15 October 2015 at 9.15am.

An evaluation of both ShakeOut drills commenced immediately after both events.

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One method of evaluation was recruiting “observers” to report on what people did before, during and after the drill. One year after the 2012 drill, a follow-up survey was also sent out to registrants on the website.

This paper presents the results of a comparative analysis of both the 2012 and 2015 ShakeOut “observer” surveys. Findings indicate that the majority of respondents who registered for the ShakeOut actively participated in the drill. However, some participants’ “Drop, Cover, Hold” actions were hindered by issues related to age or disability. Comparisons between the 2012 and 2015 data show improvements in response to the drill. The authors argue that this improved response was partly due to the MCDEM’s publication of information about ways to respond to an earthquake for people with disability or limited mobility.

ShakeOut has also been effective in prompting actions related to preparedness and emergency planning. Understanding people's responses to the ShakeOut drill has already enabled improvements to public education for earthquake preparedness and response beyond the drill.

Bourke, J.A., Hay-Smith, E.J.C., Snell, D.L., & Schluter, P.J. (2017). Community inclusion of wheelchair users during the long-term recovery phase following the 2010/2011 Canterbury earthquakes. *International Journal of Disaster Risk Reduction*. 23: 169-177. <sup>51</sup>

A journal article that reports the findings of research that explored how people who use wheelchairs experienced community inclusion during the medium to long-term following the Canterbury earthquake events.

Four main themes dominated the findings of this research: 1) earthquakes magnify

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<sup>51</sup> A presentation on this research project, dated 03 November 2016, and a recording of a One In Five radio interview, dated 24 May 2015, can be accessed at the following link: <http://www.burwood.org.nz/node/104>

pre-existing barriers to community inclusion; 2) community inclusion requires energy; 3) social connections are important; 4) there is an unprecedented opportunity for change.

CDHB (2016, April). Wellbeing Survey April 2016: Report prepared by Neilsen for the Canterbury District Health Board and partnering agencies.

Report on the findings from the 8<sup>th</sup> administration of the Canterbury Wellbeing Survey. The Canterbury Wellbeing Index measures self-reported progress against a range of earthquake recovery indicators and provides feedback to agencies about trends in community wellbeing. This report provides data about the experiences of people living with a disability in relation to some of the indicators.

Carlton, S. & Valance, S. (2013). *An Inventory of Community-led and Non-governmental Organisations and Initiatives in Post-earthquake Canterbury (to September 2013)*. Christchurch: Faculty of Environment, Society and Design, Lincoln University.

This inventory lists thousands of community-led groups and initiatives across Canterbury that developed and evolved as a result of the earthquake events experienced within the region.

It includes community-based support and services operating in the Canterbury Disability Sector.

The 2013 inventory is the third of its kind to be published. The *Christchurch Earthquake Activity Inventory* was released by Landcare Research in May 2011, three months after the 22 February 2011 earthquake. The second inventory, entitled *An Inventory of Community-led Recovery Initiatives in Canterbury*, was collated by

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Bailey Perryman and Dr Suzanne Vallance (Lincoln University) approximately one year after the February 2011 earthquake.

Christchurch City Council (2012). *Community Profile: Disability Sector*. Christchurch: Christchurch City Council.

A 2012 profile prepared by the CCC that describes activities being undertaken within the Disability Sector in response to the Canterbury earthquake events. These activities include those related to topics such as universal design, advocacy, transport, roads and footpaths, emergency preparedness and response, civil defence and emergency management and employment.

CERA (2013, June). CERA Wellbeing Index: Social Connectedness. Christchurch: Canterbury Earthquake Recovery Authority. Retrieved from:  
<http://cera.govt.nz/sites/default/files/common/2013-06-26-canterbury-wellbeing-index-14-social-connectedness.pdf>

Paper reporting the findings from the administration of the Canterbury Wellbeing Index, in particular the trends and issues associated with social connectedness following the Canterbury earthquake events. The paper notes that the Canterbury earthquake events adversely affected the social connectedness of people with disabilities and produced a set of physical barriers (e.g. damaged footpaths and roads; relocation of services to new buildings; access to the built environment) for this population group.

CERA (2013, October). Christchurch Central Recovery Plan: Te Mahere 'Maraka Ōtautahi.' Replacement Transport Chapter. Christchurch: CERA. Retrieved from: <https://static.stuff.co.nz/files/ChristchurchTransportPlan.pdf>

The Christchurch Central Recovery Plan was notified in the New Zealand Gazette on 31 July 2012 and had effect from that date. It contained limited information on transport. It was intended that more detailed work would be done to design a transport system to support the recovery of the central city of Christchurch. This document was developed by Canterbury Earthquake Recovery Authority (CERA) in partnership with the Christchurch City Council (CCC), Environment Canterbury (ECAN) and the New Zealand Transport Agency (NZTA). Public consultation took place between November 2012 and the beginning of February 2013. This "An Accessible City" is an addendum to the Christchurch Central Recovery Plan and replaces the transport chapter, pages 89 to 94 inclusive. An Accessible City also includes amendments to the transport provisions of Christchurch City Council's District Plan, including replacing the Transport Environments Map.

The contents of this publication are underpinned by the concept of accessibility – 'The buildings, open spaces, streets and facilities within the central city will be safe, accessible and people friendly.' (CERA, 2013:5).

Dunn, J.A., Nicholls, J.M., Snell, D.L., & Nunnerley, J.L. (2017). New Zealand wheelchair users' preparedness for emergencies. In *Australasian Journal of Disaster and Trauma Studies*, 21(1): 1-18. Retrieved from:

[http://trauma.massey.ac.nz/issues/2017-1/AJDTS\\_21\\_1\\_Dunn.pdf](http://trauma.massey.ac.nz/issues/2017-1/AJDTS_21_1_Dunn.pdf)

Abstract:

People with disabilities are disproportionately affected by emergency situations. They experience higher mortality rates and greater vulnerability than the general population due to disrupted infrastructure and services.

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Although personal preparedness has been identified as one of the most effective ways to mitigate the emergency-related risks, personal preparedness among people with disabilities is reported to be low.

The aim of this study was to investigate emergency preparedness of wheelchair users in New Zealand and to compare their preparedness levels with those of the general population.

A nationwide survey of adult, community dwelling wheelchair users was conducted. Of 101 participants, less than 30 percent had made emergency preparations for a future emergency which is substantially lower than the rate reported among the general New Zealand population. Fewer than 20 percent of survey participants were planning for their disability specific needs. Personal preparedness barriers identified included the need for assistance from someone else to carry out planning activities (50%), lack of disability relevant information (37%), limited accessibility to information (24%), cost (23%), and being unable to stockpile medications (20%) or consumables (11%). Overall, participants reported lower levels of personal emergency preparedness and a higher incidence of barriers to preparedness than reported by the general New Zealand population.

A comprehensive plan of further work and research could enable genuinely inclusive emergency planning for future emergency events in New Zealand. To achieve this outcome, emergency planners, responders and researchers must partner with disabled people so that planning meets the emergency related needs of disabled New Zealanders.

