AFTER THE
fires

THE IMPACTS OF THE 2019–20 BLACK SUMMER BUSHFIRES ON THE WELLBEING OF EMERGENCY SERVICES PERSONNEL

SUMMARY BOOKLET

For the full report and additional information about *After the Fires* see:

Website   research.curtin.edu.au/research-areas/healthy-communities/after-the-fires/
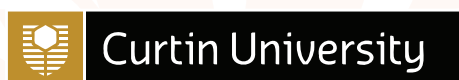
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Our partners

The bushfires of the 2019-20 Australian Black Summer fire season saw widespread destruction caused by fires of unprecedented magnitude, duration, and intensity. In total, 33 lives were lost, more than 3,000 homes were destroyed, wildlife was decimated, and over 20 million hectares of community and farming land and national parks were burnt. All Australian states and territories were affected, with the most significant impact felt in New South Wales, Victoria, South Australia, and Queensland.

In times of natural disaster, Australia relies on its volunteers to respond. During the Black Summer fires, an estimated 82,400 personnel in the fire and emergency services sector were involved in fire response activity, and 78% were volunteers.

With a warming and drying climate, there is increasing risk of future extreme fire seasons. One important aspect of preparing for future disasters is ensuring the wellbeing of personnel who are called on to respond to these emergencies and protect our communities.

After the Fires investigated the mental health and wellbeing impacts of the Black Summer bushfires on emergency services personnel who responded to the fires.

Introduction

After the Fires comprised two parts:

(a) Two surveys, which were conducted in 2020-21 (Wave 1: 1 year following the fires) and in 2021-22 (Wave 2: 2 years following the fires). Over 4,000 personnel across the fire and rescue, rural fire and SES sectors participated in Wave 1 of the survey, including over 2,000 volunteers and almost 2,000 paid staff. Just over 1,000 personnel, including over 600 volunteers and almost 300 employees, also participated in Wave 2 of the study.

The surveys measured first responders' engagement with the 2019-20 bushfires, their mental health and wellbeing, resilience, their need for and use of support services; and the cultural and organisational factors that may have affected their wellbeing.

(b) Qualitative research, which included a series of focus groups and individual interviews in communities most affected by the fires to gain a deeper understanding of these impacts.

This booklet provides an overview of results from both waves of the *After the Fires* survey as well as the *After the Fires* qualitative study.

After the Fires set out to investigate the impacts of the Black Summer bushfires on the mental health and wellbeing of Australia's emergency services personnel involved in the fire response. The study focused on volunteers and employees working within fire and rescue, rural fire, and state emergency service (SES) agencies.

We aimed to:

(i) Quantify the short and long-term impacts of direct and indirect exposure to the 2019-20 bushfire events on the wellbeing and resilience of first responders.

(ii) Assess their need for support and use of support services.

(iii) Determine the best strategies to protect mental wellbeing.

The research was conducted by the same team that undertook the *Answering the Call* study on behalf of Beyond Blue in 2017-18. *Answering the Call* was the first National Mental Health and Wellbeing Study of Police and Emergency Services.

After the Fires builds on the *Answering the Call* study by providing further information on the persistence of mental health impacts related to emergency services work, and includes personal insights from those involved in responding to the 2019-20 Black Summer bushfires.

Key Findings

Australia is highly dependent on volunteers to respond to major bushfires. While almost all available paid personnel were involved in the response to the 2019-20 bushfires, 78% of responding personnel were volunteers. In economic terms, the monetary value of volunteer labour contributed to responding to the Black Summer bushfires was significant. The total value of volunteer labour was an estimated $637.2 million.[1]

Level of involvement in the fires

- 82,480 emergency services personnel responded to the Black Summer Bushfires.

- 78% were volunteers.

- The average time spent responding was 3 weeks for volunteers and 4 weeks for paid employees.

Life threatening experiences and traumatic events

- 25% of employees and 31% of volunteers felt their life was threatened during the fires.

- Rates of probable serious mental illness and suicidality were 2 to 4 times greater among those whose life was threatened.

- 22% of volunteers and 19% of employees experienced a traumatic event during the fires that affected them deeply.

- Cumulative exposure to traumatic events over the course of a career (in contrast to a single event) is the main pathway to developing mental health problems in the emergency services sector.

