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# Mental health impacts of floods

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We anticipate that Australians living in areas affected by the current New South Wales and Queensland floods are likely to experience psychological distress. While some level of distress is a normal and understandable response to these events, we know from previous disasters that for many this may lead to more chronic mental health problems. We urge governments to recognise and respond to the mental health consequences of recent events in flood-affected areas.

## Background

Torrential downpours and flash flooding has resulted in the Australian government declaring a state of natural disaster in large areas of New South Wales and Queensland. Over 18,000 people have already been evacuated from their homes in New South Wales, and residents of the south-east Queensland are on high alert. Flooding in Australia is very common, with many coastal and river catchment regions experiencing repeated and regular flooding, causing damage to homes, infrastructure, and livelihoods. Flood damages cost the government approximately \$300 million per year, making it the most expensive type of natural disaster experienced in Australia (1). As with any kind natural disaster, short-term psychological distress is expected in people affected by the floods. Although most people recover from these stress reactions, mental health problems will persist for a significant minority of those affected (2-4).

Recent incidence of other stressors including bushfires and Covid-19 and associated financial hardship in areas now impacted by floods may compound the prevalence and severity of psychological distress in these communities. 76% of the local government areas in NSW affected by the 2019-2020 bushfire season have also been given a flood warning or experienced damage since Saturday 21st March. In particular, the Mid-North Coast, the Central Coast, the Snowy Monaro region, and the Hawksbury-Nepean region have faced multiple natural disasters, leaving communities more vulnerable to long-term mental health impacts. There is ample evidence that the mental health impacts of adversity and trauma accumulate. While most may be able to bounce back from a single event, the fact that many communities and individuals have suffered from drought, then bushfires, then COVID-related isolation and economic disadvantage makes us more concerned about the mental health impacts of current events.

## Expected mental health consequences after floods

We know that direct and indirect exposure to floods can lead to a range of negative mental health impacts. A global systematic review of 83 studies (5) identified that risk of experiencing post traumatic stress disorder (PTSD), psychological distress, depression, and anxiety is heightened in flood-affected areas compared to unaffected areas.

Australian studies of the 2011 Brisbane floods (6) and the 2017 New South Wales floods (7) found that people whose households or businesses were inundated or evacuated had higher risk of experiencing psychological distress and PTSD. One of these studies also found that Aboriginal and Torres Strait Islander people were more likely to be evacuated or displaced, and more likely to report probable depression and anxiety compared to non-Indigenous Australians (7). Another Australian study in older adults found that 1 in 6 among those personally affected by a flood reported symptoms consistent with PTSD that were likely to require clinical treatment, with more reporting mildly elevated trauma symptoms (8).

## Gaps in the research evidence

Notably, there is limited Australian or worldwide research on the duration of these flood-related mental health impacts. We do not yet know how pervasive and long-lasting psychological distress, post-traumatic distress, depression, and anxiety are in the months and years after exposure to a flood. However, evidence from other natural disasters in an Australian context such as the Victorian Black Saturday Bushfires shows that 5 years post-fires, the prevalence of mental ill health remains elevated in affected communities compared to the general population (3). Other Australian bushfire research similarly shows long-term mental health consequences, including in children of affected families (9, 10).

Flood exposure may also increase suicidal ideation. A recent study of impacts of the 2017 New South Wales floods found suicidal ideation was elevated for people who had their homes or businesses inundated compared to those not directly affected (7). However, another Australian study did not find differences in suicide rates related to floods (11). There is also some evidence to suggest that flood exposure may also result increase in tobacco, alcohol, and medication use but further research is needed (12).

## Risk factors for flood-related psychological distress

A number of factors increase the risk of adverse mental health impacts following flooding including:

- High level of exposure – greater incidence of mental-health problems is likely for people who experience greater damages or threat of harm (13, 14), financial losses (8), disruption to routine or employment (8, 15)
- Limited forewarning – greater distress is expected in communities who have less warning about upcoming floods (16) or who experience rapid flash floods (13)
- Pre-existing mental and physical difficulties – people with poorer psychological and physical health prior to a flood are more likely to experience psychological difficulties after floods (6, 17)
- Low social support – social support appears to be protective against onset of mental illness after floods (18)

## Compounding impacts

Many Australian communities have recently experienced great loss and distress as a result of the 2019–2020 bushfire season in addition to impacts of COVID-19. We expect that the mental health consequences will be exacerbated in these areas. The majority of fire-affected local government areas are now experiencing flooding. Although there is limited evidence on the effect of multiple floods (19) or multiple disaster exposures (20) on the general population, we know that repeated trauma exposure is linked to the severity of adverse mental health impacts in emergency service workers (21, 22).

## Mental health interventions to deploy after disasters

Please refer to the Black Dog Institute 2020 briefing, *Mental Health Interventions Following Disasters*, for a summary of recommended strategies to protect population mental health. We outline immediate phase, intermediate phase, and long-term responses.

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