

**A submission by the Australian Psychological Society to the  
Productivity Commission**

**Natural Disaster Funding**

**June 2014**

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## Introduction

The Australian Psychological Society (APS) welcomes the opportunity to make a submission concerning the Productivity Commission's Inquiry into the efficacy of current national natural disaster funding arrangements. The APS accepts that the altered, climate-changed world in which Australians are now living requires more attention than ever upon extreme weather events and the threat of natural disasters. Australia's National Strategy for Disaster Resilience (COAG, 2009) acknowledges that climate change will likely result in an increased frequency and severity of extreme weather events, and highlights the related need for governments to strengthen the nation's preparedness for and resilience to disasters. Ensuring that the natural disaster funding arrangements are maximally strategic and effective, just as global climate change is really starting to cut in, is a much-needed initiative.

We note that the inquiry places almost exclusive emphasis on systems and structures in a broader context of post-event disaster management. Disaster psychology, however, places equal emphasis on disaster preparedness and prevention as integral to effective recovery. In our submission, therefore, we broaden the focus. We address a number of matters of particular relevance to natural disaster funding priorities, like risk communication, disaster warnings, psychological as well as household preparedness, and initiatives that promote mental health and psychosocial wellbeing in people following a disaster event.

## Executive Summary and Recommendations

Prevention and preparedness are crucially important considerations in determining natural disaster funding priorities and are capable of having much greater magnitude of influence and cost effectiveness compared to emergency response and recovery.

Natural disaster funding also needs to include psychosocial recovery, which is an essential component of restoring individuals' and communities' mental health and wellbeing. Natural disasters will almost always overwhelm existing psychosocial services, and Federal funding is needed to augment services to meet increased demand.

The APS makes the following recommendations in relation to the Inquiry:

### **Recommendation: Preventive and preparedness initiatives are crucial**

Preventive and preparedness initiatives are a crucial funding priority. These initiatives equip a community to protect itself from a future disaster, reduce the impact of an event on individuals and communities, hasten the recovery, and have a much greater magnitude of influence and effectiveness than initiatives that come after the disaster. From a psychological perspective, these initiatives would include a host of risk reduction initiatives, including behavioural risk reduction strategies, improved warning systems and public messaging, community disaster preparedness education programs, psychological and household preparedness, psychological first

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aid, as well as thorough evaluation of program effectiveness so that evidence-based best practices are prioritised.

**Recommendation: Psychosocial recovery models need to be 3-tiered, flexible, integrated and local**

Funding a 3-tiered model of psychosocial care is critical to cost-effective funding options as it directs the majority of an affected population to the least expensive, population-based assistance which is likely to meet their needs, and reduces the demands on primary and specialist mental health care resources.

Funding mechanisms for identifying mental health risk and need in a timely way throughout the population impacted by disaster are essential. This enables rapid mental health triage so that people at high risk can be rapidly matched to brief, evidence-based care. The use of these triage systems for mental health enables rational allocation of limited resources.

Psychosocial recovery funding needs to be provided to local leaders in disaster-affected regions so that they can develop an integrated system of psychosocial and mental health care for disaster recovery tailored to their particular area. This funding can also be used to provide additional training in levels 1, 2 and 3 psychosocial care to saturate the workforce and bolster the existing pathways of care.

Funding of a centralised, non-governmental agency designed to promote excellence in psychosocial recovery would improve the quality, consistency, and coordination of psychosocial responses to disasters in Australia. Local leaders in a disaster-affected area could consult with this agency for support in planning, designing, administering and implementing large-scale psychosocial recovery programs, without having to reinvent the wheel each time a disaster affects a different area.

## **Responding to the Inquiry**

### **The importance of a psychological and social (psychosocial) perspective in addressing the full spectrum of Prevention, Preparedness, Response, and Recovery (PPRR)**

An inquiry into funding for natural disasters needs to consider more than just the post-event recovery of the built environment, and systems and structures. It must also consider the crucial contributions of social, behavioural and health scientists, with their focus on prevention and preparedness pre-event, as well as their capacity to address the widespread psychosocial impacts post-disaster.

Disaster psychology uses the Prevention, Preparedness, Response and Recovery (PPRR) model of disaster management for good reason. The prevention and preparedness parts of the model are critically important for protecting communities, reducing disaster impacts, and hence reducing the recovery costs of natural disasters. The interdisciplinary contributions to risk reduction, risk communication,

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disaster warnings and disaster preparedness will be addressed in the first part of this submission.

The Inquiry also needs to consider the widespread psychological, social and community effects of extreme weather events on whole communities, and the most cost-effective ways of addressing these. These impacts are also well documented (e.g., Ferris, Petz & Stark, 2013; Hughes & McMichael, 2011), and constitute a key public health issue. Mental health problems following disaster include not only the direct psychological impact of the disaster itself, but also the emotional difficulties arising from confronting the secondary stressors that disasters generate. We refer the Inquiry to our 2012 Submission to the Senate Inquiry into Preparedness for Extreme Weather (<http://www.psychology.org.au/Assets/Files/2013-APS-Submission-Senate-Preparedness-for-Extreme-Weather-January.pdf>) for a detailed discussion of these issues.

Whilst recovery of the built environment, and systems and structures is an important part of individual and community recovery, it is not the only thing people need in recovering from a natural disaster. Throughout this submission we highlight the most cost-effective types of support that will build resilience in communities and promote both prevention and preparedness before, and recovery after, an event, in order to reduce the long term costs of recovery.