Prevalence of mental illness and suicidality

At 12 months following the fires:

- 4.2% of volunteers and 7.0% of employees had very high psychological distress.

- 4.2% of volunteers and 5.1% of employees had probable PTSD.

- 5.5% of volunteers and 5.6% of employees reported suicidality, 2.8% and 2.3% made a suicidal plan, and 0.2% to 0.5% had attempted suicide.

At 2 years following the fires:

- Rates of serious mental illness remained stable for both volunteers (4.2%) and employees (7.0%)

- Rates of probable PTSD remained stable among volunteers (4.2%) whereas rates of probable PTSD among employees increased from 5.1% to 7.3%.

- Rates of suicidality remained stable for volunteers (5.5% at 1 year, and 5.6% at 2 years), but decreased slightly among employees (5.7% to 4.0%). These rates were still twice as high as for the general Australian population.

[1] Calculated at the average pay rate of a junior career firefighter.

Predictors of serious mental illness and suicidality

- Low levels of social support was the factor most strongly associated with a probable serious mental illness or suicidality.

- Other predictors were a low level of preparedness (for employees), being insufficiently trained for a role they were asked to undertake during the fires (for volunteers), experiencing a time when their life was threatened, and experiencing a traumatic event that impacted them deeply (more so for volunteers).

Changes in symptoms over time

- 7.5% of the population perceived that their mental health had worsened between Wave 1 (1 year following the fires) and Wave 2 (2 years following the fires), and 5.7% perceived that their mental health had improved.

- New cases of suicidality between Wave 1 and Wave 2 were preceded by higher alcohol consumption, poor sleep quality, and loneliness

Mental health support and help-seeking

- Over 5000 personnel were deemed to be in high need of mental health support, based on a probable serious mental illness (including probable PTSD, high or very high psychological distress) or suicidality.

Of those in high need of mental health support:

- 52% of volunteers and 40% of employees had not received any help 1 year following the fires.

- Only 16% of volunteers and 22% of employees felt they received as much help as they needed.

- There was little change in levels of help received between 1 and 2 years after the fires with less than one in five personnel having received sufficient help for their needs two years post-fires.

Barriers to accessing mental health support

- Fear of career prospects being damaged.

- Preferring to deal with problems informally.

- Counselling and treatment options that lack familiarity or experience with firefighting.

- Fear of stigma or being misunderstood.

- Feeling vulnerable in unfamiliar settings.

- Organisational 'red tape' that undermined their attempts to connect with support services.

Implications and recommendations

Emergency Service Agencies should consider a multifaceted approach to mental wellbeing that includes:

- training on the early warning signs of mental distress and when to seek help.

- peer support.

- regular check-ins.

- access to professionals with the cultural expertise/experience to understand service life and what it means to be firefighter.

- educational workshops around the potential impacts of cumulative trauma and evidence informed self-care strategies.

- the inclusion of families in both training and educational workshops to enable the family member to support their loved ones in an evidence informed way.

Reducing stigma associated with accessing mental health support and encouraging openness to discuss emotional concerns is crucial to supporting the wellbeing of firefighters and other first responders. Firefighting agencies need to encourage a workplace culture that recognizes the importance of self-care and taking breaks as a key aspect of operational performance.

Scaling up mental health support services for volunteer firefighters is a critical step in promoting well-being and resilience and will increase operational preparedness and performance for future disasters.

Involvement in responding to the fires

Australia has a high reliance on volunteer firefighters

There are an estimated 221,800 volunteers across the fire and rescue, rural fire, and SES sectors across Australia, with the majority being rural fire service volunteers. In addition, there are about 22,240 employees in the sector, including an estimated 18,200 operational firefighters.

The location, scale, and intensity of the 2019-20 bushfires meant that volunteers played a major role in responding to the fires.

Of the 82,480 personnel across the sector involved in fire response activity, including direct firefighting and support roles, 78% were volunteers. This highlights Australia's dependence on volunteers for responding to major bushfire events. It is unlikely that a higher proportion of paid staff could have been deployed to the fire response, as some paid staff were not located close to the fires, and fire agencies also had to retain some staff outside of the bushfire response in order to maintain the capacity to respond to other emergencies.

