



**Older People's Experience of Adverse Natural Events:  
Preliminary Findings from the National Surveys**

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## 1. INTRODUCTION

Dwellings that fail to protect older people in adverse natural events and expose older people to expensive and time-consuming restorations can tip people into costly, high dependency care. If communities lose older people they lose those who make a critical social and economic contribution. By 2051, one million over 65's will live in areas at risk of severe adverse natural events. The MBIE funded 2-year *Community Resilience and Good Ageing: Doing Better in Bad Times* research programme seeks to optimise outcomes for communities and older New Zealanders in the context of adverse, natural events by integrating Positive Ageing with Community Resilience.

Adverse natural events can happen anywhere, anytime in New Zealand. This country is highly exposed to natural hazards such as storms, floods, bushfires, land erosion and coastal surges as well as earthquakes and volcanic eruptions.<sup>i</sup> Flooding is the 'number 1' natural hazard in New Zealand in terms of frequency,<sup>ii</sup> and prior to the 2010 and 2011 Canterbury earthquakes, the most costly in terms of repair bills.

The impacts of adverse natural events can be severe. Furthermore, their impacts will grow. The incidence of severe weather is likely to increase and heighten the vulnerability of areas already prone to flooding or drought.<sup>iii</sup> Damage may be amplified by changing land use. NZ's dispersed, exposed settlement pattern across the country with attenuated transport, energy, social and health infrastructures makes response difficult and service restoration tends to take weeks rather than days.<sup>iv</sup> New Zealand settlements concentrate in risk areas and the sun-belt areas where older people show a pre-disposition to retire. Coastal settlements, also attractive to many, can be vulnerable particularly where rivers meet the sea.

To contribute to our understanding of the impact of adverse events on older people and their communities both qualitative fieldwork and quantitative modelling and data collection are being undertaken. Among the latter are two surveys: one of older people (65 years and over) and one of young people (25-64 years). This report provides a summary of results from those surveys.

Section 2 sets out the findings from the older people's survey. Section 3 is concerned with the younger people's survey. Section 4 is about young people's perceptions of older people's experiences of the impacts of adverse natural events. Section 5 provides a brief integrated description of findings.

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<sup>i</sup> McKercher and Pearson, 2001; Ministry for the Environment, 2008; Walton, Kelman, Johnston and Leonard, 2004.

<sup>ii</sup> McSaveny, 2012; McKercher and Pearson, 2001.

<sup>iii</sup> Office of the Prime Minister's Science Advisory Committee, 2013.

<sup>iv</sup> Roaf, 2010; Sinn and Perry, 2008.

## 1.1 The Older People Survey

Data was collected from older people by way of a structured questionnaire of predominantly close-ended questions. The questionnaire was developed by CRESA. Research New Zealand Ltd was commissioned to undertake the telephone interviewing and supply the raw data for analysis.

The target population for this national survey was New Zealanders aged 65 years or older with experience of an adverse natural event in the past 10 years. As the prevalence of natural hazard event experience for individuals was unknown a key aspect of developing the sample framework focused on identifying locations that had experienced a significant natural event within the timeframe to try and maximise the potential for eligible participants ahead of phone survey screening.

Locations from all regions, excluding the Chatham Islands, were identified through an analysis of NIWA's Historic Weather Event Catalogue.<sup>v</sup> A search for events between 2000 and 2012 was undertaken and the results analysed by region. All events involving some reported damage were recorded including details of the type of event, region, the specific location and type of damage (casualties, property damage, damage to life lines – such as power and phone outages, airport closures and road closures). Following the initial analysis and recording stage, the location data obtained was extracted and matched to Census Area Units (CAUs).

To obtain the final sample for surveying a random set of phone numbers for each region was requested based on the CAUs provided. The proportion distribution of CAUs across regions was used as the quota for each respective region once surveying began.

The survey was designed to gather information on experience of a natural hazard event in the 10 years prior to surveying, and for the worst event – some key information on the impacts and costs of that event for the respondent. The survey included three screening questions to ensure that those who completed the survey were aged 65 years or more, had experienced a natural hazard event in the last ten years and had experience of an event that had damaged or threatened to damage either their own home or homes in their neighbourhood. A draft of the questionnaire was developed by CRESA and converted by Research New Zealand Ltd to their Computer-Assisted Telephone Interviewing (CATI) format.

The pre-pilot draft of the survey also included detailed questions about the respondents' dwelling and neighbourhood as well as the socio-demographic characteristics of their household. However following the first couple of nights of telephone interviewing used to pilot the questionnaire for length, wording, flow, and question interpretation as well as testing the CATI process, the survey was found to be too long. The average survey length post pilot was around thirty minutes rather than

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<sup>v</sup> This is a catalogue of major weather events from around New Zealand in the last 200 years. Information in the catalogue is compiled from newspaper reports, journals, books and other databases provided by a range of individuals and organisations.

the 10-12 minute length allowed for. Following re-drafting, the final questionnaire consisted of fourteen primarily closed-ended questions. A copy of the survey can be found in Annex A.

Surveying was completed over May and June 2013. Over the survey period, surveying halted for a short period after a severe storm in Wellington caused disruption to power and transport throughout the region, which also impacted on the field office for the phone survey. A total of 631 interviews were completed.

All questions were pre-coded and analysed in SPSS using both univariate analysis of frequencies and cross-tabulations. The total of 631 respondents were from all regions. Map 1 shows the distribution of respondents.

Almost three-quarters of the survey participants are what might be described as ‘younger’ older people. That is, they are aged 65-74 years. Table 1 compares the age profile of this sample with the age profile of the New Zealand population aged 65 years or more in the 2013 Census. This data then shows a distinct bias to younger older people. This partly reflects the higher prevalence of ‘older’ old people in settings other than private homes.

**Table 1: Age Profile of Older People Participating in the Older People Survey**

Age	Survey Participants		2013 Census	
	Older People	% Older People	Older People	% Older People
65-74 years	470	74.5	346,134	57.0
75-84 years	132	20.9	187,584	30.9
85 years or more	29	4.6	73,314	12.1
<i>Total</i>	<i>631</i>	<i>100.0</i>	<i>607,032</i>	<i>100</i>

## 1.2 The Under 65-Year Olds Survey

This survey also involved telephone surveying using a structured questionnaire developed by CRESA and implemented by Research New Zealand Ltd. The latter transferred the collected raw data to CRESA for analysis.

The target population for the under 65 year olds survey was New Zealanders aged 25 - 64 years with personal experience of an adverse natural event in the past 10 years or who had an older person (parent, relative, family friend or neighbour aged 65 years or more) who had experienced an adverse natural event in the five years prior to surveying.

The sample frame for the 25 – 64 year olds survey mirrored the sample frame used in the survey of 65+ year olds. A second set of random phone numbers for the CAUs identified in the analysis of historic weather events was obtained and this formed the sample population for surveying. The proportion distribution of CAUs across regions was used as the quota for each respective region once surveying began.

**Map 1: Distribution of Respondents in the Older People Survey**





The survey was designed to gather information on younger adults' experience of a natural hazard event in the 10 years prior to surveying, and for the worst event, some key information on the impacts of that event on the respondent. In relation to the respondent's significant older people the survey included questions on the type of event involved, damage caused to the older person's dwelling, any other impacts and the respondent's assessment of the older person's situation post the adverse natural event. All questions were pre-coded and analysed in SPSS using both univariate analysis of frequencies and cross-tabulations. A copy of the survey can be found in Annex B.

A total of 300 interviews were completed in the first half of September 2013. Respondents came from all regions. Map 2 shows the distribution of respondents.

Of the 300 respondents, 123 respondents reported on a significant older person who had experienced an adverse natural event in the five years prior to surveying. Over two-thirds of the under-65 year olds surveyed were 50 years or older. Table 2 compares the age profile of this survey sample with the age profile of the New Zealand population aged 25-64 years in the 2013 Census.

