# The psychosocial consequences of the Kaikoura earthquakes

# A briefing paper

## 2 December 2016

Many people directly experiencing a major natural disaster such as an earthquake will experience psychosocial effects – both individual psychological effects impacting on how people feel, and social effects impacting on how they relate to each other. These effects are dynamic and continually interacting, and are normal reflection of human psychology in response to traumatic events. Anxiety and stress symptoms are common. However, there is considerable variation in individual and social responses. Nevertheless, it is fair to state that the potential exists for the emotional effects of disaster to cause as great a degree of suffering, as do the physical effects such as injury, destruction of infrastructure and loss of income. In fact, they are often inter-related. Indeed, it is clear that recovery is primarily judged in terms of people feeling that they are coping with their lives and livelihood, not just in physical terms.

The problem is that every disaster is somewhat different. The recent series of earthquakes in the Kaikoura region is extremely complex. Not only was the initial M7.8 quake unusual in its geology and geography, it has had a very wide geographic and demographic spectrum of impact – from small, isolated rural communities to the nation's urban capital of Wellington. Adding to this is an inherent threat of continuing aftershocks that can last for many months, exposing people to recurrent acute stress, while at the same time chronic stress is imposed by the on-going human, economic and social costs. We experienced this all too recently in Christchurch, where an initial M7.1 earthquake (4 September, 2010) caused sufficient damage to induce significant traumatic stress in its own right and then, rather late in the recovery cycle, the M6.3 earthquake (22 February, 2011) returned many people back to the beginning of the cycle.

The aftershocks may well extend the recovery process. Some of the population may experience on-going feelings of insecurity, uncertainty, loss of trust in scientific information, continued hyper-vigilance and disturbed sleep, As we know, this disaster is also characterized by considerable numbers of people being displaced from their homes, and particularly in Wellington, from their usual places of work.  In Wellington the very people who are tasked with coordinating or assisting in the response and recovery may themselves also be affected by disruptions to their home and work lives. This population may also show psychosocial consequences of extended dislocation, which will be one of many possible secondary stressors including economic and income insecurity resulting from loss of business, infrastructure

damage meaning that goods cannot come in and out of affected regions, and knock on effects of building assessments and insecurity. Some secondary stressors can worsen pre-existing problems or vulnerabilities within the population.

As a conceptual framework it is useful to think about four general phases of response, although separating them out as distinct phases with sharp transitions is somewhat artificial:

(1) There is typically an initial heroic and altruistic phase, in which people help and don't count the "costs".

(2) A 'honeymoon', or optimistic phase follows, in which people see some help arriving and feel that the situation will improve.

(3) A third phase is characterised by some disillusionment, as people realize how long recovery will take and become angry and frustrated. The length of this phase can vary greatly depending on the individual or local situation and the nature of the ongoing response, affecting how quickly people move through long-term recovery and rehabilitation. For example, the experience in Canterbury was that the disillusionment phase was extended for the south and east parts of the city for years, whereas the west and north got on with recovery relatively promptly.

(4) Finally people return to a new equilibrium, adapting to the changed situation in which they find themselves. But these new conditions may fluctuate for a while until a settling point is established and a pattern of everyday life can be resumed. We must understand that this is a long- term process with no clear endpoint, in that things can never return to exactly what they were before the disaster.

Considering the complex nature of the Kaikoura earthquake and subsequent aftershock sequence, we can expect these phases to be quite different in each affected community, and the consequences could be too. For example, building safety is an issue for more than 1 in 6 civil servants in Wellington, and countless in private industry. The level of trust in engineering reports and assessments has been eroded to an unknown degree. People who were affected in the Canterbury earthquakes may experience stress and anxiety again, regardless of where they are living now. Similarly in Marlborough, it is likely that issues from the 2013 magnitude 6.5 Seddon earthquake will be re-awakened for some, as well as new challenges.

Uncertainty around the potential for future events will likely extend phases 3 and 4 in the above framework. We need to be aware that although the risk of natural hazard events such as earthquakes, volcanic eruptions and tsunamis has always been present in New Zealand, we appear to be in a natural phase of heightened seismic activity that may last many years. Geological movements resulting from the latest earthquakes have increased the possibility of further events occurring within weeks or months, and with this comes the need for continued vigilance, but also argues for promoting individual and community preparedness and resilience in the face of a changing environment.