## **Prevention and preparedness are key and they save money**

Prevention and preparedness are crucially important considerations in determining natural disaster funding priorities. Better prevention and preparedness at individual, household and community levels will increase the community's resilience, reduce the impact of the disaster, and hence lower the psychological, social and monetary recovery costs.

Recent reviews (Ronan, 2014b; see also Ronan & Towers, 2014; Reyes & Jacobs, 2006; the special issue of Professional Psychology: Research and Practice) have demonstrated that many physical consequences (e.g., death, injury) and psychosocial consequences (e.g., mental health problems) of natural disasters are in fact quite preventable. Thus, investment in low-cost preparedness and prevention phase activities such as enhancing efforts to increase uptake of emergency plans along with practice and other low-cost strategies can translate to increased benefits. Prevention and preparedness initiatives are capable of having a much greater magnitude of influence and cost effectiveness compared to emergency response and recovery. We illustrate some of these in the sections below.

### **Reducing physical consequences of disasters**

#### Risk reduction - changing people's risk-taking behaviour

Generally, in costing terms, changing people's risk-taking *behaviour* for mitigating risk of natural hazards is a cost-effective means of reducing risk. According to Kelman, (2014), "the more structural a measure, the less cost-effective it usually is..." (p. 2). As an example in flooding, benefit-cost ratios were from 1.72 to 44 for

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improved warnings and raising floors compared to those for levee-based solutions (e.g., floodwall cost-benefit ratios from .01 to .64; Woodruff, 2008).

In Australia, the Bureau of Meteorology (2014; see also Peden & Queiroga, 2014) reports that most flood-related deaths occur when people drive, walk, swim or play in floodwaters. Taking risks in floods, particularly for males, including driving through floodwaters, is a major problem both overseas (Jonkman & Kelman, 2005) and in Australia (Coates, 1999; Peden & Queiroga, 2014). In fact, it is such a problem that it has spawned a major government-sponsored advertisement campaign in Queensland ("If It Is Flooded, Forget It" campaign after 2010-11 floods). Compared to the costs of response (e.g., rescue and recovery operations), both economic and social, investment in the prevention of these types of activities would be likely to save both lives and money.

#### Risk reduction – land use planning

Another cost-effective risk reduction strategy includes things like land use planning, which are both policy and behavioural issues. Using a bushfire example, an historical analysis of Australian bushfires indicates that the closer to bushland the more fire risk rises (Haynes et al., 2010). "Adaptations such as risk-informed land use planning (e.g., building close to bushland) and fuel management (e.g., clearing area around homes near bushland) are also important factors related to the public's ability to survive bushfire threats" (Haynes et al., 2010, p. 193). Thus, as with other natural hazards, there are both primary prevention and secondary risk reduction strategies available that can reduce deaths and other consequences.

#### Household preparedness

Other behavioural measures for reducing risks of death and injury from disasters include people's physical or 'household' preparedness for an event.

People who are more prepared for a disaster event are more likely to:

- have a household disaster plan to activate when a warning is communicated
- recognise and address their own unhelpful thinking or emotions
- manage reactions to the warnings
- stay focused on their plan
- think more clearly
- think more rationally and be better able to assess risks
- have a calming influence on other people
- have practised their plans more and thus may be more inoculated against stress
- be more likely to evacuate when it is appropriate because they will be thinking more rationally

(APS, 2013).

Haynes et al. (2010) demonstrate the importance of clear emergency plans in their analysis of all bushfire deaths in from 1901-2008. They demonstrated that most bushfire fatalities (552 civilian deaths) have resulted from late evacuations or, in the case of males, defending property and other assets outside. "In terms of awareness and capacity to respond, the ranking of numbers of fatalities were as follows: the

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majority were aware of the fire and carrying out a plan in the open (mostly males); second were those aware of the fires but having either no plan or having a plan that was not followed and that in turn usually resulted in late evacuation (mostly females). Thirdly were those unaware of the fire and children following the decisions of adults (and whose bodies were found in cars or outside with adults).” (p. 192)

Thus, the authors conclude that having a clear plan in place is important. After the Black Saturday fires, the Victorian Bushfire Royal Commission in fact recommended that there should be greater emphasis on messages that early evacuation is the safest response option (2010)<sup>1</sup>. Previous research found that many have thought late evacuation to be quite a valid response, albeit a “last resort” type of response (Tibbits & Whittaker, 2007).

There are a number of factors that increase the proportion of individuals who will prepare and practice a plan, and these are summarised in our APS (2011) Submission to the Senate Inquiry into the Capacity of Communication Networks and Emergency Warning Systems to deal with emergencies and natural disasters. They include the importance of well-crafted public education messages which are disseminated across agencies and through multiple media, simulations run by councils, schools and other agencies, and relevant education about disaster preparedness leading up to a potential risk period (for review see Ronan & Johnston, 2005 and Morrissey & Reser, 2001, APA 2006). This would include delivering more interactive education programs to the public and more specifically those tailored for the next generation of adults (i.e., teaching children about preparedness for a range of risks in life including those related to natural disasters).<sup>2</sup>

A recent study done in a lower SES area of Canberra evaluated an interactive disaster resilience education with young people, including those not engaged with school or work, that was carried out through a local youth centre. That brief program resulted in numerous benefits, including youth learning and engaging in more injury prevention/protective behaviour planning and practice. The program was also found to translate into an increase of almost 6 additional risk reduction activities done at home as reported by their parents (Webb & Ronan, 2014).