**Table 2: Age Profile of Under 65 Year Olds Participating in the Younger People Survey**

Age	Under 65 Yr Old Survey Participants		2013 Census	
	n	%	n	%
25-29 years	6	2.0	258,135	11.8
30-39 years	18	6.0	524,073	24.0
40-49 years	66	22.0	607,389	27.8
50-59 years	144	48.0	560,181	25.7
60-64 years	66	22.0	233,163	10.7
<i>Total</i>	<i>300</i>	<i>100</i>	<i>2,182,941</i>	<i>100</i>

Map 2: Distribution of Respondents in the Younger Peoples Survey



## 2. OLDER PEOPLE REPORTING ADVERSE NATURAL EVENTS

All the older respondents had experienced at least one adverse natural event that caused or threatened to cause damage to their home or neighbourhood in the last ten years. The most commonly experienced adverse natural event among respondents was storm/thunderstorm/cyclone followed by flooding and earthquake (Table 3). For a large majority (70.7 percent) of older people, adverse natural events had been both multiple and resulted in a number of linked experiences. For instance storms could be associated with or accompanied by flooding, and/or landslides.

**Table 3: Type of Adverse Natural Event Experienced (Older People Survey n=631)**

Type of Event	n	%
Storm/thunderstorm/cyclone	407	64.5
Flooding	326	51.7
Earthquake	296	46.9
Coastal erosion, storm surge or high tides	185	29.3
Landslide	118	18.7
Heavy snowfall, snow storm or blizzard	120	19.0
Tornado	69	10.9
Volcanic eruption	24	3.8

\*Multiple responses

The most common immediate impacts were loss of electricity or gas supply to themselves or one or more homes in their local area/neighbourhood (66.7 percent); disruption to roads or transport meaning people in the local area were unable to go to work/school/shops (46.3 percent); and having the local area or neighbourhood evacuated or prepared for evacuation (36.3 percent). Around three-fifths (60.7 percent) said they had experienced an adverse natural event that damaged or threatened to damage one or more homes in their local area/neighbourhood. Over a third (37.6 percent) had experienced an adverse natural event which shut schools in their area. Just under a fifth (19.2 percent) had experienced an adverse natural event that cut the water supply to one or more homes in their local area/neighbourhood.

### 2.1 The Worst Event

Because some respondents were expected to have experienced more than one adverse event, they were asked which event over the last ten years they considered the worst. That event then became the focus for a range of further and more detailed questions. For some this worst event impacted on their wider neighbourhood/community but involved little or no damage to their own house/property. For others their worst event had a significant impact on their own property, although the impact on others may have been very localised. Others experienced events that led to widespread damage, both in the neighbourhood and to their own property.

Most commonly reported as the ‘worst’ adverse natural event were flood events (29.2 percent) followed closely by storm/thunderstorm/cyclone events (27.7 percent). Together these two event types were reported by over half the older people as their worst event in the previous ten year period (Table 4). Around 14 percent (14.4 percent) of respondents reported an earthquake as the worst adverse natural event they had experienced.

**Table 4: Worst Adverse Natural Event Experienced in Previous Ten Years by Type of Event (Older People Survey)**

Type of Event	Single event experienced		Multiple events experienced		Total	
	n	%	n	%	n	%
Storm/thunderstorm/cyclone	66	35.7	109	24.4	175	27.7
Flooding	44	23.8	140	31.4	184	29.2
Earthquake	33	17.8	58	13.0	91	14.4
Coastal erosion, storm surge or high tides	9	4.9	24	5.4	33	5.2
Landslide	2	1.1	21	4.7	23	3.6
Heavy snowfall, snow storm or blizzard	16	8.6	42	9.4	58	9.2
Tornado	13	7.0	32	7.2	45	7.1
Volcanic eruption	1	0.5	2	0.4	3	0.5
Bushfire	0	0.0	1	0.2	1	0.2
Other	1	0.5	17	3.8	18	2.9
<i>Total</i>	<i>185</i>	<i>99.9</i>	<i>446</i>	<i>99.9</i>	<i>631</i>	<i>100</i>

Over two-fifths of older people (43.1 percent) reported an event in the recent past – between 2011 and 2013. For a small number of households the ‘worst’ event type was a regular and sometimes frequent occurrence. One respondent for instance noted that flooding of their property “happens every year”. Another noted that storms/thunderstorms had “happened several occasions within the past ten years”.

#### *Immediate Effects*

Immediate effects to services and infrastructure included disruption and/or damage. This may have been for only a short time or may have lasted several days or weeks. Core services and infrastructure affected during the event included:

- Roads (45.6 percent)
- Electricity supply (42.9 percent)
- Communications – telephone or internet (23.8 percent)
- Water supply (15.4 percent)
- Sewerage (11.1 percent)

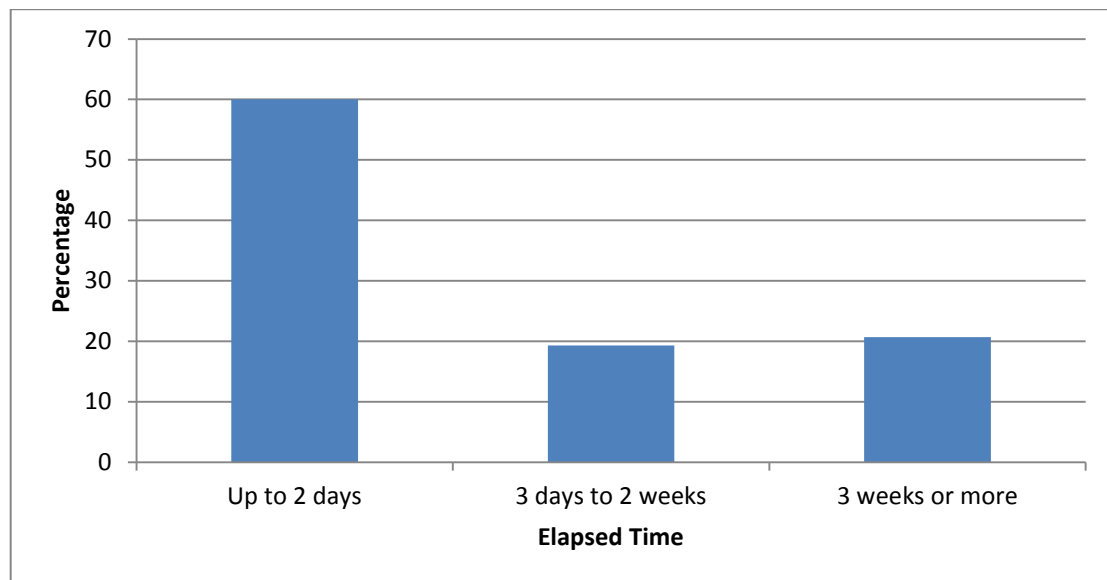
Only a quarter of respondents reported they had no core services or infrastructure affected during the event. Ninety-four respondents (14.9 percent) said they or their neighbours had to evacuate during the worst natural hazard event experienced.

Nevertheless, for most respondents their ‘worst’ event caused minimal and only short term disruption to their daily life. This mitigated the potential impacts of loss of services on critical aspects of people’s lives. The majority of respondents reported they could cook during the event (82.6 percent of respondents). All but three respondents reported they had enough food for the duration of the event, and just seven respondents said they had an issue with not having enough medication for the duration of the event.

## 2.2 Getting Back to ‘Normal’- The Neighbourhood

The recovery time for older people in neighbourhoods affected by adverse natural events varied. Most (60 percent) reported that they and their neighbourhood were ‘back to normal’ in two days or less (Figure 2). Around a fifth found that recovery took longer – up to two weeks. Over a fifth (20.7 percent) reported that getting back to normal took three weeks or more. Among older people experiencing these longer recovery times, the majority reported that recovery took more than a month.

