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# Risk Reduction, Resilience and Response: Preparing for Emergency Events as a Person Who is Blind or Vision Impaired

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## Introduction

**About Blind Citizens Australia**

Blind Citizens Australia (BCA) is the peak national representative organisation of and for the over 500,000 people in Australia who are blind or vision impaired. For nearly 50 years, BCA has built a strong reputation for empowering Australians who are blind or vision impaired to lead full and active lives and to make meaningful contributions to our communities.

BCA provides peer support and individual advocacy to people who are blind or vision impaired across Australia. Through our campaign work, we address systemic barriers by promoting the full and equal participation in society of people who are blind or vision impaired. Through our policy work, we provide advice to community and governments on issues of importance to people who are blind or vision impaired. As a disability-led organisation, our work is directly informed by lived experience.

All directors are full members of BCA and the majority of our volunteers and staff are blind or vision impaired. They are of diverse backgrounds and identities.

**About people who are blind or vision impaired**

There are currently more than 500,000 people who are blind or vision impaired in Australia with estimates that this will rise to 564,000 by 2030. According to Vision Initiative, around 80 per cent of vision loss in Australia is caused by conditions that become more common as people age.[[1]](#endnote-2)

Australians who are blind or vision impaired can live rich and active lives and make meaningful contributions to their communities: working, volunteering, raising families and engaging in sports and other recreational activities. The extent to which people can actively and independently participate in community life does, however, rely on facilities, services and systems that are available to the public being designed in a way that makes them inclusive of the needs of all citizens – including those who are blind or vision impaired.

## 1. Purpose of this Policy Report

### 1.1 What this Policy Report is about

Emergency events include natural disasters, communicable disease outbreaks and mass casualty events.[[2]](#endnote-3) In recent years, a global pandemic has coincided with a series of devastating natural disasters across the Australian continent. This Policy Report identifies and promotes the specific support needs of people who are blind or vision impaired in planning, preparing and responding in such emergency situations.

#### 1.1.1 Natural disasters

Millions of Australians have been affected by recent natural disasters and extreme weather events. Approximately 80 per cent of Australia’s 540 local government areas have received some form of relief and recovery funding in the last three years.[[3]](#endnote-4) Nearly 70 per cent of Australians were directly impacted by storms, cyclones, floods or bushfires in 2022 alone.[[4]](#endnote-5)

Many communities have been struck by multiple natural disasters in quick succession. This has exacerbated the physical and mental health toll on those affected, multiplied the financial and time costs of recovery and reconstruction, and reduced communities’ capacity to prepare for the next round of natural disasters.

The Royal Commission into National Natural Disaster Arrangements (the Bushfires Royal Commission), which followed the ‘Black Summer’ bushfires in 2019–20, reported that ‘natural hazards have already increased and intensified’ and warned ‘climate-driven natural hazards are expected to become more frequent and intense.’[[5]](#endnote-6) According to the Royal Commission:

Direct and indirect disaster costs in Australia are projected to increase from an average of $18.2 billion per year to $39 billion per year by 2050, even without accounting for climate change. The costs associated with natural disasters include significant, and often long-term, social impacts, including death and injury and impacts on employment, education, community networks, health and wellbeing.[[6]](#endnote-7)

According to the Australian Prudential Regulation Authority, it is up to 11 times more costly to recover and rebuild after a natural disaster than it is to build resilience beforehand.[[7]](#endnote-8) Despite this, the federal government dedicated 98 per cent of the $24.5 billion it spent on natural disasters between 2005 and 2022 to relief and recovery efforts.[[8]](#endnote-9) In the face of more frequent and devastating natural disasters, Australia must change its approach.

Governments, communities and individuals will all have a part to play in this effort. This Policy Report educates people who are blind or vision impaired by outlining how natural disasters affect them specifically. The Emergency Checklist helps people who are blind or vision impaired to identify and procure the essential items they may require during a natural disaster.

#### 1.1.2 Communicable disease outbreaks

Government mandates, social distancing, lockdowns, border closures and travel restrictions have, to varying degrees, impacted the lives of all Australians during the coronavirus (COVID-19) pandemic. Whilst a sense of normality has returned for many people, COVID-19 continues to circulate throughout the community in Australia and overseas.

COVID-19 has been widely referred to as a ‘once-in-a-century’ event. Though we wish it were not so, the likelihood of another pandemic occurring during the 21st century is high. The combination of warming global temperatures, increased human interaction with animals and the environment, and inexpensive international travel will allow diseases to spread around the world faster than ever before.[[9]](#endnote-10)

A team of scholars recently wrote in the International Journal of Health Sciences that the next pandemic might not be triggered by a virus like COVID-19 but by a dangerous pathogen such as newly mutated or multi-drug resistance bacteria.[[10]](#endnote-11) Experts from Harvard Medical School have warned of the ‘seeming inevitability of the next pandemic.’ Regardless of the cause,

a successful response will require advance preparation and large-scale collaboration between experts in every realm, from government and academia to industry and the media. This includes creating plans to make testing accessible not only in hospitals, but also in the community and at home, as well as anticipating which populations may be most vulnerable to a pathogen and finding ways to reduce risk.[[11]](#endnote-12)

Shaped by the experiences of COVID-19, this Policy Report informs people who are blind or vision impaired of how communicable disease outbreaks affect them specifically.

### 1.2 How this Policy Report was developed

After the segment on emergency preparedness at BCA Connect in September 2022, the National Policy Council (NPC) prioritised the creation of a practical policy document on this topic. Developed in conjunction with the NPC, this Policy Report has been informed by extensive consultation with BCA members.

This Policy Report has also been informed by group discussions during a four-week policy and advocacy course facilitated by For Purpose; a “healthcare in pandemic times” session hosted by the University of New South Wales; and emergency preparedness webinars held by Hireup, Disability Advocacy Network Australia (DANA), the NSW Council of Social Service (NCOSS), and the Australian National University.

### 1.3 How this Policy Report should be used

BCA staff and members can use this Policy Report when working with local, state/territory and federal governments, emergency services providers and any other relevant organisations to identify potential emergency events in a particular geographical area and to implement appropriate solutions.

BCA members are strongly encouraged to use this Policy Report and the Emergency Checklist to prepare themselves for natural disasters. This Policy Report adopts and promotes a Person-Centred Emergency Preparedness (P-CEP) approach which places people with disability and their support needs at the centre of emergency management.[[12]](#endnote-13)

P-CEP has no specific line item in National Disability Insurance Scheme (NDIS) plans. NDIS participants may still be able to incorporate it as one of their goals, but planners and local area coordinators (LACs) will need to be notified of this possibility.

This Policy Report is available on the BCA Policy and Advocacy Hub and distributed to relevant organisations including state and territory emergency services organisations and local councils around Australia.