Another example of a cost effective household preparedness education program was Clare et al.’s (2012) cluster randomised trial to evaluate an interactive education program to reduce risk of house fires in Surrey, British Columbia. That evaluation saw a door-knocking campaign by on-the-job firefighters translate into a range of “ultimate” outcomes. These ultimate outcomes included markedly reduced rates of home fires in targeted, high risk areas of Surrey (e.g., 64% reduction in annual rate

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<sup>1</sup> From the Royal Commission (2010): “Any policy must encourage people to adopt the lowest risk option available to them, which is to leave well before a bushfire arrives in the area. The Commission acknowledges, however, the reality that people will continue to wait and see, and a comprehensive bushfire policy must accommodate this by providing for more options and different advice” (p. 5).

<sup>2</sup> The single biggest cause of death for 1-14 year olds in Australia is from unintentional injuries, many of which are preventable (Ronan, 2014b). The Australian Bushfire Cooperative Research Centre has funded a 3 year project entitled “Building best practice in child-centred disaster risk reduction” (2014-2016) to evaluate the role of children’s disaster resilience and prevention education programs, including cost effectiveness analysis.

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of home fires in targeted areas; Clare et al., 2012; see also McCormick, 2009). Importantly, given that this program costs money to carry out (i.e., through time of fire fighters and through other costs including smoke alarms), it is important also to emphasise that another ultimate outcome of the program was a reported cost saving of \$1.26 M in its first 25 months. Thus, despite some upfront costs, the program overall saved Surrey a good deal of money while reducing home fire risks substantially.

Thus, interactive preparedness programs have the demonstrated ability to motivate action at the person- and household- level, translating into reduced hazards, cost savings, an increase in risk mitigation activities. More policy and agency investment in prevention and preparedness, moving from less effective passive approaches (e.g., information dissemination through various media) to interactive educational, socially-based approaches, is warranted (Ronan, 2014a). Alongside that investment, research is needed to support the viability of that investment in reducing physical and psychosocial consequences, along with producing documented cost savings.

#### Warning systems and messaging

Coupled with pre-emergency preparedness and risk reduction activities, one key to saving lives and protecting people (and reducing recovery costs), is access to early warning system information. The use of effective risk communication is crucially important in saving lives and minimising the devastating effects of natural disasters (Janoske et al., 2012; Mileti & Sorensen, 1990).

The effectiveness of communication of warnings of imminent threat is determined by a number of factors like the nature of the warning information, source of the message etc. (for details, see the APS 2011 *Submission to the Senate Inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters*). They can be further improved by standardising the systems (e.g., warning systems, clear lines of responsibility and authority in crises that often do not respect borders, etc.).

Whilst social science research provides us with much information about how to design effective warnings, there are very few examples of evidence-based materials or programs in use in Australia. A crucial need therefore, is for a systematic evaluation of the multiple risk communications and public education materials which individuals and communities receive from differing agencies and through the internet and social media. Evaluation research and evidence-based best practice is critically important to ensuring that cost-effective initiatives are being used to improve the safety and wellbeing of communities threatened by natural disasters.

#### **Reducing risks of psychosocial impacts of disasters – skilled-up communities**

Apart from physical consequences like injuries and death, there is a large literature speaking to the preventability of psychosocial consequences of hazardous events (Ronan, 2014b). Various resilience indicators (i.e., protective factors) are known to

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prevent against conditions like post-traumatic stress, anxiety, depression, secondary family and social stressors and other known by-products of natural, and other, disasters (e.g., Norris et al., 2002; Hobfoll et al., 2007; Ronan & Johnston, 2005). These factors include social support, (both actual and perceived), a sense of perceived control/self-efficacy, an ability to solve problems, an ability to manage arousal/self-soothe, a sense of safety, and a sense of hope or optimism for the future.

At a more community - or collective - level, both "collective helping" (e.g., "mud armies" after flooding) and a perception of "collective efficacy" (i.e., perceptions of collective group problem-solving abilities) are related to better psychosocial outcomes following disaster (Hobfoll et al., 2007; Wayment, 2004). An additional, and important, protective factor for children is having parents who cope effectively with anxiety and stressors, including disasters. In fact, research indicates that parental distress following a disaster may be the most important predictor of a child's longer-term reactions (Ronan & Johnston, 2005). Each one of these individual and collective characteristics is a "dynamic" (versus static) factor (i.e., can be changed). In other words, many psychosocial consequences – and their related costs - are preventable through lower-cost prevention strategies, including resilience-building strategies.

Assisting communities to prepare more effectively for natural disasters, including having the ability to engage in self-help strategies, is part of an emergent paradigm moving emergency management away from a command and control focus to one that empowers communities to help their members look after themselves and others before, during and after an extreme event. While having skilled workforces is absolutely necessary, a skilled-up community has substantially enhanced capacity to respond and recover more effectively from an extreme event.

Natural disaster funding should include funding to skill up communities to help people look after and better manage themselves and others before, during and after an extreme event. Examples are provided in the next sections.

#### Psychological preparedness

There are clear links between physical and psychological preparedness.

Psychological preparedness refers to the process of anticipating how one will react to a threat or disaster, and identifying which emotions and cognitions are unhelpful (and helpful), in order to manage one's reactions to the event most effectively.

People need to be aware that anxiety can get in the way of coping effectively.