**Figure 1: Time Taken for Neighbourhood to ‘Return to Normal’ Following Adverse Natural Event (Older People Survey n=560)**

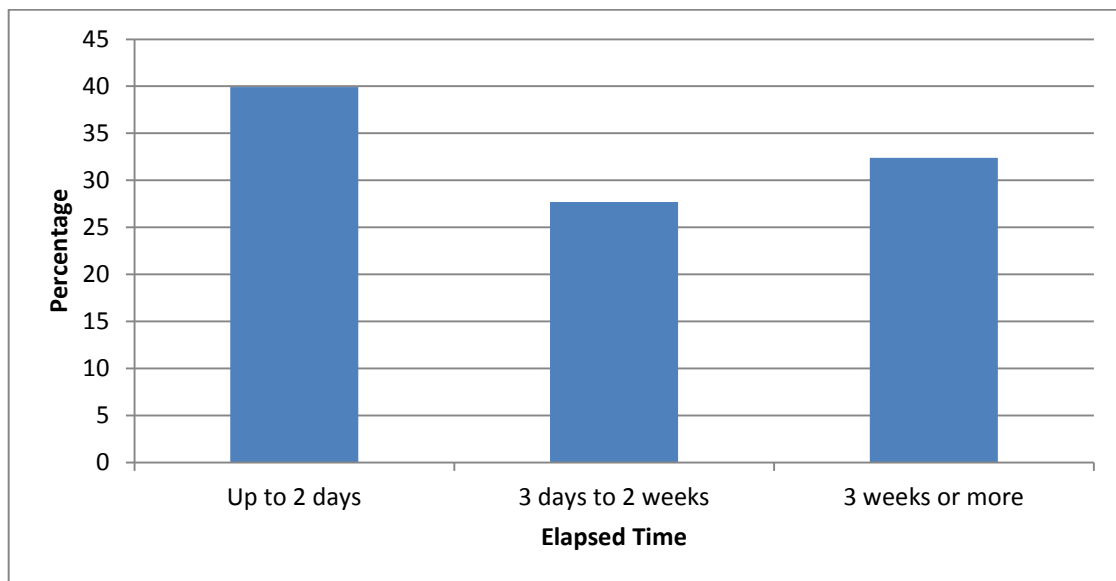


The time reported for the neighbourhoods to get back to ‘normal’ has a statistically significant association with the type of event. Flooding, earthquakes and landslides were all over-represented in neighbourhood recovery periods in excess of a month.

### 2.3 Getting Back to 'Normal'- The Home

Some 160 older people had damage to their homes or properties. Those respondents with damaged dwellings or property were asked how long it took their house to return to normal. Getting homes back to normal tended to be more attenuated. Nearly a third (32.4 percent) of older respondents saying the return to normal took three weeks or more had house or property damage. However, even where households reported damage, to either their house or their property, around two-fifths (39.9 percent) reported things were back to normal within two days or less (Figure 2).

**Figure 2: Time Taken for House to 'Return to Normal' Following Adverse Natural Event (Older People Survey n=148)**



There was a strong association between the recovery time for a dwelling and the recovery time for neighbourhoods. Older people who reported their dwelling was back to normal in a short time were also likely to report their neighbourhood was back to normal quickly. Those who said it took more than a month to get things back to normal at their property were also likely to say things took some time to get back to normal around the neighbourhood. However, some respondents commented on the random nature of these types of events and how localised impacts could be in some instances:

*“The main natural disaster was a tornado that swept through and tore the roofs of some buildings. Two people were killed and a house or two smashed, but not too much damage in [our] street”.*

One respondent said in relation to their neighbourhood *“It’s hard to say as it could have taken longer for others who had been severely hit by the event, whereas others could have had no damage at all and been back to normal in a couple of hours.”*

Another respondent reporting on the June 2013 snowfall in Southland which took place in the same month of surveying commented “house wasn’t really affected that much by the snow ... but neighbourhood is still in the process of getting back to normal.”

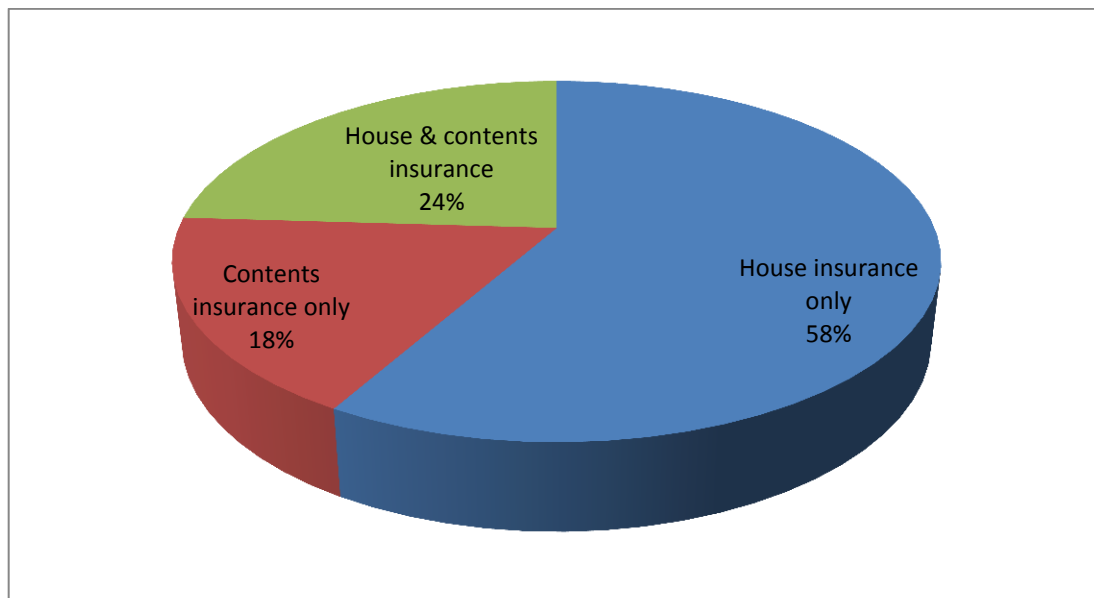
There is no statistically significant relationship between the type of event in and of itself and dwelling recovery times. However, the relationship between type of event and neighbourhood recovery times is statistically significant. The relationship between damage to home or property and dwelling and neighbourhood recovery times is statistically significant.

## 2.4. Damage, Costs & Insurance

Of the 160 older people who reported property damage, nearly half (49.4 percent) reported that they made an insurance claim for damage. Of the seventy-nine making claims:

- 46 made a claim under their house insurance
- 14 made a claim under their contents insurance, and
- 19 made a claim under both their house insurance and their contents insurance (Figure 3).

**Figure 3: Type of Insurance for Older Respondents with Property Damage who Reported Making an Insurance Claim (Older People Survey n=79)**



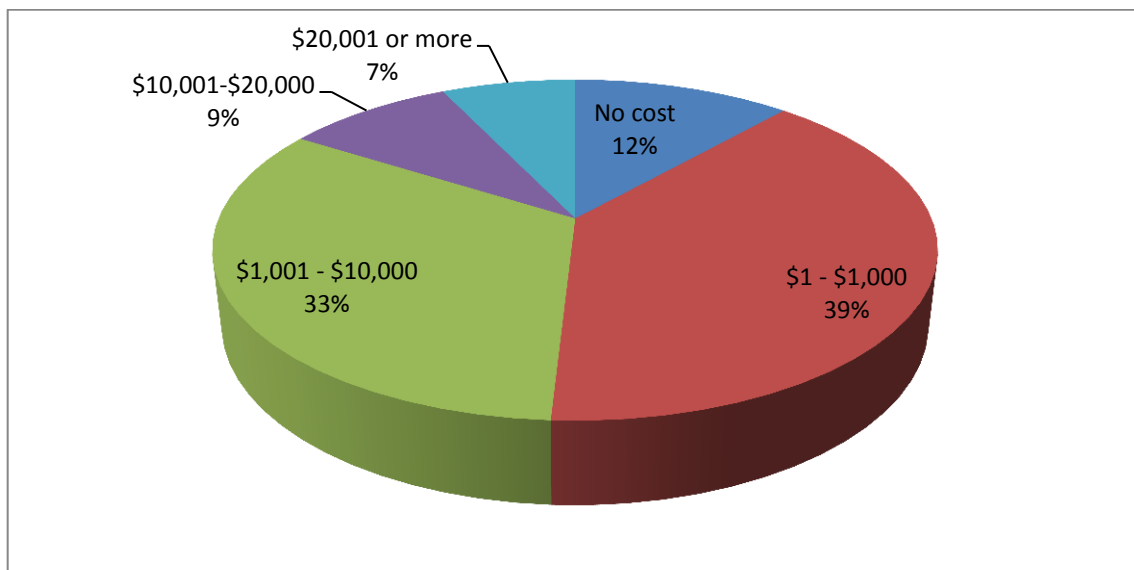
Over half the older people who reported some form of property damage either could not recall claiming insurance or did not claim insurance. Of this set, twelve respondents were uninsured, while eleven respondents could not recall if they had made a claim. Seven respondents said the house was rented or owned by someone else so they didn’t make the claim.