## 2. Lessons from recent natural disasters

### 2.1 Costs for the community

#### 2.1.1 Environmental and financial costs

Recent natural disasters have devastated many Australian communities. The Black Summer bushfires in 2019–20 scorched more than 24 million hectares, causing the highest temperatures in the stratosphere in 30 years and likely damaging the ozone layer. In what was worst single event for Australian wildlife on record, an estimated three billion animals were either killed or displaced.[[13]](#endnote-14)

The Black Summer bushfires killed 33 people directly and almost 450 others as a result of smoke inhalation.[[14]](#endnote-15) Incredibly, it took another natural disaster – torrential rain and flooding – to extinguish Australia’s biggest ever bushfire, the Gospers Mountain ‘mega-blaze’ northwest of Sydney.[[15]](#endnote-16)

Then, in 2022, Australia experienced its most financially ruinous natural disaster. The floodwaters that swept across New South Wales and south-east Queensland in February and March killed 22 people and inflicted $9.6 billion of property damage.[[16]](#endnote-17) The subsequent October floods caused an additional $791 million of damage in New South Wales, Victoria and Tasmania.[[17]](#endnote-18)

Insurers are raising premiums to cover the cost of claims and reinsurance, making insurance increasingly unaffordable or unavailable in many parts of Australia. In certain parts of Australia, home and contents insurance can cost as much as $30,000 per year.[[18]](#endnote-19)

According to experts at the Climate Council, 520,940 Australian properties, or one in every 25, will be classified as ‘high risk’ and uninsurable by 2030. Of those ‘high risk’ properties, 80 per cent of that risk is due to riverine flooding. In the most extreme instances, parts of Australia may become uninhabitable.[[19]](#endnote-20) The areas most susceptible to natural disasters are enumerated in the Appendix.

The National Emergency Management Agency (NEMA) has warned that ‘crises will continue to cascade nationally, meaning that one natural disaster is increasingly likely to cause another (such as cyclones causing floods; or fuel loads caused by floods in one year increasing the severity of fires in subsequent years).’[[20]](#endnote-21)

NEMA has also warned that ‘the increasing frequency and severity of disasters impacting people from season to season (often without respite) are likely to cause more severe damage and harm because communities are already trying to recover from the previous crisis and are vulnerable. Remote and very remote communities are particularly susceptible to compounding crises due to a narrow economic base, infrastructure with limited resilience and a lack of redundancy for essential transport routes and communications infrastructure.’[[21]](#endnote-22)

#### 2.1.2 Mental health costs

Natural disasters have widespread and long-lasting repercussions for the communities and individuals affected. It often takes several years for livelihoods to be restored and houses to be rebuilt or repaired. For people affected by natural disasters, the trauma of the event and subsequent exposure to ongoing post-disaster stressors, such as rebuilding challenges and social and economic disruption, can have significant mental health consequences.

According to researchers at the Black Dog Institute, ‘the most common mental health conditions reported across a range of disaster events are post-traumatic stress disorder (PTSD), depression, anxiety, substance abuse, and complicated grief.’ There was evidence of increased domestic violence after the Victorian Black Saturday bushfires in 2009. Long-term studies after the South Australian Ash Wednesday bushfires in 1983 found that ‘the mental health impact could still be detected in the children of affected families twenty years after the fires.’[[22]](#endnote-23)

#### 2.1.3 Costs borne by people with disability

People with disability are more likely to experience poverty and a lack of social support. Around the world, governments and emergency services continually fail to meet the specific communication, transport and medical needs of people with disability as they prepare, evacuate and recover from natural disasters. When natural disasters occur, therefore, ‘people with physical disability are two to four times more likely than the general population to die or sustain injuries.’[[23]](#endnote-24)

In Australia, the aforementioned Bushfires Royal Commission report seldom mentioned the needs of people with disability. A keyword search of the Bushfires Royal Commission website yielded no results for the words ‘blind’ or ‘vision impaired’.

This was presumably because of the concurrent work of the Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (the Disability Royal Commission). It is, nevertheless, disappointing that the needs of people with disability were not studied in any great detail by the Bushfires Royal Commission.

In April 2020, the Disability Royal Commission published an Emergency Planning and Response Issues Paper, to which people with disability, their families, academic experts and disability representative organisations could respond. Respondents to the Issues Paper described how repeated emergencies had ‘exposed Australia’s lack of emergency preparedness’ and that the ‘lack of preparedness disproportionately affects people with disability, whose pre-existing disadvantages are exacerbated during crises.’

Of particular concern was the federal government’s failure ‘to establish any permanent and effective mechanisms to ensure the participation of persons with disabilities and their representative organisations in emergency planning and response.’[[24]](#endnote-25) Many respondents also identified that the lack of timely, consistent and accessible information put people with disability at risk during natural disasters.

### 2.2 Experiences of people who are blind or vision impaired

Research published in the International Journal of Disaster Risk Science identified three recurring barriers faced by people who are blind or vision impaired.[[25]](#endnote-26) The experiences of BCA members and staff affirm that these same problems exist in Australia.

1. A lack of data, information and knowledge of people with disability.
2. Inaccessible communication of natural disaster warnings and advice.
3. Inaccessible transport and evacuation facilities.

#### 2.2.1 A lack of data, information and knowledge of people with disability

People with disability are excluded from all stages of natural disaster risk management. According to the United Nations Office for Disaster Risk Reduction (UNDRR), 85 per cent of people with disability have not been invited to participate in risk reduction processes in their communities.[[26]](#endnote-27) This means that when natural disasters strike, emergency services personnel are ill-equipped to offer the person-centred assistance required by people with disability.

To improve government awareness of people with disability, BCA endorses the proposal from the Disability Advocacy Network Australia (DANA) to establish a Disability Disaster Management Centre (DDMC) within the National Emergency Management Agency (NEMA). A DDMC would consult with people with disability, disability representative organisations and service providers and advise government on how best to recognise, support and protect people with disability during an emergency event.[[27]](#endnote-28)

In the meantime, emergency services personnel struggle to identify and assist people who are blind or vision impaired during natural disasters. It is incumbent on people who are blind or vision impaired to introduce themselves to their local emergency services crew. Even then, there is no guarantee the local crew will have the resources to help during a natural disaster.

The dangers posed by emergency services personnel’s lack of awareness of people who are blind or vision impaired were evidenced during the Victorian floods in October 2022. Corey Crawford, BCA’s National Policy Officer, was visiting family in the Campaspe Shire town of Rochester at the time. According to the State Emergency Service (SES) controller for Rochester, ‘every single house’ in the town of 3,100 people experienced some level of flooding.[[28]](#endnote-29)

SES resources in Rochester were stretched thin, a situation made worse by the agency not keeping a record of how many volunteers and crews it had active in the town during and after the flood peak.[[29]](#endnote-30) Consequently, it was left to a local Country Fire Authority (CFA) volunteer, who lived next door to where Corey was staying, to personally rescue five people who were blind or vision impaired from the rising floodwaters.

The CFA volunteer was a lifelong Rochester resident and so knew precisely where those five people resided in the town. Had it not been for this volunteer’s local knowledge, initiative and heroism, five people who are blind or vision impaired may not have survived the flood. This example illustrates how important it is for the community to be aware of neighbours and local residents who are blind or vision impaired.