Good, G., Phibbs, S., & Williamson, K. (2016). Disoriented and Immobile: The Experiences of People with Visual Impairments During and After the Christchurch, New Zealand, 2010 and 2011 Earthquakes. In *Journal of Visual Impairment and Blindness*, 110(6): 425-435. Retrieved from:

<https://www.afb.org/afbpres/newpubjvib.asp?DocID=jvib100605>

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**Abstract:**

*Introduction:* On September 4, 2010, at 4.35 a.m., a shallow 7.1 magnitude earthquake struck the South Island of New Zealand, followed by a deadly 6.3 magnitude aftershock on February 22, 2011, centered under the city of Christchurch, which killed 185 people. This research explores the experiences of 12 visually impaired Christchurch residents who lived through more than 12,000 aftershocks throughout 2010 and 2011. The participants shared suggestions about how to be better prepared for such an emergency.

*Methods:* Qualitative research involved 12 face-to-face semi-structured interviews conducted in 2011 prior to the fatal February earthquake. In February 2012, seven of the original participants were re-interviewed about how more than a year of earthquakes had affected their lives.

*Results:* Participants highlighted the importance of communication and technology, personal and agency support, orientation and mobility, health, rebuilding independence, rehabilitation, coping, and resilience.

*Discussion:* Participants demonstrated creative problem-solving abilities, resilience, and community spirit. Findings also indicate that older visually impaired persons are vulnerable in disasters, and that more work needs to be done to prepare communities, agencies, families, and individuals for potential disasters.

*Implications for practitioners:* Participants provided suggestions for disaster preparedness for people who have impairments and for the agencies that provide services to people with disabilities.

Hedlund, K. ( 2016) *Learnings from the Ministry of Social Development's Contribution to the Canterbury Earthquake Recovery Efforts*. Wellington: Ministry of Social Development.

This paper first examines the conducive conditions and critical success factors—

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many inherent in MSD's organisational profile—that enabled the Ministry to effectively contribute to a disaster of the magnitude of the Canterbury earthquake sequence. Secondly, reflecting on learning from MSD's own trial and error, the paper explores the needs characteristic of large-scale recovery and effective strategies to meet those needs. The paper relies on an extensive literature review and 40 key informant interviews to identify key recovery themes and best practices. While the MSD's contribution in the immediate response phase is highlighted, learning focuses on the recovery period.

The paper is relevant to the current project as it discusses groups identified as vulnerable and at risk in disaster contexts. It also defines the MSD's role in the post-earthquake period.

Hickmott, B., & Mills, C. (2016). *Interagency communication in emergency response teams: Vulnerable Peoples Emergency Response Team during the Christchurch Earthquakes*. Presentation at People in Disasters Conference February 2016. Christchurch NZ

Abstract:

Interagency Emergency Response Teams (IERTs) play a crucial role in times of disasters. Therefore it is crucial to understand more thoroughly the communication roles and responsibilities of interagency team members and to examine how individual members communicate within a complex, evolving, and unstable environment. It is also important to understand how different organisational identities and their spatial geographies contribute to the interactional dynamics.

Earthquakes hit the Canterbury region on September, 2010 and then on February 2011 a more devastating shallow earthquake struck resulting in severe damage to the Aged Residential Care (ARC) sector. Over 600 ARC beds were lost and 500 elderly and disabled people were displaced. Canterbury District Health Board (CDHB) set up an interagency emergency response team to address the issues of

vulnerable people with significant health and disability needs who were unable to access their normal supports due to the effects of the earthquake.

The purpose of this qualitative interpretive study is to focus on the case study of the response and evacuation of vulnerable people (including those with disabilities) by inter-agencies responding to the event. Staff within these agencies were interviewed with a focus on the critical incidents that either stabilised or negatively influenced the outcome of the response.

The findings included the complexity of navigating multiple agencies communication channels; understanding the different hierarchies and communication methods within each agency; data communication challenges when infrastructures were severely damaged; the importance of having the right skills, personal attributes and understanding of the organisations in the response; and the significance of having a liaison in situ representing and communicating through to agencies geographically dispersed from Canterbury.

The research is intended to assist in determining a future framework for interagency communication best practice and policy.

Human Rights Commission (2013, December). *Monitoring Human Rights in the Canterbury Earthquake recovery. A Report by the Human Rights Commission. Whakaora Rū Whenua Waitaha he Aroturuhi Tika Tangata*. Wellington: Human Rights Commission.

Monitoring Human Rights in the Canterbury Earthquake Recovery reports on the human rights aspects of the Canterbury recovery. It focuses on the Canterbury earthquakes to raise awareness and understanding of the relevance of human rights in disaster contexts, and more generally in New Zealand.

Through a primary focus on housing, it examines the impact of the earthquakes on interrelated human rights standards relating to health, accessibility, democratic rights



and the role of the public and private sectors in giving full effect to these rights.

*“A core purpose of this report is to encourage influencers and decision-makers to apply a human rights approach to the recovery.”* (HRC, 2013: 10).

For the disability sector the report focuses on describing the regulatory frameworks that guide a rights perspective for persons with disabilities to have access to housing, information, health, participation, and health during the recovery and rebuild following the Canterbury earthquake events of 2010 and 2011. The report also describes developments in these areas during the first two years since the earthquake series, issues that remain to be addressed, and recommendations to address such identified issues.

Hutton, H.S., Tobin, G., & Whiteford, L. (2014). Third sector organisations and earthquake recovery planning in Christchurch New Zealand. Florida: University of South Florida.

This research reports on the experiences of some NGOs, including disability agencies, following the Canterbury earthquake events.

Ministry of Civil Defence & Emergency Management, (2013). *Including people with disabilities: Information for the CDEM sector. Information Series [IS 13/13]*.

Wellington: Ministry of Civil Defence & Emergency Management. Retrieved from:

[http://www.civildefence.govt.nz/memwebsite.nsf/Files/Publications-Information-Series/\\$file/Disability-IS-16-July-2013.pdf](http://www.civildefence.govt.nz/memwebsite.nsf/Files/Publications-Information-Series/$file/Disability-IS-16-July-2013.pdf)

As a consequence of shared experiences of the Canterbury earthquakes, the Ministry of Civil Defence & Emergency Management (MCDEM) worked with people with disabilities, disabled person's organisations, the Ministry of Health, the Office for Disability Issues and the CDEM sector to develop a disability inclusive approach to CDEM. This included feedback received during a symposium held in Christchurch in

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May 2012.

MCDEM argues that community preparedness and resilience comes from understanding the community and how it works. They partnered with people with disabilities and their wider networks, to gain an understanding of the requirements and strengths of people with disabilities. MCDEM states that full participation of people with disabilities in all aspects of their operation will ensure that CDEM is delivered in disability inclusive ways.

The underlying principle for the content of this paper is that resilience is generated when government partners with the disability community to plan readiness, response and recovery initiatives that are inclusive and accessible

Mitchell, J. (2014). The Canterbury Earthquakes: Preparedness, response and recovery. In Mitchell, D., & Karr, V. (Eds.) Crises, Conflict and Disability: Ensuring Equality. New York, NY: Routledge. Pp. 134-140.

Abstract:

This chapter examines preparedness, emergency response and recovery processes following the Canterbury earthquake events and in particular describes the experiences of disability sector stakeholders and the lessons they learned.

Morgan, J., & Males, M. (2015). Report for the Earthquake Disability Leadership Group: April 2015 CERA Wellbeing Survey Findings. Christchurch: CERA

A memo that provides an analysis of the April 2015 CERA Wellbeing Survey data disaggregated for people with a health condition or disability.