Among the 51 respondents (31.9 percent) who could have but did not make an insurance claim there were a variety of reasons giving for not claiming. Some saw it as unnecessary and in their opinion damage was only superficial: *“It was more cracks and twist of the house.”* Others considered the costs minimal: *“Broken fence - \$250.”* *“\$350 for paint (3 drums) minus labour.”* While others sought family assistance: *“No repairs needed, just had trees down which the family cleared up.”* *“Family are going to do the repairs for me.”*

In a small number of cases respondents said they simply had not got around to making a claim or that they had made a claim with the Earthquake Commission (EQC) but could not recall the cost of repairs or had not yet had an assessment. There were seven respondents who had not made an insurance claim but faced costs of repair or replacement in excess of \$1,000.

There is a statistically significant association between home and property repair costs and the time that older people reported as recovery time. Three-quarters of the 160 respondents who reported damage to their dwelling or property reported on repair costs. These repair costs ranged between no expenditure and \$350,000. Figure 4 sets out the cost of making good damage to their dwelling and/or property. For over half the older respondents the repair cost was \$1,000 or less, and for a third the cost was between \$1,001 and \$10,000.

**Figure 4: Repair Costs Reported by Older People (Older People Survey n=112)**



Those respondents who did not report repair costs had various reasons for not doing so. While no one refused to report on costs of repairs, some could not recall the costs or did not know because the repairs were being dealt with entirely by the insurance company or EQC.

*“Made claims with EQC, and they haven't gotten around to telling us the cost of repairs.”*



In other cases the repairs were incomplete, had not been started or were not planned.

*“No repairs, was red zoned.”<sup>vi</sup>*

*“The repairs haven't been done yet and we are still waiting.”*

In other cases householders have simply decided not to repair in the immediate and even the longer term.

*“We didn't get a repair we just live with it.”*

*“Haven't got around it.”*

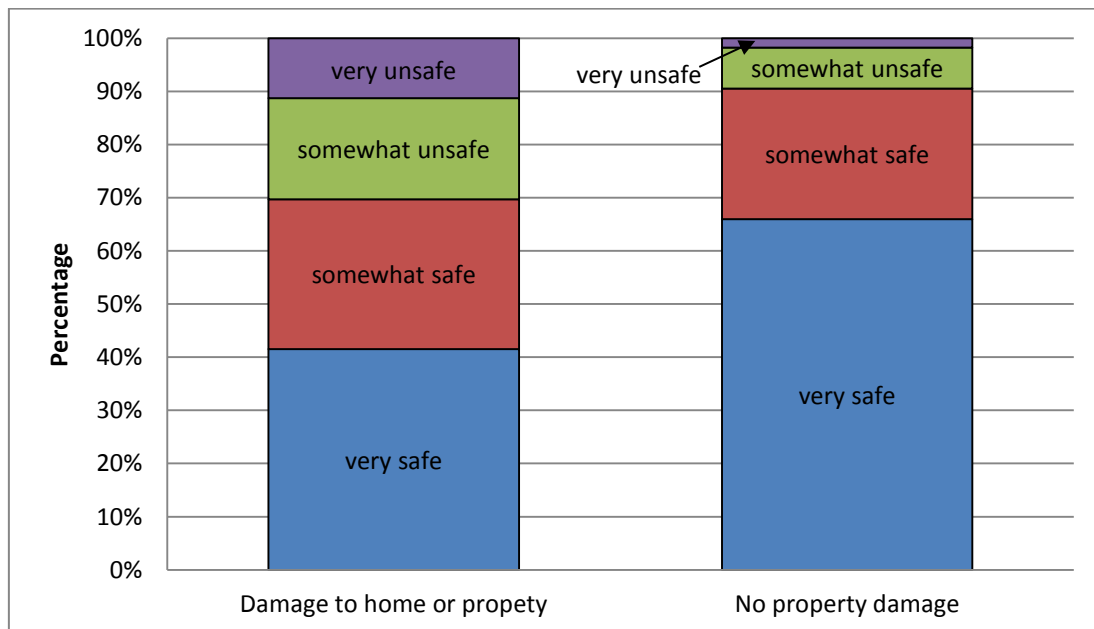
## 2.5 Staying, Leaving and Feeling Safe

At the time of our survey, the vast majority of older respondents (90.3 percent) were still living in the house where they had been living at the time of the worst event.

Overall the majority of respondents report their home performed well in terms of their own feeling of security with over half (56.9 percent of all respondents) saying they felt very safe during the event. The majority (92.7 percent) also said their house stayed comfortable during the event getting neither too hot, nor too cold.

Around a quarter of respondents (25.4 percent) sustained damage to their own home or property during the worst event they experienced. These older people were less likely to report that they felt safe in their house during the event. This is evident in Figure 5.

**Figure 5: Respondents Perception of Safety in Their Dwelling During Worst Adverse Natural Event by Property Damage (Older People Survey n=597)**



<sup>vi</sup> Red zone is the designation given to residential areas in Canterbury which will not be rebuilt subsequent to the Canterbury Earthquakes.

A sense of safety was also associated with the type of event. Storms, landslides, heavy snowfall and blizzards were least likely to generate feelings of being unsafe compared to tornados and earthquakes. There is no statistically significant association between feelings of safety during the event and age. The younger old are equally as likely to feel safe or unsafe as the ‘older old’.

### 3. YOUNGER ADULTS, EXPERIENCE & PERCEPTIONS

The survey of younger adults had two purposes. First, it was designed to indicate whether there was any substantive difference between older and younger adults’ exposure to and experience of adverse natural events. Second, it provided an opportunity to explore how younger adults perceived the exposure and impact on older people of adverse natural events.

#### 3.1 Younger and Older Adult Experiences

With regard to the pattern of event type exposure it is clear that there are only marginal or insignificant differences between young and older adults. The three most commonly experienced adverse natural event types reported by younger respondents were storm/thunderstorm/cyclone followed by earthquake and flooding (Table 5). Also similar to older respondents, for a large majority (71.9 percent) of younger people, adverse natural events had been both multiple and resulted in a number of linked experiences such as storms being accompanied by flooding, and/or landslides.

**Table 5: Type of Adverse Natural Event Experienced**

Type of Event	Older People (n=631)		Younger People (n=288)	
	n	%	n	%
Storm/thunderstorm/cyclone	407	64.5	188	65.3
Flooding	326	51.7	129	44.8
Earthquake	296	46.9	147	51.0
Coastal erosion, storm surge or high tides	185	29.3	61	21.2
Landslide	118	18.7	39	13.6
Heavy snowfall, snow storm or blizzard	120	19.0	81	28.1
Tornado	69	10.9	26	9.0
Volcanic eruption	24	3.8	16	5.6

\*Multiple responses

The most common immediate impacts were loss of electricity or gas supply to themselves or one or more homes in their local area/neighbourhood (61.5 percent); disruption to roads or transport meaning people in the local area were unable to go to work/school/shops (57.6 percent); and having the local area or neighbourhood evacuated or prepared for evacuation (36.8 percent). Around three-fifths (63.2 percent) said they had experienced an adverse natural event that damaged or threatened to damage one or more homes in their local area/neighbourhood. Over two-fifths (46.5 percent) had experienced an adverse natural event which shut schools in their area. Under a fifth (16.3 percent) had experienced an adverse natural event which cut the water supply to one or more homes in their local area/neighbourhood.

### 3.2 The ‘Worst’ Event for Younger Adults

Because some respondents were expected to have experience of more than one adverse event, they were asked which event over the last ten years they considered the worst and what the impacts of that event were.

Most commonly noted as the ‘worst’ adverse natural event were flood events (28.9 percent) followed closely by storm/thunderstorm/cyclone events (25.9 percent). Together these two event types were reported by over half the younger people as their worst event in the previous ten year period (Table 6). This was similar to the older people’s survey. Over a fifth (23.1 percent) of younger respondents reported an earthquake as the worst adverse natural event they had experienced.