Having a better understanding of their own likely psychological responses in emergency warning situations can help people feel more in control and better able to cope. Being psychologically prepared can assist people to think more clearly and reduce the risk of serious injury and loss of life or property. Being cooler, calmer and more collected can also be very helpful to family members and others who may not be as well prepared psychologically for what is happening (Morrissey & Reser, 2001).

Psychological preparedness and physical preparedness go hand in hand, with each enhancing the other. Both are critically important priorities in preparing for natural

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disasters. Without psychological preparedness integrated with household preparedness, many individuals are not able to adequately manage their own emotional or other emergency responses, or assist others who are struggling. Not being able to manage anxiety, heightened arousal, and occasional felt panic in an emergency can often lead to unnecessary risk-taking and exposure.

#### Psychological First Aid

Psychological First Aid (PFA) is well known as a best-practice early psychosocial response in the immediate aftermath of a disaster, and will be discussed as a funding priority in the section on 'recovery' (see below). However, teaching PFA to community members in advance of a disaster event is a part of skilling-up a community and should be a funding priority in building community resilience ahead of a disaster.

Dr Gerard Jacobs, psychologist and disaster expert in the USA, has developed a model of training community members in PFA ahead of a disaster (Jacobs, 2007; Reyes & Jacobs, 2006). The PFA training teaches people how to understand traumatic stress, ways to care for oneself under heavy stress, and how to provide psychological support for friends, family, and colleagues in community-based psychological first aid. These training programs have been rolled out throughout the USA over the past decade. Jacobs argues that the whole population can benefit from PFA training, and that the deeper you penetrate into a community and teach PFA, the more resilient the community is in face of a disaster. The community becomes powerful and individuals receive skills for life.

#### Funding recommendations

Preventive and preparedness initiatives are a crucial funding priority. These initiatives equip a community to protect itself from a future disaster, reduce the impact of an event on individuals and a community, and hasten the recovery, and have much greater magnitude of influence and effectiveness than initiatives that come after the disaster.

From a psychological perspective, these initiatives would include a host of best-practice risk reduction initiatives, including behavioural risk reduction strategies, improved warning systems and public messaging, community disaster preparedness education programs, psychological as well as household preparedness, psychological first aid, as well as thorough evaluation of programs' effectiveness so that evidence-based best practice is prioritised.

### **Including psychosocial recovery in recovery funding**

In this section of our submission we draw attention to the importance of properly funding psychosocial recovery initiatives to restore mental health and wellbeing in disaster-affected communities.

After a large scale natural disaster, people show a typical sequence of psychological responses. Immediately following the disaster many people show high levels of

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acute distress. For the majority (70-80%), this resolves naturally after about a month with support. But a significant minority of disaster-affected people (approximately 30% - see Kessler et al., 1995) are at risk of developing enduring and severe mental health problems which require clinical assistance. For large scale disasters, this need will almost always overwhelm the available treatment capacities. Existing resources will always need to be augmented with a large amount of additional funding. And only Federal agencies have funds sufficient to support large-scale psychosocial programs. It is important to note, however, that funding for the large scale psychosocial recovery programs represents a *very small portion* of all of the funds spent on rebuilding after disasters.

The essential elements of a best-practice psychosocial recovery model are listed below and elaborated on in the next section. Commonwealth funding for an overarching model of psychosocial disaster response can facilitate collaboration between the three levels of government in Australia, the local leaders in the disaster-affected area, disaster response NGOs and other key stakeholder groups. This can help enormously to improve the quality, consistency, and coordination of psychosocial response to disasters across Australia. Care which is provided in a timely and targeted way is the most cost-effective way of restoring individuals and communities.

#### Necessary elements of a best-practice psychosocial recovery model

- Psychosocial care needs to be provided at three levels of assistance. This stepped care approach begins with more basic community support, and moves progressively, as needed, to interventions for more moderate distress, and finally to more intense and individual support.
- Mechanisms for early identification of mental health risk and need throughout the population impacted by disaster need to be established. These mechanisms are vital because after a natural disaster, people do not tend to present for psychological assistance. Proactive screening can be useful. This will enable people to be directed to services according to their needs.
- The model of level 1, 2 and 3 psychosocial support needs to be integrated and flexible so that so that people who are identified as needing more care, in the previous step, can be referred to exactly the level of care that they need, and be able to access it in a timely manner. Referral pathways need to be facilitated between earlier levels of intervention, so that the people who are identified as needing individual mental health care actually get it.
- Level 1 psychosocial care priorities include psychological first aid (both pre and post disaster), community recovery initiatives in affected communities, and school-based recovery programs.
- Level 2 psychosocial care priorities include programs like Skills for Psychological Recovery (SPR), which are brief skills-based programs for helping people to manage with moderate distress and low level mental health problems.

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- Level 3 mental health care, using evidence based treatments for common mental health problems after disasters, needs to be available to people not just in the early aftermath of a disaster in the first year or two, but also for people who require longer-term support, or who experience delayed impacts.

#### A 3-tiered model of psychosocial recovery

In recent years our understanding of psychosocial recovery has focused on a 3-tiered system as being the most cost effective and useful approach to helping people recovery psychologically. This 3-tiered system was developed by the APS and Australian Centre for Post Traumatic Mental Health (ACPMH) after the Black Saturday Fires in 2009, and was used to inform the training of mental health professionals to meet the psychosocial needs of affected communities. This multi-level framework has been incorporated into the 'Disaster Health Handbook 1' published by the Australian Emergency Management Institute, Commonwealth Attorney-General's Department (Commonwealth of Australia, 2011a).