Morgan, J., Begg, A., Beaven, S., Schluter, P., Jamieson, K., Johal, S., Johnston, D., & Sparrow, M. (2015). Monitoring wellbeing during recovery from the 2010-2011 Canterbury earthquakes: The CERA wellbeing survey. *International Journal of Disaster Risk Reduction* 14: 96-103. Retrieved from:

<http://www.sciencedirect.com/science/article/pii/S2212420915000229?via%3Dihub>

An overview of the process and results from the administration of the CERA Wellbeing Survey. The paper includes findings that show population groups with identified pre-existing vulnerabilities, such as disability, rated their overall quality of life less positively and reported slower rates of recovery.

Nicholls, J. (2015). Ready to Roll: New Zealand Wheel Chair Users' Preparedness for Emergencies. A thesis submitted for the degree of Master of Health Sciences at the University of Otago, Dunedin, New Zealand. Retrieved from:

[https://ourarchive.otago.ac.nz/bitstream/handle/10523/6167/NichollsJasonM2016MH\\_ealSc.pdf?sequence=1&isAllowed=y](https://ourarchive.otago.ac.nz/bitstream/handle/10523/6167/NichollsJasonM2016MH_ealSc.pdf?sequence=1&isAllowed=y)

#### Abstract

*Introduction:* On September 4, 2010, at 4.35 a.m., a shallow 7.1 magnitude earthquake struck the South Island of New Zealand, followed by a deadly 6.3 magnitude aftershock on February 22, 2011, centered under the city of Christchurch, which killed 185 people.

This research explores the experiences of 12 visually impaired Christchurch residents who lived through more than 12,000 aftershocks throughout 2010 and 2011. The participants shared suggestions about how to be better prepared for such an emergency.

*Methods:* Qualitative research involved 12 face-to-face semi-structured interviews conducted in 2011 prior to the fatal February earthquake. In February 2012, seven of the original participants were re-interviewed about how more than a year of

earthquakes had affected their lives.

*Results:* Participants highlighted the importance of communication and technology, personal and agency support, orientation and mobility, health, rebuilding independence, rehabilitation, coping, and resilience.

*Discussion:* Participants demonstrated creative problem-solving abilities, resilience, and community spirit. Findings also indicate that older visually impaired persons are vulnerable in disasters, and that more work needs to be done to prepare communities, agencies, families, and individuals for potential disasters.

*Implications for practitioners:* Participants provided suggestions for disaster preparedness for people who have impairments and for the agencies that provide services to people with disabilities.

Phibbs, S. ( n.d.). UNISDR Scientific and Technical Advisory Group Case Studies – 2015. *Disability Inclusive Disaster Preparedness and Response: The importance of social connectedness*. United Nations Office for Disaster Risk Reduction.

This case study reports on findings from original research relating to social connectedness and perceptions of vulnerability among disabled people who were living in Christchurch over the extended period in which the earthquakes occurred.

Phibbs, S., Woodbury, E., Williamson, K., & Good, G. (2012). *Issues experienced by disabled people following the 2010-2011 Canterbury earthquake series: Evidence based analysis to inform future planning and best practice guidelines for better emergency preparedness*. GNS Science Report 2012/40, Wellington GNS Science.

Abstract:

This research project identifies issues experienced by the disabled community in the

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Canterbury earthquake series. It is intended to inform future guidelines and assist emergency planners to better protect and serve the disabled community.

The publication is based on the results of a quantitative survey and on interviews with 23 disabled people about their experiences during and after the 2010 and 2011 greater Christchurch earthquakes. While there are many significant ways in which the earthquakes affected the people interviewed, this report focuses on areas of their lives where they were further disabled by the earthquakes and which could be ameliorated by further planning, investment, or by attitudinal changes. The report discusses the preparedness of individuals, the preparedness and responsiveness of communities, organisations, and welfare centres. Consideration of key areas of concern for the people interviewed is provided, including access to information, housing, mobility and transport, and health during and after the earthquakes. Additionally, coping strategies and resilience are discussed, along with suggested strategies for effective planning for disabled people in disasters and civil emergencies.

Phibbs, S., Good, G., Severinsen, C., Woodbury, E., & Williamson, K. (2014). *What about us? Reported experiences of disabled people related to the Canterbury earthquakes*. 4th International Conference on Building Resilience, Building Resilience 2014, 8-10 September 2014, Salford Quays, United kingdom. *Procedia Economics and Finance*, 18: 190-197.

**Abstract:**

This research explores the reported experiences of disabled people related to the 2010-2011 Christchurch, New Zealand earthquake series.

**Methods:** Qualitative inquiry involving purposive sampling and face to face interviews with 23 disabled people living in Christchurch during the earthquakes. The qualitative research was followed by a pilot quantitative survey involving 25 disabled people living in Christchurch during the earthquakes and 10 people who work in the

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disability sector. Qualitative interview material was analysed using thematic analysis while quantitative data was analysed using descriptive statistics.

Results: Disabled people preferred to shelter in place as their homes are organised to suit their specific needs. The research suggests that urban disaster risk reduction strategies are needed that enhance opportunities for disabled people to maintain autonomy in an emergency situation. Key factors identified by participants that increase earthquake vulnerability among disabled people include a lack of personal disaster preparedness, public information that is not disability accessible and social isolation. Resilience was enhanced through disaster preparedness planning and good support networks.

Implications: Individuals, communities and responding agencies could learn from the experiences of disabled people in order to improve preparation and response to disasters for vulnerable groups. Disaster recovery should be seen as an opportunity to reduce risk through avoiding recreating the conditions of vulnerability that may have existed previously.

Phibbs, S., Good, G., Severinsen, C., Woodbury, E., & Williamson, K. (2015). Emergency preparedness and perceptions of vulnerability among disabled people following the Christchurch earthquakes: Applying lessons learnt to the Hyogo Framework for Action. *Australasian Journal of Disaster and Trauma Studies*, Volume 19. Special Issue.

This paper links findings from research conducted in Christchurch, that explored the reported experiences of disabled people related to the 2010-2011 Christchurch earthquake series, to action strategies within the 2005 Hyogo Framework for Action (HFA) on disaster risk reduction.

Ronoh, S., Gaillard, J.C., & Marlowe, J. (2015). Children with disabilities and disaster preparedness: a case study of Christchurch. *Kōtuitui: New Zealand Journal of Social Sciences*. Online, 10:2, 91-102, DOI: 10.1080/1177083X.2015.1068185 Retrieved from: <http://dx.doi.org/10.1080/1177083X.2015.1068185>

This paper draws on a case study in Christchurch to identify insights, realities, possibilities and obstacles in relation to the involvement in disaster preparedness of children with diverse disabilities. It reports on findings from focus group discussions and semi-structured interviews with children who have disabilities, their teachers and caregivers to explore children's preparedness and potential responses to a disaster. The findings indicate a considerable variation in how children with disabilities access available resources and perceive, face and cope with natural hazards. This paper shows their potential contribution to disaster preparedness and provides further suggestions for policy and practice (Abstract: 2015: 92).

