Community recovery after the February 2009 Victorian bushfires: a rapid review

An ***Evidence Check*** Review
brokered by the Sax Institute for the
Victorian Government Department of Health

A Victorian Government initiative

Victoria
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Executive summary

This review was commissioned by the Victorian Government Department of Health in response to the devastating bushfires in Victoria in February 2009 so as to inform a community resilience based recovery strategy. Appendix 1 outlines the brief, an overview of what was found in relation to the specific questions, including the search terms. The review found evidence to inform policy in the following areas:

Expected impact of the fires on health

- Increased mental health problems;
- Feelings of panic and anxiety, phobias, sleeplessness, headaches, isolation and withdrawal;
- Prolonged stress over a long period;
- A differential impact—worse among people with lower socio-economic status, migrants and marginalised ethnic groups, the old, the young and women;
- Social networks account for a lot of the differential impact and recovery;
- Some people's networks will have been severely debilitated by the fire and so the crucial role of social support in recovery (e.g. providing information, emotional support and practical help) will be compromised.

What works in community recovery

- A previously popular technique called "Critical Incident Stress Debriefing" has now been shown to be ineffective and even possibly harmful because it enhances arousal of the trauma.
- In the absence of quality evidence, an expert international panel notes five essential principles of successful recovery:
  - Safety;
  - Calming;
  - Hope;
  - Connectedness;
  - Self and collective efficacy (i.e. confidence, power, capacity to get life back together).

In addition:

- Strategies must plan for "community" as an entity itself, in addition to the more traditional focus on the "victims", "survivors" and service providers;
- Specific strategies are recommended in social network building, reconnecting people to place, and empowering residents to play leading roles in the recovery process.

Anticipated outcomes of the community-building recovery strategy would include but not be limited to:

- A lower than expected burden of mental health problems;
- A more connected community socially, providing an improved platform for disaster readiness;
- A sustained community infrastructure for problem solving and addressing community needs;
- The retention of population and amenities;
- The restoration of quality of life.

Community-based recovery strategies

Critical success factors are:

- Involving communities in all aspects of decision making;
- Providing resources to enable release of community members time to take part;
- Recognising that different people will be at different stages and that decisions about domestic reconstruction involve grief and take time;
- Recognising that strong communities are diverse in their activities, opportunities, and people;
- Diverse cultural roles and activities have to be restored (play is as important as work);
- Being proactive in particular settings (schools) with evidence-based approaches known to create a sense of safety and security;
- Consciously creating and building resources for recovery, be these physical, economic, social, psychological or spiritual;
- Continuous research-feedback-action loops must be in place to monitor progress and ensure all parts of the community are reached.

In essence:

- Recovery should be about betterment, not merely replacement;
- Disasters create new structures of community organisation that could be harnessed for sustained community well-being, rather than being left to taper away;
- Community-led processes (which have been well evaluated in other fields) appear to achieve larger effects and develop more sustainable processes than interventions designed externally that focus simply on individual health behaviours or risks;
- People naturally draw on support in different ways for different reasons and at different levels of intensity according to their own needs, wishes and time frame.

Role of government

- Build upon Victoria's strong record in community development;
- Based on the Environments for Health framework with local government, develop a world-leading approach to comprehensive disaster recovery, with a commitment to careful evaluation and long term follow-up;
- Enact the intersectoral policy framework that will not only better the fire affected communities, but provide a precedent for community strengthening and well-being across the state, as well as protecting the interests of the most vulnerable.

Further research needs

- A 10 year community-university research partnership is recommended to develop the trust and foundation to undertake research that helps, rather than harms or intrudes and keeps apace with rapid change;
- All aspects of the redevelopment process, the collaborative partnerships, the specific strategies and their impacts, as well as medium and long-term effects on the residents and economy should be assessed. Research into the role the media plays in helping and/or hindering disaster recovery is also needed;
- The outpouring of community support for "fire victims" invites further exploration of caring in Australian society and the types of new policies that continue to uphold, and might possibly even extend, that caring ethic.

1 Introduction

On Saturday 7th February 2009, a series of bushfires, the scale and intensity of which was unparalleled in this country, resulted in the deaths of 173 people. Destruction of property made more than 7,000 people homeless. Unprecedented drought had been followed by a period of unprecedented heat. An increase in the frequency of extreme events is anticipated as a result of climate change, the mental health consequences of which are only now starting to be articulated.[1]

This report outlines an opportunity for helping communities to recover more effectively and to be better prepared in the face of such scenarios.

1.1 The impact of disasters on health

There is a large body of work investigating the impact of various types of disasters on human health.[2–11] However, a systematic investigation of the quality of 225 disaster studies found it somewhat lacking and unable to provide sufficient information about certain population sub-groups.[12] The studies with stronger designs (i.e. ones that have before-and-after assessments of psychological distress) show smaller effects than post-disaster surveys only.[12] Less than a third of studies make assessments more than once after the disaster and relatively few investigate effects beyond 12 months.[12]

That said, there is general consensus that the impact is worse:

- When there is widespread death and destruction (as in Victoria, February 2009);
- When there are high levels of personal loss (loved ones, possessions, personal injuries, farm animals, places within which there is social attachment);
- When the physical environment and community systems are so disrupted that households wait long times to be restored, prolonging stress over a long period;
- Among people with lower socio-economic status, migrants and marginalised ethnic groups;
- Among the old and the young, and among women more than men;
- Among people with less effective social support networks (or those whose networks are also compromised by the disaster);
- Among people who lack psychological resiliency and positive psychological traits that have been regularly associated with ability to buffer stressful life events.[13,3,4]

Disasters induce stress against a backdrop of systemic stress associated with social structural position.[13] As well, there are often secondary stresses—job loss, forced relocation and economic hardship and uncertainty.[14] Even though everyone may appear to be exposed to the same event, disasters are "profoundly discriminatory wherever they hit, pre-existing structures and social conditions determine that (in the long run) some members of the community will be less affected, while others will pay a higher price."[15]

Australian disaster research is prominent in the field internationally.[16–22] The Ash Wednesday fires in 1983 in South Australia led to an increase in self reported stress related conditions such as hypertension, gastrointestinal disorders, mental health and diabetes.[23] Twelve months after the fires, 42% of people living in the disaster zone were defined as potential psychiatric "cases" using the General Health Questionnaire, a widely used population-level mental health assessment tool; 20 months after the fires 23% remained in this category.[24] Common symptoms presented in general practice were feelings of panic and anxiety, phobias, sleeplessness, headaches, isolation and withdrawal.[25]

The impact on children and adolescents is significant.[26] In a cross sectional survey after a bushfire in Sutherland (NSW) in 1994 researchers found younger children to be more vulnerable to depression than older children.[27] Depression scores were also influenced by the evacuation experience and emotional distress was significantly related to damage to their home and the perceived threat to their parents and to themselves.[27] McFarlane and colleagues followed up a group of children aged 5 to 12 after the Ash Wednesday fires.[28] Two months after the fire behavioural and emotional problems among the fire-exposed group were less than a carefully selected comparison group.

However, problems in the fire-exposed group subsequently became manifest over the following 26 months. After the Canberra 2003 bushfires there was a 12% increased risk of adolescent smoking over a four year period among those whose families were affected by the fires, independent of their scores on a post traumatic stress disorder scale.[22]

Australian research has also led in understanding that people's pre-disaster characteristics and situations explain much of the post-disaster psychological conditions. McFarlane investigated the responses of fire fighters in Ash Wednesday.[28–32] He found that only 9% of the variance on the General Health Questionnaire score could be accounted for by the experience of the fire event.[29] He also found that intensity of exposure, perceived threat and losses sustained were not predictors of post traumatic stress disorder.[30] Researchers assessing the impact of the Newcastle earthquake in 1989 similarly found that the best predictors of psychological problems in the two years post disaster were not factors associated with the quake itself, but with the subsequent life events, psychological characteristics and social relationships of the people caught in it.[20]

1.2 Disaster phases, recovery trajectories, and a promising, under explored pathway

Disasters and emergencies are commonly divided into four phases: mitigation and prevention, preparedness, response, and recovery.[33] While survivors may experience an initial rush of spontaneous helping, a long-term depletion in supportive resources is likely.[2]

The recovery phase has been the focus of much attention in recent years with the suggestion that this become **a proactive focus for building community resilience**. Not only would this aid recovery, it could mitigate the impact of future events.[34] A resilient community predicts and anticipates disasters, absorbs and recovers from the shock and improvises and innovates in its response.[34] A resilient community comprises resilient people, but on top of that it has a collective infrastructure and capacity for decision-making and action as a collective unit[35] leading to the restoration of the socio-economic vitality of the community.[36] Community resilience in response to natural disasters involves resistance, recovery and most notably, creativity.[37] This means that the expectation of getting back to normal can, and possibly should, be exceeded by the collective expectation of building something better. This type of positive trajectory has been achieved in many cities previously affected by natural disasters—London, Mexico City, Tokyo and Los Angeles. Case studies by Bolin and Stanford illustrate this in California in the 1990s.[38]

Since the 1980s, Australia's major experiences with fire disasters have led to recommendations about important educational and consultative psychiatric services for general practitioners and welfare workers thrust in the face of the action.[39] Helping those groups recognise and navigate people's reactions and make appropriate referrals is crucial. McFarlane and Raphael wrote a moving account on the effect of the Ash Wednesday fires. Written just over 25 years ago their paper parallels many of the stories and images that have appeared in media since February.[17] They outline the pattern of mental health needs—the immediate traumatic reactions; the repressed and denied feelings that only surface later; the guilt many people have about accepting help when they feel that others have lost more; the need to fully come to terms with and grieve losses before rebuilding can be embraced; marriage strain as partners think and deal differently with what is lost; the different anxiety factors involved in the choice to leave the area permanently versus the sense of mastery that appeared be present (or subsequently developed) in those who chose to stay in a fire affected area. They also documented misguided help practices—volunteers not appreciating that some people are too numb to acknowledge them; over commitment by helpers leading to burnout and ineffectiveness; donations of old clothing unfit for wear; parents being too overprotective of children in relation to playing near the forest; and differential, but not necessarily predictable, effects on families depending on whether the home lost was the primary home or a second one. Some of these issues had also been documented with respect to Tasmanian Fire disasters, a decade earlier.[40]

But McFarlane and Raphael also witnessed strength in adversity.[17] Socially cohesive rural towns formed structures for mutual help and decision-making within hours of the fire front passing. A downside of these structures was a tendency to shun external help. But, overall, resilience was seen as an asset.