**Recommendation:**

1. The federal government should work with the states and territories to establish a Disability Disaster Management Centre (DDMC) within the National Emergency Management Agency (NEMA).

#### 2.2.2 Inaccessible communication of natural disaster warnings and advice

According to the UNDRR, only 20 per cent of people with disability would be able to evacuate immediately in the event of a sudden natural disaster.[[30]](#endnote-31) Support workers understandably often prioritise their own safety and that of their loved ones when a natural disaster strikes, further isolating people with disability. A lack of accessible, timely, targeted and reliable information thus puts people with disability at much greater risk during natural disasters.

To give them as much time as possible to take evasive action, people with disability require access to clear, consistent and current information in the lead-up to and during natural disasters. However, as noted in the summary of responses to the Disability Royal Commission’s Emergency Planning and Response Issues Paper, ‘information and advice provided by governments during emergencies overlooks the specific needs of the disability community and is often inaccessible to many people with disability.’[[31]](#endnote-32)

BCA’s response to the Issues Paper identified the lack of accessible information as a ‘primary issue’ during the Black Summer bushfires.[[32]](#endnote-33) To help prepare people who are blind or vision impaired for future natural disasters, this section explains the enduring relevance of radio broadcasts, the challenges posed by visual, print media and PDFs, and the utility of smartphones and other telecommunications.

Radio broadcasts
International experts regard radio broadcasts as the most accessible source of information during a natural disaster.[[33]](#endnote-34) In Australia, the ABC’s analogue radio broadcasts reach 99 per cent of the population.[[34]](#endnote-35) Radio services are a vital source of information, especially when television, mobile phone networks and the internet are not available.

The ABC provided emergency warnings information on over 950 natural hazard events during the Black Summer bushfires.[[35]](#endnote-36) As the ‘mega-blaze’ tore through the Blue Mountains in New South Wales that summer, people who are blind or vision impaired relied on radio reports for real-time and accessible information. Local radio broadcasters relied on listeners calling in to provide updates about fire outbreaks and movement.[[36]](#endnote-37)

BCA strongly recommends that people who are blind or vision impaired include a portable battery-powered AM/FM radio tuned to their local ABC station (<https://reception.abc.net.au/>) and new packet of spare batteries in their Emergency Pack. This allows people who are blind or vision impaired to receive information even when electricity supplies are affected.

Recognising the lifeline offered by radio, the federal government recently announced a $20 million Broadcasting Resilience Program (BRP) to keep regional and rural communities informed during natural disasters.[[37]](#endnote-38) The BRP will bolster ABC broadcast sites with infrastructure upgrades, battery and diesel backup power systems, and five rapid recovery assets that can be deployed anywhere in Australia during a natural disaster.

Radio is not a perfect medium, however, as people who are blind or vision impaired discovered during the February 2011 earthquake in Christchurch, New Zealand. Poor quality radio broadcasts spread misinformation and caused significant fear in the aftermath of the earthquake.[[38]](#endnote-39) The aural nature of radio also poses accessibility issues for people with deafblindness and for people who are Deaf or hard of hearing.

Visual media and PDFs

The use of Australian Sign Language (Auslan) translators and the provision of closed captioning has been a feature of many, though certainly not all, natural disaster and COVID-19 press conferences in recent years. The increased visibility of signing has sparked a 400 per cent increase in Auslan course enrolments.[[39]](#endnote-40)

Even as Auslan has become more widely recognised, people who are blind or vision impaired continue to struggle to access emergency information that is presented visually, such as during televised press conferences and on smartphone apps, government and news websites, and social media.

Televised media briefings by emergency services personnel and other government officials often feature on-screen text – including references to maps, graphs and charts as well as website addresses and phone numbers which viewers can go to for further information – which is not read out to viewers. Non-verbalisation of this information deprives and potentially endangers the lives of people who are blind or vision impaired.

Similarly, the presentation of vital information on websites and smartphone apps in PDF and image-based formats poses major problems for people who use screen readers and voice navigation software. The Web Content Accessibility Guidelines (WCAG) are the voluntary international standards for the accessibility of digital information such as PDFs. Australia currently follows the 2008 version of the WCAG. New guidelines are currently being drafted, but it is not yet clear if Australia will adopt them.[[40]](#endnote-41)

The dangers of presenting emergency information as images became apparent during the Black Summer bushfires. In New South Wales, a BCA member downloaded the Fires Near Me app onto their phone to monitor the situation near their home. However, when they clicked on a fire which was occurring in the watch zone they had set up, this member found that they were directed to a map which they could not see.[[41]](#endnote-42)

Furthermore, the Fires Near Me app includes a ‘List’ feature. This allows users to see which fires are currently burning but offers no information as to the direction or speed at which the fires are travelling. This precludes the app’s users from being able to make fully informed decisions as to whether they should stay or evacuate.[[42]](#endnote-43)

Another BCA member who experienced the Black Summer bushfires found that the only clear, consistent and current information pertaining to the area in which they lived was on their local mayor’s Facebook page.[[43]](#endnote-44) Though successful in this case, social media content producers typically engage users with eye-catching graphics and images.[[44]](#endnote-45)

This overlooks the needs of text-centric social media users, including people who are blind or vision impaired. In an emergency context, it is essential that any visual-oriented social media content be coupled with written information accessible to screen readers.

Smartphones and telecommunications

In 2020, researchers from Curtin University conducted an extensive survey on smartphone usage amongst people who are blind or vision impaired. They found that 100 per cent of participants aged 18–24 years old, 98 per cent of participants aged 25–34 years old, and more than 90 per cent of people aged 35–64 years old owned a smartphone.

Altogether, 79 per cent of all survey participants owned a smartphone. Smartphones are a vital piece of assistive technology for people who are blind or vision impaired. Of the participants who owned a smartphone, 84 per cent used it throughout the day and for a vast array of reasons.[[45]](#endnote-46)

Smartphones and telecommunications services – such as landlines, mobile networks and the internet – help people to communicate and receive information during emergency events. Whilst telecommunications companies actively plan for emergency events, there are times when their services become unavailable.

During the Black Summer bushfires, for example, the Australian Communications and Media Authority identified 1,406 telecommunications facilities that had been impacted, either directly or indirectly. Most of the outage incidents were caused by wider power outages, with only one per cent of outage incidents caused by direct fire damage.

Of those 1,406 telecommunications facilities affected, 25 per cent did not experience a communications outage and 25 per cent had outages restored within four hours. The remaining 50 per cent had longer outages, with the average time to restore communications being three-and-a-half days.[[46]](#endnote-47)

Emergency Alert is a national warning system used by emergency services in each state and territory. Emergency Alert uses the caller ID number ‘+61 444 444 444’ to send voice and text messages to people in areas affected by likely or actual emergency events. However, the system relies on telecommunications networks to send messages and so may not be operational during a communications outage.[[47]](#endnote-48)

Even those telecommunications networks not directly or indirectly affected by a natural disaster can become overloaded as people rush to contact loved ones or seek out information. The large volume of calls, messages and internet usage can prevent critical calls from getting through, and the additional burden on the network can exhaust backup power supplies.[[48]](#endnote-49)

The possibility of telecommunications outages is a significant concern, with many natural disaster preparedness measures instructing the community to refer to online communication tools which may not be accessible when they are most needed. As part of their planning for natural disasters, BCA members should familiarise themselves with their telecommunications services.