In the 3-tiered system, a stepped care approach to psychosocial support is used, in which forms of psychosocial assistance are sequenced and start at more basic community or large group-focussed levels (least expensive interventions) and move progressively to those that are more intensive and family or individually focussed, as needed (more expensive interventions). This model is based on knowledge that large numbers of people in a disaster-affected community are likely to need only small amounts of assistance in order to recover well. Basic forms of assistance, requiring relatively minimal amounts of resourcing, might be enough to provide these people with the care they need. The idea of the stepped care approach is to start with the least expensive intervention first, but also the intervention which is least intrusive in people's lives. This provides people with the opportunity to see if they can manage first using their own resources.

Most mental health problems following disaster are of mild-moderate severity (Kessler et al., 2008). This means that large numbers of people with disaster or trauma-related mental health problems may only require lower-intensity assistance capable of being delivered by generic health workers with specific skills training (level 1 or level 2) to help them cope better and recover, with the option of referral to mental health specialists for higher-intensity interventions if required. A crucial element of this approach is that referral pathways and resources are available and that those providing care at Levels 1 and 2 are fully informed about what these are and when they should be used. The availability of a 3-level model of psychosocial care is critical for choosing cost-effective funding options as it directs the majority of an affected population to the least expensive, population-based assistance which is likely to meet their needs, and reduces the demands on primary and specialist mental health care resources.

Specific examples of evidence informed level 1, 2 and 3 models are provided below.

#### Identifying mental health risks and needs

An urgent funding need is to develop mechanisms for identifying mental health risk and need in a timely way throughout the population impacted by disaster. This can

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be done in a variety of ways, for example through the use of integrated information systems like PsySTART or similar. PsySTART is a disaster mental health incident management system which is the first known population-level disaster mental health system of care (Schreiber, 2000). The system enables rapid mental health triage so that people at high risk can be rapidly matched to brief, evidence based care (Foa et al., 1995). The system measures traumatic exposure, traumatic loss, injury/illness, and secondary stressors, and then identifies which individuals are at low, moderate or high risk, to inform appropriate level 1, 2 or 3 interventions. The use of these triage systems for mental health enables rational allocation of limited resources.

Better documentation of who is at risk following disasters also enables better evaluation of whether the recovery resources being provided are actually getting to the areas of greatest need.

#### Locally administered, flexible system of psychosocial and mental health support and care

Psychosocial recovery funding needs to be provided to local leaders in disaster-affected regions so that they can develop an integrated and flexible system of psychosocial and mental health care for disaster recovery. Levels 1, 2, and 3 need to be well linked with clear referral pathways, so that people who are identified early as needing extra help can move through the integrated system and be referred to the appropriate level 2 or 3 services if needed. Additional training in level 1, 2 and 3 psychosocial care can be provided to saturate the workforce and bolster the existing pathways of care. Then, allied health professionals who deliver services in the affected region are well educated about the different levels of treatment available, at the level that is appropriate to their skill and training capacity, and know how and when to refer when the limits of their own treatment skill and competence have been reached.

#### Rapid, effective transferal of best-practice psychosocial recovery models

Because natural disasters can affect different geographic areas every season, an administration must arise from local leaders who are working at capacity in their existing roles and who might never before have had to design and implement such programs. Local leaders who have never previously done so have had to be recruited to design, administer, and implement programs.

Several international and national disaster experts proposed a solution to the inefficiencies of 're-inventing the wheel' each time. According to Scheeringa, Cobham, and McDermott (2013), as expertise in all of these areas represents a gap for most local professionals in disaster-affected areas, they propose that a central, non-governmental agency with national or international scope be created that can consult flexibly with local leaders following disasters on both over-arching and specific issues. Research has shown that a central body providing support and services can have a significant effect on outcomes in, for example, treating adult depression in primary care clinics (Fortney et al. 2013).

The Australian Centre for Posttraumatic Mental Health has proposed a similar model (ACPMH, unpublished document). They recommend the creation of a national centre to build Australia's preparedness and capacity for timely and effective psychosocial

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response to natural disaster. This centre would facilitate the collaboration between State, Territory and Federal governments, NGOs, and other key stakeholder groups, and would improve the quality, consistency, and coordination of psychosocial response to disaster (and terrorism) across Australia.

Level 1 psychosocial care– psychological first aid; community recovery initiatives

Level 1 encompasses broad approaches delivered by lay and professional community members focusing on self-care, looking out for others, and building community resilience.

Psychological First Aid (PFA) is a best practice level 1 approach used around the world for people affected by disasters. It is often all that people need in order to recover from disasters. Providing widespread PFA training throughout communities that are vulnerable to natural disasters is a cost effective way of promoting the recovery of large numbers of affected people.

Other level 1 type approaches that have been highly successful in promoting recovery in disaster-affected communities (e.g., after Black Saturday Fires, and after the Dunalley fires in Tasmania) have been community-based recovery initiatives. These approaches have been detailed in the Australian Emergency Management Institute community recovery handbook (Commonwealth of Australia, 2011b). The underlying principle of community-based recovery is the empowerment of individuals and communities to manage their own recovery. In some circumstances it may be necessary to provide additional resources to support the community development component of the recovery process. For example, the employment of community development workers may be necessary to facilitate a range of activities which will enhance the recovery of individuals and the broader community affected by any given event. Other examples include the use of community-based educational interventions like community meetings which are opportunities to provide local residents with an understanding of their own and their community's stress and recovery strategies. Community meetings have been used effectively to enhance recovery in WA, Victoria, Tasmania, ACT, NSW, and Queensland following disasters like the Black Saturday bushfires, the Victorian and Queensland floods, the Dunalley fires, and Cyclone Yasi (Rob Gordon, 2014, personal correspondence).