Disaster psychiatry has now formed a consensus on the value of indigenous community structures for coping, outlining how mental health experts can engage with them for educational and development objectives.[41] The field calls for a strengthening community capacity for its own sake, given the community's own unique role in community recovery.[42] Mental health action plans in complex emergencies are now being called on to address human suffering from three perspectives: patient, service provider and community.[42]

Emergency Management Australia endorses the role of community as one of their key principles:

> *"Management of disaster recovery is best approached from a community development perspective and is most effective when conducted at the local level with the active participation of the affected community and maximum reliance on local capacities and expertise"*
>
> Emergency Management Australia[43]

Yet an extensive investigation of the Canberra bushfires in 2003 concluded that disaster planning still remains largely focussed on the provision of shelter, food clothing, finances and restoring damaged infrastructure, failing to look beyond this to the benefits of a broader view.[44] Community resilience and community capacity building is an emerging theme in disaster preparedness and management.[45] But when it comes to recovery, government tends to invest elsewhere and withdraws too soon.[44] A promising and potentially cost effective pathway for recovery, and for ameliorating the impact of future events, remains not fully explored.

The Canberra bushfire investigation was a follow-up of 500 people three and half years after the event.[44] It showed that one of the greatest sources of help and support for recovery were relationships with neighbours and others in the community. The authors recommended that future assessments and interventions be strengths-based, promoting hope, optimism and a sense of empowerment for resilience and recovery.

1.3 The focus of this review: community-based, strengths-focussed recovery

This report provides the evidence and opportunity to take disaster recovery to a new level. It provides the **evidence and rationale for a community-focussed recovery and rebuilding strategy**. It documents factors that might be critical to success as well as those associated with possible harm. In no way does this imply that existing effort in traditional disaster recovery domains is unhelpful. Rather, it suggests that now is the time to amplify and sustain successful recovery by incorporating an additional community domain and giving it the time, attention and resources required. The evidence presented in this review will illustrate that experience right across the world points to the need to develop community strength proactively, rather than considering it a "background" influence on disaster trajectories. Indeed Victoria is now in a position to lead in this area, and provide a model for disaster redevelopment internationally.

This report starts by outlining the types of intervention that are typically delivered in disaster areas and the evidence for their effectiveness. This is included in order to position the value add of new fields of development and to illustrate strengths that can be built on. It features literature from Australian bushfires area, but also draws on the international disaster literature, because the scale of devastation from the recent Victorian bushfires is unprecedented in this country.

The report then outlines how the differential effects of a natural disaster can be understood, using the theory of social capital. It outlines how aspects of social capital can be harnessed for community rebuilding, drawing on case examples. The report concludes with an outline of what the components of a "model" social capital building approach to community building would entail, pointing out that much of the experience and expertise to develop this strategy resides in this state already.

2 Interventions to offset the negative impact of disasters on human health and well-being

2.1 What works and what does not for people directly exposed to the event

A soon-to-be-published scholarly review of the empirical evidence on immediate and mid term mass trauma intervention affirms that, at present, policy makers responding to natural and human made disasters are "without any roadmap to intervention."[46]

Produced by an international panel of experts,* the review concludes that no evidence-based consensus has been reached on what to do. That said, in order for policy to at least be evidence-informed (if not evidence-*based*), the review synthesises the evidence that does exist. It points out ineffective and harmful interventions, and lists five essential elements that can be distilled across the small amount of interventions that have been adequately evaluated and shown to work.[46] Note that the recommendations which appear in Table 1 were composed for both clinical and community-level interventions. Also note that the recommendations are designed to be used in relation to all kinds of disasters (including acts of war) and that the authors encourage policy makers to adapt the emphasis on different dimensions to suit their own context.

Table 1. Five Essential Elements of Immediate and Mid term Trauma Intervention
(reproduced from Hobfoll *et al* in press)[46†]

Principle	Public Health Measures	Individual/Group Measures
Safety	• As much as possible, bring people to a safe place and make it clear that it is safe. • Provide an accurate, organized voice to help circumscribe threat, and thereby increase the perception of safety where there is no serious extant threat. • Inform the media that enhancing safety perceptions in a community can be achieved by media coverage that strategically conveys safety and resilience rather than imminent threat. • Encourage individuals to limit exposure to news media overall, and to avoid media that contain graphic film or photos if they are experiencing increased distress following viewing. • Recommend limiting the amount of talking about the trauma if doing so makes one more anxious or depressed. • Teach people how to discriminate between political propaganda and more realistic information regarding threat in the context of war and terrorism. • Educate parents regarding limiting and monitoring news exposure in children.	• Engage in imaginal exposure and real-world, in-vivo exposure, which: – Interrupt the post-traumatic stimulus generalization that links harmless images, people, and things to dangerous stimuli associated with the original traumatic threat. – Re-link those images, people, and events with safety ("The bridge that collapsed was threatening, but all bridges are not." "That night was unsafe, but all nights are not unsafe"). • Utilize "grounding techniques" such as reality reminders, to bring individuals to the relative safety of the present time. • Teach contextual discrimination in the face of trauma and loss triggers. • Assist in developing more adaptive cognitions and coping skills. • With children, include methods that aid in the reversal of regression in the ability to discriminate among indications of danger, when working with children.

* the Australian on the panel is Prof R.A. Bryant from the School of Psychology at UNSW

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Principle	Public Health Measures	Individual/Group Measures
Calming	• First and foremost, engage in actions that help people directly solve concerns (i.e. bolstering initial resources and preventing resource loss). • Give information on whether family and friends are safe, and if further danger is impending. • Large-scale community outreach and psycho-education via media presentation, interactive websites and computer programs about the following topics: – Post-disaster reactions to help individuals see their reactions as understandable and expectable. – Anxiety management techniques for common post-trauma problems (i.e. sleep problems, reactivity to reminders, startle reactions, incident-specific new fears). – Signs of more severe dysfunction, so that people also do not under-pathologize their symptoms and know where to turn for professional assessment and treatment. – Limiting media exposure for those with minor to mid-level problems of anxiety. – Receiving news reports from a friend or family member that give the facts without the images and hyperbole, for those with more severe emotionality. **Not Recommended:** • The use of lies, or "spinning" information in order to calm a population or a group of rescued individuals, which ultimately undermines credibility and is counter-productive.	• Offer direct approaches in anxiety management to help those with severe agitation, "racing" emotions, or extreme numbing reactions attain a state of mastery or calming, such as: – Therapeutic grounding (for those with re-experiencing symptoms). – Breathing retraining. – Deep muscle relaxation. – Stress inoculation training: – Education and training of coping skills. – Including deep muscle relaxation training. – Breathing control. – Assertiveness. – Role playing. – Covert modeling. – Thought stopping, positive thinking and self-talk. – Yoga. – Mindfulness treatments. – Imagery and music paired with relaxed states. – Medications such as anti-adrenergic agents, antidepressants and conventional anxiolytics. – Interventions with a combination of anxiety management skills, cognitive restructuring, and exposure. – Training in problem-focused coping, which assists individuals in breaking down the problem into small, manageable units. This will: – Increase sense of control. – Provide opportunities for small wins. – Decrease the real problems people face.

Principle	Public Health Measures	Individual/Group Measures
Calming (continued)		– "Normalization" of stress reactions to reduce anxiety associated with reactions (e.g. "I'm going crazy", "There's something wrong with me," "I must be weak"). – Involvement with uplifting activities not associated with the trauma. – Purpose: – To distract from distressing preoccupation with the trauma and its aftermath (for individuals who are not in extreme distress). – To promote a sense of predictability, normalcy, and control (in both the outer world and inner world of cognition and emotions). – Positive emotions that include joy, humor, interest, contentment and love, have a functional capacity to broaden a "thought-action" repertoire and lead to effective coping. – Examples: – Being with friends. – Listening to calming music. – Going to a movie. – Watching a situation comedy. – Exercise (also has a depression-reducing and an anxiety reducing effect). **Not Recommended:** • Benzodiazapene tranquilizers, which have been shown to increase the likelihood of PTSD among symptomatic trauma survivors, despite an immediate calming effect. • Psychological debriefing, which may enhance arousal in the immediate aftermath of trauma exposure. • Alcohol, which can lead to potential misuse and other alcohol-related behaviours.

Principle	Public Health Measures	Individual/Group Measures
Self and Collective Efficacy	• Provide people with outside resources that can be used to help reverse the loss cycle, which leads to empowerment and restored dignity among citizens. • Create a way to manage and orchestrate people's personal and environmental resources. • As much as possible involve victims in decision-making policy and efforts (i.e. targeting of need), to rebuild self and collective efficacy. • Promote activities that are conceptualized and implemented by the community, such as: – Religious activities. – Meetings. – Rallies. – Collaboration with local healers. – The use of collective healing and mourning rituals. • Foster "competent communities", who: – Encourage the well-being of their citizens. – Provide safety. – Make material resources available for rebuilding and restoring order. – Share hope for the future. – Support families, who are often the main provider of mental health care after disasters. – Foster the perception that others are available to provide support, which: – mitigates the perception of vulnerability. – emboldens individuals to engage in adaptive activities they might otherwise see as risky.	• Individual and group-administered cognitive-behavioural therapy (CBT) should: – Remind individuals of their efficacy. – Encourage active coping and good judgment about when and how to cope. – Enhance sense of control over traumatic stressors. – Help to "recalibrate" expectations and goals that were formed under "normal" circumstances. – Translate intervention within the socio-cultural ecologies of the target countries. – Foster behavioural repertoires and skills that are the basis of the efficacy beliefs with practice involving increasingly difficult situations. • Teach individuals to set achievable goals, so they may: – Reverse the downward spiral toward feelings of failure and inability to cope. – Have repeated success experiences. – Helping to re-establish a sense of environmental control necessary for successful disaster recovery. • With children and adolescents: – Address developmental interruptions. – Promote normal and adaptive developmental progression. – Teach emotional regulation skills when faced by trauma reminders. – Enhancing problem-solving skills in regard to post-disaster adversities.