**Table 6: Worst Adverse Natural Event Experienced in Previous Ten Years by Type of Event for Younger Adults (Younger People Survey)**

Type of Event	Single event experienced		Multiple events experienced		Total	
	n	%	n	%	n	%
Storm/thunderstorm/cyclone	28	37.8	44	21.7	72	25.9
Flooding	14	18.9	66	32.5	80	28.9
Earthquake	16	21.6	48	23.6	64	23.1
Coastal erosion, storm surge or hide tides	3	4.1	3	1.5	6	2.2
Landslide	0	0.0	3	1.5	3	1.1
Heavy snowfall, snow storm or blizzard	10	13.5	20	9.9	30	10.8
Tornado	3	4.1	17	8.4	20	7.2
Volcanic eruption	0	0.0	2	1.0	2	0.7
<i>Total</i>	<i>74</i>	<i>100</i>	<i>203</i>	<i>100.1</i>	<i>277</i>	<i>99.9</i>

#### *Immediate Effects*

Services and infrastructure affected during the younger adults’ worst event included:

- Electricity supply (48.0 percent)
- Roads (46.9 percent)
- Communications – telephone or internet (33.6 percent)
- Water supply (11.9 percent)
- Sewerage (11.6 percent)

Around a quarter of younger respondents (25.6 percent) reported they had no core services or infrastructure affected during the event.

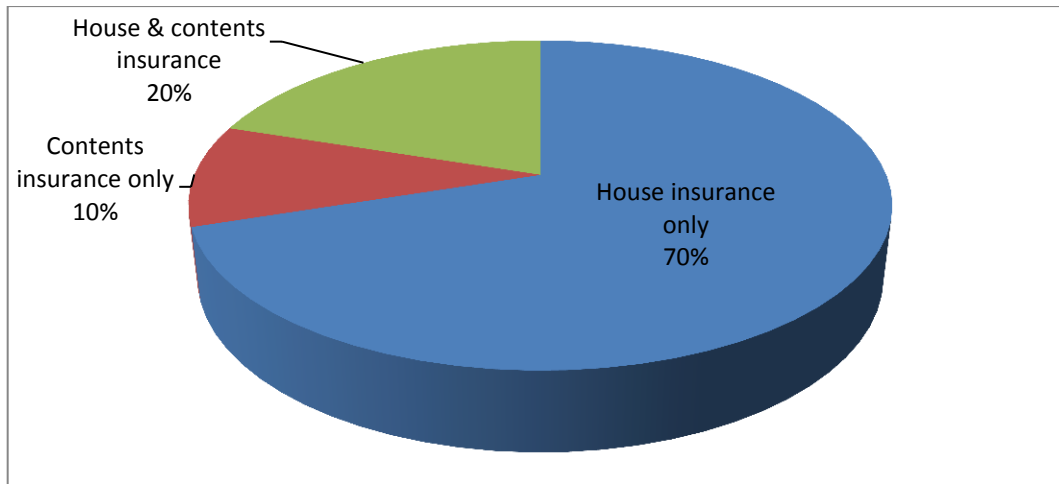
#### *Damage and Insurance*

Nearly two-fifths of younger respondents (39.0 percent) sustained damage to their own home or property during the worst event they experienced. Of the 108 younger people who reported property damage, under half (46.3. percent) reported that they made an insurance claim for damage. Of the fifty who made a claim:

- 35 made a claim under their house insurance

- 5 made a claim under their contents insurance, and
- 10 made a claim under both their house insurance and their contents insurance (Figure 6).

**Figure 6: Type of Insurance for Younger Respondents with Property Damage who Reported Making an Insurance Claim (Younger Peoples Survey n=50)**



Similar to older people, over half the younger people who reported some form of property damage did not claim insurance. Of this set, the majority (97 percent) reported no claim as the impact was on other houses in their neighbourhood not their own. One respondent was uninsured and another was renting so the insurance claim was done by landlord.

#### *Staying or Leaving*

At the time of our survey, the vast majority of younger respondents (93.9 percent) were still living in the house where they had been living at the time of the worst event.

#### **4. YOUNGER ADULTS AND PERCEPTIONS OF NATURAL ADVERSE EVENT IMPACTS FOR OLDER PEOPLE**

Of the 300 participating in the younger adult survey, 123 reported that they had one or more older people (parent, relative, family friend or neighbour) who had been caught up in an adverse natural event in the previous five years. The following analysis treats that set as a quota sample. It explores the nature of those adverse natural events and their immediate impacts. It then explores the participants' perception of the overall impacts of those events on the older people involved.

The ages of their older person (or persons if it was a couple) at the time of the event are set out in Table 7. Over half (52.8 percent) reported an older person aged 75 years or older.

**Table 7: Age Profile of the Older Person(s) at the Time of the Event (Younger People Survey)**

Age	1 <sup>st</sup> Older Person		2 <sup>nd</sup> Older Person (if couple)	
	n	%	n	%
65-74 years	50	40.7	21	46.7
75-84 years	44	35.8	19	42.2
85 years or more	21	17.1	3	6.7
Unsure	8	6.5	2	4.4
<i>Total</i>	<i>123</i>	<i>100.1</i>	<i>45</i>	<i>100</i>

At the time of the event, most of the younger respondents were living in a different town or region to their older person (64.2 percent). Two respondents were living overseas at the time of the event. Only two respondents were living in the same house as their older person at the time of the event. The remaining third (32.5 percent) lived in the same town as their older person. Over half of the latter were within walking distance.

Where a respondent had several older relatives or friends with experience of an adverse natural event, respondents were asked to choose the individual or couple they felt closest to or had the most contact with and identify what they believed to be the worst adverse natural event these people had experienced in the previous five years. Table 8 shows these younger adults to be particularly aware of earthquakes affecting older people with nearly three quarters (73.2 percent) of respondents citing earthquakes as the worst event. This is understandably a reflection of the Canterbury earthquakes<sup>vii</sup> which affected people throughout New Zealand. Storms/thunderstorms and flooding were the second and third most common events reported as adversely affecting older people (12.2 percent and 8.9 percent respectively).

**Table 8: Worst Adverse Natural Event Experienced by Older Person in Previous Five Years as Reported by Younger Person (Younger Peoples Survey)**

Type of Event	n	%
Earthquake	90	73.2
Storm/thunderstorm/cyclone	15	12.2
Flooding	11	8.9
Heavy snowfall, snow storm or blizzard	2	1.6
Volcanic eruption	2	1.6
Other	2	1.6
Tornado	1	0.8
Coastal erosion, storm surge or high tides	0	-
Landslide	0	-
<i>Total</i>	<i>123</i>	<i>99.9</i>

Over half (56.1 percent) of the respondents reported that an older person/couple sustained damage to their home or property. Disruption to core services or infrastructure was widely reported – only 10.6 percent of younger people reported that

<sup>vii</sup> 8 September 2010 and 22 February 2011.

their older person had no core services or infrastructure affected during the event. Younger people reported that their older person/couple had experienced:

- Electricity supply curtailed (76.4 percent).
- Telephone or internet failed (57.7 percent).
- Roads blocked or flooded (56.1 percent).
- Water supply failed (44.7 percent).
- Sewerage failed (37.4 percent).

Respondents were asked about their perception of the impacts of an adverse natural event on the older person or couple in relation to the support they required three months after the event compared to prior. Similar questions were asked about respondents' perceptions around their older person's:

- Independence.
- Housing and financial situation.
- Community participation.
- Sense of well-being.

Almost half (47.8 percent) of respondents reported that their older person required more support three months after the event than before it (Table 9). Five reported that the support their older person required from them and other family/friends had decreased, and 52 (44.4 percent) said there had been no change in the support required. Despite this, most respondents believed the older person's independence remained unchanged. A third of respondents (32.5 percent) reported that three months after the event the older person was now less independent (Table 10).

**Table 9: Younger Adult's Perception of Support required by Older Person 3 Months Post Event Compared to Prior (Younger People Survey)**

<b>Support needs had ...</b>	<b>n</b>	<b>%</b>
Increased substantially	28	23.9
Increased	28	23.9
Stayed the same	52	44.4
Decreased	2	1.7
Decreased substantially	3	2.6
Unsure	4	3.4
<i>Total</i>	<i>117<sup>viii</sup></i>	<i>99.9</i>

<sup>viii</sup> Six respondents were excluded from the questions on perception of changes post event in Tables 9-14 as the event they were reporting on had happened less than 3 months prior to interviewing.