As a starting point, consider the limitations of your phone carrier and internet provider.[[49]](#endnote-50) Remember that during a natural disaster, your mobile network may not let you make or receive calls. However, if your home internet is still working, it may still be possible to make phone calls over WiFi using your smartphone.

Satellite phones are more likely to work during a land-based natural disaster such as a bushfire, flood or cyclone, and so people living in remote or disaster-prone areas should consider acquiring one for their Emergency Packs.

It is also important to consider how long your personal devices – including smartphones, tablets and laptops – would last without being charged. You should include a portable power bank in your Emergency Pack. You may also consider acquiring an uninterruptable power supply (UPS) battery backup to keep your desktop computer and WiFi router operational during a power outage.

**Recommendations:**

1. People who are blind or vision impaired should include a portable battery-powered AM/FM radio tuned to their local ABC station and new packet of spare batteries in their Emergency Pack.
2. Government officials at all levels must verbalise any emergency information presented on screen during media briefings.
3. Australia must adopt the new Web Content Accessibility Guidelines (WCAG 3.0) when they are released.
4. Governments at all levels must ensure that all emergency-related social media content is coupled with written information in text format, accessible to screen readers.
5. People who are blind or vision impaired should include a portable power bank in their Emergency Pack.

#### 2.2.3 Inaccessible transport and evacuation facilities

International research has found that people with physical disability are ‘less likely to evacuate from their home’ during natural disasters and ‘wait longer to do so due to a lack of accessible transport and concerns that evacuation shelters will not accommodate their needs.’[[50]](#endnote-51)

The tragic case of a 91-year-old American woman, who died in the aftermath of Hurricane Katrina in August 2005, serves as a poignant reminder of the potentially deadly consequences of inaccessible transport and evacuation facilities during a natural disaster. This woman, who was legally blind, died in her wheelchair outside an overwhelmed New Orleans hurricane shelter. She had been waiting for a bus to carry her to safety. The buses eventually arrived four days later.[[51]](#endnote-52)

Roads and railways are often closed or otherwise inaccessible during floods and bushfires, severely limiting people’s ability to take evasive action. This problem is exacerbated for people who are blind or vision impaired, who typically cannot drive themselves away from the approaching danger. Ideally, people who are blind or vision impaired would have someone in their Emergency Support Circle who lives nearby to drive them to safety during natural disaster.

Even if transport to an evacuation centre is readily available, the probable loss of independence in a such a facility deters people who are blind or vision impaired from seeking shelter.[[52]](#endnote-53) The temporary and ad hoc nature of evacuation facilities means that people who are blind or vision impaired often have great difficulties in navigating their way to food and drink stations and bathroom facilities, and in feeding, watering and toileting their dog guides.

People who are blind or vision impaired also often do not receive the assistance they require at evacuation centres when it comes to accessing up-to-date emergency information in an accessible format such as braille, large print or audio. Nor do they receive the dedicated orientation and mobility (O&M) assistance required to navigate the unfamiliar surrounds of the evacuation centre.

The emergency services personnel and volunteers who work at these facilities should receive disability awareness training, particularly as it relates to the unique needs of people who are blind or vision impaired. Until such training is commonplace, disability awareness, and accessibility measures at evacuation centres will be sorely lacking.

As explained by one BCA member who has worked at evacuation centres, there is usually ‘organised chaos’ in the early stages of a natural disaster response. Emergency services personnel and volunteers who work at the centres may not have actually experienced a natural disaster before and so are unable to display the sort of leadership and initiative that members of the public may anticipate.

This BCA member has spoken to a senior emergency services officer and was told that there were no specific plans or facilities in evacuation centres for people with disability in that particular state. As such, BCA members cannot expect to have a pleasant stay at an evacuation centre nor for the emergency services personnel or volunteers there to provide them with the unique assistance they require.

For these reasons, people with mobility issues and/or people who are blind or vision impaired may choose to shelter in place or simply be left behind during a natural disaster. The record-breaking February 2022 floods in Lismore, New South Wales proved how dangerous this can be.

An 82-year-old woman with significant mobility issues was trapped in her South Lismore home and died when the floodwaters rose far higher and quicker than anyone had expected. Despite this tragedy, the property has not been eligible for a government buyback.[[53]](#endnote-54)

**Recommendation:**

1. Emergency services personnel and volunteers who work at evacuation centres must receive disability awareness training, particularly as it relates to the unique needs of people who are blind or vision impaired.

#### 2.2.4 Eye health during and after a natural disaster

An academic study of field hospitals established by the Israel Defense Forces (IDF) in the aftermath of the 2010 earthquake in Haiti, the 2013 typhoon in the Philippines, and the 2015 earthquake and avalanche in Nepal revealed how often ocular (eye) injuries are sustained during natural disasters.

Of the 5,356 patients treated in the IDF field hospitals after the three disasters, 265 patients (4.9 per cent) had ocular diagnoses. Of those 265 ocular patients, 200 (75.5 per cent) were categorised as having non-disaster-related diagnoses (NDRDs) and 65 (24.5 per cent) were categorised as disaster-related diagnoses (DRDs).

The most common conditions amongst the 200 NDRDs were cataract, chronic conjunctivitis, and pterygium/pinguecula. The most common injuries seen in the 65 DRDs were eyelid and scalp lacerations, ocular surface foreign bodies, and blunt trauma.[[54]](#endnote-55)

There are several things that people who are blind or vision impaired can do to protect their eye health during natural disasters.[[55]](#endnote-56) Ensure that you have an extra pair of glasses, eye drops and/or eye medication in your Emergency Pack. For contact lens wearers, include an extra pair, lens solution and case in your Emergency Pack.

Always wear safety eyewear whenever there is a chance of sustaining an eye injury. This includes when boarding up windows, encountering hazardous chemicals, and walking through areas with dust, particles and flying objects. BCA members should seek urgent medical care if ever they sustain an eye injury.

**Recommendation:**

1. People who are blind or vision impaired should take steps to protect their eye health during natural disasters and seek urgent medical care if ever they sustain an eye injury.

#### 2.2.5 Physical safety during and after a natural disaster

In addition to traumatic injuries, a leading cause of morbidity and mortality in the immediate aftermath of a natural disaster is the loss of local medical services.[[56]](#endnote-57) For example, dozens of cases of trench foot – a serious condition caused by exposure to cold and damp conditions, often associated with the trench warfare of the First World War – developed in the week it took for a specialist nurse to arrive in Rochester after the October 2022 floods.[[57]](#endnote-58) There is little that people who are blind or vision impaired can do in such instances other than lean on whatever community support is available.

Furthermore, it can take many months for government agencies to remove debris and repair vital infrastructure after a natural disaster occurs.[[58]](#endnote-59) This poses significant mobility challenges for people who are blind or vision impaired, both in safely navigating their neighbourhood and in recommencing everyday activities such as travelling to the supermarket, attending medical appointments, and visiting friends and family.