Principle	Public Health Measures	Individual/Group Measures
Self and Collective Efficacy (continued)	– Collaborate with rural development and vocational skills training initiatives to: – Help local populations to enhance their survival capacities. – Increase resilience and quality of life. – Prevent exacerbation of psychological disturbances by instilling hope and helping survivors to acquire a sense of control and mastery. • For children and adolescents: – Be cognizant of the dangers of over-protectiveness. – Include them in community recovery. – Facilitate restoration of the school community, which fosters: – renewed learning opportunities. – engagement in age-appropriate, adult guided memorial rituals. – school initiated pro-social activity (learned helplessness into learned helpfulness).	

Principle	Public Health Measures	Individual/Group Measures
Connectedness	• Help individuals to identify and link with loved ones. • Facilitate reconnection of children with parents and parental figures. • Increase the quantity, quality, and frequency of supportive transactions between trauma survivors and their social supports. • Treat temporary housing and assistance sites as villages, which have: – Village councils. – Welcoming committees. – Churches. – Places to go for services. – Meeting places. – Entertainment. – Sporting fields. – Recreational activities. – Places for teens to congregate under supervision. – Religion-school-community partnership networks. – Mentoring services. – Community solidarity activities. – Citizens of the village who fill social roles within their natural practices. • As much as possible, address potential negative social influences (i.e. mistrust, in-group/out-group dynamics, impatience with recovery, exhaustion, etc.) when designing interventions.	• Identify and assist those who lack strong support, who are likely to be more socially isolated, or whose support system might provide undermining messages (e.g. blaming, minimalisation). • In cases of evacuation and destruction of homes and neighbourhoods, or where informal social support fails, make it a priority to: – Keep individuals connected. – Train people how to access support. – Provide formalized support. • Target social support via psycho-education and skills-building, including: (a) Enhancing knowledge of specific types of social support, such as: – Emotional closeness. – Social connections. – Feeling needed. – Reassurance of self-worth. – Reliable alliance. – Advice. – Physical assistance. – Material support. (b) Identifying potential sources of such support. (c) Learning how to appropriately recruit support. • Teach individuals to ignore attachment bonds in evacuation procedures. • With families, include specific strategies to address discordance among family members that may stem from: – Differences in the type and magnitude of exposure to trauma, loss, and subsequent adversities. – Differences between family members' personal reactions to trauma and loss reminders.

Principle	Public Health Measures	Individual/Group Measures
Hope	• Provide services to individuals that help them get their lives back in place, such as: – Housing. – Employment. – Relocation. – Replacement of household good. – Clean-up and rebuilding. – Payment of insurance reimbursements. • Develop advocacy programs to aid victims to work through red tape and the complex processes involved in the tasks that emerge following mass disaster. • Support rebuilding of local economies that allow individuals to resume their daily vocational activity, to prevent ongoing resource loss cycles. • Media, schools and universities, and natural community leaders (e.g. churches, community centers) should help people with: – Linking with resources. – Establishing systems that enable those in recovery from similar traumas to share their experience and hope with those struggling with recovery. – Memorializing and making meaning. – Accepting that their lives and their environment may have changed, – More accurate risk assessment. – Reducing self-blame. – Problem-solving. – Setting positive goals. – Building strengths that they have as individuals and communities.	• Cognitive behavioural therapy (CBT) that: – Reduces exaggeration of personal responsibility, and counteracts cognitive schemas such as catastrophising, and the belief that problems are due to an internal, stable trait. – Identifies, amplifies, and concentrates on building strengths. – Normalizes responses. – Indicates that most people recover spontaneously. – Highlights already exhibited strengths and benefit-finding, rather than promoting benefit-finding prior to an individual's readiness. – Includes guided self-dialogue to: – envision a realistic, yet challenging, even difficult outcome (i.e. accepting that one's home will take months to rebuild may vs. the assertion that "I will never have a home again"). – underscore and restructure irrational fears. – manage extreme avoidance behaviour. – control self-defeating self statements. – encourage positive coping behaviours. • With children and adolescents, CBT that: – Addresses ongoing trauma generated expectations, beyond symptom response. – Includes forward-looking exercises that promote developmental progression to instil hope and renewed motivation for learning and future planning.

It is particularly important to note that a popular first response strategy—psychological debriefing of people who are exposed to the traumatic event (also known as Critical Incident Stress Debriefing)—has been shown to be ineffective and possibly harmful.[47,48] This is because it enhances arousal in the immediate aftermath of traumatic exposure. There is continuing concern that overstatement of supposed effects of debriefing prior to thorough evaluation led to the implementation of ineffective programs which have blocked the development of more effective solutions.[46]

The expert panel's review calls for more research on the effectiveness of interventions, echoing similar calls by others.[49,12] They particularly call for an urgent investment in the economic evaluation of disaster interventions, mindful of the huge amounts of funds spent and dearth of guidance about the value of investments.[50,46]

This Report will return again to Table 1 to the extent that the essential principles can be built on within a whole-community strategy.

2.2 The range of groups and strategies for whom specific interventions have been developed

Disasters have ripple effects across a wide range of groups, impacting both on the residents in the area and the workforce trying to help them. It is a classic area where necessity has been the mother of invention. Unfortunately, most of the interventions in both the published and unpublished literature appear as descriptions only, bereft of information about process, impact or outcome. It is "wisdom literature"—outlining what people are doing and why. It is summarised briefly here in order to convey the nature of current practice and to illuminate the scale of the task required to shape current practice into a more coherent, planned and deliberative investment in population well-being improvement. Where interventions have been evaluated, these are highlighted.

Health care workers as "first responders" have received much attention. There is now a consensus-based educational framework and set of competencies for disaster training and preparedness in the USA.[51] But a systematic review of disaster training area identified 258 articles, finding only nine studies suitable for further review and of these evidence about effectiveness was inconclusive about whether knowledge and skills are sufficiently gained.[52] Cox investigated stress and long-term healing of nurses and other front line workers involved in the Ash Wednesday fires noting that, in many ways, true healing only really began when the bush itself began to re-green.[53]

An interesting observation of disaster-helping, as opposed to 'usual' (non-disaster) helping, was made by McFarlane and Raphael in relation to the Ash Wednesday fires and again in relation to the Canberra fires.[44] In a disaster situation, welfare and social workers are often confronted by having to help people very much like themselves in terms of socio-economic status and cultural background. McFarlane and Raphael felt that this break down in the traditional social distance between client and professional added additional stress, leading to a tendency among welfare workers to over-extend help and become worn out.[17] In Canberra and Adelaide it also played out in the form of help receivers not being familiar enough with the role they were expected to play, again adding stress to the help providers.[44]

Many articles about interventions with specific groups after disasters are case studies, such as Watt and Wilson's account of the survival and growth among State *Emergency Service* workers responding to the Kempsey bus disaster in NSW.[54] Typical is the account by Alverez and colleagues of a peer outreach and counselling project for *fire fighters* after the 9/11 disaster in New York.[55] The project was evaluated in terms of interviews and quantitative ratings of how satisfied the participants were with the program. Another group of first responders who might be in a position to help and inform and ameliorate the stress of a disaster are *veterinarians*.[5] Stock loss is usually associated with Australian bushfires, as well as loss of family pets. As well as needing the kind of mental health literacy of other first responders,[5] veterinarians are in a unique situation. Some people find it hard to articulate their own needs, but will end up discussing important matters with vets, while ostensibly seeking care for their animals. These issues have been uncovered with relation to chronic disease prevention and management[56] and may prove an important pathway in disaster recovery as well.[5] The vital role of *Divisions of General Practice* in rehabilitating communities after fires in East Gippsland in 2003 was described by Robinson.[57]

The role of *churches and faith* based organisations has been described, with many articles originating in the USA. This includes pastoral care roles, as well as providing shelter and a role in community organising.[58,59]

Schools have been an obvious focal point not just for *child and adolescent recovery* but also as a 'sanctuary' and means by which adults connected with the school can also work through their feelings about the event and reconstruct meaningful roles.[60] Gaffney describes the rationale and focus of school-based recovery programs, repeating some of the core aspects of "psychological first aid" [61](also recommended for first responders, see[62]) such as contact and engagement, safety and comfort, stabilisation, information gathering, practical assistance, connection with social supports and linkage with collaborative services. One targeted intervention for primary school-aged Hawaiian children after a hurricane in 1992 added to the small literature of controlled studies.[63] It used a manual to guide therapists to help children deal with particular psychological challenges related to the disaster over four sessions: restoring a sense of safety; grieving losses and renewing attachments; adaptively expressing disaster related anger and achieving closure and moving forward. It significantly reduced trauma symptoms compared to children on a wait list not receiving the intervention. Another intervention, this time directed at the whole school after the earthquakes in Turkey in 1999, and directed at helping the principals and teachers develop cognitive-behavioural skills for dealing with children, claimed success in symptom reduction, but was flawed by study bias (a control group whose families had relocated).[64] Interestingly, however, the authors report anecdotally that presence of the intervention revitalised the school, acting as the basis for psychosocial rehabilitation. This point will be returned to again in Section 3.4 and 3.5 because there are effective whole-school interventions to promote mental health in Victorian schools that could possibly be adapted for disaster recovery purposes. Finally, Gelkopf and colleagues designed and evaluated a program to train volunteers to deliver resiliency training in schools after the tsunami disaster of 2004 in Sri Lanka.[65] The usefulness of the program to children and adolescents was not reported, only the impact on the trainees' perceived new abilities and attitudes (which significantly improved).