School-based recovery programs are also a cost-efficient early intervention approach for meeting the needs of children affected by disaster. Programs like the child trauma post-disaster resources developed by the University of Queensland's Centre of National Research on Disability and Rehabilitation Medicine (CONROD) Child Trauma Research Centre have been developed to train staff in schools to help teachers identify and manage child reactions following natural disasters. These programs work best as part of an integrated model, where school staff know how to refer to other levels of care if more assistance is required. Thus they also educate key individuals (and systems) about systems of care.

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An excellent example of this was the integration of the schools into the recovery process that happened in the Lockyer Valley floods. Teachers were able to liaise directly with mental health staff who were then able to provide help to those at high risk. The closer relationship between school and mental health systems meant that many of the children received the extra care they needed in a timely fashion.

School-based programs can also incorporate psycho-education for parents to equip them to be able to provide the care and support that children need after a disaster, to reduce the risk of children developing longer term difficulties. Programs such as Disaster Recovery Triple P (Sanders, Cobham, & McDermott, 2011) aim to assist parents in supporting their children post-disaster and address parenting practices and the ways in which they can sometimes change post-disaster (e.g., parents communicating a sense of danger/threat) such that they increase the chance that children develop difficulties. This is a universal program that is suitable for all parents in disaster-affected communities and has been implemented in Queensland after the 2011 floods, in Tasmania after the 2013 fires and in Calgary, Canada after the 2013 floods.

All these types of programs are also ideally provided pre-disaster as a part of disaster preparedness.

#### Level 2 - skills for psychological recovery

Level 2 approaches to recovery are aimed at promoting recovery in people with a variety of post-disaster issues that continue beyond the period in which level 1 strategies would be useful. These people may have moderate distress or low severity mental health problems.

One possible model is the recently developed Skills for Psychological Recovery (SPR) protocol, developed in the wake of Hurricane Katrina. This approach was developed as a training program for health and mental health personnel of varying backgrounds and qualifications to assist people to cope with mild depression, anxiety, grief, posttraumatic stress, anger, and ongoing difficulties in the disaster setting. SPR focuses on a few core, empirically-derived skills sets that have been shown to help. SPR was a successful program rolled out after the Victorian 2009 Black Saturday fires, and after the Queensland floods (Forbes et al., 2010).

Level 2 type interventions are efficient uses of psychosocial recovery funding by promoting coping skills for people with moderate distress and reducing risk of people developing significant mental health problems and requiring more expensive and longer term clinical support.

#### Level 3 mental health care

Level 3 includes formal mental health interventions delivered by mental health specialists to help people with more severe mental health problems. There is a very good evidence base for a range of effective psychological treatments for people with mental health problems following disasters (see Australian Centre for Posttraumatic Mental Health, 2013). The biggest challenge, however, is increasing the likelihood that these services will actually be accessed by the people who need them most. Another problem is that insufficient attention is often paid to the ongoing long-term

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and delayed impacts of disasters on mental health, so services have been curtailed by arbitrary time limits, and then unavailable to people with high needs for support further down the track.

Improving referral pathways, and extending mental health services in order to meet long term needs, are priorities in the funding of level 3 interventions.

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## Conclusion

Strategic funding for optimal disaster recovery in communities affected by natural disasters necessarily needs to target money to the interventions which are most effective and which reduce the long term costs of recovery.

Prevention and preparedness are crucially important considerations in determining natural disaster funding priorities, and are capable of having a much greater magnitude of influence and cost effectiveness compared to emergency response and recovery. This includes best practice risk communication, and psychological as well as household preparedness,

Natural disaster funding also needs to include psychosocial recovery, which is an essential component of restoring individuals' and communities' mental health and wellbeing. Natural disasters will almost always overwhelm existing psychosocial services, and Federal funding is needed to augment services in order to meet increased demand.

Efficiencies in psychosocial recovery funding can be achieved by i) using a 3-tiered stepped-care model of psychosocial care (which directs the majority of an affected population to the least expensive, population-based assistance that is likely to meet their needs, and reduces the demands on primary and specialist mental health care resources), ii) establishing effective mental health triage systems, and iii) supporting the local leadership in the affected area with an experienced, centralised agency of psychosocial disaster recovery which provides expertise and guidance drawing on learnings from previous disasters.

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## About the APS

The Australian Psychological Society (APS) is the national professional organisation for psychologists with over 21,000 members across Australia. Psychologists are experts in human behaviour and bring experience in understanding crucial components necessary to support people to optimise their function in the community.

A key goal of the APS is to actively contribute psychological knowledge for the promotion and enhancement of community wellbeing. Psychology in the Public Interest is the section of the APS dedicated to the communication and application of psychological knowledge to enhance community wellbeing and promote equitable and just treatment of all segments of society.

