Measuring community wellbeing during the Canterbury recovery

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ABSTRACT

In this paper we outline a multi-agency, multi-sector research collaboration led by the Canterbury Earthquake Research Authority (CERA). The CERA Wellbeing Survey (CWS) is a serial, cross-sectional survey that gathers self-reported wellbeing data to supplement the social recovery monitoring through CERA's Canterbury Wellbeing Index. The CWS provides the community with a broad indication of how the population is tracking in the recovery and informs agency decision-making. The primary research objective was to compile a scientifically credible data set with the aim of creating a credible legacy for future researchers.

Introduction

In 2010 and 2011, a sequence of destructive earthquakes caused 185 deaths, thousands of injuries and extensive building and land damage in Christchurch, New Zealand. A new government department, CERA was established in April 2011 to oversee the recovery.

In this paper we outline a multi-agency, multi-sector research collaboration led by CERA. The CWS is a serial, cross-sectional survey that will be repeated six-monthly until April 2016 [1]. Developed across central and local government, academic organisations, and local Māori tribe Ngāi Tahu this collaboration benefited from the goodwill and cross-sectoral activity stimulated by the urgency of the response phase.

Research context

The need to base policy on evidence is particularly important during recovery from major disasters [2]. Monitoring through routinely collected data does not provide a complete picture of recovery. The most difficult aspects of recovery to measure are psychosocial wellbeing and perceptions of recovery [3].

New surveying to monitor recovery has several advantages. The sampling frame can be tailored to address questions specific to the event and stage of recovery, and surveys allow for disaggregation by characteristics of particular interest.

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Methods

The CERA-led CWS working group of local authorities, the government health agency, a representative from the hazard and disaster research community; and Ngāi Tahu developed the survey questionnaire. The group was cognisant of its responsibility to minimise the burden on respondents, and to ensure that content was directly applicable to operational decision-making.

The questionnaire included demographic questions, questions from the existing Quality of Life Survey (quality of life, stress, sense of community); positive and negative impacts of the earthquakes; confidence in decision-making; and awareness of psychosocial services.

The WHO-5 wellbeing index [4] is a five-item emotional wellbeing scale that has been included in the survey. It has the advantage of being positively framed, brief, and in the public domain but as it has not been used in a population sample in New Zealand, no comparison data are available. In addition, the WHO-5 has not been validated in the New Zealand context.

A stratified random sample of adults aged 18 years and above was selected from the electoral roll. The survey is self-administered and internet-based with an option to request a hard copy.

Limitations include that the electoral roll does not capture those temporarily or newly in greater Christchurch (for example migrant workers). However, the roll is the most complete database of individuals in New Zealand. In addition, the cross sectional design limits ability to draw conclusions regarding time sequence and causality of associations between exposures and outcomes. A cohort study design was discussed but considered too resource-intensive.

The CERA survey was jointly funded by the Natural Hazards Research Platform and CERA, and administered by Nielsen, a private research provider.

Results

The response rate was 52% (n=2,381), 48% (n=2,438), 43% (n=2,476) and 38% (n=2,511) in September 2012, April 2013, September 2013 and April 2014 respectively. The declining rate is thought to be due to the time elapsed since the earthquakes.

The WHO-5 scale of emotional wellbeing was included from the April 2013 survey onwards with the mean scores remaining stable at 13.8, 13.7 and 13.6. While the lack of baseline data limits interpretation of this scale, a sub-population analysis identifies which population groups may be experiencing a slower recovery and may require targeted services.

Two distinct populations have been more likely to have a raw WHO-5 score below the mean. Firstly, these were groups with pre-existing vulnerabilities: Maori, those on low household incomes, and those with a physical health condition or disability. Secondly, groups of ‘new vulnerable’ emerged: people in temporary accommodation, those aged 35-49 years, and those with unresolved insurance claims. Those more likely to have a score above the mean were higher income households, younger people aged 18-24 years, older people aged 65-74 years, and those who have not had to make an insurance claim on their dwelling.
A list of up to 27 issues was included in each survey to identify which stressors were having a moderate or major negative impact on the everyday lives of respondents. These issues were a mixture of primary stressors caused directly by the event (for example distress relating to aftershocks) and secondary stressors indirectly caused by the event (for example dealing with insurance and house damage).

As Table 1 demonstrates, the greatest stressor identified in September 2012 was 'distress and anxiety relating to the aftershocks' which had a strong negative impact on 42% of respondents, but dropped to only 14% a year later as the aftershocks started to reduce in frequency. In the three subsequent waves the secondary stressors of 'dealing with EQC\(^7\)/insurance', 'making decisions about house repairs and damage', 'transport-related pressures' and 'being in a damaged environment and/or surrounded by construction work' had the greatest negative impact.