Much has been written on the role of *the media* in disasters, issues taken up also in the Canberra bushfire studies.[44] After the 9/11 attacks in New York, the media was seen to be responsible for increasing symptoms of distress among children and mothers exposed to the disaster only through the media's reporting.[66] After Hurricane Katrina, the media was cited as causing harm by exaggerating lawlessness and looting.[67]

But putting that potential for harm aside, the media can communicate important information and provide latent functions in disasters such as emotional support and companionship.[68] In relation to the sudden deaths associated with the collapse of a university-campus bonfire in Texas 1999, investigators documented, through discourse analysis, how the media played a fundamental role in meaning-making, mirroring stages of coping and sense-making in the community.[69] They contrasted the output of a local and more sympathetic and socially responsive student newspaper based in the affected community with a more distant student newspaper of the same university, noting how the media reporting style correlated directly with symptoms of distress (derived from a measure of student health service visits). The community which worked through the social processes of coping with the disaster collectively and responsibly, with the media's help, fared better in health terms, while the comparison community maintained a high number of clinic visits (reflecting continued trauma).[69]

The importance of feeling validated and understood by the media was an extensive theme in the interviews after the Canberra bushfires in 2003 also.[44] Although some media reports and actions were considered unhelpful, overwhelmingly the people directly affected by the fire praised the ABC coverage and the opportunity it gave for many aspects of the recovery process to be aired and therefore potentially understood by others. An example is the potential "cleavage" that was carefully and respectfully navigated by the ABC's Stateline program between those people who were deciding to rebuild and those people choosing to sell and leave; those who stayed to protect their homes and those who left; and those who lost their homes and those who did not. Quoting from one of those people directly involved who was interviewed on Stateline:

> *"I've always been of the view that you shouldn't make decisions emotionally or irrationally, so we'll take a bit of time to decide what we'll do."*[44 p.153]

In Victoria, Michael Leunig's cartoons in the Age newspaper are legendary for their ability to take the community's pulse, interpreting and validating unspoken, deep feelings. His series during the fires played that role once more, poignantly.

In the USA the media are now harnessed proactively in disaster recovery. Beaudoin used data from three sequential surveys to evaluate how a campaign launched after Hurricane Katrina resulted in an increase in neighbourliness in New Orleans.[70] Recognising the concern for disaster preparedness generally in the USA, Phillips gives a description of a 15 week disaster preparedness seminar that can be taken over the internet by graduate students in any field—with topics from replacing power lines to various ways of funding recovery projects.[71]

3 Building comprehensive, community-level interventions in partnership with communities for disaster recovery

3.1 The starting base: a disaster emergency and preparedness field calling for a stronger proactive community role

The first editorial in the *Australasian Journal of Disaster and Trauma Studies* written in 1997 acknowledged the pioneering work in mental health research and recovery led by Australians and called for a corresponding emphasis in community building and strengthening community resilience.[72] These calls have been repeated.[45,73] It may be that much has been done practically since that time. But if so, this work has not been documented systematically, nor have its outcomes been measured.

It is more likely that the investment has not been made because policy makers are unaware of the extent to which community capacity building has progressed as a science and practice. It is now possible to design community-level interventions with recognisable and accountable structures and processes and formal impact and outcome measures. Such interventions are already extensively developed in the fields of health promotion, social work and community development. There is also high quality evidence that interventions which harness community-level constructs like social capital are successful and in theory more sustainable than interventions designed and exposed externally.

This section outlines the rationale for this approach and puts forward an 'identity-kit' picture of what such an intervention would look like at a ground level in bushfire disaster recovery and mitigation. It provides examples and evidence that Victoria already has much of the expertise and experience to move swiftly in this direction.

3.2 Social capital: how it relates to disaster experience and offers an avenue for recovery

Earlier sections have outlined the universal finding that disasters are worse for some groups than others. The social inequalities that lead to health inequalities are seen in microcosm in disaster situations.[13]

The Disaster Research Centre at the University of Delaware (USA) has investigated the dynamics of social capital in disasters extensively.[74,34] This is important because the field of social capital is vexed and confused by definitional issues, so the closer one gets to the exact context of interest, the better.

Some investigators define social capital as social norms, social trust and collective problem solving.[75] Others take the concept back to its more traditional origins as the resources that people get from their social networks e.g. material, information, emotional support and affirmation.[76] The significance of this difference plays out in how one views social capital's role in promoting health and well-being. Many scholars and practitioners have called for more social capital in order to redress health inequalities.[77] But the social network view of social capital argues that *social inequalities are in part created and maintained by social networks,* that is, people get ahead by using their networks to access information, resources and even aspirations that place themselves advantageously. The bland recommendation to "increase social capital," therefore, is unhelpful. Rather, one needs to break down this umbrella term into the more discrete concepts assembled around it (trust, collective problem solving, social support, social networks etc) and harness whatever ones we can for health improvement.[78] Fortunately there are projects (in community-based health promotion and community development) that provide guidance.[78]

Before that work is outlined, it's worthwhile returning to Dynes work on social capital in relation to disaster impact and recovery to appreciate the particular concepts and dynamics he observed.[74] Dynes took Coleman's original concept of social capital[76] and examined how it played out in an emergency, based on research findings from disasters. This is summarised in Table 2. It explains the differential impact of disasters via people's social networks.

The essence of the analysis is also that **disasters create useful new structures of community organisation** and these can potentially be harnessed for sustained community well-being, rather than being left to taper away.

Table 2. Dimensions of social capital: how they explain the differential impact of disasters and the new social structures that emerge (based on Dynes[74])

Forms of social capital	Definition	What happens in a disaster
Obligations and expectations	Living in a community creates networks of obligations to family, workmates, neighbours. There is trust that obligations will be repaid when needed. Obligations and expectations are rarely visible to outsiders and often hard to articulate until enacted.	The pursuit of certain activities and obligations is reordered. An emergency consensus is reached around new community priorities. The normal citizen role expands. People play multiple roles and have multiple responsibilities. Search and rescue is started and mediated by 'victims' aiding rescue teams searching for 'victims' they know in whereabouts they know. Earthquake 'victims' left under rubble are therefore more likely to be people less known by others. Seeking medical help is related to being nagged by family to do so, so socially isolated people seek help less. Evacuation decisions are influenced by the family unit, people feeling obliged to act in ways that will reduce threat to others.
Information potential	Information is received and processed through networks, making general information received through the media 'tailor made' for local context.	Warning and evacuation communications dispersed through the mass media are mediated through social networks. There is a 5 step process: hears, understands, believes, personalises, decides/responds. Other people are vital for 'processing' and making the media's message salient and real at each stage. Socially isolated people hearing 'on their own' may therefore not heed the significance of the message (hearing but not listening).‡
Norms and effective sanctions	What is and what is not "done" in the community— what actions are facilitated and what actions are constrained.	Disaster loss in highly inter connected communities will be communicated more quickly, prompting more sympathy and helping and optimal conditions for development of altruistic norms. As the emergency consensus gives higher priority to disaster helping, formalities associated with other roles diminish (dress codes, all the steps involved in usual bureaucratic procedures etc). Rumours, moral tales and stories are used to underscore the importance of the new behaviours/routines.

‡ This was observed by Prior and Paton with reference to the lower household preparedness among newly arrived "tree change" residents, compared to the resident local rural community, in relation to the Tasmanian bushfires in 2006.[79]

Forms of social capital	Definition	What happens in a disaster
Authority relations	Groups organised to pursue particular goals have leaders who have relationships within the networks that give them authority to lead.	Conventional views of disaster are (overly) concerned with panic and loss of authority necessitating a centralised "command and control" structure. In fact authority within families and organisation is resilient and enhanced. Families make decisions about allocation of their time and resources. Organisations expand responsibilities and develop new inter-organisational coordination mechanisms. The **emergence of coordination is a valuable new form of social capital** that could be put to more use in community recovery.
Appropriable social organisations	Community life inevitably becomes organised as groups coalesce around particular functions. These organisational structures can do 'double duty' as new functions and tasks are introduced.	The 'disaster workforce' is greatly increased by people taking on multiple roles. Organisations expand and extend roles accommodating volunteers and providing a venue for expanded activities.§
Intentional organisations	Recurrent activities of continuing value endure and are considered essential infrastructure (eg, schools, services).	The new intentional organisation on the scene in the USA was FEMA, now the Dept of Homeland Security. It assumes chaos and reduced capacity in disasters and operates as a closed system. Critics have proposed alternative strategies that retain benefits of decentralised authority and networks of organisations working together in open systems, based in research on 9/11 and Hurricane Katrina.[13]

§ The golf club's new role in Marysville is an example of this.

3.3 The building blocks for social capital-led recovery strategies: actions and practices that have been tried

A psychologist and recovery researcher working with the Ash Wednesday bushfires, Rob Gordon, argues that the social system in communities hit by disasters should be thought of positively, as a "resource for recovery," much in keeping with the observations in Table 2 about the emergence of new community structures (assets).[80]

Tierney has suggested, however, that much of the positive and constructive outcomes of disaster impact have gone unrecorded or underestimated because of the disciplinary orientations of researchers.[13] The field is dominated by researchers trained in clinical disciplines who have naturally tended to track people's problems and distress, not changes in the social systems corresponding to community strengths. Yet in the accounts of whole-community responses to disasters, such changes are evident, if not formally measured. Table 3 connects some case descriptions of whole community interventions from the disaster literature with strategies of community-building from community psychology[81] and links these to key principles for recovery from trauma interventions in Table 1. The purpose is to surface and highlight how close disaster recovery practice is to aligning with theories and principles of best practice and to elucidate any gaps/opportunities. Note that **none** of the case descriptions in Table 3 have been formally evaluated.

Table 3. Examples of whole community strategies in disaster recovery

Author	Title of project	Description	Link to essential consensus-based recovery elements (Table 1)	Link to community psychology and social capital theory about interventions
Fullilove et al[82] Fullilove & Saul[83]	NYC Recovers USA	• Spontaneous community-led mobilisation of people and organisations. • Meetings, email networks, public marches/walks, self help/wellness workshops, memorials.	• Hope. • Connectedness. • Self and collective efficacy.	• Expand and build on roles. • Informal capacity building by encouraging proactivity, reflectivity and creativity. • New narratives and meanings created to help acknowledge and replace loss 'key stones' i.e important symbols of community meaning.[¶]

[¶] in their case they meant the twin towers of the World Trade Centre, in our case it's the loss of the bush itself and buildings in the community that gave people connection to place

Author	Title of project	Description	Link to essential consensus-based recovery elements (Table 1)	Link to community psychology and social capital theory about interventions
Landau et al.[84]	LIFELINK Link Individual Family Empowerment Intervention™ USA	• Whole community mobilisation process that starts with community meetings and inviting people to an 8 session education. workshop. The projects expands with a train the trainers model.	• Hope. • Connectedness. • Self and collective efficacy.	• Utilises social networks. • Reframes negative views/emotions.
Figley[85]	Community organising after a disaster, short generic guide USA	• Recruitment of advisors/helpers. • Organising groups. • Generating actions. • Working with government & media.	• Hope. • Connectedness. • Self and collective efficacy.	• Basic community organising processes. • Recognises that perceived support can be more important than actual support sought or obtained.
Prewitt Diaz 2008[86] Prewitt Diaz 2008[87]	Community organising after a disaster. Red Cross. South America, Asia	• Similar to above, but with stronger emphasis on participatory decision making with the community. • Involves participatory assessments of the community after the disaster. Is a basis for re establishing sense of place.	• Hope. • Connectedness. • Self and collective efficacy.	• Similar to above. • Participatory place making is considered central to restoration of well-being.