It can take months or years for homes to be repaired or rebuilt after a natural disaster. In the meantime, affected residents may be relocated by a government agency to a temporary village or self-contained accommodation pod, offered a caravan or rental accommodation by their insurer, move in with friends or family, or be forced to live in a tent in their driveway. The consistently lower incomes of people with disability present an additional barrier to recovery after natural disasters.[[59]](#endnote-60)

None of the above are ideal outcomes for people who are blind or vision impaired. Though we cannot guarantee an improvement in your situation, members are always welcome to contact BCA for advocacy assistance and peer support.

#### 2.2.6 Climate change and the future of eye health

The human eye is an incredibly complex sensory organ – one that is uniquely susceptible to minor changes in environmental factors. As warned by the International Agency for the Prevention of Blindness, a changing climate will have a significant impact on global eye health.[[60]](#endnote-61)

Higher temperatures and lower rainfall are expected to increase the incidence of trachoma infections. Vitamin A deficiency, which can lead to night blindness, will become more common with rising food insecurity. Increased exposure to ultraviolet (UV) radiation may lead to an additional 200,000 cases of cataract by 2050.

Furthermore, traffic-related air pollution and severe allergic eye diseases are linked to glaucoma and age-related macular degeneration. Finally, and as mentioned in sections 2.2.4 and 2.2.5, natural disasters can cause acute and protected eye injuries and disrupt eye health delivery.

As climate change worsens global eye health, BCA’s mission – to inform, connect and empower Australians who are blind or vision impaired and the broader community – will be more important than ever.

## 3. Lessons from the COVID-19 pandemic

### 3.1 Costs for the community

#### 3.1.1 Physical health and financial costs

In May 2023, Tedros Adhanom Ghebreyesus, the director-general of the World Health Organization (WHO), confirmed that at least seven million people and possibly as many 20 million people had died during the COVID-19 pandemic.[[61]](#endnote-62)
In Australia, more than 22,400 people had died of COVID-19 by August 2023.[[62]](#endnote-63) Approximately 200 Australians continue to die each week due to COVID-19.[[63]](#endnote-64)

At least 65 million people have experienced a series of ongoing, persistent and often debilitating health problems in the weeks, months and/or years after an initial COVID-19 infection.[[64]](#endnote-65) Between five and 10 per cent of COVID-19 cases in Australia reported symptoms persisting for more than three months. ‘Long COVID’ contributed up to 10 per cent of the total burden of disease from COVID-19 in Australia in the first months of 2022.[[65]](#endnote-66)

In addition to the direct health impacts of the disease, the ongoing pandemic has disrupted the social and economic activities of billions of people around the world. The pandemic has fractured global supply chains, caused price volatility for commodities, upended the job market and imperilled the tourism sector.

The United Nations estimates that 120 million people have been pushed into extreme poverty by the pandemic.[[66]](#endnote-67) The International Monetary Fund (IMF) forecasts the pandemic will cost the global economy $18.5 trillion (US$12.5 trillion) through to 2024.[[67]](#endnote-68)

The IMF has warned that more than 100 countries will have to reduce expenditures on health, education and social services to cover the costs of COVID-era government debt.[[68]](#endnote-69) In Australia, interest payments on federal government debt, much of which was amassed during the pandemic, will cost the budget $112 billion over five years, or $60 million a day.[[69]](#endnote-70)

#### 3.1.2 Mental health costs

According to the WHO, the global prevalence of anxiety and depression increased by 25 per cent during the first year of the COVID-19 pandemic. This can be attributed to pandemic-related stressors such as social isolation; fear of infection, suffering and death for oneself and for loved ones; bereavement; and financial worries. Young people, women and people with pre-existing physical health conditions were more likely to develop mental health problems.[[70]](#endnote-71)

In Australia, the COVID lockdowns of 2020 and 2021 resulted in a six-percentage point increase in mental illness. Just over half of the $13.3 billion wellbeing cost attributed to that increase was felt by Victorians and nearly a third was felt by people in New South Wales.[[71]](#endnote-72) In December 2022, the federal government discontinued an important COVID measure when it cut the number of Medicare-covered psychology sessions from 20 to 10 a year.[[72]](#endnote-73)

#### 3.1.3 Costs borne by people with disability

The Advisory Committee for the COVID-19 Response for People with Disability provides advice to the federal Chief Medical Officer about the needs of people with disability during the COVID-19 pandemic. The Advisory Committee helped to develop, and is overseeing the implementation of, the Management and Operational Plan for COVID-19 for People with Disability.[[73]](#endnote-74)

The federal government does not publicly share data on the total number of people with disability who have tested positive to, or died as a result of, COVID-19.[[74]](#endnote-75) It is clear, nevertheless, that people with disability have been disproportionately affected by the pandemic. As explained by the Australian Institute of Health and Welfare (AIHW), an independent statutory federal agency:

Many people with disability are at increased risk of contracting COVID-19 and experiencing more severe health impacts. In addition to the direct health impacts of the illness, various restrictions and public health measures associated with the pandemic are likely to cause added stress for people with disability due to loss of social contacts, problems with employment and finances, disruptions to formal and informal supports, and distress associated with rapidly evolving situations and changing public health directions.[[75]](#endnote-76)

For these reasons, people with disability were classified as a priority group during the early stages of Australia’s COVID-19 vaccine rollout strategy. The vaccine rollout again demonstrated how important it is for people with disability to have access to timely, accessible and reliable information during emergency events.

As noted by the AIHW in June 2021, 33 per cent of Australian adults with disability said their decision to get vaccinated depended on the recommendation of a general practitioner (GP) or other health professional, compared to 20 per cent of adults without disability.[[76]](#endnote-77)

### 3.2 Experiences of people who are blind or vision impaired

During the COVID-19 pandemic, three main areas of concern have been identified by people who are blind or vision impaired:

1. Inaccessible communication of public health warnings and advice.
2. Inaccessible testing.
3. Inaccessible vaccines.

#### 3.2.1 Inaccessible communication of public health warnings and advice

Throughout the COVID-19 pandemic, BCA has provided members with accessible information and links to useful resources.[[77]](#endnote-78) Unfortunately, pandemic-related public health warnings and advice have often sorely lacked accessibility for people who are blind or vision impaired.

Visual media and PDFs
As noted in section 2.2.2, the presentation of vital information in image-based formats during televised media conferences and in PDF format on websites and smartphone apps poses major problems for people who are blind or vision impaired. This was a recurring problem, particularly during the first two years of the pandemic.

Queensland’s 2020 roadmap for the easing of COVID-19 restrictions, for example, was presented in PDF.[[78]](#endnote-79) Furthermore, the notion of ‘flattening the curve’ – a mitigation strategy that attempted to slow the spread of the virus during 2020 (and, to a lesser extent, 2021) – relied on a visual depiction of active cases on the epidemic curve.