The average time spent responding to the fires was three weeks each for volunteers and one month each for employees. Notably, around 22% of volunteers were not provided with time off from their paid employment while responding to the fires.

83% of volunteers in the fire response were directly involved in fighting the fires
compared to 73% of employees

72% of volunteers with active involvement in the bushfires spent one or more nights away from home

How many fire and rescue, rural fire, and state emergency service (SES) personnel experience mental health problems?

Mental health and wellbeing of personnel involved in the Black Summer bushfires

Fighting the fires had a significant impact on those involved, and continued to impact mental health years after the disaster event. Overall, there were higher rates of emergency services personnel with worsened mental health and with continued poor mental health, than for those with improved mental health. The most significant protective factor seen in those whose mental health improved was ongoing high levels of social support. Having low levels of social support was strongly associated with having a mental health condition, for volunteers and employees alike.

Changes in wellbeing between Wave 1 and Wave 2

7.5%
had worsened
mental health

12.4%
had ongoing poor
mental health

5.7%
had improved
mental health

Prevalence of probable serious mental illness

Probable serious mental illness, including probable PTSD, high or very high psychological distress, persisted two years after the fires. Around 4.2% of volunteers and 7.3% of employees continued to have persisting symptoms of probable PTSD. This represents an estimated 2,700 volunteers and 1,320 employees with PTSD two years after the fires. An estimated 4.5% of volunteers and 7.0% of employees had still experienced very high psychological distress at Wave 2, compared with 4.0% of the Australian population. Factors significantly associated with ongoing poor mental health included low levels of social support, low levels of preparedness, having experienced a traumatic event, or having experienced a life-threatening event.
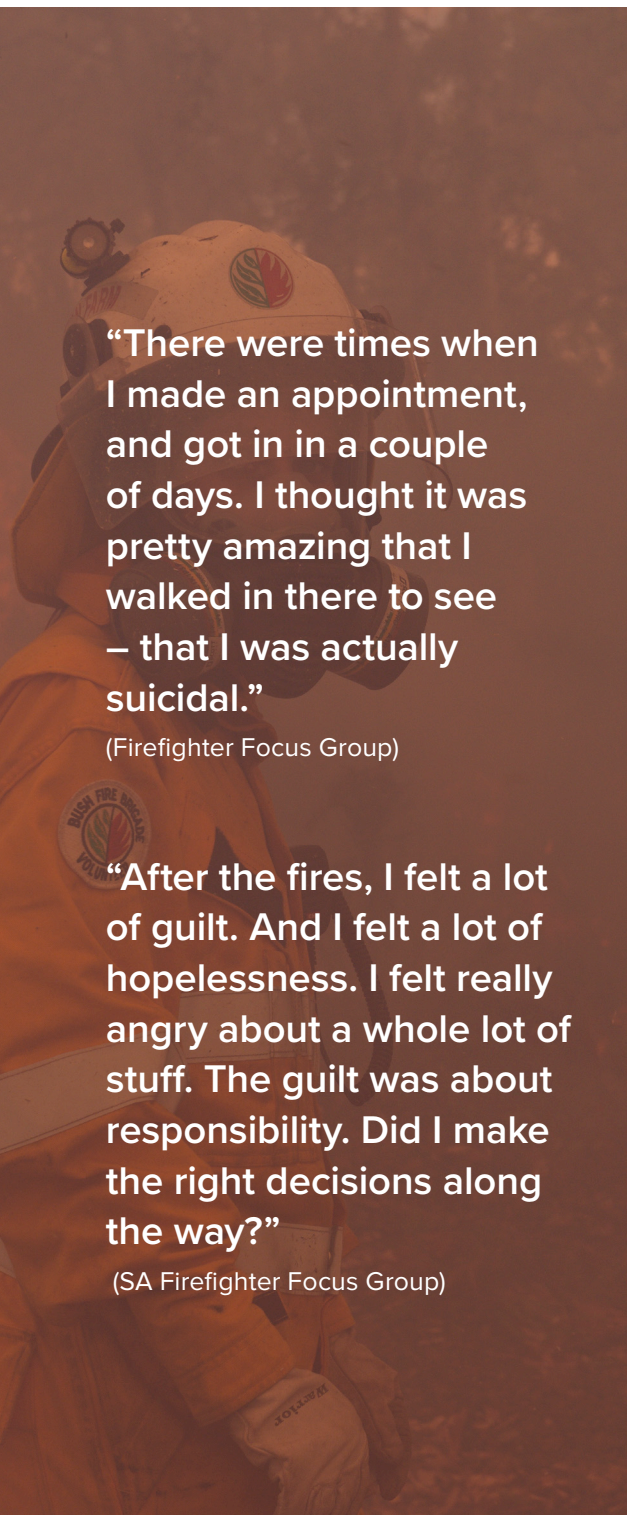
"There were times when I made an appointment, and got in in a couple of days. I thought it was pretty amazing that I walked in there to see – that I was actually suicidal."
(Firefighter Focus Group)