™ a trademarked program that has to be purchased through the consultants who developed it

Author	Title of project	Description	Link to essential consensus-based recovery elements (Table 1)	Link to community psychology and social capital theory about interventions
Gordon, 2004[80]	Rebuilding "social fabric" Australia	• Principles of group/community recovery based on psychotherapeutic principles.	• Hope. • Connectedness. • Self and collective efficacy.	• Emphasises inter-personal connections, re-bonding + rituals, symbols and artistic forms to come to common understandings of what the disaster represented.
Coles & Buckle, 2004[44]	Describes an ongoing research project in disaster management and reconstruction Australia UK	• Central principle is community engagement and participation in decision making by the community (government should not be acting alone).	• Hope. • Connectedness. • Self and collective efficacy.	• Offers principles of community capability that are consistent with the community psychology and capacity building literature. • Adds to this with the inclusion of economic dimensions and principles of good governance in community recovery strategies.

3.4 Best evidence that community level, social capital building promotes health and well-being

Appendix 2 outlines some distinctions among terms used in the brief such as community building, community resilience, social capital, social support and community development. The distinctions are material, not semantic. It is important to be precise about the constructs because they represent different pathways to achieving community change and each should be measured differently. Lack of progress has been associated with failure to recognise this, as different authors use terms differently (and some confuse them). They also operationalise concepts in idiosyncratic ways, making it impossible to synthesise results. The field of social support and social capital is particularly messy in this regard, with authors failing to distinguish the health or well-being consequences of structural characteristics of social networks (such as size or density) with the interactional characteristics of the network (frequency of interaction and reciprocity) and the functions the network provides (provision of social support in the form of informational, material or emotional aid and affirmation or feedback).[78] This means that opportunities may have been lost to make interventions more effective.

That said, there is now a vast literature documenting that social support is associated with better physical and mental health.[88-90] There is also sufficient evidence that investments in communities to increase social interconnection and encourage collective problem solving are worthwhile. This literature is now briefly described.

Case studies from around the world describe working with communities to address local needs in a way the directly impacts their well-being reports—too numerous for this review in fact.[91-97] One of the world's most respected experts in this field, Meredith Minkler from the University of California at Berkeley, visited Melbourne in 2006 to address the *Communities in Control Conference,* using that as an opportunity to showcase successful projects in Australia and around the world.[98]

The key notion is to promote residents' decision making power. This leads to political efficacy (confidence in being able to affect decisions that affect the community and one's place in the world) with payoffs back to promoting personal efficacy (belief and confidence in oneself). It has direct health consequences.[99] In Africa, for example, Eng and colleagues describe how the simple act of an aid agency consulting with and involving communities in decisions about where water wells should be located had an impact on child vaccination rates. This was because, compared to communities who were not given this opportunity (and where community members continued being passive about most things including their health), in the 'empowered' communities people started to take more care with themselves and family.[100] Wallerstein and Sanchez Merki describe a process of empowerment with high risk youth where the process of appreciating their own power to take decisions led to a key moment of self identity change, after which youth seemed to rewrite their destinies.[101] Interventions operate through *changing social norms* and influencing the *formation of new collective identities.*[102] The field now has what is called **"Level 1 evidence"** to support it. In a cluster randomised trial in Africa conducted by Pronyk and his colleagues, whole villages were engaged in an intervention which enabled and strengthened social capital. Working through groups primarily organised with women (and using some educational materials), they document how a two year intervention unfolded to involve many aspects of the community, leading to a halving of physical and sexual violence rates and large reductions in HIV risk behaviours.[102,103]

Many accounts of change processes in organisations and communities start with a 'natural' event or trigger event that prompts problem-solving (usually a calamity or injustice).[104] But the same process can be orchestrated by surveys or research that captures and feeds back the common experience of a situation, prompting people to do something about it. Called action-research, this process of understanding-reflection-action-evaluation is the central process in organisational and community development. But because it often relies on methods that are still considered by many to be outside the mainstream in medicine and epidemiology (coupled with a tendency not to publish the results in peer review journals), the weight of the evidence—the results and benefits—have not been fully reaped by policy makers so far.

Action-research methods can be extraordinarily powerful. Poulsen and his colleagues in Denmark reported a participatory action research project with 3500 distressed

and overworked municipal bus drivers.[105] Over a five year period the survey-feedback-and action cycles led to workplace restructuring, decreased stress and significant reductions in pain symptoms. A survey-feedback-action process was also used in Victorian schools by Patton and his colleagues at the Centre for Adolescent Health at the University of Melbourne.[106,107] By feeding backing surveys about kids' feelings of social exclusion at school they opened up the dialogue about "what is" versus "what should be," successfully engaging schools in school-led processes of whole school change to ensure students felt more safe, connected and valued. Like with Poulsen and his work in Denmark, the results of the Victorian team were unprecedented in terms of effect size—huge reductions in risk behaviours, stronger than any intervention that has relied on alternative approaches (health education lectures). The results were also obtained in the context of a randomised whole school trial, lending the strength to inference that these types of community-centred interventions are the cause of the effects observed. A key point from this research is that **community-led processes** appear to achieve **larger effects** and develop **more sustainable processes** than interventions designed externally that focus on individual health behaviours or risks.[102,106]

There are many examples from the Victorian community context of community-led change processes.[108,109] One that stands out is the Benalla Healthy Localities project in the 1990s because a research partnership enabled the community development facilitators to capture the project's impact more fully than many projects.

The Benalla Healthy Localities project was part of Victorian Healthy Localities program, a collaboration between the Municipal Association of Victoria and the Victorian Health Promotion Foundation (VicHealth). Part of the world-wide Healthy Cities movement,[110] Healthy Localities adopted a social model of health with a focus on collaborative planning between local government and their communities. The Benalla project, designed and led by local residents, Liz Chapman and her colleagues, set out to address chronic stress in rural communities, in particular a deteriorating sense of community associated with the economic downturn. While the three year community development project had a number of specific activities addressing areas like youth, farm safety and the health and needs of informal carers, the over riding commonality of all activities was to engender a sense that "ordinary people can get things done around here"—in other words, to promote a sense of collective efficacy and harness energy for community problem-solving. The before-and-after population-level survey showed statistically significant increases in sense of community, community attachment and involvement in community problem-solving, as well as significant shift from blaming individuals for some common health and social problems to recognising the common situation that people face.[111] The changes captured in the quantitative, whole community survey were mirrored in an independent qualitative evaluation with key observers and also paralleled by structural and policy changes (changes in public transport provision, changes in the media profile of youth, acquisition of large external grants to address community issues). In combination, this provided strong evidence that the intervention increased community resilience and strength.

Facilitated process of change in communities appears to capture and strengthen natural phenomena and dynamics and guide them in ways to maximise well-being and minimise health and social inequities. This guided process is important. There are romantic ideals about rural communities that knit together and gain strength in moments of peril (floods, fires etc). Many observations support this (see McFarlane and Raphael's account of Ash Wednesday[17]). But there are also accounts of divisiveness, blame and despair, because 'natural' processes do not always end in all people feeling that they were treated fairly.[112,113] This means that skilled and guided processes of development are required to maximise the chance that a community's trajectory is better after the "trigger event" than it was before.

3.5 A proposed model project in community-based recovery

Based on the foregoing literature, this next section outlines two structures: (1) the management principles for implementing a community capacity-building disaster recovery process; and (2) the on-the-ground model of action of the strategies and processes in the community.

3.5.1 Over-riding management implementation principles

Table 4 draws on research in community disaster recovery in Australia and the UK to outline the principles of an appropriate government response. Following this, the on-the-ground model of recommended action is outlined.

Table 4. Principles of Implementation of a Community Capacity Building Disaster Recovery Plan
(based on Coles and Buckle[45])

Good governance	• Socially inclusive. • Legal authority to act. • A clear accountability framework. • Agreed and defined priorities.
Adequate resources	• Adequate financial resources, no discontinuity. • Staff. • Skills. • Knowledge (of local context, culture and history).
Integrated development	• Formal and informal social connections among people and organisations. • Focus on economic livelihoods—activities for wealth generation and distribution. • Care for the natural environment and its link with human development. • Respect for the values, beliefs, practices and social relationships of individuals and groups.
Self sustaining	• Adaptive capacity has to be recognised and promoted, i.e. flexible means to add new roles and activities in response to perceived needs. • Horizon scanning—encouraging consideration of long-term needs and issues. • Continuous assessment—ongoing monitoring and evaluation to assess performance and adjust the course of action.
Change mechanisms	• Consultation is central to strategy development. • Information exchange, reporting and feedback on all significant matters. • Exit strategies—planned and also sensitive to when input is no longer of value.
Effectiveness	• Effective—must achieve aims. • Efficient—use resources wisely, with minimum resources required to achieve aims. • Maximise chance of multiple and multiplied benefits by strategic investment.