Ronoh, S., Gaillard, J.C., & Marlowe, J. (2015). Children with Disabilities and Disaster Risk Reduction: A Review. *International Journal of Disaster Risk Science*, 6:38–48. DOI 10.1007/s13753-015-0042-9. Retrieved from: [www.ijdrs.com](http://www.ijdrs.com)

Abstract:

Children with disabilities are often excluded from disaster risk reduction initiatives and, as a result, can experience amplified physical, psychological, and educational vulnerabilities. Research on children with disabilities during disasters is lacking, and their potential value in helping shape inclusive policies in DRR planning has been largely overlooked by both researchers and policymakers. This article highlights the existing research and knowledge gap. The review includes literature from two areas of scholarship in relation to disasters—children, and people with disabilities—and provides a critique of the prevailing medical, economic, and social discourses that conceptualize disability and associated implications for DRR. The article analyzes the different models in which disability has been conceptualized,

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and the role this has played in the inclusion or exclusion of children with disabilities in DRR activities and in determining access to necessary resources in the face of disaster. Finally, the study explores possible pathways to studying the contribution and involvement of children with disabilities in DRR.

Ronah, S. (2017). *Children with disabilities and disasters risk reduction in New Zealand*. Final report for project funded by Earthquake Commission University Post Graduate Grants Programme.

This is a project report that describes research tasks completed.

Ronah, S. (2017). Disability through an inclusive lens: Disaster risk reduction in schools. *Disaster prevention and Management: An International Journal*, 26(1): 105-119. <https://doi.org/10.1108/DPM-08-2016-0170>

## Abstract

### *Purpose*

The purpose of this paper was to use an inclusive lens to explore, through the voices of children and adult participants, the complexities of implementing effective disaster risk reduction (DRR) in schools comprising children with disabilities. It identified obstacles and suggested policy recommendations that consider their needs in DRR.

### *Design/methodology/approach*

The paper draws on a case study of two schools supporting children with disabilities in the New Zealand regions of Hawke's Bay and Auckland, each with differing experiences of past natural hazards and disasters. Data from children's workshop activities, participant observation, semi-structured interviews, workshop photographs, school safety and policy documents were coded in Nvivo software to categorize data and to identify themes for cross-case analysis and discussion.



### *Findings*

The research revealed three key pathways that schools could take in promoting inclusiveness in DRR. They are the provision of safe and accessible school building designs and facilities, avenues for children's involvement and leadership in DRR initiatives, and in decision-making processes. Schools could also offer opportunities for a collaborative effort towards inclusiveness in DRR within the school and with other stakeholders.

Ryan, M.E. (2015). *The effects of the Christchurch earthquakes of 2010 and 2011 on the quality of life of children and adolescents with disabilities*. A thesis submitted in partial fulfilment of the requirements for the Degree of Master of Health Sciences in the University of Canterbury. Christchurch: University of Canterbury. Retrieved from: [https://ir.canterbury.ac.nz/bitstream/handle/10092/10741/thesis\\_fulltext.pdf?sequence=1&isAllowed=y](https://ir.canterbury.ac.nz/bitstream/handle/10092/10741/thesis_fulltext.pdf?sequence=1&isAllowed=y)

### Abstract:

This study explored the effects of the Canterbury earthquakes of 2010 and 2011 on different areas of quality of life (QOL) for children and adolescents with disabilities. Using a survey developed from the Quality of Life Instrument for People with Developmental Disabilities – Short Version (QOL-PDD-SV) (Brown, Raphael & Renwick, 1997) and The World Health Organisation Quality of Life - (WHOQOL)-BREF, parents or caregivers were asked to identify what level of importance and satisfaction their child or adolescent placed on areas of QOL including physical health, psychological health - stress levels and coping ability, attachment to their neighbourhood, friends, family, leisure activities, community access and schooling. They were also asked to determine what level of impact the earthquakes had had on each area of their child or adolescent's life and overall quality of life in the aftermath of the earthquakes.

A total of 31 parents of 22 males and 9 females between the ages of 2.5 years to 19 years of age (mean age: 12.6 years) responded.

The results were collated and analysis was run to measure for the effect of age, gender and geographical location. The results found that the earthquakes affected nearly every area of QOL for the children and adolescents. The biggest impact on the children's psychological health and their ability to cope It was observed that younger children (<13) were more likely to record improved or lessened effects from the earthquakes in psychological health areas. However, the areas of social belonging and friendships were the least affected by the earthquakes. Female children were more likely to indicate higher scores for social belonging after the earthquakes. Many parents observed that their children developed improved coping skills over the earthquake period. The findings in this study offer a better understanding of how earthquakes can affect the quality of life children and adolescents with disabilities.

Thornley, L., Ball, J., Signal, L., Lawson-Te Aho, K., & Rawson, E. (2015) Building community resilience: learning from the Canterbury earthquakes. *Kōtuitui: New Zealand Journal of Social Sciences Online*, 10:1, 23-35, DOI: 10.1080/1177083X.2014.934846 To link to this article: <http://dx.doi.org/10.1080/1177083X.2014.934846>

Abstract:

This research studied six communities affected by the 2010 and 2011 Canterbury earthquakes. The project found that connected communities with good community infrastructure (e.g. local networks, marae, organisations, and leaders) before the earthquakes were well placed to adapt after the disasters.

The key role of marae as hubs for providing emergency support and hospitality was highlighted. The emphasis of marae on manaakitanga (hospitality and caring) helped them mobilise quickly and offer support to the whole community.

More than 90 community leaders and residents were interviewed, 15 to 17 months after the February 2011 earthquake. The six community case-studies focused on

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Lyttelton; Shirley; Inner City East; marae communities; migrant and refugee communities; and Christchurch Community House (a workplace community).

The research highlights the vital role of community-led action, community development, and informal social networks in strengthening the resilience of communities.

Ventom, T. (2015, March). The Christchurch IHC earthquake reflection group: An account of the processes put in place by IHC Advocacy following the Canterbury earthquake in 2011. A report prepared for Ceismic University of Canterbury.

Wellington: IHC. Retrieved from: <http://www.ceismic.org.nz/news/the-christchurch-ihc-earthquake-reflections-group>

A description of the Christchurch IHC Reflections Group's establishment, work on disaster preparedness and achievements including:

- Shaken, not stirred workshops
- Video - Earthquake Reflections. Retrieved from: <https://quakestudies.canterbury.ac.nz/store/object/18988?view=media&id=252344#sub>
- Video - Earthquake Reflections: 3 years on ... Retrieved from: <https://quakestudies.canterbury.ac.nz/store/object/18988?view=media&id=252345#sub>

## **6.2 List of Resources**

157. This section of the report lists the resources prepared by various government agencies and non-government organisations to assist people with disabilities in the context of an emergency.