"After the fires, I felt a lot of guilt. And I felt a lot of hopelessness. I felt really angry about a whole lot of stuff. The guilt was about responsibility. Did I make the right decisions along the way?"
 (SA Firefighter Focus Group)

Prevalence of suicidality

Overall rates of suicidality remained stable for volunteers (5.5% at 1 year; 5.6% at 2 years), but decreased slightly among employees (5.7% at 1 year; 4.0% at 2 years) over time. Despite this decline, rates of suicidal ideation and suicide plans were still twice that of the general Australian population. Overall, we found that higher alcohol consumption, poor sleep quality, and loneliness were reported in Wave 1 by personnel who had not had suicidal thoughts in the first year after the fires but who developed suicidal behaviours by Wave 2. This suggests opportunites to provide enhanced support to people with emerging mental health issues prior to onset of suicidal thoughts.

Changes in probable serious mental illness or suicidality of emergency services personnel

	Volunteers		Employees	
	Wave 1 (%)	Wave 2 (%)	Wave 1 (%)	Wave 2 (%)
Probable PTSD	4.2	4.2	5.1	7.3
Psychological distress (a)	13.0	16.8	19.9	20.5
Suicidality—				
Ideation	5.5	5.6	5.7	4.0
Plan	2.8	2.3	2.4	1.9
Attempt	0.2	0.5	0.3	0.3

(a) high or very high psychological distress

Experience of traumatic or life-threatening events

Life-threatening events and mental health support

Nearly one third of volunteers (31%) and a quarter of employees felt that there was a time when their life was threatened during the Black Summer bushfires, and 22% of volunteers and 19% of employees reported experiencing a traumatic event that affected them deeply during the fires. Personnel with these experiences were more likely to have probable serious mental illness or suicidality, with 6,680 volunteers and 1,880 employees experiencing probable serious mental illness or suicidality, more than double the expected number if these events had not occurred. Rates of probable serious mental illness and suicidality were 2 to 4 times greater among those who reported a life threatening experience compared to those who didn't.

Where personnel had experienced multiple traumatic events both during the fires as well as at other times, rates of probable PTSD were much higher. This confirms previous research that cumulative exposure to traumatic events over the course of a career (in contrast to a single event) is the main pathway to developing mental health problems in the emergency services sector. Among volunteers who experienced a traumatic event during the 2019-20 bushfires, 58% reported that they had experienced other traumatic events that had affected them deeply in the course of their volunteer work not related to the Black Summer bushfires.

Probable PTSD after one year by exposure to traumatic events in the bushfires and other workplace exposure to trauma

Mental health of personnel who felt their life was threatened during the 2019-20 bushfires

	Was there a time when you felt that your life was threatened?			
	No (%)		Yes (%)	
Volunteers				
Proportion of volunteers	68.9		31.1	
Wellbeing indicator—	Wave 1	Wave 2	Wave 1	Wave 2
Probable PTSD	2.4	2.6	9.1	8.8
Psychological distress—				
High	7.3	9.1	17.6	19.3
Very high	3.4	4.5	7.3	7.6
Suicidal behaviours—				
Suicidal ideation	3.2	3.4	7.6	7.2
Suicide plan	1.0	1.2	2.9	2.2
Suicide attempt	0.0	0.0	0.5	0.7
Probable serious mental illness or suicidality	11.7	15.8	20.4	23.4
Employees				
Proportion of employees	74.9		25.1	
Wellbeing indicator—	Wave 1	Wave 2	Wave 1	Wave 2
Probable PTSD	3.3	4.5	11.0	12.2
Psychological distress—				
High	12.4	12.8	20.1	22.6
Very high	4.5	4.9	8.6	8.0
Suicidal behaviours—				
Suicidal ideation	3.9	2.8	7.8	6.1
Suicide plan	1.8	1.6	3.9	3.0
Suicide attempt	0.2	0.0	0.6	0.7
Probable serious mental illness or suicidality	16.5	17.1	27.3	25.9