3.5.2 On-the-ground model of action

Although research indicates that particular types of people might be more vulnerable to the stress of a disaster and have worse psychological outcomes,[73] what is described next is a **whole-of-community approach to rebuilding** rather than a targeted approach. The reason is twofold. First, studies which have shown that some people are more at risk for poor recovery have only identified broad patterns associated with higher risk. No-one has demonstrated that it is possible to screen people and detect impending problems with accuracy. It is complicated by the fact that denial and suppression can mask problems for long periods. Second, community recovery is by definition a holistic phenomenon where different parts of the community assist each other. While certain groups will likely receive a higher priority for recovery effort (e.g. children), the whole community becomes part of this. The intent is to keep a community intact not by isolating its component parts, but by helping the parts to work together in a way that may be sustainable.[114]

The model that follows draws on the literature on what makes for good community bushfire and/or disaster preparedness[73] as well as what is known in the literature about strong, capable communities and principles of community development. The view adopted is in keeping with that put forward by the Canberra bushfire recovery researchers who suggested that a "replacement" reconstruction period in communities can be an opportunity for a "betterment" reconstruction period.[44]

This section places the findings from previous case studies of construction, disaster recovery, and descriptions of the type of activities and strategies that spring up in response to disaster (as in Table 3 for example) and community intervention research into a theory-driven framework from community and ecological psychology.[81] By locating previous field studies within this framework, the intention is to (potentially): (1) recognise and strengthen what has been done in the past, and (2) highlight processes and impacts that could be measured in order to track success and/or correct the course of action. Essentially, the **recommended recovery framework integrates three types of approaches:**

- **social network-based strategies;**
- **place-based strategies;**
- **empowerment-based strategies.**

3.5.2.1 Social network-based strategies

A conscious strategy to harness social networks in community recovery processes is recommended, based on previously presented evidence that social networks influence people's experience of disaster and that people turn to their social networks in the aftermath.[44]

As mentioned previously, there are many aspects to social network structure and function. Different aspects have been said to aid recovery in different ways among different groups, for example, with the finding that after natural disasters different ethnic groups access different types of help (tangible, emotional, informational).[115] Interestingly, among many groups and across many contexts, perceived ability to access support seems to be more predictive of better recovery than actual support.[116]

Network-based interventions have been suggested as one means to accelerate recovery in communities affected by disaster.[83] However, there are no evaluations of such approaches. The generic literature on social network-based interventions is mainly in the field of chronic disease prevention and rehabilitation and coping with life transitions, such as divorce or widowhood.[89,90] This literature discusses how people can be assisted to: (1) develop better skills to call on their existing networks; (2) increase their network size by meeting and joining up with similar others, (3) how "buddy" strategies can be devised to help with tackling particular issues such as dealing with addictions or grief;[117] and (4) how natural leaders or "lay helpers" in a community can be identified and asked to work within their own networks with new information and skills that might be helpful for the intended target group.[118] In the social-work field there are

also accounts of network interventions, which appear to operate much like group or family therapy.[119]

The study of recovery from Canberra bushfires elaborated extensively on how friends, family and neighbours were a primary source of help.[44] People were resilient together, not just resilient in similar ways;[120] a property of community, as opposed to individual, resilience. With such a mosaic of individual and group preferences and needs, however, there can be no "one size fits all" approach in responding to the call for more utilisation of social networks in community disaster recovery. Rather, recognising the diversity of ways in which help can be sought and provided, it would be wiser to offer a diversity of opportunities and processes, allowing people to find and choose their own best fit. This is also wise because there is considerable literature on how overly prescriptive helping strategies, through networks, can do more harm than good by being pedantic about what "good" help should look like (insisting it mimic professional help). This stifles or extinguishes the best aspects of indigenous helping styles and disrupts the natural give-and-take (reciprocity) among communities.[117,121] It is also important to recognise that overly intensive support strategies focussed solely on the disaster event make it hard for people to "break role" and take time out from the "victim stereotype." Among adolescents the fire tragedy can be the "signature event" of their lives in ways that might hinder, rather than enable, recovery and growth.[61]

In response to the question about what helped most after the Canberra bushfires (and what did not) people spoke of a huge variety of different practices and opportunities, such as: the specific professional services at the Bushfire Recovery Centre and friendly atmosphere; information sessions where people (and their networks) could be helped to anticipate what their emotional and practical needs might be and what help they may need; events where people who had shared the same experience could come together and talk and also enjoy recreational activities; commemorative events; new residents' associations forming just to cater for mutual emotional and practical needs; volunteering with land care and botanical reconstruction; existing groups and organisations expanding to extend care to bushfire-affected families (e.g. providing food and drinks to families clearing out their properties); and workplaces raising funds and donations for affected workmates. Interestingly, when people spoke of what hindered recovery it was also mostly aspects of social networks, in terms of people moving away or not understanding and not knowing how to provide support.[44] They also were concerned that some key arts and environment organisations did not seem to be geared to accommodating volunteers, when people naturally seemed to gravitate to doing work in this area and playing a personal role in reconstruction was considered by many people to be an important part of their healing.

In planning terms, the recommended practice to improve social support could take the range of strategies as illustrated in Table 5. This underlies the chief finding and lesson that a **diversity of opportunities and choices must necessarily be available for people at different stages of the grief and recovery process** with different lifestyles and preferences. This lesson is echoed in research on informal everyday helping in the workplace—people draw on a diversity of support in this one setting in different ways for different reasons and at different levels of intensity **according to their own needs, wishes and time frame**.[122] People move in and out of provider and receiver roles. This provides a window into the *ecology of natural helping* that is instructive for what a community might seek to restore on a wider scale.

Table 5. Examples of social network development strategies likely to be of value

Objective	Examples	Link to the 5 recovery principles of Hobfall *et al* (in press)
Increase access to professional help (i.e. to tangible, informational and emotional aid).	One-stop recovery centre for psychosocial help needs, accessing funds, free insurance advice, architect and building services etc.	Self efficacy. Hope.
Increase emotional and mental health literacy and skills in help-seeking and -giving (emotional, informational, & tangible aid, and appraisal support right across the network).	Information sessions, discussions and internet tools that give insights into typical responses, what helps, what does not help. Tips on how to ask and give support (e.g. listening skills, task sharing, etc) for people within the community and external to it.	Hope. Connectedness. Self and collective efficacy.
Create receptor capacity in organisations to accommodate volunteers, especially those from the fire-affected communities (i.e. the sharing of tangible help responsibilities in the community).	Briefing for organisations. Redesign of procedures and some staff responsibilities. Plan for events such as tree planting, land clearing, construction projects, collaborative arts projects that enable meaningful contributions from the community.	Hope. Connectedness. Self and collective efficacy.
Increase opportunities for the size of people's networks to increase and also the frequency of interaction.	Hold events for meet, greet and conversation. Vary the settings, the level of formality, the timing, the age groups/ mix of the events. Make some fire-related and others consciously not-so (sport, culture, recreation) enabling people to get in touch with and restore all aspects of their lives.	Hope. Connectedness.
Identify and support natural leaders and connectors in their role as information providers and lay referral agents.	Briefing and support of teachers, vets, hairdressers, Australia Post workers, publicans, newsagents, clergy. Be mindful not to over-train or extinguish natural helping styles.	Connectedness. Self and collective efficacy.

Objective	Examples	Link to the 5 recovery principles of Hobfall *et al* (in press)
Release people's time and opportunity to be involved in community activities and in their own domestic reconstruction activities.	Provide child care and transport help. Excellent example is the AFL providing a professional administrator to take over roles previously held by volunteers at Kinglake Football Club, enabling those people to return to more pressing needs, but allowing the footy to continue.[\\]	Hope. Connectedness. Self and collective efficacy.
Avoid the disruption to natural reciprocity in the community, (i.e. people becoming stuck in "one-way" help receiving roles). Open up opportunities for help receivers to also find meaningful (non-onerous) ways to give back.	Ensure there is a range of volunteering opportunities suited to all ages and lifestyles—from small-time limited opportunities at events to larger roles.	Connectedness. Self and collective efficacy.
In the redevelopment of fire preparedness plans, give consideration to the development of networks or 'buddy' systems or other ways to ensure that social isolation is overcome and no longer plays a factor in increasing fire risk (whilst respecting privacy and autonomy).	A number of options should be brainstormed and developed from the community itself and tailored to suit different needs and contexts. These "safety-net" strategies should be woven into the fabric of community life, given legitimacy, and made part of the orientation for any new coming residents.	Safety. Connectedness. Self and collective efficacy.
Anticipate and stage the development of social network strategies over several years. There will likely be an initial oversupply of helping resources external to the community. Many community members may take a long time to access help.	Plan and coordinate over a period of several years. Understand that different stages of reconstruction will involve different types of new stressors.	Connectedness.

[\\] Sheridan N. Kinglake Plays On After Strong Support. *Sunday Age* 22 February 2009

3.5.2.2 Place-based strategies

Place-based strategies in community reconstruction recognise the crucial role places have in forming self and collective identity, inspiration, meaning, purpose, belonging and connection to others.[123–125] There is also a huge literature on environments as sources of healing, strength and spirituality.[126,127] Aboriginal people's connection to the land is foundational to their well-being. Researchers have also documented how the land is seen to "shape" resilience in rural Australians.[128]

It is now well established that where people live has an independent effect on their health i.e. independent of the socio-economic status or risk factor behaviours known to be associated with disease rates.[129] "Participatory place-making" is a key strategy in community development and has become integral to the work of architects and planners.[130] Places structure the patterns of everyday life and provide the symbols of identity and attachment that give life meaning.[131] After the 9/11 disasters, researchers wrote of how the symbolism of the destruction affected a country, not simply New York residents.[132] In Australia, bushfires have a wide community of meaning because the bush is central to the psyche of many Australians. Loss of place through fire devastates all of that—requiring physical, psychological, social and spiritual reconstruction.

