



The Queensland flood disaster: Access for people with disability to phone services and emergency warnings

Report by the Australian Communications Consumer
Action Network

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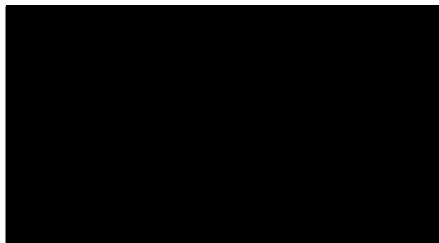


About ACCAN

The Australian Communications Consumer Action Network (ACCAN) is the peak body that represents all consumers on communications issues including telecommunications, broadband and emerging new services. ACCAN provides a strong unified voice to industry and government as consumers work towards availability, accessibility and affordability of communications services for all Australians.

Consumers need ACCAN to promote better consumer protection outcomes ensuring speedy responses to complaints and issues. ACCAN aims to empower consumers so that they are well informed and can make good choices about products and services. As a peak body, ACCAN will activate its broad and diverse membership base to campaign to get a better deal for all communications consumers.

Contact:





Introduction

The recent tragic events in Queensland have demonstrated many of the strengths and unfortunately some of the weaknesses of Australia's emergency services and warnings systems. This report explores one important dimension of our emergency management framework, namely access to emergency services and emergency information by people who have a disability, particularly those who are Deaf or have a speech or hearing impairment. One critical consequence of the inundation in Brisbane was that the National Relay Service (NRS), an essential phone service for this sector of the community, was disrupted throughout Australia for a period of almost 24 hours from 12 January 2011. During this period emergency service calls remained available to some, but not all, NRS users.

ACCAN hopes that some good can, however, come out of the disaster, with improved access to emergency call services and information for people with disability. This submission includes recommendations for a number of agencies, to improve access to emergency call services and information for people with disability.

Background

People who are Deaf, hearing-impaired or speech-impaired are unable to access telecommunications without specialised equipment and services. Since 1995, the Australian Government has overseen a National Relay Service (NRS) which enables people with these disabilities to conduct real-time conversations with other individuals, in most cases by using either specialised phone equipment (see "TTY" in glossary) or, more recently, the internet. The funding for the NRS is provided by a levy on eligible carriers.

The NRS offers a number of call types:

- Type and Read (for people who are Deaf and use a TTY)
- Type and Listen (for people with speech impairment who use a TTY)
- Speak and Read (for people who are hearing-impaired or Deaf and use a TTY)
- Speak and Listen (for people with speech impairment who do not use a TTY)
- Internet relay (a form of Type and Read which uses the internet rather than a TTY)

Crucially, the NRS also provides an emergency call service, 106, which is mandated alongside 000 and 112 as Australia's emergency service numbers. The 106 service can only be used by NRS customers who use a TTY (that is, it is not available to Speak and Listen or internet relay customers).

The NRS is currently provided by two separate organisations under contract to the Australian Communications and Media Authority (ACMA); the Australian Communication Exchange (ACE) which provides the relay call centre and WestWood Spice which provides the outreach aspect of the NRS, including training, helpdesk function and marketing.

More recently, in response to demand from the Deaf, hearing-impaired and speech-impaired communities, a number of other relay call types are being trialled.



ACE is currently trialling:

- a video relay service (VRS), in which Deaf callers can use their first language, Auslan (also known as Australian Sign Language), to make phone calls; and
- a captioned telephony service in which callers who are hearing-impaired use either the internet or a specialised handset to make real-time calls using their own speech.

Finally, the Minister for Broadband, Communications and the Digital Economy, Senator Conroy, announced in 2010 that a new service, emergency SMS, would be made available to people who are Deaf, hearing-impaired or speech-impaired, so that they could send text messages to police, fire and ambulance services via a mobile phone. Emergency SMS poses a number of technical problems, which are currently being investigated, prior to implementation, by the Department of Broadband, Communications and the Digital Economy.

Summary of recommendations

ACCAN proposes a number of recommendations, below, and suggests which agency should take the lead for each recommendation. However, we note that responsibilities for emergency services, warnings and calls are borne by a number of different agencies at both Federal and State level. Governments and agencies must work together to ensure the safety of Australians, including those with disability.

ACCAN recommends that the Australian Communications and Media Authority (ACMA) ensures that:

- The National Relay Service (NRS) emergency site is in a location which is less prone to floods (or other risks)
- Users of the NRS's internet relay and Speak and Listen services have guaranteed access to 000 at all times
- Users of ACE's Video Relay and captioned telephony services have guaranteed access to 000 and that these services are incorporated into the legal framework for emergency calls
- Greater legal and regulatory obligations are required of the 106 Emergency Call Person (ECP), in order to provide stronger protections for consumers
- Emergency service organisations can call back all 000 or 106 users, regardless of the method initially used to make contact
- All televised emergency announcements are open captioned

ACCAN recommends that State and Territory emergency agencies ensure that:

- All televised emergency announcements are simultaneously interpreted into Auslan
- ABC TV, ABC Online and SBS Radio, as well as ABC Local Radio (and other local radio stations, as well as pay TV stations which may be currently mandated) are mandated as Emergency Broadcasters