Of all 27 issues, 'dealing with EQC/insurance' was the most prevalent in April and September 2013. Those most affected were homeowners aged 35 to 49 years. When asked what about this stressor affects them most, this group reported frustrations with the length of the process.

In April 2014 'living in a damaged environment and/or being surrounded by construction work' and 'transport-related pressures' emerged as the top stressors indicating that respondents are losing patience with the disruptions caused by widespread rebuilding activity.

Table 1. Proportion of respondents that indicated an issue continued to have a moderate or major negative impact on their everyday lives, over time (%)

<table>
<thead>
<tr>
<th>Top 15 issues ranked from highest to lowest in proportion of respondents still strongly impacted at April 2014</th>
<th>Sept 2012</th>
<th>April 2013</th>
<th>Sept 2013</th>
<th>April 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being in a damaged environment and/or surrounded by construction work</td>
<td>30</td>
<td>21(\checkmark)</td>
<td>20</td>
<td>24(\times)</td>
</tr>
<tr>
<td>Transport related pressures</td>
<td>20</td>
<td>17(\checkmark)</td>
<td>14(\checkmark)</td>
<td>22(\times)</td>
</tr>
<tr>
<td>Dealing with EQC/insurance issues in relation to personal property and house</td>
<td>37</td>
<td>26(\checkmark)</td>
<td>23(\checkmark)</td>
<td>21</td>
</tr>
<tr>
<td>Loss of recreational, cultural and leisure time facilities</td>
<td>34</td>
<td>21(\checkmark)</td>
<td>17</td>
<td>20(\times)</td>
</tr>
<tr>
<td>Making decisions about house damage, repairs and relocation</td>
<td>29</td>
<td>22(\checkmark)</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>Loss of indoor sports and active recreation facilities</td>
<td>24</td>
<td>16(\checkmark)</td>
<td>13</td>
<td>17(\times)</td>
</tr>
<tr>
<td>Additional financial burdens</td>
<td>26</td>
<td>16(\checkmark)</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Uncertainty about my own or my family's future in Canterbury</td>
<td>30</td>
<td>16(\checkmark)</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Distress or anxiety associated with ongoing aftershocks</td>
<td>42</td>
<td>16(\checkmark)</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Loss of outdoor sports and active recreation facilities</td>
<td>20</td>
<td>12(\checkmark)</td>
<td>10</td>
<td>13(\times)</td>
</tr>
<tr>
<td>Additional work pressures</td>
<td>27</td>
<td>16(\checkmark)</td>
<td>12(\checkmark)</td>
<td>13</td>
</tr>
<tr>
<td>Living day to day in a damaged home</td>
<td>22</td>
<td>16(\checkmark)</td>
<td>16</td>
<td>12(\checkmark)</td>
</tr>
<tr>
<td>Loss of usual access to the natural environment</td>
<td>24</td>
<td>13(\checkmark)</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Having to move house permanently or temporarily</td>
<td>16</td>
<td>13(\checkmark)</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Loss of meeting places for community events</td>
<td>NA</td>
<td>10</td>
<td>8</td>
<td>11(\times)</td>
</tr>
</tbody>
</table>

\(^7\) 'EQC' is the Earthquake Commission which provides government guaranteed insurance for residential homes, land and contents against loss or damage caused by natural disasters.
Discussion

The CWS has provided a valuable indication of wellbeing as the recovery progresses.

The inclusion of Quality Of Life survey questions enables useful comparisons to Christchurch pre-quakes and to national data. Advantages of the methodology include that it was cost effective, with a satisfactory response rate. However, the response rate has been dropping which may reflect a declining interest in recovery issues amongst the population.

While the observed positive association between increasing income and self-reported wellbeing is well established, the WHO-5 scale scores highlights the negative impact of stressors specific to the recovery environment. Displacement due to the earthquakes is associated with poorer wellbeing. The identification of a newly vulnerable group, the 39-45 year olds, appears to reflect cumulative impacts related to the life stage of this group for example stressors relating to homeownership, work pressures and loss of access to social infrastructure used by families.

Dealing with EQC and private insurers continues to have a comparatively high negative impact, in part highlighting complexities specific to the New Zealand disaster insurance situation. The stressors of being in a damaged environment and transport-related pressures reflect the magnitude and complexity of the rebuild process.

CWS data has been well utilized. For example, these data have helped identify target population groups through the cross-agency programme of psychosocial services and have provided an evidence base to inform the allocation of ongoing funding for free counseling, a telephone help and advice line and a coordination service that supports households as they navigate social services and the rebuild process.

CWS reports are published in full after each survey wave on the CERA website, and so provide a valuable resource for researchers. The CWS data-set promises to be equally valuable as further time-points are added. The collaborative process has helped establish the basis for a network of researchers across organizations and agencies. It is also hoped that the success of this collaborative cross-sector, multi-agency approach will constitute a valuable model for others, by adding to the body of disaster recovery monitoring literature.

References