Help seeking behaviours

Of those with high need for mental health support for either probable PTSD, very high psychological distress, or suicidal ideation

52% & 40%
of volunteers   of employees

had not received any help one year after the fires

Of those who received mental health support

16% & 22%
of volunteers   of employees

felt satisfied with the level of care received

Mental health support

Over 5000 personnel (4,150 volunteers and 1,040 paid employees) who faced traumatic events in the course of the fires were deemed to be in high need of mental health support, based on either meeting criteria for either a probable serious mental illness, or suicidality. This is more than double the rate that would be expected.
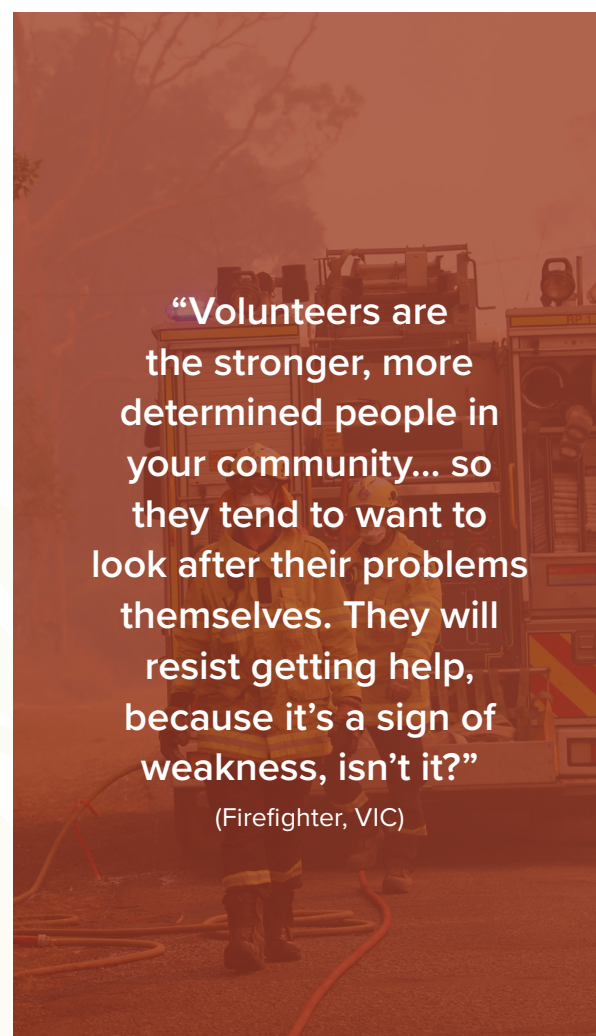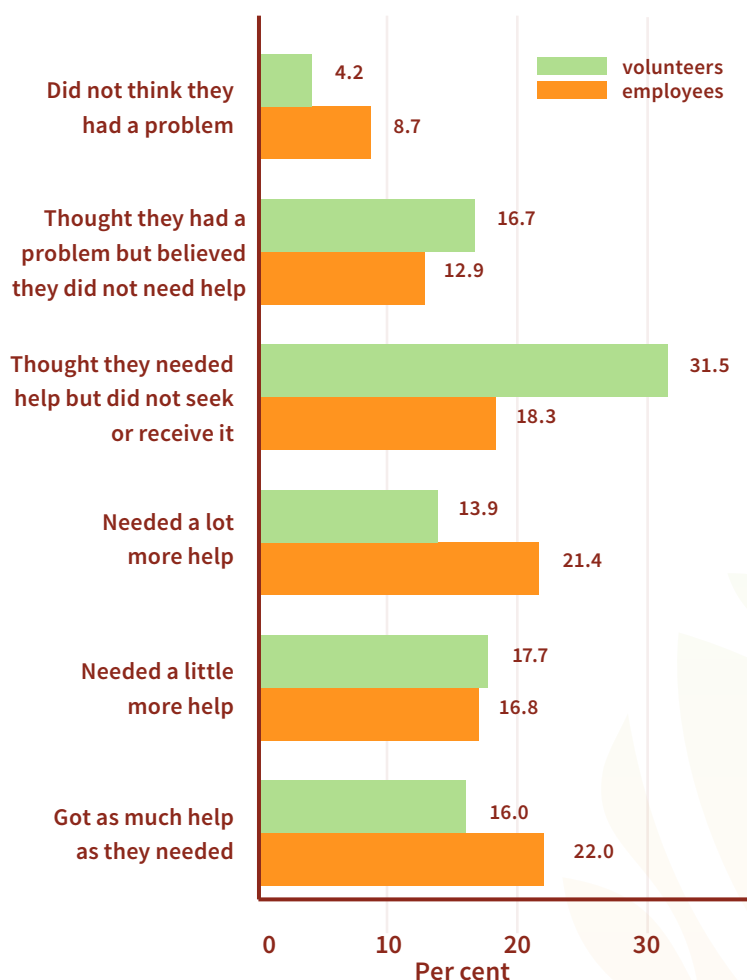
Of those in high need of mental health support only half reported receiving help one year following the fires , and less than one in five had received sufficient help two years post-fires.