It is clear in the disaster recovery literature that people naturally commence place-based strategies of reconstruction, re-creating communities of meaning and not just replacing physical infrastructure.[133] The construction of memorials, for example, is a physical symbol of attachment to place and loss of lives there. Communities involved in the replanting and regeneration of the land is another place-based strategy that rebuilds connection and the physical symbol of the environment. Dunbar describes how volunteers band together to care for wildlife after bushfires—everyone can play a part, and given native animals symbolise identity and belonging, the process is a healing one. Particular places act as centres of gravity for community action, the first to rebuild their role as community hubs and connectors (e.g. the golf club at Marysville).[134] Some sites act as central to rebuilding because they already hold special cultural meaning and/or represent special sanctuary. Schools have this role in the disaster literature.[61] Additionally, in Australian communities, a site of huge community significance is the local football club. The AFL, as mentioned previously, has already stepped in to ensure that the footy season continues uninterrupted in Kinglake. This action underlines the universal sentiment that footy is truly "more than a game," it shapes the entire year and holds people together.[135]

Australia, through VicHealth and the WA Health Promotion Foundation, has led the world in sports and arts-based ways of promoting health and well-being.[136] The Healthy Localities Projects of the 1990s in Victoria led with the strategy of community consultation and visioning, to enable residents to picture the sort of community they wished to create. This is a method to engage communities in dialogue and surface different opinions about "what should be" as well as "how to get there." Arts-based health promotion (i.e. creating works of art as part of a participatory process of knitting people and ideas together) is also a strong means of promoting community engagement, but more particularly it creates symbols and forms of expression than in themselves create well-being.[137] There is opportunity now for fire communities to not only look to art to honour and memorialise what has been lost, but also to build new visions of what should be reclaimed and reshaped.

The whole-school mental health promotion intervention described in section 3.4 by George Patton and his colleagues at the Centre for Adolescent Health at the University of Melbourne is a special example of a place-based strategy to build connection to school and build resilience in children and youth.[106,107] Designed to make students feel safe, connected and valued, it provides a means for students to reflect upon and express emotional needs—using classroom, curriculum and whole school strategies to help make students, parents and staff feel more safe, connected and valued. Given this project's demonstrated success, it would make sense for this strategy to be used in the fire-affected schools to reconnect students and help them 'process' and locate their experience.

Table 6 summarises some suggested place-based community reconstruction actions.

Table 6. Place-based community recovery and rebuilding strategies

Objective	Examples	Link to the 5 recovery principles of Hobfall *et al* (in press)
To engage all parts of the community in constructing a vision of what a restored and improved community would look like.	Community consultation and visioning of the ideal vision of the future. Community-led focus groups, internet sites and discussion and feedback forum.[86]	Hope. Connectedness. Self and collective efficacy.
To provide an opportunity for children and youth to process the meaning of the fire and rebuild a sense of safety, connection and belonging.	The whole-school survey-feedback-action process to foster engagement and attention to child and youth feelings and needs—the Gatehouse project.[106,107]	Hope. Connectedness. Self and collective efficacy.
To provide creative and collaborative opportunities to express loss and vision for the future through art.	Arts-based projects; murals; theatre; story telling; singing; ceramics; puppetry; quilting; photovoice methods.	Hope. Connectedness. Self and collective efficacy.
To provide creative and collaborative opportunities to express loss and vision for the future through replanting and landscape design.	Botanical workshops, tree planting days.	Hope. Connectedness. Self and collective efficacy.
To help people reconnect with wildlife.	Volunteering opportunities in wildlife shelters; open days in wildlife shelters; first aid for animals training; rehabilitation of habitat projects.	Hope. Connectedness. Self and collective efficacy.
To invite and encourage economic development projects that focus on reconnection of residents and visitors to place.	Brainstorming of ideas among local residents e.g. volunteering opportunities as part of reconstruction; commitment of businesses/organisations to hold conferences and meetings in newly restored facilities (with volunteering as part of package deal).**	Self and collective efficacy.

** This was a popular strategy in New Orleans after the hurricane, i.e. national and state professional associations committing their business to the area and the conference delegates electing to spend part of their time involved in reconstruction projects.

3.5.2.3 Empowerment-based strategies

Communities should be involved in making the key decisions throughout all phases of recovery. This empowerment-based approach is already recommended by Emergency Services Australia and was echoed by the evaluation of the Canberra bushfires.[44] This not only ensures that relevant and useful work is carried out, suited to community needs, but that the process of participation itself has direct effects on the recovery process at a personal level.[46]

The literature on empowerment is too large to do sufficient justice to here. Empowerment is defined as "the process by which people, organisations and communities gain mastery over their lives."[138] Empowerment is a multi-level, complex construct. It has been demonstrated that one can have empowerment at one level and not another.[139] For example, empowered organisations—ones that are successful in influencing the policy process and remaining viable over time—are not necessarily empowering organisations—ones that develop psychological empowerment within the members of the organisation. Biegel also argues the notion that empowerment must embrace two concepts: capacity *and* equity. Capacity refers to opportunity and resources for problem solving. Equity means getting one's fair share of resources.[140]

In community reconstruction after a disaster, empowerment is reflected in opportunities available for expression of views, hands-on problem solving and the redevelopment of community resources. In this sense many opportunities for personal and group empowerment are already incorporated in the strategies that appear in Tables 5 and 6. In addition, community empowerment principles are evident in Table 4—in the transparent and accountable way governments are expected to behave as stewards of change processes, having a duty of care both to the affected community and to the wider society whose resources are going into the reconstruction.

On top of this, a conscious planning-and-action process in partnership with the community should be adopted. Suggested components appear in Table 7.

Table 7. Essentials aspects of an empowerment-based strategy for community reconstruction

Objective	Examples	Link to the 5 recovery principles of Hobfall *et al* (in press)
To involve communities (their voices and actions) in all aspects of planning and reconstruction.	Community members are part of a reconstruction oversight committee (ROC) and any working group structures. The ROC meets at times and places convenient to community members. Childcare and transport†† are available for community members to attend the ROC and all public meetings and consultations.	Self and collective efficacy.
To assess community needs and views about reconstruction plans and priorities.	Public meetings, focus groups, consultation, online feedback mechanism from purpose-built website.	Self and collective efficacy.

†† and/or any other practical ways to release community members' time to take part, to be negotiated

Objective	Examples	Link to the 5 recovery principles of Hobfall *et al* (in press)
To increase the likelihood that media representation of the community recovery process is respectful of the stress of the recovery process and in keeping with the principal images known to be a resource for recovery (as opposed to a hindrance) i.e, a strengths-based approach.[‡‡]	Media liaison working group of the ROC. Numerous specific recommendations were put forward after the Canberra bushfire about media.[44]	Self and collective efficacy.
To ensure all parts of the community members have the skills, support and confidence they need to tackle their reconstruction and re-housing tasks.	Assistance with navigating bureaucracy; de-coding legal and technical language; creating a culture of easy and equal participation by ensuring that meeting processes and communications are comfortable to join and also easy and open to challenge.	Self and collective efficacy.
To set up data collection/"intelligence gathering" mechanisms with all parts of the community in order to assess needs and how well recovery strategies are faring, designing and readjusting the course of action accordingly.	Establishment of a **participatory survey-feedback-action research process** for community redevelopment. This would be ideally set within a long-term, community-university partnership that affords the opportunity for community members to take key roles, and establishes the trust, stability, commitment and resources for work to be developed that responds swiftly and directly to needs.[141,142] This would include pro-active strategies to reach and involve those parts of the community already disadvantaged by, for example, socio-economic status, social isolation, age and ethnicity.	Self and collective efficacy.

The empowerment-based strategy provides the model and structure for all other action, because the activities described in Table 5 and 6 would be designed and coordinated through the recovery structure in place—here referred to, for argument's sake, as the Reconstruction Oversight Committee (ROC).

‡‡ Note that the precedent for a media code of ethics in this situation is the WHO document which was developed to ensure that media reporting of suicide did not cause further harm (i.e. prompt more suicides). Preventing Suicide. A Resource for Media Professionals World Health Organisation Geneva 2008

3.5.3 Critical success factors

The critical success factors of the community building approach to recovery are in summary:

- Involving communities in all aspects of decision making;
- Providing resources to enable release of community members to make time and take part;
- Recognising that different people are at different stages and that decisions about domestic reconstruction involve grief and take time;
- Recognising that strong communities are diverse in their activities, opportunities, and people;
- Diverse cultural roles and activities have to be restored (play is as important as work);
- Being proactive in particular settings (such as schools) with evidence-based approaches known to create a sense of safety and security;
- Consciously creating and building resources for recovery, be these physical, economic, social, psychological or spiritual;
- Continuous research-feedback-action loops must be in place to monitor progress and ensure all parts of the community are reached.

3.5.4 Evaluation

It is beyond the scope of this review to design the evaluation of the strategy. However it is crucial that this be developed carefully and resourced appropriately. The state of the evidence in disaster recovery is poor.[12,13,46] There is an ethical responsibility to redress this: first to make sure that actions taken help, rather than harm the community; second to ensure that resources are used appropriately; and third to derive lessons that can be used by others elsewhere.

It is worthy to note that the measurement tools and processes for evaluating the success of a community capacity building strategy are now extensive.[143,144] Health promotion sections within the Victorian, NSW and Queensland health departments for example, have invested heavily in the refinement of capacity building strategies and in measurement of guides for evaluation. VicHealth has also developed recommended processes for assessing collaboration and arts-based community development projects.

In addition, there are valid and reliable tools for assessing sense of community[145] and attachment to place;[146] assessing perceived and actual social support in disaster recovery;[116] and for assessing coping skill efficacy.[147] As well, there are tools to assess how well university-community partnerships are functioning,[148] and tools for assessing how well intersectoral collaborations are working.[149] Recognising that it takes a particular skill set and readiness to work well with communities, a checklist has even been devised to help local health authorities assess their own capacity to venture into respectful and equitable research partnerships with communities.[150,151]

It is proposed that the research and evaluation activities of the recovery process take place within a formal university-research partnership (which would include government and non-government organisations). A long-term recovery and follow-up plan is required—a 5-year initial phase followed by a further 5 years to track outcomes and provide additional supports as needed. Such undertakings require strong foundations and accountability structures. These don't come with contract research or with the situation of academics initiating ideas and making contacts with communities on their own (leading to community exhaustion at being over researched). In North America, community-university research partnerships have developed to address capacity building needs with some of the hardest-to-address problems.[96] In Victoria this partnership could build a new legacy and model of practice, enabling the lessons of the bushfires to make a lasting difference to the understanding and promotion of community resilience and strength.

Anticipated outcomes of the community-building recovery strategy would include, but not be limited to:

- a lower than expected burden of mental health problems;
- a more connected community socially—providing an improved platform for disaster readiness;
- a sustained community infrastructure for problem solving and addressing community needs;
- the retention of population and amenities;
- the restoration of quality of life.