In 2020, researchers from Monash University analysed the accessibility of COVID-related information in online Australian news articles, televised news broadcasts, and statistical data from health organisations.[[79]](#endnote-80) The researchers found that web pages using interactive data often could not be accessed by people using voice navigation or screen reader software. They also found that graphic information was often accompanied by textual explanations of insufficient granularity to convey what was shown in the images.

People who are blind or vision impaired also faced additional barriers such as a lack of easy-to-read or plain format information. People without access to digital technology struggled to find information in braille or large print.[[80]](#endnote-81)

Governments must provide accessible versions of information and resources at the outset of any future communicable disease outbreak or pandemic. It is also crucial that disability-specific information, support and services be included in government planning and responses to outbreaks and pandemics.

As noted in section 2.2.1, the establishment of a Disability Disaster Management Centre (DDMC) within the National Emergency Management Agency (NEMA) would ensure the needs and requests of people with disability are factored into government decision-making during future outbreaks and pandemics.

QR Codes and the COVIDSafe app
In early 2021, Vision Australia surveyed 492 people who are blind or vision impaired on their experiences during the COVID-19 pandemic. Disturbingly, 52 per cent of respondents said they had felt socially isolated during the pandemic; 42 per cent said concerns about the accessibility of QR (Quick-Response) codes and other methods for collecting information had lowered their confidence to resume face-to-face activities; and 34 per cent said they would visit shops and other facilities less often in future because of difficulties in complying with social distancing requirements.[[81]](#endnote-82)

People who are blind or vision impaired often found it challenging to locate the QR codes that needed to be scanned prior to entering a shop or venue.[[82]](#endnote-83) QR codes were never in consistent locations, making it difficult to line up one’s smartphone camera with the code. The lack of auditory confirmation made it difficult to know if a QR check-in had been successful.

According to researchers from Curtin University, smartphone usage amongst people who are blind or vision impaired increased significantly during the first year of the pandemic.[[83]](#endnote-84) It was incredibly disappointing, therefore, that the federal government’s COVIDSafe app – which assisted users in swiftly identifying and responding if they had come into contact with someone who tested positive for COVID-19 – was not fully accessible for people who are blind or vision impaired.

Discontinued from 16 August 2022, the COVIDSafe app featured buttons that were not labelled. The app also affected some glucose monitoring equipment for people with diabetes. Diabetes Australia advised people using glucose monitoring equipment to temporarily delete the COVIDSafe app if they noticed a problem.[[84]](#endnote-85)

Research from Vision Australia found that the people who downloaded the COVIDSafe app but could not install it due to its inaccessibility often simply deleted it. In future pandemics, governments must make sure that public health warnings, information and associated technology are accessible from the outset. Failure to do so erodes trust and confidence in government.

Social distancing and social isolation

After navigating the challenges of locating and scanning the QR codes at the entry point, people who are blind or vision impaired often struggled to make their way around shops and other venues. Some BCA members tumbled over barricades at their local supermarket when the usual entrance was closed to direct all foot traffic to an entrance at the back of the building.

Once inside, people who are blind or vision impaired often found the shelves stripped bare of toilet paper, personal hygiene products, and food staples like flour and pasta. Information about how and where to queue for the checkout was often indicated visually by arrows and other markers on the ground.[[85]](#endnote-86)

Even when some retail outlets introduced a Community Hour for people with disability and the elderly, people who are blind or vision impaired still struggled to practise social distancing. A large part of this problem was that state and territory government health directives had not been clear on how social distancing measures should be applied to support people.

For people who are blind or vision impaired, the use of a sighted guide – which involves holding the elbow of the person guiding them – violated the 1.5-metre social distancing directive. This was compounded by the lack of personal protective equipment (PPE) available for disability support workers during the initial stages of the pandemic.

Many people who are blind or vision impaired reduced or cancelled their support work altogether due to fears of being in close contact with support workers.[[86]](#endnote-87) This intensified the feelings of loneliness and social isolation experienced by many people who are blind or vision impaired during the pandemic.

In collaboration with The Kindness Pandemic, BCA launched an awareness and action campaign calling on people to #BeThatPerson. This campaign encouraged members of the community to be the one to ask if someone needed help if they noticed them struggling.

The #BeThatPerson campaign highlighted that adhering to social distancing requirements was not straightforward for everyone. In future pandemics, governments, businesses and the community at large must show greater awareness of the needs of people with disability, particularly people who are blind or vision impaired.

**Recommendations:**

1. Governments at all levels must provide accessible versions of information and resources at the outset of any future communicable disease outbreak or pandemic.
2. Governments at all levels must ensure that disability-specific information, support and services are included in government planning and responses to outbreaks and pandemics.
3. Governments at all levels must ensure that public health warnings, information and associated technology are accessible from the outset of any future communicable disease outbreak or pandemic.
4. In future pandemics, governments, businesses and the community at large must show greater awareness of the challenges arising from mandatory check-ins and social distancing for people who are blind or vision impaired.

#### 3.2.2 Inaccessible testing

Throughout the COVID-19 pandemic, government leaders and health officials have urged Australians to get tested for the virus when feeling unwell. There are two forms of testing for COVID-19: the polymerase chain reaction (PCR) and the rapid antigen self-test (RAT). Both tests have posed accessibility challenges for people who are blind or vision impaired.

PCR tests, conducted via invasive nasal swab, were mostly delivered in referral-free, drive-through clinics. New South Wales, which alone administered more than 33 million such tests, was the last state to end this service in May 2023 after a sharp fall in demand.[[87]](#endnote-88)

The drive-through nature of the PCR test sites excluded people who are blind or vision impaired, who typically do not drive their own car.[[88]](#endnote-89) Alternative options – such as using public transport, booking a taxi or rideshare, or asking a friend or family member to drive them to the test site – risked exposing others to the virus.

At-home RAT tests, which have been in short supply at various times, require sight to operate and offer no tactile clues. In order to know their result, a person who is blind or vision impaired has to risk exposing a family member, friend or support worker to the virus.

The Victorian government established the Call to Test Hotline – which as of August 2023 is no longer available – to allow people who are blind or vision impaired to have a health professional visit them at home to conduct a RAT. Some people who are blind or vision impaired reported that it could take up to three days for a nurse to be despatched to conduct the test.[[89]](#endnote-90)

For non-Victorians, Aira, a visual interpreting service via a paid subscription phone app, offered smartphone users 30 minutes of free at-home COVID testing assistance. As of August 2023, that promotion is no longer available on the Aira website.

Australian governments can draw inspiration from the at-home COVID testing regime of the United States. Designed specifically for people who are blind or vision impaired, these COVID tests are supplied free of charge by the US federal government and can be ordered online, over the phone, or through the US Postal Service. The American test requires a Bluetooth-enabled smartphone to be able to download a free app that provides audible instructions and test results.[[90]](#endnote-91)

Inventors in the United Kingdom have developed an accessible home pregnancy test that could be adapted for rapid COVID testing. The pregnancy test uses a small motor that produces bumps based on the chemical changes detected.[[91]](#endnote-92) Such ingenuity will hopefully help people who are blind or vision impaired during future pandemics.