The APS, through its Public Interest Team and Disaster Preparedness and Response Reference Group (DPRRG), has considerable expertise in disaster preparedness, disaster response and recovery. The APS had an extensive involvement in the Black Saturday Victorian bushfires response, Queensland Floods and Cyclone Yasi (2009 to present). We have been involved in training mental health professionals to work with affected populations, established a disaster response network of over 1000 psychologists, participated in several multidisciplinary expert reference groups, and worked with both Federal and State government departments on mental health and psychosocial recovery projects. The APS has also produced numerous articles, guidelines, tip sheets and brochures on psychological preparedness for disasters, including bushfires, cyclones, and floods. See [http://www.psychology.org.au/publications/tip\\_sheets/disasters/](http://www.psychology.org.au/publications/tip_sheets/disasters/).

We draw the Committee's attention to several related submissions made to government inquiries in recent years. These resources can be accessed at <http://www.psychology.org.au/topics/disasters/APSresourcesandresponses/#s10>.

The APS also has a Climate Change and Environmental Threats Reference Group, comprised of psychological experts in environmental and social psychology. Our members have expertise in resilience, media representations of environmental threats, behaviour change, adaptation, preparedness and response, and risk perception, appraisal, and communication, amongst other areas of interest and expertise. The APS Position Statement on Psychology and the Natural Environment was based on a comprehensive Literature Review which also informed a number of related submissions. These resources can be accessed at: <http://www.psychology.org.au/community/public-interest/environment/>.

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## References

- APS, (2011). Submission to the Senate Inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters. Australian Psychological Society.  
(<http://www.psychology.org.au/Assets/Files/Submission-to-Senate-Inquiry-into-the-capacity-of-communication-networks-and-emergency-warning-systems-to-deal-with-emergencies-and-natural-disasters.pdf>)
- APS (2012). Feedback on NCCARF's Human Health research plan. Australian Psychological Society.
- APS (2013) Submission to the Environment and Communications References Committee Inquiry on Recent Trends in and Preparedness for Extreme Weather Events. Australian Psychological Society.
- American Psychological Association (APA) (2006) *Communicating about health risks: The important role of preparatory communications in large scale health risks – What the risk-communications science tells us*. Washington, DC: APA  
<http://www.apa.org/releases/health/healthpandemic.html>
- Australian Centre for Posttraumatic Mental Health (unpublished). National Psychosocial Disaster Recovery Institute. ACPMH, Melbourne.
- Australian Centre for Posttraumatic Mental Health (2013). Australian guidelines for the treatment of acute stress disorder and posttraumatic stress disorder. ACPMH, Melbourne, Australia
- Bureau of Meteorology (2014). Flood warning services: Major causes of death or injury. Accessed 20/5/2014 at  
<http://www.bom.gov.au/water/floods/floodWarningServices.shtml>
- Clare, J., Garis, L., Plecas, D., & Jennings, C. (2012). Reduced frequency and severity of residential fires following delivery of fire prevention by on-duty fire fighters: Cluster randomized controlled study. *Journal of Safety Research*, 43, 123-128.
- COAG. (2009). National Strategy for Disaster Resilience: Building our nation's resilience to disasters. <http://www.coag.gov.au/node/81>
- Coates, L. (1999) 'Flood Fatalities in Australia, 1788–1996'. *Australian Geographer*, 30, 3, pp. 391–408.
- Commonwealth of Australia (2011a). Australian Emergency Management Handbook Series: Handbook 1 – Disaster Health. ACT: Emergency Management Australia.
- Commonwealth of Australia (2011b). Australian Emergency Management Handbook Series: Handbook 2 – Community Recovery. ACT: Emergency Management Australia.

- 
- Ferris, E., Petz, D., & Stark, C. (2013) *The year of recurring disasters: A review of disasters in 2012*. New York, London: The Brooking Institution and The London School of Economics.
- Foa et al., (1995). Understanding Risk Communication Best Practices: A Guide for Emergency Managers and Communicators.  
<http://www.start.umd.edu/sites/default/files/files/publications/UnderstandingRiskCommunicationBestPractices.pdf>
- Forbes, D., Fletcher, S., Wolfgang, B., Varker, T, Creamer, M., Brymer, M., Ruzek, J., Watson, P. & Bryant, R.A. (2010). Practitioner perceptions of Skills for Psychological Recovery: A training program for health practitioners in the aftermath of the Victorian bushfires, *Australian and New Zealand Journal of Psychiatry*, 44, 1105-1111. [IF = 2.57]
- Fortney, J.C., Pyne, J.M., Mouden, S.B. et al. (2013) Practice-Based Versus Telemedicine-Based Collaborative Care for Depression in Rural Federally Qualified Health Centers: A Pragmatic Randomized Comparative Effectiveness Trial. *American Journal of Psychiatry*, 170, 414-425.
- Haynes, K., J. Handmer, J. McAneney, A. Tibbits, and L. Coates (2010). Australian bushfire fatalities 1900–2008: Exploring trends in relation to the 'prepare, stay and defend or leave early' policy. *Environmental Science Policy*, 13, 3, 185–194.
- Hobfoll, S.E., Watson, P.E., Bell, C.C., Bryant, R.A., Brymer, M.J., Friedman, M.J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry*, 70, 283–315.
- Hughes, L. & McMichael, T. (2011). The Critical Decade: Climate change and health. Climate Commission, Commonwealth of Australia (Department of Climate Change and Energy Efficiency).
- Jacobs, G., (2007). The development and maturation of humanitarian psychology, *American Psychologist*, 62, 929-941.
- Janoske, M., Liu, B., & Sheppard, B. (2012). Understanding Risk Communication Best Practices: A Guide for Emergency Managers and Communicators. Report to Human Factors/Behavioral Sciences Division, Science and Technology Directorate, U.S. Department of Homeland Security. College Park, MD: START, 2012.
- Jonkman, S. N. & Kelman, I. (2005). An analysis of the causes and circumstances of flood disaster deaths. *Disasters*, 29, 1, 75-97.
- Kelman, I. (2014). Disaster mitigation is cost effective: World development report 2014. CICERO: Norway.
- Kessler, R., Sonnega, A., Bromet, E. et al. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048-1060.