**Table 10: Younger Adult’s Perception of Older Person’s Independence 3 Months Post Event Compared to Prior (Younger People Survey)**

<b>Independence post event</b>	<b>n</b>	<b>%</b>
More independent	16	13.7
No change	60	51.3
Less independent	38	32.5
Unsure	3	2.6
<i>Total</i>	<i>117</i>	<i>100.1</i>

There appears to be an association between the older person moving home and more support being required and also an association between damage to the house/property of the older person and an increase in the support required. In both cases those with damage and those who were no longer living in the same dwelling were more likely to have been assessed by the under 65 year old respondent as requiring ‘increased’ or ‘substantially increased’ support three months after the event.

Respondents reported that the majority of their older people (70.7 percent) were living in the same house as they were at the time of the event. Six older people were no longer alive and thirty older people had moved. Of the latter most were living independently; eight in a different house in the same area; and nine in a house in a different suburb, town or region. Five had moved to a rest home or hospital, four to a retirement village and three were living with other family members. One younger person was unaware of the destination of the older person concerned.

Around a fifth (19.7 percent) of respondents perceived their older person’s housing situation to be worse post the event (Table 11). There is an association with whether or not the older person has been able to remain living in the same house and this perception. Those older people who moved were more likely to be categorised as now in either a ‘better’ or ‘worse’ housing situation.

**Table 11: Younger Adult’s Perception of Older Person’s Housing Situation 3 Months Post Event Compared to Prior (Younger People Survey)**

<b>Current housing situation</b>	<b>n</b>	<b>%</b>
Better	17	14.5
Same	70	59.8
Worse	23	19.7
Unsure	7	6.0
<i>Total</i>	<i>117</i>	<i>100</i>

Overall 29.9 percent of respondents, perceived older people to be worse off financially post event (Table 12). The major determinant of this perception was whether or not the older person’s house/property had sustained damage. Where respondents believed an older person’s home to be undamaged they were much more likely to see the older person as being in the same financial situation post event as prior to the event. Where respondents were aware of damage to the house, they were more likely to see the older person as being in a ‘worse’ financial situation post event.

**Table 12: Younger Adult's Perception of Older Person's Financial Situation Post Event Compared to Prior (Younger People Survey)**

<b>Current financial situation</b>	<b>n</b>	<b>%</b>
Better	3	2.6
Same	67	57.3
Worse	35	29.9
Unsure	12	10.3
<i>Total</i>	<i>117</i>	<i>100.1</i>

While the most common view among respondents was that older people's participation in community activities was unchanged, over a fifth (21.4 percent) believed their older person was participating less after the event. Conversely slightly less than a fifth (17.9 percent) typified an older person as participating more in community activities (Table 13).

**Table 13: Younger Adult's Perception of Older Person's Participation in Community Activities Post Event Compared to Prior (Younger People Survey)**

<b>Participation in community activities</b>	<b>n</b>	<b>%</b>
More participation	21	17.9
No change in participation	67	57.3
Less participation	25	21.4
Unsure	4	3.4
<i>Total</i>	<i>117</i>	<i>100</i>

Although on some of the previous dimensions more than half the younger respondents consistently perceived a status quo for their significant older person, only 37.6 percent reported that they believed the older person's sense of well-being remained the same. Indeed, around two-fifths (40.2 percent) reported that they believed the older person's sense of well-being was worse post event (Table 14), while 18.8 percent perceived an improvement in their older person's well-being.

**Table 14: Younger Adult's Perception of Older Person's Well-Being Post Event Compared to Prior (Younger People Survey)**

<b>Sense of well-being</b>	<b>n</b>	<b>%</b>
Better	22	18.8
Same	44	37.6
Worse	47	40.2
Unsure	4	3.4
<i>Total</i>	<i>117</i>	<i>100.1</i>

This pattern appears to be associated with two factors. Firstly, older people who suffered damage to their property or home during the event were more likely to be seen as now having a worse sense of well-being than prior to the event. Of the 47 older people who were reported as having a worse sense of well-being compared to before the event, 34 (72.3 percent) sustained damage to their home or property during



the event. Secondly, less than a quarter (24.4 percent) had moved since the event but those who had moved were more likely to be seen as having a better sense of well-being.

## **5. DISCUSSION**

These surveys confirm the relatively high prevalence of older people's experience of natural adverse events. Where events are sudden, cataclysmic and 'selective' such as earthquakes and tornados, they appear to remain highlighted in people's minds. Nevertheless, flooding is the most prevalent 'worst' event experience reported by older people over the last ten years and is also among the most common adverse event experienced by both older and younger participants. Younger people identify earthquakes as the worst experience suffered by the older people with whom they are connected in the last five years. This undoubtedly reflects the scale and timing of the Canterbury earthquakes.

For older people the immediate impact of adverse events can be broadly divided into two categories: those affecting infrastructure and key services; and those affecting the property and/or dwelling of older people. Typically, older people reported only minor disruption caused by infrastructure and service loss to their neighbourhood. Nevertheless, a fifth reported the neighbourhood took in excess of three weeks to return to normal. These neighbourhoods tended to have suffered from floods, earthquakes or landslides.

The critical determinant in older people's sense of 'returning to normal' was damage to their dwellings and property. Damage to dwellings and property also had a significant association in younger people's perceptions of the recovery, impact and wellbeing of the older people affected by adverse events with whom they were connected. Recovery times for people whose homes or property had been damaged could be attenuated. A large, albeit minority, proportion of older people reported that dwelling recovery took in excess of three weeks. Longer recovery times both reflect and are reflected in recovery costs.

It is notable that a number of older people chose not to repair damage to their dwellings, despite being covered by insurance. Equally, both younger and older people show a pattern of what might be described as insurance claim avoidance. The dynamics around this is being explored in other components of the resilience research programme.

Whether young or old, the participants in this research programme overwhelmingly are still living in the dwellings affected by their worst adverse event. The tendency to not claim insurance and among a minority of older people, not repair damage, is not, then associated with an exit response. Unrepaired property damage, under those circumstances, can be expected to have on-going impacts on residents.

For younger people connected to older people affected by adverse events, it is clear that such events pose significant challenges in providing immediate and on-going support. Almost two-thirds of younger people reported that they were living in a different town or region when the older person they were connected to experienced a natural adverse event.

The perceptions of these younger people around the impacts of such events on older people can be interpreted as a reflection of older people's resilience. Some older people were perceived as responding to the event by becoming more independent and more engaged in community activities. Overall however, the younger people surveyed had a sense of negative impacts on older peoples' overall wellbeing which was particularly pronounced around older people who had suffered damage to their property or home.

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## ANNEX A: SURVEY OF 65 YEAR OLDS AND OVER

### RESILIENCE SURVEY

Research New Zealand #4490

**DATE** 30-04-13

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Good morning/afternoon/evening, my name is **AI** from Research New Zealand. We are conducting a survey on behalf of CRESA about people's experience of extreme weather events and events like earthquakes.

For this survey I need to talk to someone who lives in this household, who is 65 years of age or older. Would that be you?

This research takes about 10 minutes. When would suit, or is now a good time?

**If person not available, ask:**

When would be a good time for me to call back to speak to him/her?

**Make appointment**

**Reintroduce as necessary**

Good morning/afternoon/evening, my name is **AI** from Research New Zealand we are conducting research on behalf of CRESA about extreme weather events and other natural disasters. This research takes about 10 minutes. When would suit, or is now a good time?

**Background information only if needed:**

This is genuine research. I'm not selling anything.

Information provided is confidential. CRESA report summary results about groups; and do not identify which individuals have said what.

CRESA (The Centre of Research, Evaluation and Social Assessment) is a private research company who do public good research enabling communities and older people to have a more secure future.

If you have any questions about the research and wish to speak to someone at CRESA you can contact Kay or Ruth on freephone 0508 427372.

**Read**

This call is being recorded for quality control and training purposes.