158. The resources provide emergency, disaster preparedness and psychosocial advice for people with disabilities.

159. At the end of the section there is a list of websites relevant to Disability Sector stakeholders.

### **Resources prepared by the New Zealand Police and New Zealand Fire Service**

These resources are intended to assist persons with disabilities to access safety advice and emergency assistance including:

- Emergency 111 Deaf text service – a service for Deaf and hearing impaired people to contact Fire, Ambulance or Police in an emergency.
- The Emergency Contact Card – an individualised contact information card, the same size as a credit card that can fit into a wallet or bag where other identification is usually kept.<sup>52</sup>

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<sup>52</sup> Office for Disability Issues (2012, December). Achieving a fully inclusive society. The annual report from the Minister for Disability Issues to the House of Representatives on the implementation of the New Zealand Disability Strategy. Retrieved from: <http://www.odi.govt.nz/nzds/progress-reports/>

## Resources prepared by the Ministry of Civil Defence and Emergency Management

### Preparedness advice for people with disabilities. (Ministry of Civil Defence Emergency Management website) People with Disabilities

*If you, or a member of your household or community has a disability or any special requirement that may affect the ability to cope in a disaster, make arrangements now to get the support needed.*

Information and resources to help people with disabilities or special requirements to prepare for an emergency are available at [www.getthru.govt.nz/how-to-get-ready/people-with-disabilities/](http://www.getthru.govt.nz/how-to-get-ready/people-with-disabilities/)

This includes information and resources for people with hearing impairment, sight impairment, physical disability or mobile impairment, asthma and respiratory problems, or special food requirements.<sup>53</sup>

Source: <http://www.civildefence.govt.nz/get-ready/people-with-disabilities/>

Ministry for Civil Defence and Emergency Management (2014, January). Fact Sheet: Recognising Disability Assist Dogs in Emergencies. Wellington: Ministry for Civil Defence and Emergency Management. Retrieved from: <http://www.civildefence.govt.nz/assets/Uploads/publications/Fact-Sheet-on-Disability-Assist-Dogs-in-Emergencies-January-2014.pdf>

Following the earthquakes in Canterbury in 2010 and 2011, civil defence centre staff found it difficult to identify whether an accompanying dog was a certified Disability Assist Dog or not. At that time, there was no nationally recognised system to identify

<sup>53</sup> Examples of MCDEM's disability inclusive resources include: informational video for the deaf and hearing impaired community conducted in NZSL; MP3 audio recording for the blind and visually impaired community; a 'drop, cover and hold' brochure for persons who use wheelchairs or have a physical impairment.

a certified Disability Assist Dog in an emergency. In 2014 a process for certifying Disability Assist Dogs was introduced which is intended to assist in emergency response and recovery.

This fact sheet provides information about the process for certifying a Disability Assist Dog and accessing a identification tag (a standardised and easily recognisable identification tag for all certified Disability Assist Dogs).

Ministry of Civil Defence and Emergency Management & IHC Christchurch Earthquake reflection Group (2012). *How to prepare for an emergency?* Wellington: Civil Defence and Emergency Management and IHC. Retrieved from: [www.ihc.org.nz](http://www.ihc.org.nz)

A booklet that explains different types of disasters and how people can prepare themselves for an emergency.

Ministry of Civil Defence and Emergency Management. 2015. *Working from the same page: consistent messages for CDEM. Part B: Earthquakes.* Ministry of Civil Defence & Emergency Management.

This resource includes information about how to engage with a person has a disability or limited mobility in the context of a disaster.

Ministry of Civil Defence and Emergency Management & Ministry of Education. *What's the Plan Stan?*

A CD and disaster risk reduction resources for children.

These resources seek to help increase children's risk awareness and their ability to help others around them as well as increasing their knowledge about strategies for preparedness

Christchurch Earthquake Reflection Group and Civil Defence & Emergency Management (n.d.). *How to prepare for an emergency*. Wellington: MCDEM & IHC.

### **Resources Prepared by the Bay of Plenty Civil Defence Emergency Management Group**

Disaster Preparedness for People with Disabilities. Retrieved from:

<http://bopcivildefence.govt.nz/media/CDBOP/MemberLibrary/FINAL%20disaster%20preparedness%20for%20people%20with%20disabilities%20WEB.pdf>

Bay of Plenty Civil Defence. *Disability Assist Dog Identification Tags Information Brochure*. Bay of Plenty: Civil Defence and Emergency Management. Retrieved from:

<http://bopcivildefence.govt.nz/media/CDBOP/MemberLibrary/disability%20assist%20dog%20factsheet%20web.pdf>

An information brochure about how to register a disability assist dog so that they are easily recognised in an emergency and can be easily reunited with their owners if they are separated. Such registration also facilitates easy access, for people with disabilities and their disability assist dogs, to civil defence centres during an emergency.

### **Resources prepared by Parent Coaching for Autism**

How to help a child with autism deal with traumatic events. Retrieved from:

<http://parentcoachingforautism.com/how-to-help-a-child-with-autism-deal-with-traumatic-events/>

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## **Resources prepared by the Ministry of Education**

Ministry of Education *Tips for parents and teachers – supporting children with ASD after the earthquake*. Retrieved from:

<https://education.govt.nz/assets/...and.../TipsOnSupportingChildrenWithASD.doc>

## **Resources prepared by the Blind Foundation in collaboration with the Ministry of Civil Defence and Emergency Management**

Earthquake preparedness – Information about natural disasters and key learnings on earthquake preparedness and response for blind and partially blind. Retrieved from:

<http://www.getthru.govt.nz/downloads/resources-for-the-blind-and-partially-sighted/>

## **Emergency Preparedness Advice for the Visually Impaired (Good et al., 2016)**

- Have a transistor radio and batteries at hand
- Learn to communicate by text message, and keep your cellular phone charged
- Have at least 2 people organised to contact you following a disaster
- Establish good relationships with neighbours and be willing to be a contact for others
- Register with local disability organizations and make sure you regularly update your information, but do not count on agencies to be available to act on your behalf in a disaster
- Keep your shoes under your bed, keep a flashlight on the doorknob, and have spare white canes available
- Remember that GPS may not be helpful after an earthquake
- Expect transport lines to be disrupted: online information about bus routes may not be reliable, and you may need to telephone to confirm current bus routes
- Arrange to travel with a friend until obstacles are clear and routes are re-

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established

- Dog guide users should keep cane skills sharpened: in a disaster, your dog may become lost, injured, or traumatized, and may not be able to assist you
- Store food, medications, and water to last for 72 hours, for you and your dog
- Secure furniture in your home
- Prepare a first-aid kit
- Keep copies of insurance information, medical records, and details of medication in an easily accessible, sealed plastic bag and e-mail an electronic copy to yourself
- Secure assistance for a thorough inspection of the safety of your home and neighbourhood
- Learn how to rig up a home portable toilet using plastic bags in the toilet bowl and keep bags of cat litter handy (to remove odours)
- Tell your story and listen to others

### **Video Remote Interpreting Service**

In 2013 a Video Remote Interpreting (VRI) service was progressively rolled out around the country in key government services. Video Remote Interpreting (VRI) allows an off-site interpreter to interpret a face-to-face conversation between a Deaf and hearing person. The technology enables the interpreter to be “virtually” present in the room, so they can see the Deaf person signing and hear the hearing person. The introduction of VRI aims to increase Deaf access to a range of services, eventually catering to “walk in” situations at locations including medical practices, emergency services, government agencies and police (HRC, 2013:123).

## **Resources prepared by Deaf Aotearoa in collaboration with the Ministry of Civil Defence and Emergency Management**

A resource for the Deaf and hearing impaired community providing information on New Zealand's hazards and what people should do to prepare for an emergency, including information specific for people with a hearing impairment. Retrieved from: <https://www.youtube.com/watch?v=kAibeSGzkmE&list=PLDCED521114A43422>

## **Resources prepared by the Human Rights Commission**

Making Sure People Count in a Disaster. Retrieved from:

<https://www.hrc.co.nz/files/2614/2428/1595/HRC-Earthquake-Monitoring-Poster-5.pdf>

Macdonald, M. & Carlton, S. (2016). *Best practice guidelines for prioritisation of vulnerable customers*. Christchurch: Human Rights Commission. Retrieved from: <https://www.hrc.co.nz/files/2614/2428/1595/HRC-Earthquake-Monitoring-Poster-5.pdf>

## **Resources Prepared by Disabled Persons Assembly**

DPA Christchurch and Districts (2012). *Don't be Scared, Just be Prepared: A Guide for People with Disabilities of what to do in the Case of an Emergency*. Christchurch: DPA NZ Inc Christchurch and districts regional Assembly in conjunction with Civil Defence

## **Resources prepared by the New Zealand Red Cross**

NZRC (n.d.). Recovery Matters Workplace Workshop. Retrieved from: [www.redcross.org.nz](http://www.redcross.org.nz)

A resource for staff of workplaces working with individuals and communities during recovery after an emergency. This booklet includes a section entitled: Working effectively with people with a disability.