- 
- Kessler, R.C., Galea, S., Gruber, M.J., Sampson, N.A., Ursano, R.J., Wessely, S. (2008). Trends in mental illness and suicidality after Hurricane Katrina. *Molecular Psychiatry*, 374-384.
- McCormick, A.V. (2009). Residential Fires in Surrey, B.C.: 1988–2007. Abbotsford: University of the Fraser Valley.
- Mileti, D. S., & Sorensen, J. H. (1990). *Communication of emergency public warnings: A social science perspective and state-of-the-art assessment*. Oak Ridge, TN: Report #ORNL-6609 for the Federal Emergency Management Agency.
- Morrissey, S. & Reser, J.P. (2001). Evaluation of a psychological preparedness guide for coping with cyclone threat. In T. Scrimali & L. Grimaldi (Eds). *Cognitive psychotherapy: Towards a new millennium: Scientific foundation and clinical practice* pp 369-372). New York: Kluwer Academic Press
- Morrissey, S.A. & Reser, J.P. (2003) Evaluating the effectiveness of psychological preparedness advice in community cyclone preparedness materials. *Australian Journal of Emergency Management*, 18, 44-59.
- National Strategy for Disaster Resilience (2011).
- Norris, F. H., Friedman, M. J., Watson, P.J., Byrne, C. M., Diaz, E. & Kaniasty, K. (2002). "60,000 Disaster victims speak: Part I. An empirical review of the empirical literature, 1981-2001." *Psychiatry* 65(3): 207-260.
- Peden, A & Queiroga, AC (2014) *Drowning deaths in Australian rivers, creeks and streams: A 10 year analysis*. Royal Life Saving Society: Sydney.
- Reser, J.P. & Morrissey, S.A. (2008) A psychological perspective on environmental hazards and disasters: Situating and framing individual and community experience and response. In K. Gow & D. Paton (Eds) *The phoenix of natural disasters: Community Resilience* (pp 47-71). Washington, D.C., Nova Science Publishers.
- Reser, J.P. & Morrissey, S.A. (2005) Situating psychology's multiple involvements in disaster research, mitigation, and intervention: The need for a reflective and strategic disaster response. *In Psych*, 27, 9-13.
- Reyes, G. & Jacobs, G.A. (Eds) (2006) *Handbook of international disaster psychology*, Vols 1-4, Westport, CT: Praeger.
- Ronan, K. R. (2014a). Many advances, continuing challenges towards HFA2 and Post-2015: Background Chapter, PFA3, CI2. In 2015 Global Assessment Review, United Nations International Strategy for Disaster Reduction (UNISDR). UNESCO/UNICEF: Paris. Draft currently under review by UNISDR.
- Ronan, K. R. (2014b). *Disaster risk reduction with children, families, communities: Bushfire and Natural Hazards CRC background and scoping*. Manuscript in preparation. CQUniversity: Rockhampton.
- Ronan, K.R. & Johnston, M.J. (2005). *Promoting Community Resilience in Disasters*. New York: Springer.

- 
- Ronan, K. R. & Towers, B. (2014). Systems education for a sustainable planet: Preparing children for natural disasters. *Systems* 2, 1-23; doi:10.3390/systems2010001.
- Sanders, M, Cobham, V & McDermott, B 2011, Disaster Recovery Triple P. Triple P International, Brisbane, Queensland.
- Scheeringa, M.S., Cobham, V.E. and McDermott, B. (2014). Policy and administrative issues for large-scale clinical interventions following disasters. *Journal of Child Adolescent Psychopharmacology*, 24(1), 39-46. doi: 10.1089/cap.2013.0067
- Schreiber, M., Pfefferbaum, B., Sayegh, L. (2012). Toward the Way Forward: The National Children's Disaster Mental Health Concept of Operations. *Disaster Medicine Public Health Preparedness*, 6, 2, 174-181.
- Tibbits, A., Whittaker, J., (2007). Stay and defend or leave early: policy problems and experiences during the 2003 Victorian bushfires. *Environmental Hazards* 7, 283-290.
- Victorian Bushfires Royal Commission (2010). *Victorian Bushfires Royal Commission: Final Report Summary*. 2009 Victorian Bushfires Royal Commission/Victorian Parliament: Melbourne.
- Wayment, H. A. (2004). It could have been me: vicarious victims and disaster focused distress. *Personality and Social Psychology Bulletin*, 30(4), 515-528. doi:10.1177/0146167203261892
- Webb, M. & Ronan, K.R. (2014). Interactive hazards education program in a low SES community : A quasi-experimental pilot study. *Risk Analysis*: in press.
- Woodruff, A. 2008 (February). *Samoa Technical Report – Economic Analysis of Flood Risk Reduction Measures for the Lower Vaisigano Catchment Area*. EU EDF – SOPAC Project Report 69g Reducing Vulnerability of Pacific ACP States. SOPAC, Suva, Fiji.