## Screening Questions

A1. Before we begin, can you tell me which of the following age groups you belong to? **Read**

- 1 .... 65-74 years
- 2 .... 75-84 years
- 3 .... 85 years or over
- 99 .. Refused
- 97 .. Under 65

A2. In the last 10 years have you lived in an area or neighbourhood in NZ that has been affected by a: **read. Code many**

- 1 .... Storm/thunderstorm/cyclone
- 2 .... Flooding
- 3 .... Tornado
- 4 .... Landslide
- 5 .... Coastal erosion, storm surge or high tides
- 6 .... Heavy snowfall, snow storm or blizzard
- 7 .... Earthquake
- 8 .... Volcanic eruption
- 97 .. None of the above **Terminate**
- 98 .. Don't know

A3. Did [**if only one coded at A2:** that event] [**if more than one coded at A2:** any of those events]... **Read. Code many**

- 1 .... Damage or threaten to damage one or more homes in your local area or neighbourhood
- 2 .... Prevent anyone in your local area or neighbourhood from going to work, to school or to the shops
- 3 .... Shut schools in your area
- 4 .... Cut the electricity or gas supply to one or more homes in your local area or neighbourhood
- 5 .... Cut the water supply to one or more homes in your local area or neighbourhood
- 6 .... Cause anyone in your local area or neighbourhood to evacuate or prepare to evacuate
- 97 .. No, none of the above

**If A3=97, terminate.** Thank you for your time, but for this survey we need to interview people who have been affected in this way.

Q1. **If yes to more than one type of event mentioned at A2 ask, else continue to Q2.** What was the worst of those events that you or your neighbourhood experienced?

- 1 .... Storm/thunderstorm/cyclone
- 2 .... Flooding
- 3 .... Tornado
- 4 .... Landslide
- 5 .... Coastal erosion, storm surge or high tides
- 6 .... Heavy snowfall, snow storm or blizzard
- 7 .... Earthquake
- 8 .... Volcanic eruption
- 96 .. Other (please specify) \_\_\_\_\_

Q2. Where were you living at the time? **(if suburb then record town/city as well).**

- 1 .... Specify suburb, town/city or rural area.

Q2a. Do you still live in the same house?

- 1 .... Yes
- 2 .... No

Q3. And when did the event happen?

Month \_\_\_\_\_ year \_\_\_\_\_

Q4. Was your home or property damaged during the event?

- 1 .... Yes
- 2 .... No
- 98 .. Don't know

Q5. **If 0=2 or 98 go to Q7** Did you make an insurance claim for any loss or damage as a result of that event? **If yes:** Was the claim in relation to your house or the contents? (or both) **Code many**

- 1 .... Yes- dwelling (house)
- 2 .... Yes- contents
- 3 .... No claim (impact on other houses not mine) **E**
- 4 .... No – I wasn't insured **E**
- 98 .. Don't know/Can't remember **E**
- 97 .. Not applicable - house was rented/house owned by someone else so not my insurance **E**
- 99 .. Refused/won't say **E**

Q6. Approximately how much was the value of the repairs?

- 1 .... specify amount
- 98 .. Don't know
- 99 .. Refused

Q6a. How long did it take for your house to get back to normal after the event?

- 1 .... A few hours, less than a day
- 2 .... 1-2 days
- 3 .... 3-6 days
- 4 .... 1 week
- 5 .... 2 weeks
- 6 .... 3-4 weeks
- 7 .... More than a month
- 98 .. Don't know

Q7. How long did it take to for your neighbourhood to get back to normal after the event?

**Read**

- 1 .... A few hours, less than a day
- 2 .... 1-2 days
- 3 .... 3-6 days
- 4 .... 1 week
- 5 .... 2 weeks
- 6 .... 3-4 weeks
- 7 .... More than a month
- 98 .. Don't know
- 97 .. Not applicable

Q8. During the event, how safe did you feel in your house? Would you say you felt... **read**

- 1 .... very safe
- 2 .... somewhat safe
- 3 .... somewhat unsafe
- 4 .... very unsafe
- 97 .. Wasn't home at the time **\*\*Do not read\*\***
- 98 .. Don't know

Q9. Were you able to cook during the event?

- 1 .... Yes
- 2 .... No
- 98 .. Don't know
- 97 .. N/A event was short/we still had electricity

Q10. Did you have enough food for the duration of the event?

- 1 .... Yes
- 2 .... No
- 98 .. Don't know

Q.11 Did you have enough of any necessary medication for the duration of the event?

- 1 .... Yes
- 2 .... No
- 98 .. Don't know
- 97 .. Not applicable – was not on medication

Q12. Did your house stay comfortable, or did it get too hot or too cold for you?

- 1 .... House was too cold
- 2 .... House was too hot
- 95 .. No problems we didn't get too hot or too cold
- 98 .. Don't know

Q13. Did you or your neighbours have to evacuate from their houses?

- 1 .... Yes
- 2 .... No
- 98 .. Don't know

Q14. Just to confirm, which if any of the following things were affected during this event?

**Code many. read**

- 1 .... Your electricity supply
- 2 .... Water supply
- 3 .... Sewerage
- 4 .... Roads
- 5 .... Communications (telephone or Internet)
- 97 .. None of the above
- 98 .. Don't know

Q15. May I please confirm your name in case my supervisor needs to check on the quality of this interview? **Record first and last name**

Q16. **If Q2a=1 ask; else skip:** One last thing before you go. As I mentioned earlier, this survey is being done on behalf of an organisation called CRESA (Centre for Research, Evaluation and Social Assessment). They are also conducting other research on this same topic. Would you be happy for them to contact you to tell you more about this other research?

**If necessary:** They are looking to interview people either by telephone or in person, about their experience of an adverse event, a storm, flood, earthquake, landslide or other extreme natural event. They can explain exactly what is involved so you can decide whether or not you would like to participate. You don't have to take part if you don't want to.

- 1 .... Yes, happy to be contacted
- 2 .... No, do not want to be contacted
- 3 .... Don't know.

Those are all the questions I have. Thank you very much for your help. My name is **QOIV** from Research New Zealand. If you have enquiries about this survey, please ring Katrina Magill on our toll-free number: 0800 500 168, or call Ruth Fraser at CRESA on (04) 384-5921.



## ANNEX B: SURVEY OF UNDER 65 YEAR OLDS

### RESILIENCE SURVEY – UNDER 65s

Research New Zealand #4550

**DATE** 08-08-2013

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Good morning/afternoon/evening, my name is **AI** from Research New Zealand. We are conducting a survey on behalf of CRESA about people's experience of extreme weather events and events like earthquakes.

For this survey I need to talk to someone who lives in this household, who is between the ages of 25 and 64 years of age. Would that be you?

This research takes about 10 minutes. When would suit, or is now a good time?

**If person not available, ask:**

When would be a good time for me to call back to speak to him/her?

**Make appointment**

**Reintroduce as necessary**

Good morning/afternoon/evening, my name is **AI** from Research New Zealand. We are conducting research on behalf of CRESA about extreme weather events and other natural disasters. This research takes about 10 minutes. When would suit, or is now a good time?

**Background information only if needed:**

This is genuine research. I'm not selling anything.

Information provided is confidential. CRESA report summary results about groups; and do not identify which individuals have said what.

CRESA (The Centre of Research, Evaluation and Social Assessment) is a private research company who do public good research enabling communities and older people to have a more secure future.

If you have any questions about the research and wish to speak to someone at CRESA you can contact Kay or Ruth on freephone 0508 427372.

**Read**

This call is being recorded for quality control and training purposes.