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Gordon, R. (2013). Understanding the Stresses of Recovery. Retrieved from:  
[www.redcross.org.nz](http://www.redcross.org.nz)

A CD that features Rob Gordon offering tips for disaster recovery and includes a sign language interpreter.

### **Resources prepared by the All Right? Campaign**

Practical tips for coping with a disaster. Retrieved from: [www.allright.org.nz](http://www.allright.org.nz)

6 ways to help children worried about earthquakes. Retrieved from:  
[www.allright.org.nz](http://www.allright.org.nz)

### **Resources prepared by the Mental Health Foundation of New Zealand**

Tips for coping after an earthquake. Retrieved from:  
<https://www.mentalhealth.org.nz/assets/ResourceFinder/Tips-for-coping-after-an-earthquake-updated.pdf>

### **Websites**

#### **Ministry for Civil Defence and Emergency Management:**

[www.civildefence.govt.nz](http://www.civildefence.govt.nz)

People with disabilities or special requirements. Retrieved from:

<http://getthru.govt.nz/how-to-get-ready/people-with-disabilities/>

Advice for people with a disability (and their households and communities) about how to cope in a disaster and what arrangements need to be made to get the support needed during these events.

This advice is specifically designed for people with hearing impairments, sight impairments, physical disability or mobility impairment, people with asthma or

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respiratory problems and people with special food requirements.

**Centre for Risk, Resilience and Renewal, University of Canterbury.**

<http://www.ucr3.canterbury.ac.nz/news/>

The University of Canterbury Centre for Risk, Resilience and Renewal (UCR3) was founded in 2013 to support the growing demand for university level emergency and crisis management, for both academic and practitioner education and professional development.

The site includes a number of publications and a list of international emergency management website.

**ReadyNet: Emergency Preparedness Network.**

<http://www.readynetinfo.co.nz/Site/about.aspx>

**What is Readynet?**

Readynet - is a simple web-based application which asks people in the community to populate and maintain a database with the information which will help both them and Emergency Services in the event of an emergency. Readynet assembles stores and shares emergency management information about user sites or groups – e.g. schools, early childcare centres, aged care, accommodation and tourist facilities, neighbourhood support and community groups etc

Easy to use online templates are provided to guide people through the emergency planning process. Once completed, the Readynet Emergency Action Guide can be downloaded and printed.

**Readynet provides a nationally consistent framework for emergency preparedness.**

This arrangement means that

1. ***The Right information*** - emergency details are assembled
2. ***For the Right people*** – at your site or group and for emergency response personnel
3. ***In the Right place*** – hard copies at your site and online for you and the emergency services
4. ***At the Right time*** – when an emergency occurs or threatens.

**Alerts.**

Readynet users can receive emergency information and Alerts. This provides Readynet users with the ability to receive warnings and information about emergency events in their area.

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## Appendix

### Appendix 1: Data Collection Instruments

#### Appendix 1-A: Sample Letter of Introduction to Respondents



Earthquake Disability Leadership Group Trust  
7 Blair Avenue  
Papanui  
Christchurch 8024  
Telephone: 021 1266366  
Email: <mailto:edlg.accessiblechristchurch@gmail.com>

August 2017

Dear

#### **Research to Inform the New Zealand Red Cross' Development of a Best Practice Disaster Response and Recovery Resource Related to the Disability Sector**

I am writing to seek your assistance with an independent research project that will assemble an empirical and experiential evidence base to inform the New Zealand Red Cross' development and publication of a best practice guide for disaster mitigation, preparedness, response and recovery related to the Disability Sector.

As a critical next step, the New Zealand Red Cross has commissioned the Earthquake Disability Leadership Group Trust to undertake this project. The Earthquake Disability Leadership Group Trust has asked Dr Lesley Campbell to undertake a review of the literature and interview key Disability Sector stakeholders who have been involved in disaster risk reduction activities within the Disability Sector since the Canterbury earthquake events in 2010 and 2011.

#### **Collecting Information and Opinion**

The purpose of this letter is to invite you to participate in an interview with Lesley during August 2017. Each interview is expected to take about an hour and, with your consent, will be digitally-taped. The interview questions will focus on gaining your experiences of, and perspectives about, disaster preparedness, response and recovery within the Disability Sector following the Canterbury earthquake events. Lesley will make contact with you shortly

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to ask you if you would be willing to be interviewed and, if so, arrange a suitable time for this to occur.

### **Ethical Implications of the Evaluation**

We have considered the ethical implications of undertaking this research and have put in place the following strategies. The anonymity of those interviewed will be maintained. Information collected from individuals will be collated and presented in the research report in a way that protects each person's identity. As the researcher, Dr Lesley Campbell will be the only person who will have access to the information that could identify particular individuals and this information will be securely stored to ensure it is only used for the purpose for which it was gathered.

Thank you for considering taking part in this research. Your experiences of and views about disaster preparedness, response and recovery within the Disability Sector following the Canterbury earthquake events will provide a valuable source of information to support the New Zealand Red Cross' development of a best practice guide. An information sheet is attached for your reference.

If you would like any more information, or have any questions that you would like to talk through, please do not hesitate to call or email me.

Ruth Jones  
Earthquake Disability Leadership Group Trust  
Phone: 027 440 8573  
Email: [ruth@kanohikitekanohi.org](mailto:ruth@kanohikitekanohi.org)

## Appendix 1-B: Sample Respondent Information Sheet



### Research Participant Information Sheet

#### Research to Inform a New Zealand Red Cross Resource for Disaster Response and Recovery Related to the Disability Sector: A Scoping Exercise

##### 1) What is the research project about?

Over recent years advocates worldwide have called for the development and implementation of disability inclusive disaster risk reduction strategies.

In line with this perspective, the New Zealand Red Cross (NZRC) seeks to develop and publish a best practice guide to help inform future disaster preparedness, response and recovery strategies related to the disability sector. It is intended that the content of this best practice guide will be informed by lessons learned by disability sector stakeholders during the period since the sequence of earthquakes and aftershocks experienced by the Canterbury region in 2010 and 2011.

As a first step towards developing this best practice guide, the New Zealand Red Cross has commissioned the Earthquake Disability Leadership Group Trust to undertake a brief research project. This research project aims to bring together existing published information and the experiences and views of key disability sector stakeholders concerning:

- Disaster risk reduction strategies that worked well for the disability sector during the period since the 2010 and 2011 Canterbury earthquake events
- Gaps in inclusive disaster risk reduction activities, policies and research during the period since the 2010 and 2011 Canterbury earthquake events
- Recommendations for disaster risk reduction strategies that are inclusive, accessible and responsive for disability sector stakeholders.