**Psychosocial support needs**

What is clear from the field of disaster science and scholarship is that most people are resilient and will recover in time; however, a subset, likely to be in the order of about 5% (or more, depending on how the recovery process progresses), will have on-going significant psychological morbidity requiring

professional help. A comprehensive and effective psychosocial recovery programme involves a continuum of support from self-help to more intensive forms of assistance, starting with ensuring that basic needs in terms of services and security are met. The majority of the population may need some psychosocial support within the community (such as basic listening, information and community-led interventions) to allow their innate psychological resilience and coping mechanisms to come to the fore. The most severely affected minority will require efficient referral systems and sufficient specialised care. Insufficient attention to the first group is likely increase the number represented in the second group. A comprehensive approach such as this, with an emphasis on resilience, community participation and well-being, assists in mitigating the critical phase 3. Some groups, as discussed below, are more vulnerable.

**Issues associated with the 'long-term recovery' phase**

While many people will be relatively resilient, many others may demonstrate the emotions of numbness, depression, despair and anger. These are normal responses to exceptional circumstances, and such people should not be seen as unwell. Despite the fact that in most people these emotions will slowly diminish, in a minority they can be exhibited for months if not years. Accumulated experience warns us to expect peaks in distress on anniversary dates of major traumatic events.

These are inevitable responses, irrespective of how the physical recovery process plays out. However, there is an important interplay between physical and psychosocial recovery and this has implications for the perception of the physical recovery process. If the physical recovery process is seen as community endorsed, then the negative emotions may be more likely to be mitigated and the positive emotions of hope enhanced.

**The key issue is a psychological sense of empowerment.**

Earthquakes are disempowering events over which individuals have no control, and which may leave them with essentially with no control over how they live. The need to regain some sense of some control over one's life is central to the recovery process. Disempowerment essentially reinforces the initial trauma.

No set of recovery measures can entirely prevent the emotions of distress, be they anger, numbness, despair or frustration – rather, the broader community needs to accept that they have a role in supporting people through this process. The agencies involved cannot ignore, and indeed have not been ignoring, these likely responses and need to ensure the availability of an appropriate range of support services for those affected. We know that this will take some time, and responses need to be in place over a considerable period, even though at a reduced level from the initial response.

There is a danger that the media and political processes could aggravate these responses by magnifying and focusing on them but, on the other hand, the potential for externalities such as deficient supportive and agency responses to impede emotional recovery cannot be ignored. It is this interplay between individual responses and externalities (such as more aftershocks, delayed responses to provision of key needs, lack of local community participation in the recovery planning process, or unbalanced reporting) that might create heightened anger or other emotions.

Analogies may be drawn from responses to acute bereavement and from the well documented post-traumatic stress syndrome (PTSD), but similar variation is documented in both of these. Multiple emotions are experienced over many months after bereavement. While these are popularly described as a staged cycle of recovery, in reality no such staging has been validated. Rather, over the subsequent months the emotions of denial, anger and depression are exhibited to greater or lesser extent followed by gradual recovery. Similarly, PTSD symptomology is variable – it may have acute or delayed onset with the key emotions being those of numbness, avoidance and persistent arousal.

**High-risk groups**

Secondary stressors such as pre-existing social disparities, mental health issues or feelings of injustice can serve to exacerbate psychosocial responses to disasters, and may cause some groups to be more vulnerable to ongoing psychosocial problems.

Women (especially mothers of young children), children, and people with a prior history of mental illness or poor social adjustment appear to be more vulnerable than other groups. Vulnerable groups evolve over the recovery period and this needs monitoring from those working in the field. Effective ways of including these groups may include non-clinical intervention services facilitated through schools and other organisations working with families, and 'check-ins' of people already known to mental health services.

Young children (ages 1-5) may exhibit fear of separation, strangers, "monsters" or animals, withdrawal, or sleep disturbances. Older children (ages 6-11 or so) may engage in repetitious storytelling or play that re-enacts parts of the disaster. Sleep disturbances, fear of the dark, irritability, aggressive behaviour, angry outbursts, separation anxiety, school avoidance, and general changes in behaviour, mood and personality may appear. Children of all ages are strongly affected by the responses of their parents and other caregivers. "Protecting" children by sending them away from the scene of the disaster, thus separating them from their loved ones for extended periods, can add to the trauma of the disaster.

Adolescent behaviour becomes increasingly similar to adult responses and may include greater levels of aggression, defiance, substance abuse and risk-taking behaviours. Support from teachers and peers and exposure to positive news stories are protective. Adolescents are particularly unlikely to seek out counselling.

As we are approaching the long school break in New Zealand, many children and adolescents in the affected regions will need additional, targeted community-based support and activities to provide a stabilising structure to what might otherwise be a very chaotic and stressful period.