## Screening Questions

A1. Before we begin, can you tell me which of the following age groups you belong to? **Read**

- 1 .... Under 25 **Terminate**
- 2 .... 25-29 years
- 3 .... 30-39 years
- 4 .... 40-49 years
- 5 .... 50-59 years
- 6 .... 60-64 years
- 99 .. Refused **Terminate**
- 97 .. 65 and over **Terminate**

A2. Have you had a parent, relative or family friend/neighbour aged 65 years or older that has in the last five years been affected by an adverse natural event which has... **Read. Code many**

**If necessary:** This could include storms, flooding, landslides, heavy snowfall, coastal erosion, earthquake etc.

- 1 .... Damaged or threatened to damage one or more homes in their local area or neighbourhood
- 2 .... Stopped them going to shops or out of the house for more than a day
- 3 .... Cut the electricity or gas supply to one or more homes in their local area or neighbourhood
- 4 .... Cut the water supply to one or more homes in their local area or neighbourhood
- 5 .... Caused anyone in their local area or neighbourhood to evacuate or prepare to evacuate
- 6.... Stopped meals on wheels or other home help services getting to their house
- 7.... Made them anxious or need extra assistance
- 97 .. No/none of the above **\*\*Do not read\*\***

A3. In the last 10 years have you yourself lived in an area or neighbourhood in NZ that has been affected by a: **read. Code many**

- 1 .... Storm/thunderstorm/cyclone
- 2 .... Flooding
- 3 .... Tornado
- 4 .... Landslide
- 5 .... Coastal erosion, storm surge or high tides
- 6 .... Heavy snowfall, snow storm or blizzard
- 7 .... Earthquake
- 8 .... Volcanic eruption
- 97 .. None of the above **Terminate**
- 98 .. Don't know **\*\*Do not read\*\***

A4. Did [if only one coded at A3: that event] [if more than one coded at A3: any of those events]... **Read. Code many**

- 1 .... Damage or threaten to damage one or more homes in your local area or neighbourhood
- 2 .... Prevent anyone in your local area or neighbourhood from going to work, to school or to the shops
- 3 .... Shut schools in your area
- 4 .... Cut the electricity or gas supply to one or more homes in your local area or neighbourhood
- 5 .... Cut the water supply to one or more homes in your local area or neighbourhood
- 6 .... Cause anyone in your local area or neighbourhood to evacuate or prepare to evacuate
- 97 .. No, none of the above **\*\*Do not read\*\***

**If A2=97 and A4=97, terminate.**

**If A2 = 1-7 AND A4 = 97 Go to 0**

**If A2 = 97 AND A4 = 1-7 Go to Questions 1-5 and then close**

**If BOTH A2 and A4 <97 start at 0 and answer all questions tracking where needed by following instructions.**

Q1. **If yes to more than one type of event mentioned at A3 ask, else continue to 0.**  
Thinking about all those events in the last 10 years what was the worst of those events that you or your neighbourhood experienced?

- 1 .... Storm/thunderstorm/cyclone
- 2 .... Flooding
- 3 .... Tornado
- 4 .... Landslide
- 5 .... Coastal erosion, storm surge or high tides
- 6 .... Heavy snowfall, snow storm or blizzard
- 7 .... Earthquake
- 8 .... Volcanic eruption
- 96 .. Other (please specify) \_\_\_\_\_

Q2. Where were you living at the time? (if suburb then record which town/city the suburb is in).

- 1 Specify suburb, town/city or rural area.

Q2a. Do you still live in the same house?

- 1 .... Yes
- 2 .... No

Q3. Was your home or property damaged during the event?

- 1 .... Yes
- 2 .... No
- 98 .. Don't know

Q4. **If 0=2 or 98 go to 0** Did you make an insurance claim for any loss or damage as a result of that event? **If yes:** Was the claim in relation to your house or the contents? (or both) **Code many**

- 1 .... Yes- dwelling (house)
- 2 .... Yes- contents
- 3 .... No claim (impact on other houses not mine) **E**
- 4 .... No – I wasn't insured **E**
- 98 .. Don't know/Can't remember **E**
- 97 .. Not applicable - house was rented/house owned by someone else so not my insurance **E**
- 99 .. Refused/won't say **E**

Q5. Just to confirm, which if any of the following things were affected during this event? **Code many. read**

- 1 .... Your electricity supply
- 2 .... Water supply
- 3 .... Sewerage
- 4 .... Roads
- 5 .... Communications (telephone or Internet)
- 97 .. None of the above **\*\*Do not read\*\***
- 98 .. Don't know **\*\*Do not read\*\***

**If A2=97 go to 0, else continue** Now thinking about your parent/relative/family friend. If more than one relative has been affected by a natural event in the last five years choose the individual or couple you feel closest to or you have the most to do with.

Q6. What was the worst event that affected them in the last five years?

- 1 .... Storm/thunderstorm/cyclone
- 2 .... Flooding
- 3 .... Tornado
- 4 .... Landslide
- 5 .... Coastal erosion, storm surge or high tides
- 6 .... Heavy snowfall, snow storm or blizzard
- 7 .... Earthquake
- 8 .... Volcanic eruption
- 96 .. Other (please specify) \_\_\_\_\_

Q7. Which if any of the following things were affected during this event? **Code many. read**

- 1 .... Their electricity supply
- 2 .... Water supply
- 3 .... Sewerage
- 4 .... Roads
- 5 .... Communications (telephone or Internet)
- 97 .. None of the above **\*\*Do not read\*\***
- 98 .. Don't know **\*\*Do not read\*\***

Q8. How old were they at the time?

Individual 1:

- 1 .... 65-74 years
- 2 .... 75-84 years
- 3 .... 85 years or more
- 98 Don't know

Individual 2:

- 1 .... 65-74 years
- 2 .... 75-84 years
- 3 .... 85 years or more
- 99 Don't know

Q9. At the time where were they living?

**(if suburb then record which town or city the suburb is in).**

- 1 Specify suburb, town/city or rural area.

Q9a. Are they still living in the same house?

- 1 .... Yes
- 2 .... No
- 95...Deceased

Q9b. **If 0=2 ask, else go to 0** Are they now...? **read**

- 1.....Living independently in another house in the same area
- 2.....Have they moved to a retirement village
- 3.....Moved to a rest home or hospital
- 4.....Living with you
- 5.....Living with other family members
- 6.....Living independently in a house in another suburb, town or region
- 97 .. Other – please specify **\*\*Do not read\*\***
- 98 .. Don't know **\*\*Do not read\*\***

Q10. Was their home or property damaged during the event?

- 1 .... Yes
- 2 .... No
- 98 .. Don't know

- Q11. At the time of the event were you...? **read**
- 1 .... Living in the same house as them
  - 2 .... Living within walking distance
  - 3 .... Living in the same town but not within walking distance
  - 4 .... Living in another town or region
  - 97 .. None of the above (different country) **\*\*Do not read\*\***
  - 98 .. Don't know **\*\*Do not read\*\***
- Q12. Compared to before the event, three months after the event would you say their need for support from you or other family and friends...? **read**
- 1 .... Increased substantially
  - 2 .... Increased
  - 3 .... Stayed the same
  - 4 .... Decreased
  - 5....Decreased substantially
  - 95 .. Not applicable – event occurred less than three months ago
  - 98 .. Don't know **\*\*Do not read\*\***
- Q13. **If 0= 95 go to 0** Compared to before the event would you say they are now financially better or worse off?
- 1 .... Better
  - 2 .... Worse
  - 3 .... Same
  - 98 .. Don't know
- Q14. Compared to before the event would you say their housing situation is better or worse off?
- 1 .... Better
  - 2 .... Worse
  - 3 .... Same
  - 98 .. Don't know
- Q15. Compared to before the event would you say their sense of well-being is better or worse?
- 1 .... Better
  - 2 .... Worse
  - 3 .... Same
  - 98 .. Don't know

- Q16. Compared to before the event would you say they have become more or less independent?
- 1 .... More
  - 2 .... Less
  - 3 .... Same
  - 98 .. Don't know
- Q17. Compared to before the event would you say they participate more or less in community activities? **If necessary:** This could include going to community clubs/groups, seeing friends, using libraries etc.
- 1 .... More
  - 2 .... Less
  - 3 .... Same
  - 98 .. Don't know
- Q18. Compared to before the event would you say they have more or less involvement or contact with their wider family? **If necessary:** This could include talking to family on the phone, going to family events etc.
- 1 .... More
  - 2 .... Less
  - 3 .... Same
  - 98 .. Don't know
- Q19. May I please confirm your name in case my supervisor needs to check on the quality of this interview? **Record first and last name**

Those are all the questions I have. Thank you very much for your help. My name is **QOIV** from Research New Zealand. If you have enquiries about this survey, please ring James Stanley on our toll-free number: 0800 500 168, or call Ruth Fraser at CRESA on (04) 384-5921.