**Recommendation:**

1. To develop accessible testing for the next pandemic, Australian governments should follow the best practice of international partners.

#### 3.2.3 Inaccessible vaccines

Approximately two-thirds of the world’s population have received at least one dose of a COVID-19 vaccination. Vaccines are credited with cutting the global death toll by 20 million in the first year after they were made available.[[92]](#endnote-93) Vaccines, according to the Royal Australian College of General Practitioners, are as ‘the safest way of preventing’ significant disease, hospitalisation and long COVID.[[93]](#endnote-94)

According to the Australian Bureau of Statistics, 85 per cent of people with a sensory and speech disability – which encompasses people who are blind or vision impaired – intended to get a COVID-19 vaccination when it became available. This compared favourably to the 73 per cent of the population as a whole who intended to get a COVID-19 vaccination when it became available.[[94]](#endnote-95) It was extremely disappointing, therefore, that people who are blind or vision impaired were excluded from the COVID-19 vaccination process.

This exclusion was a result of the federal government’s eligibility checker and clinic finder website failing to meet basic website accessibility standards. Large sections of the website were incompatible with screen readers and the site also featured poor colour contrast and excessive alt text (which describes the appearance or function of an image on a webpage).[[95]](#endnote-96)

This ultimately meant that people who are blind or vision impaired were forced to seek assistance from others to determine when and where they should get their vaccination.

**Recommendation:**

1. Governments at all levels must prioritise the accessibility of pandemic-related information and booking platforms for all Australians.

#### 3.2.4 COVID, future pandemics and eye health

Whilst COVID-19 is commonly associated with infection of the lungs, heart and other vital organs, the pandemic has had a significant impact on eye health in Australia and beyond. COVID is able to enter the body through the eyes and a person who has COVID is able to shed the virus through their tears, sometimes even weeks after they have ostensibly recovered from their illness.[[96]](#endnote-97)

Data accumulated during the first year and half of the pandemic established that 11 per cent of people with COVID develop some kind of eye issue. As many as six per cent of people display symptoms in their eyes before showing any other signs of COVID-19.[[97]](#endnote-98)

Conjunctivitis, an inflammation of the white part of the eyeball and the inner eyelid, affects nearly 89 per cent of people with COVID-related eye symptoms. Other eye symptoms can include dry eyes, itching, redness, blurry vision, sensitivity to light and a feeling that there is a foreign particle in the eye. In most instances, eye symptoms get better on their own.[[98]](#endnote-99)

Significantly more time spent in front of computers for work and leisure during the pandemic led to headaches, blurred vision, eye strain and dry eye. Wearing an ill-fitting mask can redirect air towards the eyes, resulting in dry eye. Raised cortisol levels brought about by the general stress of the pandemic could also affect vision through blurriness, distortion and grey spots.[[99]](#endnote-100)

Lockdowns and concerns about virus exposure prevented many people from seeking eye care during the pandemic, even as research from the United Kingdom found that one in three adults noticed a deterioration in their eyesight since the start of the pandemic.[[100]](#endnote-101) Travel restrictions and safety concerns also prevented First Nations people in remote parts of Australia and people living in developing countries from receiving the eye care they needed during 2020 and 2021.[[101]](#endnote-102)

As noted in section 1.1.2, a virus or bacteria may instigate the next pandemic. Eye infections can be caused by either viruses or bacteria.[[102]](#endnote-103) Whether in a pandemic setting or not, BCA members are urged to always seek immediate medical assistance in the event of any loss of vision.

**Recommendation:**

1. People who are blind or vision impaired should always seek urgent medical care if ever they experience a change in vision.

## 4. Underpinning Policy Frameworks

In recent years, governments across Australia have taken steps to improve the lives and experiences of the 18 per cent of Australians (about 4.4 million people) who have some form of disability.[[103]](#endnote-104) As a signatory to the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), governments in Australia have an obligation to protect and promote the human rights of people with disability.

In particular, the UNCRPD’s ‘Article 9 – Accessibility’ requires State Parties to ‘take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, … including electronic services and emergency services.’[[104]](#endnote-105)

Furthermore, ‘Article 11 – Situations of Risk and Humanitarian Emergencies’ requires State Parties to take ‘all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters.’[[105]](#endnote-106)

Australia’s Disability Strategy 2021–2031 identifies ‘Inclusive Homes and Communities’ as one of its intended outcomes: ‘Accessible housing, transport, communication and the built environment are key factors supporting the participation of people with disability.’[[106]](#endnote-107)

Australia is also a signatory to the Sendai Framework for Disaster Risk Reduction 2015–2030, the global blueprint for natural disaster risk reduction and resilience. To accelerate and amplify the benefits of the Sendai Framework, the United Nations Office for Disaster Risk Reduction (UNDRR) developed the Strategic Framework 2022–2025. The UNDRR Strategic Framework 2022–2025 prioritises disability-inclusive disaster risk reduction activities.[[107]](#endnote-108)

In order for the Sendai Framework to improve the safety and security of people with disability during emergency events, action must be taken at all levels of government in Australia and at the individual level. According to the UNDRR, 71 per cent of people with disability do not have an individual preparedness plan for natural disasters.[[108]](#endnote-109) BCA members are strongly encouraged to use this Policy Report to complete their own emergency event checklist.

Under Australia’s constitutional arrangements, state and territory governments manage frontline emergency responses, including police, fire, health and emergency services. Each state and territory government has a health disaster plan that helps coordinate their health facilities during emergency situations.[[109]](#endnote-110)

The roles and responsibilities of Australia’s 540 local governments – cities, shires, towns and municipalities – differ between jurisdictions. Between 60 and 70 per cent of local governments are in regional or rural areas.[[110]](#endnote-111) Local governments often lead the delivery of community services such as evacuation centres. Given their knowledge of local infrastructure, local governments generally have primary responsibility for restoring community infrastructure after a natural disaster, with the support of state, territory and federal governments.

The federal government plays a central role in coordinating responses to and recovery from disasters and emergencies. The Department of Home Affairs maintains a suite of response plans that can be accessed by state and territory governments and international partners during an emergency.[[111]](#endnote-112) The federal government’s natural disaster recovery payments to state governments are expected to soar from $3.1 billion between June 2018 and June 2022 to $6.4 billion between 2022–23 and 2025–26.[[112]](#endnote-113)

The federal government also provides emergency assistance through the deployment of Australian Defence Force (ADF) personnel and assets. Since 2019, ADF personnel have been deployed to domestic disaster relief operations on an unprecedented scale. More than 35,100 personnel out of a workforce of 62,000 have been sent to help communities respond to bushfires, floods and COVID-19.[[113]](#endnote-114) The federal government is currently considering ways of providing disaster support to overwhelmed state and territory governments that do not undermine the warfighting capabilities of the ADF.

In summary, BCA’s Emergency Preparedness Policy Report is underpinned by the following legal and regulatory frameworks:

1. United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). Particularly ‘Article 9 – Accessibility’ and ‘Article 11 – Situations of Risk and Humanitarian Emergencies.’
2. Australia’s Disability Strategy 2021–2031.
3. Sendai Framework for Disaster Risk Reduction 2015–2030.
4. United Nations Office for Disaster Risk Reduction (UNDRR) Strategic Framework 2022–2025.
5. Local, state, territory and federal government emergency preparedness, response and recovery plans.