##### 2) Who is carrying out the research project?

The research project is being carried out by an independent researcher from Lebern and Associates. The researcher's name is Dr Lesley Campbell. She can be contacted at [camfam1@slingshot.co.nz](mailto:camfam1@slingshot.co.nz).

##### 3) What does the research project involve?

The research project involves collating what is known in the existing published literature about disaster risk reduction responses within the disability sector following the Canterbury earthquake events; and, engaging key disability sector stakeholders and agencies to ascertain their experiences and views about 'what worked' for disability sector stakeholders in this post-disaster setting.

Your involvement in this research project involves participating in an interview. Each interview will explore your experiences of, and opinions about, 'best practice' disaster risk reduction strategies for the disability sector. If you agree, the interview will be digitally-taped.

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If you wish, a copy of the information you provide that is included in the research report will be provided to you and you may make corrections or changes.

#### **4) How much of my time will participation in the research take?**

Participating in an interview is expected to take about one hour. However, it could take more or less depending on how much you have to say.

#### **5) Can I withdraw from participating in the research?**

Participating in the research is completely voluntary. You are not under any obligation to participate. If you do decide to participate, and change your mind, you can withdraw from the research at any time before, during or after the interview. There will be no negative consequences, whatever your decision about participation.

#### **6) Will anyone else know about the information given by people interviewed for the research?**

The anonymity of those interviewed for the research will be maintained.

All aspects of the research will be strictly confidential. The researcher will be the only person with access to any information that could identify particular individuals and this information will be securely stored to ensure it is only used for the purposes for which it was collected. Only the researcher has access to this.

There may be publications and reports from the research, but information collected from individuals will be collated and presented in a way that protects people's identity, unless individual participants give their permission to be identified.

#### **7) What will be the benefits of participating in the research project?**

The research will have benefits for people with experience of disability, the family and friends who support them, and those who work within the disability and disaster response sectors. It will increase our knowledge and understanding about inclusive, accessible and responsive risk reduction strategies for the disability sector.

#### **8) Can I tell other people about the research?**

You can tell other people about the research and if they wish to obtain further information they could contact Ruth Jones, Earthquake Disability Leadership Group Trust on 027 440 8573 or [ruth@kanohikitekanohi.org](mailto:ruth@kanohikitekanohi.org) ; and/or, Amy Hartnell, Project Facilitator Earthquake Disability Leadership Group Trust on 021 1266366 or [edlg.accessiblechristchurch@gmail.com](mailto:edlg.accessiblechristchurch@gmail.com)

#### **9) What if I require further information or have any concerns?**

If you require further information, or have concerns about, the research please contact Ruth Jones, Earthquake Disability Leadership Group Trust on 027 440 8573 or [ruth@kanohikitekanohi.org](mailto:ruth@kanohikitekanohi.org) ; and/or, Amy Hartnell, Project Facilitator Earthquake Disability Leadership Group Trust on 021 1266366 or [edlg.accessiblechristchurch@gmail.com](mailto:edlg.accessiblechristchurch@gmail.com)

This information sheet is for you to keep

## Appendix 1-C: Sample Interview Schedule



### Research to Inform the Development of a NZRC Resource for Disaster Response and Recovery related to the Disability Sector: A Scoping Exercise

#### Interview Questionnaire

##### Demographics

Name of respondent(s):

Designation:

Interview Date & Time:

Interview duration:

#### Section 1: System of Disaster Response Related to Disability Sector

##### Introductory Questions: Respondent's Role in Emergency Management/Disaster Risk Reduction & Link to the Disability Sector

1. What role did you hold at the time of the 2010/2011 Canterbury earthquake events? Is that the same role that you hold now?
2. Can you briefly tell me about the ways in which this role(s) incorporates emergency management / disaster risk reduction activities related to the Disability Sector?

##### System Response to Canterbury Earthquakes related to Disability Sector

Let's start by going back to the 2010/2011 Canterbury earthquake events.

3. Can you tell me about the role that your organisation took in meeting the needs of people with disabilities during the initial period after the September 2010 earthquake and the February 2011 earthquake?

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4. What other individuals, groups and organisations do you know about that also played a part in meeting the needs of people with disabilities at that time? Can you describe the roles they played?
5. Thinking about the system of response related to the Disability Sector during the short term following the Canterbury earthquake events, what, in your view, were the top lessons learned in relation to
  - Responses that went well
  - Responses that needed strengthening
  - Gaps in responses?

## **Section 2: Preparedness – Reducing the Impact of Future Emergencies**

6. Drawing on your experiences of the 2010/2011 Canterbury earthquake events, in what ways were Disability Sector stakeholders prepared for an emergency or disaster?
7. Do you know of any initiatives undertaken during the 6-7 years that sought to improve the preparedness of Disability Sector stakeholders for future emergencies/disasters?
8. In your view is there more that could be done to further strengthen the preparedness of the various Disability Sector stakeholders for dealing effectively with future emergencies/disasters?

## **Section 3: Recovery - Building Back Better**

The most recent academic and grey literature advocate the idea of building back better after disasters. In these documents it's recommended that physical, communication and attitudinal barriers are addressed so that reconstruction results in enhanced accessibility and recovered communities are more inclusive.

9. Do you know of any initiatives currently being undertaken that will contribute to these goals?

## **Section 4: Information and Resources**

The Ministry of Civil Defence and Emergency Management currently has a range of materials that include content designed by and for people with disabilities.

- 10 Do you know of any other information or resources about disaster preparedness, response and recovery that are inclusive of and accessible for people with disabilities and/or could be helpful for Disability sector stakeholders?
- 11 What advice would you give the NZRC about where they should focus their efforts on developing guidance or resources that would strengthen the inclusiveness and accessibility of disaster risk reduction (DRR) activities for disabled people and others in the Disability Sector?

## **Section 5: Summary and Conclusion**

- 12 Is there anything else that you think is important for this project to consider that we haven't discussed that you would like to comment on?
- 13 Can you suggest any papers from the academic or grey literature that have focused on the 2010/2011 Canterbury earthquake events and the experiences of the Disability Sector that should be included in this project?

Thank you for your participation

## Appendix 2: International Best Practice Publications

Age and Disability Consortium (2015). *Minimum Standards for Age and Disability Inclusion in Humanitarian Action*. London, UK: Age and Disability Consortium.

Alexander, D., & Sagramola, S. (2014). *Major hazards and people with disabilities: Their involvement in disaster preparedness and response*. Strasbourg Cedex: Council of Europe.