"You can talk to your mates because they know exactly what you're talking about because they've been there … they won't think that you're weak or they won't think that you're not up to scratch, so they will back you up and they'll help you out."
(Firefighter, SA)

Many personnel with probable serious mental illness or suicidality did not feel they needed formal mental health care or felt there were barriers when seeking help. The stigma associated with mental health among emergency services personnel largely contributes to the low numbers of personnel seeking mental health support. Those who did not receive help either did not believe they had a problem, despite reporting symptoms of mental health issues and associated impairment, or thought they had a problem but believed they did not need help.

The lower proportions of volunteers receiving adequate help may be explained by the fact that some are relying on informal rather than formal support processes. Many focus group participants in Wave 2 recounted processes of ongoing learning about their traumatic experiences, both as individuals but also with others in their immediate crew or station. They emphasised the value of informal emotional support among volunteer firefighters as the main trusted form of ongoing mental health support and as the key vehicle for motivating volunteers to seek and receive more formal mental health support, if needed. Of those who sought help from colleagues about their mental health concerns, 65% reported improved mental health.

volunteers
employees

Category	volunteers	employees
Did not think they had a problem	4.2	8.7
Thought they had a problem but believed they did not need help	16.7	12.9
Thought they needed help but did not seek or receive it	31.5	18.3
Needed a lot more help	13.9	21.4
Needed a little more help	17.7	16.8
Got as much help as they needed	16.0	22.0

Per cent — 0, 10, 20, 30

"Volunteers are the stronger, more determined people in your community... so they tend to want to look after their problems themselves. They will resist getting help, because it's a sign of weakness, isn't it?"
(Firefighter, VIC)

Barriers to seeking help

Seeking help for mental health issues was clearly a complicated and complex issue for many of the focus group participants. Volunteers and employees alike raised several concerns about available mental health support and a range of barriers to seeking it. These included actual or perceived inexperienced or unaligned counselling and treatment options, fear of stigma or being misunderstood, and feeling vulnerable in unfamiliar settings, along with organisational 'red tape' that undermined their attempts to connect with support services.

Implications

Keeping our volunteer workforce sustainable

The Australian Black Summer bushfires were unprecedented in magnitude, duration and intensity. *After the Fires* has documented a less easily seen but nevertheless profound impact in the additional 3,000 personnel suffering ongoing mental health issues at least two years post fires. While post-COVID the popular consciousness may have moved on to other news headlines, this remains an important after effect that requires ongoing commitment to address.

One important aspect of preparing for future disasters is ensuring the wellbeing of personnel who are called on to protect our communities. *After the Fires* has highlighted three areas of particular concern where improvements could be directed.