**Addressing tensions and conflicts**

In every disaster there is an inevitable tension between the desire for an immediate response and the need for planning (by multiple layers of authority) and risk reduction. This tension aggravates the situation and creates opportunities for externally driven exacerbation of symptoms. Anger and frustration are inevitable and endogenous. It is wrong to respond to this anger in a defensive way.

It would appear that key to minimising this phase is the promotion of local empowerment and engagement by working closely in a collaborative way with the affected population in co-coordinating

and co-leading the response effort. If the population do not sense this is happening, then the phase may well be longer and the symptoms of anger and frustration more intense. A feeling of self-efficacy and community efficacy assists the population in reactivating their coping mechanisms. Local governance, empowerment and ownership have been shown to facilitate recovery. The inevitable tensions and conflicts in achieving this are obvious (long-term versus short-term, public versus private, local versus national interests) and cannot be avoided – rather, they have to be openly handled with sensitivity. Agencies need to work closely in collaboration with each other, and in transparent ways, to assist communities and to build trust. Without trust, the platform for support corrodes and is hard to put effective remedies in place in a timely manner.

It follows that, from the psychosocial perspective, those involved in directing the recovery should create governance structures that understand and actively include community participation and enhance individual and community resilience. Such approaches will be most likely to be effective in re-establishing coping and functioning communities.

It appears important to try to give people back some sense of control and agency over their lives. Key to recovery is firstly "normalisation" – that is, getting people in some way back to business, social life, schools, church and a sense of community, even if in temporary housing or locations. Secondly, there also needs to be normalisation of the responses to people's varied psychological reactions – that is, for there to be a wide understanding that "most emotional reactions are usual reactions to abnormal or difficult situations" and are not reflections of being mentally unwell or weak. This requires education and orientation on the expected reactions and provision of access to available resources. The 'All Right?' campaign ([www.allright.org.nz](www.allright.org.nz)) was developed to meet this need in the greater Christchurch area following the Canterbury earthquakes, raising awareness among community groups, organisations and businesses, and creating tools that help promote improved wellbeing both individually and in the wider community.

For withdrawn and depressed individuals, multiple strategies are needed (such as "John Kirwan-style" TV slots, alert neighbourhood visitors or community-led events). It is important that such messages are about functional changes and how lives progress rather than the symptoms *per se*.

Surveillance and monitoring by local organisations and GPs is an important preventative step, provided that these monitors are appropriately briefed. Non-clinical psychological intervention at this stage can help by:

- avoiding the labelling of normal people as 'patients', thereby reaching a wider range of people;
- providing information on the normal range of psychological effects people can expect themselves and their families to experience following a major disaster;
- providing information on when further psychological assistance may be helpful and how to access it; and
- helping to restore the social connectedness and community life necessary for long- term recovery.

The expected emotional reactions to the earthquake are such that they can prevent people from taking on new information as they are preoccupied by trying to manage their responses to the threat. Thus, many people will need repeated exposure to information and resources – often this is not recognized as a need. Open and honest information dissemination is key; mythology and rumours are the enemies of resilience.

Perhaps some 5-10% of the population in the most affected areas will need more specialised professional help at some stage. Formal psychological debriefing techniques should not be used as evidence shows that they can reinforce the problem. And it is critical that the public messages are supportive, not threatening.

The most important ameliorating factors for the recovery phase appear to be:
- recognising that the situation is distressing and not easy for the affected population;
- being explicit about how governance arrangements will facilitate local engagement and empowerment;
- recognition by the community of the conflict that is inherent between the desire for rapid physical recovery and the difficulties that planners face. This conflict is inevitable and real – the key is to involve the community openly in resolving it.
- providing information on expected post-disaster emotions;
- providing community monitoring and good information on access to support services;
- providing clarity over reconstruction and rehabilitation plans:
    - It is better for those in decision-making roles to be truthful and say "we do not know" rather than obfuscate.
    - It is important to set timelines for when things will clarify and information will be provided, and to meet those timelines.
    - Those involved in managing the recovery process must understand that recovery in the end is about people's lives, not just buildings, although clearly getting a functioning house, infrastructure and workplace are core to recovery. They must be credible in demonstrating that understanding and they must be willing to activate community empowerment and engagement.
    - Recovery planning must be broad-based and on-going. For example, re- establishing community services such as sports clubs is important.

**Psychosocial issues in the phase of adaptation to a changed environment (months to years)**

Most people make a good recovery from the psychological and social effects of significant disasters.