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### Appendix 3: International Disaster Preparedness Resources

*The who, what and why of emergency planning: Who will pick up the pieces when you can't be there?* N Lanarkshire ML 1 4UK: Enable Scotland. Retrieved from: [http://www.enable.org.uk/emergencyplanning/Documents/ENABLE\\_Who%20What%20Why%20of%20Emergency%20Planning\\_16.12.15\\_Proof.pdf](http://www.enable.org.uk/emergencyplanning/Documents/ENABLE_Who%20What%20Why%20of%20Emergency%20Planning_16.12.15_Proof.pdf)

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## Appendix 4: Definitions

<p><b>Accessibility</b></p>	<p>In the case of a facility, readily usable by a particular individual; in the case of a programme or activity, presented or provided in such a way that a particular individual can participate, with or without assistive devices (auxiliary aids); in the case of electronic resources, accessible with or without assistive computer technology.</p> <p>Source: UNESCAP, 2014</p>
<p><b>Access</b></p>	<p>Equal Access: People with disabilities must be able to access the same programs and services as the general population. Access may include modifications to programs, policies, procedures, architecture, equipment, services, supplies, and communication methods.</p> <p>Physical Access: People with disabilities must be able to access locations where emergency programs and services are provided.</p> <p>Access to Effective Communication: – People with disabilities must be given the same information provided to the general population using methods that are understandable and timely.</p> <p>Source: FEMA, 2013</p>
<p><b>Building Back Better</b></p>	<p>Way to use post-disaster reconstruction to improve a community's physical, social, environmental and economic conditions to create a more resilient community for the future.</p> <p>Source: Mannakkara &amp; Wilkinson (2014)</p>
<p><b>Community Based Disaster Risk Management</b></p>	<p>A process where at-risk communities are actively engaged in all stages of DRM, in order to reduce their vulnerabilities and enhance their capacities. This means that people are at the heart of decision making and implementation of disaster risk reduction activities, including those who are the most vulnerable.</p>

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Preparing Responding & Recovering from Disasters, the Canterbury Earthquake Series and the Disability Sector\_ final report, October 2017

Dr Lesley Campbell (Lebern and Associates)

<b>(DRM)</b>	Source: FEMA, 2013
<b>Disability</b>	<ul style="list-style-type: none"> <li>• A person with a disability is “...a person with a physical, intellectual, sensory, or age-related disability or mental illness (or combination of these) who faces barriers in the social and physical environment that prevent them from fully participating and contributing to community life” (Christchurch City Council’s Equity and Access policy).</li> <li>• Disability is “... any restriction or lack (resulting from impairment) of ability to perform an activity in the manner or within the range considered normal for a human being” (World Health Organisation).</li> </ul>
<b>Disaster</b>	<p>A serious disruption to the functioning of a community or society causing widespread human, material, economic or environmental losses which the affected community cannot cope with using its own resources.</p> <p>Source: UNESCAP (2014: 19)</p> <p>Any event, natural or man-made, which threatens human lives, damages private and public property, infrastructure and environment, and disrupts social and economic life. Onset of disasters can be sudden (e.g. earthquake) or progressive (e.g. certain floods).</p> <p>Source: FEMA, 2013</p>
<b>Disaster Management</b>	<p>Defined as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters.</p> <p>Source: <a href="http://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/">http://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/</a></p>

<p><b>Disaster Risk Reduction (DRR)</b></p>	<p>The UN Office for Disaster Risk Reduction (UNISDR) defines DRR as the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through the reduced exposure to hazards, lessen vulnerability of people and property, wise management of the land and the environment, and improved preparedness for adverse events</p> <p>Source: <a href="https://www.unisdr.org/we/inform/terminology">https://www.unisdr.org/we/inform/terminology</a></p>
<p><b>Emergency</b></p>	<p>A situation that:</p> <p>(a) is the result of a happening, whether natural or otherwise, including, without limitation, any explosion, earthquake, eruption, tsunami, land movement, flood, storm, tornado, cyclone, serious fire, leakage or spillage of any dangerous gas or substance, technological failure, infestation, plague, epidemic, failure of or disruption to an emergency service or a lifeline utility, or actual or imminent attack or warlike act; and</p> <p>(b) causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property in New Zealand; and</p> <p>(c) cannot be dealt with by emergency services, or otherwise requires a significant and co-ordinated approach under the CDEM Act 2002.</p> <p>Source: MoH, 2007</p>
<p><b>Inclusion</b></p>	<p>People with disabilities have the right to participate in and receive the benefits of emergency programmes, services, and activities provided by governments, private businesses, and non-profit organizations.</p> <p>Source: Fema, 2013</p>

<p><b>Preparedness</b></p>	<p>The UNISDR defines preparedness as ‘the knowledge and capacities developed by governments, professional response and recovery organisations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.’</p> <p>Source: <a href="https://www.unisdr.org/we/inform/terminology">https://www.unisdr.org/we/inform/terminology</a></p> <p>Preparedness can include planning; evacuation drills; identifying people who require assistance during an emergency; stockpiling equipment and resources; etc.</p>
<p><b>Prevention</b></p>	<p>The outright avoidance of adverse impacts of hazards and related disasters.</p> <p>Source: UNESCAP, 2014</p>
<p><b>Psychological Support</b></p>	<p>Support for people who experience increased levels of stress or are more severely affected by the emergency event than others. These people require a greater level of support, which needs to be provided by a trained person. This is not a mental health intervention, but a listening and problem-solving approach.</p> <p>Source: MoH, 2007</p>
<p><b>Psychosocial</b></p>	<p>The dynamic relationship that exists between psychological and social effects, each continually interacting with and influencing the other.</p> <p>Source: MoH, 2007</p>
<p><b>Psychosocial recovery planning</b></p>	<p>Psychosocial recovery planning is focused on the social and psychological interventions that will help a community recover.</p> <p>Source: MoH, 2007</p>



<p><b>Reduction, Readiness, Response Recovery</b></p>	<p>The New Zealand integrated approach to civil defence emergency management can be described by the four areas of activity, known as the '4Rs'.</p> <p>The 4Rs are:</p> <p><b>Reduction:</b> Identifying and analysing long-term risks to human life and property from hazards; taking steps to eliminate these risks if practicable, and, if not, reducing the magnitude of their impact and the likelihood of their occurring.</p> <p><b>Readiness:</b> Developing operational systems and capabilities before a civil defence emergency happens; including self-help and response programmes for the general public, and specific programmes for emergency services, lifeline utilities and other agencies.</p> <p><b>Response:</b> Actions taken immediately before, during or directly after a civil defence emergency to save lives and protect property, and to help communities recover.</p> <p><b>Recovery:</b> The coordinated efforts and processes to bring about the immediate, medium-term and long-term holistic regeneration of a community following a civil defence emergency.</p>
<p><b>Resilience</b></p>	<p>The ability of a system, community or society exposed to hazards to resist, absorb, accommodate and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.</p> <p>Source: UNESCAP, 2014</p> <p>For individuals, groups of people and society as a whole, the state (and process) of being robust in the face of disaster risks. This means being able to reduce the impact of disaster, manage its effects with efficiency and recover rapidly from it, to a state of</p>

	<p>greater resistance than existed before (the “bounce forward” strategy).</p> <p>Source: Alexander &amp; Sagramola, 2014</p>
<b>Universal Design</b>	<p>Designing programmes, services, tools, and facilities so that they are useable, without modification, by the widest range of users possible, taking into account the diversity of abilities and disabilities that exist in the general population of potential users.</p> <p>Source: UNESCAP, 2014</p>
<b>Vulnerability</b>	<p>The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.</p> <p>Source: UNESCAP, 2014</p> <p>A person’s susceptibility to harm as a result of external adverse events such as natural disasters, public emergencies, technological incidents or political violence.</p> <p>Source: Alexander &amp; Sagramola, 2014</p>

## Appendix 5: List of Acronyms

Acronym	
4Rs	Reduction, Readiness, Response, and Recovery
CDEM	Civil Defence and Emergency Management
CDHB	Canterbury District Health Board
CERA	Canterbury Earthquake Recovery Authority
DRR	Disaster risk reduction
EDLG	Earthquake Disability Leadership Group
MBIE	Ministry of Business, Innovation and Employment
MCDEM	Ministry of Civil Defence and Emergency Management
MSD	Ministry of Social Development
NGO	Non-governmental organisation