Reducing stigma and encouraging openness to discuss emotional concerns

After the Fires found that personnel are concerned about adverse career impacts and being taken away from operational work if they raise mental health concerns. Emergency services continue to have a culture of personnel believing that they need to be strong and impervious to the situations they experience in order to support their communities in times of need and that mental health issues undermine this appearance of strength. In reality, most volunteer and paid firefighters do the work they do because they want to serve their communities. Because they care about their communities they are likely to be impacted when they witness disasters befalling their communities. Changing this longstanding culture will be a slow process, however, this will be a vitally important step to supporting the wellbeing of firefighters and other first responders. Ignoring emerging mental health issues, waiting to see if they go away, or if they can be handled informally, can lead to worsening symptoms, greater levels of impairment, longer recovery times, and reduced likelihood of complete recovery when people finally do seek help.

Recommendation 1: Emergency service agencies should consider a multifaceted approach to early intervention and prevention of mental health conditions that includes all of the following:

(i) training on the early warning signs of mental distress and when to seek help.
(ii) peer support.
(iii) regular check-ins to encourage openness to discuss emotional concerns and to reduce stigma.
(iv) access to professionals with the cultural expertise and experience to understand service life and what it means to be a firefighter.
(v) educational workshops about the potential impacts of cumulative trauma exposure and how to proactively support their own mental health using evidence informed self-care strategies.
(vi) family involvement in both training and educational workshops to enable family members to support their loved ones in an evidence informed way.

This holistic approach not only supports their mental wellbeing but also contributes to a resilient and cohesive firefighting team.

Creating opportunities for time out

The duration and intensity of the Black Summer fires saw many volunteers undertaking challenging levels of work for long periods of time. This can expose people to risk of burnout if they don't have time to process the experience of one event before moving on to the next. Previous research has stressed the importance of taking a break after attending a particularly traumatic or intense event before going on to the next job. In large-scale disasters, it is not always possible to take time out, and first responders will keep working as long as they are needed and are able to.

Recommendation 2: Firefighting agencies should encourage a workplace culture that recognizes the importance of self-care and taking breaks as a key aspect of operational performance, including:

(i) strategically planned scheduled breaks in a designated rest zone.
(ii) a rotation system to ensure individual firefighters are not physically or mentally overloaded.

Scaling up the capacity to provide adequate and timely support services following major disasters

In many areas available mental health supports are at or above capacity in ordinary times and have limited or no spare capacity to provide additional support when needed in the wake of major disasters. Emergency services agencies need to consider how to build capacity to scale up the level of support available following major disasters.

To date, organisations with a predominantly paid workforce have been better equipped and have more programs and resources to support employee wellbeing than has been the case in the volunteer sector. Particularly in light of the high reliance on volunteers in responding to the 2019-20 bushfires, it may be appropriate to consider how supports that are provided to paid firefighters can be extended so that they are also accessible to volunteers.

Recommendation 3: Scaling up mental health support services for volunteer firefighters is a critical step in promoting well-being and resilience. This should include:

(i) establishing partnerships with other community organisations in order to expand the range of services available during large-scale disasters.
(ii) training volunteers to become peer supporters equipping them with the skills to recognize the early warning signs of distress and how to respond.
(iii) regular check-ins with volunteers firefighters for at least 2 years following a major disaster, conducted by professionals or trusted peers with the appropriate training.

Conclusion

As Australia is heavily dependent on volunteers to respond to disasters, it is crucial that planning and provision of mental health resources proceeds more quickly and with the commitment that accompanies the delivery of more visible assets such as fire trucks and personal protective equipment. Mental health disorders are often concealed and may develop slowly. Their hidden nature belies the degree and significance of their impact, which has profound ramifications and costs at a personal, community and national level. Maintaining a sustainable workforce into the future requires enough people and resources to share the burden of responding to the increasing frequency and intensity of disaster events. As the nature of volunteer firefighting evolves, it is also important to ensure that organisational capability to support wellbeing is increased proportionately. Tragedy and loss have immediate and enduring consequences. While the property and stock lost can be replaced, the internal scars are less readily seen, can take longer to heal and may resurface in future fires. Our largely volunteer workforce is the most valuable resource we have for disaster response. Their wellbeing deserves commensurate community support and investment.

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