Setting the criteria for success is part of the visioning strategy that the community would embark upon at the beginning.

4 The role of government

- Build upon Victoria's strong record in community development;
- Based on the Environments for Health framework with local government, develop a world-leading approach to comprehensive disaster recovery, with a commitment to careful evaluation and long term follow-up;
- Enact the intersectoral policy framework that will not only better the fire affected communities, but provide a precedent for community strengthening and well being across the state, as well as protecting the interests of the most vulnerable.

This report began with a reference to the Victorian bushfires in the context of climate change and the need to plan for extreme events.[1] Victoria is now in a position to respond to a single event in a way that could **transform and build a stronger state-wide system for protecting and promoting human and environment well-being**.

There has been a plea across the world for improved policy coherence in disaster management—i.e. for different parts of government not to be conflict with each other. This is one of the reasons why aid efforts in some disaster areas have been stymied.[50]

A second theme that comes from the literature is the call for government to take a proactive community-building role, recognising that communities have the potential to prosper and build resilience after disaster.[152] This new 21st century "paradigm" for disaster recovery[153] extends the community of meaning for a natural disaster to the wider society. Society cares for communities and appreciates having that care expressed through the government's actions.[154]

The Victorian Government already has extensive policies and experience in developing and supporting community development strategies and the Environments for Health framework provides the building block. There is also a high degree of community and professional support for proactive strategies to support communities (e.g. see www.ourcommunity.com.au). This means that the strategies recommended in this report are well within reach.

But more than this, the Victorian Government is in a position to lead the world. An outstanding gap in the literature on disaster recovery is the lack of integrated, community-led strategies combined with comprehensive evaluation and long term follow-up. Policy makers around the world need this evidence to make crucial choices about the investment of resources. Because there is evidence that, in the past, some well intended interventions have done more harm than good, leadership, stewardship and careful monitoring are essential.

5 Suggestions for further research

Successful implementation and long-term evaluation of a community capacity building approach to disaster recovery would be a world first and an enormous contribution to the field.

In addition there are two other recommendations:

1 After the Canberra bushfires, the researchers recommended research on the role that the media in Australia play in recovery from natural disasters.[44] As earlier sections of the report show, the media's role in other countries has been pivotal to both aiding and hindering recovery.

2 The other issue is the extensive flow of money and support—altruism triggered by the fires that may be far in excess of what can be spent in the next few years. It would be useful to engage in some research about how the Australian community feels such monies are best spent. Do people know or care? Could the tide of help for an acute crisis teach us something about caring for chronic issues of community despair, grief or homelessness? What does it mean to be a compassionate community? What is in scope or out of scope when it comes to assistance and help? Can we take this disaster and change the way we think about and invest in strengthening Australian society, in crisis times and not?

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Appendix 1
Overview of the brief, what was found and the search strategy

The effectiveness of government strategies to engage communities in rebuilding and recovery following a natural disaster.

Review Questions	What was found
1. What are the potential strategies that could be employed by government to facilitate and mobilise the social participation and inclusion, social capital, economic resources and resilience of communities to enable them to recover from disasters? The review should include only those strategies that might be adapted to assist communities damaged by the Victorian bush fires.	A model of action is provided based on best practice in the community development literature. It focuses on: (1) strategies to build social networks (2) place-based strategies to foster healing and rebuilding sense of community (3) formation of a community-based partnership for reconstruction that uses action-research methods to assess and monitor community needs, evaluate success and readjust strategies. A five-year implementation period is recommended, followed by a review with an additional 5 years for follow-up and monitoring. If successful, the strategy would lead to a lower than expected burden of mental health problems; a more connected community socially—providing an improved platform for disaster readiness; a sustained community infrastructure for problem solving and addressing community needs; the retention of population and amenities; and the restoration of quality of life.
2. What is the evidence about the impact of these strategies on (a) social participation and inclusion, social capital, economic resources and resilience of communities and (b) longer-term outcomes such as the development of sustainable communities, social inclusiveness and the physical and mental health of community members.	No community-based disaster recovery projects appear to have been systematically evaluated anywhere.[#] Case reports regarding specific strategies directed at some groups are provided (e.g. projects with children, first responders) but none have been adequately evaluated.[##] The conclusion of a recently convened international review panel is that currently policy makers responding to natural and human made disasters are "without any roadmap to intervention" because of the poor state of the evidence. However, the panel distilled five principles of effective clinical and community-based recovery from the research evidence to date. Post-disaster strategies should be focussed on: • Safety; • Calming; • Hope; • Connectedness; • Self and collective efficacy (i.e. Confidence, power and capacity to get life back together).

Review Questions	What was found
3. For each strategy, what is (a) the quality of the evidence and (b) the applicability to the Victorian bush fire context?	Not possible to answer this question given the state of the evidence. Only clinical interventions have been adequately evaluated and of these the important message is that a previously popular practice—psychological debriefing of people who are exposed to the traumatic event—has been shown to be ineffective and possibly harmful.
4. What are the critical success factors for engaging communities in the process of recovery and rebuilding?	Lessons offered here are derived from a generic, highly developed literature on community building as well as the scattered case reports from disaster areas. Key elements are: • Involving communities in all aspects of decision making; • Providing resources to enable release of community members to make time and take part; • Recognising that different people are at different stages and that decisions about domestic reconstruction involve grief and take time; • Recognising that strong communities are diverse in their activities, opportunities, and people; • Diverse cultural roles and activities have to be restored (play is as important as work); • Being proactive in particular settings (such as schools) with evidence-based approaches known to create a sense of safety and security; • Consciously creating and building resources for recovery, be these physical, economic, social, psychological or spiritual; • Continuous research-feedback-action loops must be in place to monitor progress and ensure all parts of the community are reached.
5. What is the relative effectiveness of different strategies with vulnerable groups, including low socio-economic groups, those with existing mental and physical illnesses and groups with little social support? Are any of these strategies likely to increase health inequalities?	Not possible to assess given poorly developed state of the field. Creating opportunities to reduce social isolation of all groups in the community is an essential aspect of the main strategy. The review provides an account of how differences in people's social networks explain the differential impact of disasters (affecting decisions like evacuation and help seeking, with the socially isolated fairing more poorly). A socially connected community is therefore a safer one.

Review Questions	What was found
6. Is there evidence that some strategies are clearly not effective in impacting on the outcomes of interest?	No, because the area is so poorly researched. Note here, however, the need to stop the practice of psychological debriefing, if it still practised in Victoria, as it has been shown to be harmful.
7. Overall, what would be the best investment in community development to maximise long term recovery?	Box 1 at the top addresses this, representing a proposed best practice### approach based on the generic literature in community development. It integrates: • Social-network strategies; • Place-based strategies; • Empowerment-based strategies.
SEARCH STRATEGY Data sources: MEDLINE, PSYCinfo, GOOGLE SCHOLAR, GOOGLE plus personal contact with scholars in the field. Key words: community, disaster, trauma, recovery, resilience, social capital, community strength, bush fires, fires, Australia.	

"Systematically evaluated" means assessment of results, relative to goals/purpose.

"Adequately evaluated" refers to the credibility of the result given the limitations of the methods.

"Best practice" recommendation for recovery from disaster is gleaned by putting together the five principles of recovery given by the expert panel together with case reports about the type of helping practices and projects that naturally evolve in disaster areas. Theory and evidence from a wider literature on community resilience, strengthening and collective problem-solving then helps to pin point the key processes that have proven successful in these other domains that match the five disaster recovery principles. These should be integrated into a comprehensive approach.

Scope of the review

Focus on strategies that will lead to community engagement and empowerment and to recovery led by communities. This is likely to include but not be limited to dimensions like social capital, resilience, social networks.	Achieved. It explains the differences between these concepts and also how they are harnessed in interventions to improve health.
Include longer-term outcomes such as the development of sustainable communities, social inclusiveness and the physical and mental health of community members. Although rebuilding of the community will include the construction of houses and other buildings, this is not a focus of this review.	The review leads with an overview of the mental health impact of disasters, outlining traditional mental health research and interventions. This acknowledges what works and what does not, and provides the foundation upon which the whole-community approach is proposed.
Provide a comprehensive coverage of research in the peer-reviewed and grey literature from Australia, New Zealand, the United Kingdom, North America and Western Europe.	Achieved. The review draws on disaster research internationally but gives greatest prominence to Australia fire impact studies, such as Ash Wednesday.
Include comment on the methodological rigour of the studies, recognising that it is unlikely that controlled trials will be possible in this context. The Department is interested in knowing which are (a) the strongest studies and (b) studies that are so methodologically weak as to be misleading. A methodological critique of each study is not required.	The poor state of the research is outlined. One whole-community social capital intervention that the review draws upon (not in a disaster area) was evaluated in a randomised trial. The lessons from this study are transferred to the bushfire context.
Comment on the applicability of the reviewed research to the context of the Victorian communities affected by bush fires.	The review outlines the immediate significance of Victoria's existing high quality research in promoting social inclusion in schools (this will be vital for restoration of child and adolescent health in the affected communities) and the state's track record in community development. Because of this there are people and relationships in place (infrastructures) that could be guided in new directions. Also, the measures that could be used to track progress (i.e. measuring sense of community, social inclusion) are now available.

Appendix 2
Glossary of key terms

Community building	Development of resources in communities (e.g. knowledge, skills, practices, connections, facilities, amenities, cultural events, activities, services, economy) so as to create a viable, sustainable existence for community members.
Community capacity building	Used similarly to the above.
Community development	Similar to the above. Processes of development are followed by processes of organisation that then lead to community participation i.e. meaningful engagement in decision making, problem solving and the structures that affect the quality of life and viability of the community.
Community resilience	Capacity of a community to 'bounce back' or return to normal after a shock or a potential displacement; adaptation of a community to stress in ways that create a positive trajectory.
Social capital	Resources that people derive through their social networks e.g. information, materials, emotional support, aspirations.
Social networks	Relationships among people; relationships among organisations.
Social support	A function of a social network, the provision of help to others in form of information, advice, sympathetic listening/understanding, practical help—like loaning of materials or money, affirmation or feedback about one's personal value/esteem.


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