## 5. Summary of Recommendations

BCA makes the following recommendations:

1. The federal government should work with the states and territories to establish a Disability Disaster Management Centre (DDMC) within the National Emergency Management Agency (NEMA).
2. People who are blind or vision impaired should include a portable battery-powered AM/FM radio tuned to their local ABC station and new packet of spare batteries in their Emergency Pack.
3. Government officials at all levels must verbalise any emergency information presented on screen during media briefings.
4. Australia must adopt the new Web Content Accessibility Guidelines (WCAG 3.0) when they are released.
5. Governments at all levels must ensure that all emergency-related social media content is coupled with written information accessible to screen readers.
6. People who are blind or vision impaired should include a portable power bank in their Emergency Pack.
7. Emergency services personnel and volunteers who work at evacuation centres must receive disability awareness training, particularly as it relates to the unique needs of people who are blind or vision impaired.
8. People who are blind or vision impaired should take steps to protect their eye health during natural disasters and seek urgent medical care if ever they sustain an eye injury.
9. Governments at all levels must provide accessible versions of information and resources at the outset of any future communicable disease outbreak or pandemic.
10. Governments at all levels must ensure that disability-specific information, support and services are included in government planning and responses to outbreaks and pandemics.
11. Governments at all levels must ensure that public health warnings, information and associated technology are accessible from the outset of any future communicable disease outbreak or pandemic.
12. In future pandemics, governments, businesses and the community at large must show greater awareness of the challenges arising from mandatory check-ins and social distancing for people who are blind or vision impaired.
13. To develop accessible testing for the next pandemic, Australian governments should follow the best practice of international partners.
14. Governments at all levels must prioritise the accessibility of pandemic-related information and booking platforms for all Australians.
15. People who are blind or vision impaired should always seek urgent medical care if ever they experience a loss of vision.

## 6. Glossary of Key Terms

**Assistive technology –** any device, program, software, app, or mobility aid which assists a person with a disability to be able to undertake a function that they cannot do without the technology.

**Braille –** a writing system, which is tactile, consisting of formations using six tactile dots which are used to spell letters or contractions. There are also braille codes which enable braille readers to use mathematical and scientific symbols and read and write music notation. Braille can be accessed via embossed documents, or refreshable braille displays.

**Communicable disease outbreak** – a sudden rise in the number of cases of a disease usually caused by an infection, transmitted through person-to-person contact, animal-to-person contact, or from the environment or other media.

**Emergency event** – a natural disaster, communicable disease outbreak or mass casualty event.

**Emergency Pack** – a waterproof box in which items are stored for easy access during an emergency event.

**Emergency Support Circle** – a group of people prepared to help a person with disability during a natural disaster. This may include family members, friends, neighbours, support workers and/or medical professionals.

**Evacuation centre/shelter/facility** – a designated building specifically selected as a safer location not anticipated to be adversely affected by the natural disaster. These places provide affected people with basic essentials including accommodation, food and water.

**Flattening the curve** – a mitigation strategy that attempted to slow the spread of COVID-19 during 2020 and 2021, which relied on a visual depiction of active cases on the epidemic curve.

**National Emergency Management Agency (NEMA)** – the Australian federal government executive agency tasked with helping those affected by natural disasters, including droughts, bushfires and floods. It is an agency of the Department of Home Affairs.

**Natural disaster** – a natural event such as a flood, bushfire, cyclone, storm or earthquake that causes great damage or loss of life.

**Orientation and mobility (O&M) –** location or position of a person in a physical space (orientation) and that person's movement within that physical space (mobility).

**Pandemic** – a widespread occurrence of an infectious disease over a whole country or the world at a particular time.

**Person-Centred Emergency Preparedness (P-CEP)** – an approach which places people with disability and their support needs at the centre of emergency management.

**Personal protective equipment (PPE)** – anything a worker uses to keep themselves healthy and safe, including gloves, masks, face shields and eye protection.

**QR (Quick-Response) code** – a two-dimensional matrix barcode that can be scanned by smartphones. During the first years of the pandemic, shops and other venues required patrons to scan a QR code before entering.

**Screen reader –** a software program that renders the text and image content on a computer as speech or braille output.

**United Nations Office for Disaster Risk Reduction (UNDRR)** – the lead United Nations agency for the coordination of disaster risk reduction.

**Website Content Accessibility Guidelines (WCAG) –** the guide which sets out the standard for compliance with accessibility for all website content.

## Appendix

According to the Climate Council’s experts, the top 20 most at-risk federal electorates (and associated local government areas) to climate-related extreme weather events by 2030 are:

1. Nicholls (VIC) – Greater Shepparton, Moira, Campaspe, Mitchell, and parts of Strathbogie.

2. Richmond (NSW) – Tweed, Byron and Ballina.

3. Maranoa (QLD) – Diamantina, Longreach, Maranoa, Western Downs, Winton, and parts of South Burnett, Southern Downs and Toowoomba.

4. Moncrieff (QLD) – Parts of Gold Coast.

5. Wright (QLD) – Lockyer Valley and parts of Gold Coast, Ipswich, Logan, Scenic Rim and Southern Downs.

6. Brisbane (QLD) – Parts of Brisbane.

7. Griffith (QLD) – Parts of Brisbane.

8. Indi (VIC) – Wangaratta, Alpine Shire, Benalla and Strathbogie.

9. Page (NSW) – Parts of Ballina, Lismore, Richmond Valley and Clarence Valley.

10. Hindmarsh (SA) – Charles Sturt and parts of Port Adelaide Enfield and West Torrens.

11. Wide Bay (QLD) – Fraser Coast, Noosa Shire and parts of Gympie.

12. Lyne (NSW) – Mid-Coast and parts of Port Macquarie-Hastings, Port Stephens, Maitland and Dungog.

13. Parkes (NSW) – Parts of Western Plains Regional, Broken Hill, Narrabri, Moree Plains, Gunnedah, Warrumbungle Shire, Lachlan, Narromine, Cobar, Walgett, Gwydir, Coonamble, Gilgandra, Bourke, Warren, Bogan, Central Darling, Brewarrina and Unincorporated NSW.

14. Forde (QLD) – Parts of Logan and Gold Coast.

15. Ryan (QLD) – Parts of Brisbane City.

16. Moreton (QLD) – Parts of Brisbane City.

17. Fairfax (QLD) – Parts of Sunshine Coast.

18. Mallee (VIC) – Mildura Rural City, Swan Hill Rural City, Horsham Rural City, Central Goldfields, Northern Grampians, Gannawarra, Loddon, Yarriamback, and parts of Pyrenees, Buloke, Hindmarsh and West Wimmera.

19. Tangney (WA) – Parts of Gosnells, Melville and Canning.

20. Blair (QLD) – Parts of Brisbane City, Ipswich and Somerset.[[114]](#endnote-115)

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