Giving early psychosocial support to the population can avoid some acute stress reactions becoming chronic and allow some extreme reactions to be picked up and referred earlier. Around 5% to 10% of the population, or their immediate others, are likely to consider that their long term psychological health has deteriorated following a disaster of this size and may seek or require further intervention. This population will show a varied pathology: depression, high-anxiety states, as well as some post-traumatic stress syndrome states. Unresolved post-traumatic stress syndrome and similar conditions can lead to epigenetic intergenerational effects. Factors can be identified that may increase the risk of long-term psychological symptoms, and there should be monitoring within the context of the affected communities so that trends are identified early.

Known risk groups include families that have suffered bereavement or a personal crisis (which may be unrelated to the disaster), individuals with pre-existing mental health conditions, and children whose parents have unresolved mental health issues.

Stigmatisation of mental health issues, including post-traumatic stress disorder and related conditions, can lead people to suppress symptoms and make healing more difficult. Additionally, some people may

not come forward for help if they perceive the support resources to be scarce – they may discount their experience, saying that others need the help more than they do. Therefore, continuous efforts need to be made to reach out to those who may need help, and to validate the act of coming forward. This also applies to those working in recovery and response, who equally need to have access to help in ways that do not stigmatise the act of asking for help. Doing so should not entail a risk of being perceived as 'needy' or 'weak' and having responsibilities taken away unnecessarily.

**The response to date**

The Ministry of Health (MoH) is the lead agency, with the support of the Ministry of Social Development (MSD), for the planning and delivery of psychosocial support after national-level events. A cross-agency local Governance Group is in operation, with representatives from the major government agencies, local government and Maori. Since the Christchurch earthquakes in 2010-2011, MoH has been leading the response as chair of the Psychosocial Response Committee, which is a cross-government committee including representatives from MSD, Canterbury DHB, Christchurch City Council and numerous other agencies, itself supported and advised by national-level groups.

Immediately following the Kaikoura earthquake, MoH began actively looking at how to roll out the learning from the psychosocial response to the Christchurch series of earthquakes. An already active Psychosocial Committee in Christchurch[1] is looking at how to assist in North Canterbury. The committee oversees the delivery of the Community in Mind Strategy's Shared Programme of Action[2] which includes numerous initiatives, services and supports, including the 0800 Canterbury Support line, the Earthquake Support Coordination Service, free counselling, and the 'All Right?' campaign[3] described above.

Local responsibility for psychosocial recovery post disaster rests with DHBs. As part of the national coordinating role, MoH has commenced linking in with the DHB coordinators to determine local versus national needs. Many aspects of what has been implemented for Christchurch may have broader applicability, but it is also clear that very local responses are often necessary.

Red Cross has provided support to Kaikoura and Marlborough, and has a centre operating in Christchurch for people who have been evacuated from their homes.

Homecare Medical is running the Help Line with counsellors and mental health professionals.

**Some final comments**

It is inevitable that psychosocial issues will emerge in the present phase of recovery and rehabilitation. It is impossible to be more precise as to how the pattern of emotions will proceed as there are too many externalities that could affect it, and there is much individual variation in resilience. However, we can be certain that anger, frustration and despair will be exhibited by a significant percentage of the population at least through the rest of this year and that between 5 and 10% will need significant on-going psychological support after that date. These are inevitable emotional responses and cannot be avoided.

---

[1] Greater Christchurch Psychosocial Committee – http://www.healthychristchurch.org.nz/news/healthy-christchurch-notices/2016/9/greater-chch-psychosocial-committee-report-to-june-2016

[2] All right? Wellbeing campaign – http://www.healthychristchurch.org.nz/priority-areas/wellbeing-and-community-resilience/all-right-wellbeing-campaign

[3] Community in Mind – http://www.cph.co.nz/your-health/community-in-mind/

However, this paper identifies some potential aggravating factors that can be managed and suggests ways by which psychological health can be ameliorated.

Managing the psychosocial response is complex and cannot be separated from managing the restoration of critical infrastructure, primary sector productivity, homes, community and government buildings, etc. Tensions between different agendas are inevitable in any major disaster and are likely to be greater here given various factors such as the continuing high public and media focus, the fact that the disaster is spread across a large rural area as well as directly impacting New Zealand's second largest city and the seat of government, which will have ongoing reminders in the form of aftershocks.

The increased seismic activity triggered by the original, complex M7.8 quake, and the uncertainties surrounding the possible implications of observed slow-slip movements between tectonic plates in the lower North Island, have heightened our awareness that we need to be prepared for the possibility of another significant event. As such, 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. Local media representatives are themselves are going through these processes, which places much responsibility on editors. Key to success will be to convince people that the focus on physical reconstruction of roads, buildings, etc. is not an end in itself but is designed to allow people to rebuild their lives and livelihoods.

Sir Peter Gluckman