ACCAN recommends that Free TV, the ABC and the SBS ensure that:

- Auslan interpretations are included in emergency broadcasts
- Emergency broadcasts are open captioned
- Written information about emergencies (such as scrolling 'tickertape' or emergency phone numbers) must be made accessible to viewers who are blind or vision-impaired through the use of voiceover

ACCAN recommends that the Department of Broadband, Communications and the Digital Economy commit to:

- Implementing the SMS emergency service for Deaf, hearing-impaired and speech-impaired people as soon as practicable



Report on Queensland flood

Part A: Phone services

1. Emergency phone services for people with disability

All Australians, including Australians with disability, must have access to emergency call services. The failure to provide equitable access for people with disability constitutes discrimination under Australia's *Disability Discrimination Act 1992*, and contravenes the United Nations *Convention on the Rights of Persons with Disabilities*, to which Australia is a signatory.ⁱ

The *Telecommunications Act* is the primary legal instrument by which access to emergency services is legislated. Specifically, the definition of a standard telephone service includes a service for voice communications and its equivalent – an explicit recognition that people communicate using different technologies.ⁱⁱ This is strengthened by the legislative requirementⁱⁱⁱ that all Carriage Service Providers which provide a standard telephone service must provide free access to emergency services. Given that a standard telephone service by definition includes both voice and its equivalent, the requirement to provide access to emergency services should incorporate both voice and other form of communications (voice equivalents) to communications with emergency services.

The *Telecommunications Act* is designed to be technology-neutral; the requirement for access to emergency services must then also be technology-neutral, reflecting the range of ways which Australians may make emergency calls.

In practice, telecommunications providers meet these obligations by contributing to the levy on the eligible carriers which funds the National Relay Service. Telstra, as the Universal Service provider, also provides a Disability Equipment Program, and Optus too operates a small disability equipment scheme, and it is usually through these schemes that people who are Deaf, hearing-impaired or speech-impaired rent their TTYs. ACCAN has a number of concerns about these schemes, including that they are difficult or impossible to access unless the individual is a Telstra (or in some cases, Optus) customer; they only provide equipment for landline-type services as opposed to mobiles; and they rarely add new equipment to their programs. They are certainly an essential element of the way people with disability access emergency services, given that TTYs are the only way to contact 106. For other people with disability, however, equipment which may not be available via a carrier's Disability Equipment Program may be required: for example, a Deaf person may use a computer with webcam to call 000 via the Video Relay Service; or a person with complex communication needs (such as speech impairment and physical disability) may use a computerised speech output device to call 000 via Speak and Listen.

The Telecommunications (Emergency Call Services) Determination 2009 (amended in 2010) administered by the ACMA, sets out the responsibilities and obligations of the Emergency Call Persons, carriers and carriage service providers in relation to the provision of the Emergency Call Services.

Communications Alliance, which represents the telecommunications industry, has created a Code based on the Determination, the Emergency Call Service Requirements Code (ACIF C536:2003), which is registered with the ACMA and must be complied with by carriers and CSPs. This document places obligations on carriers and CSPs "in relation to their interaction with the key emergency call service stakeholders; customers, emergency service organisations, Emergency Call Persons and public number directory producers" (p4). This Code is currently being updated, with input from ACCAN as well as from ACE, the NRS relay provider.



2. Service disruptions to emergency calls

On 12 January 2011 the city of Brisbane was inundated with floodwaters and on this day the ACMA contacted ACCAN to advise that the floods had affected the National Relay Service's main and emergency sites. As a result there would be significant disruptions to the services provided by the National Relay Service right across the country. The ACMA advised that despite these disruptions the 106 service would continue.

In difficult circumstances the ACMA and the NRS, together with Telstra, worked to ensure that the 106 service remained available throughout the almost 24 hours that other NRS call types were offline. We congratulate these organisations on this achievement, which allowed people who are Deaf, hearing-impaired or speech-impaired and who use a TTY to make calls to fire, police or ambulance services.

The following NRS users, however, were unable to call emergency services at all during this period:

- Speak and Listen users (people with speech impairments who do not use a TTY), who normally call emergency services by calling the NRS on 1800 555 727 and then requesting 000.
- Internet relay users (people who are Deaf, hearing-impaired or speech-impaired and use a computer rather than a TTY), who normally call emergency services by connecting to the NRS's internet relay service and then requesting 000.

Both Speak and Listen and internet relay have been services provided by the NRS for some time (in the case of Speak and Listen, since 2000; in the case of internet relay, since 2007), yet users of these services do not have the same protections offered to users of 106 or direct callers to 000.

The NRS has always advised internet relay users that, unlike with 106 calls, their location information cannot be provided¹, and that they do not get priority call answering². However, many internet relay users do not now use (and some have never used) or even have a TTY. Changes in how Australians – and especially Australians with disability – use technology need to be recognised and accounted for in how emergency calls are handled.

Further, NRS users were not the only consumers with disability affected by the flood's impact on the NRS offices. The Australian Communication Exchange (ACE, the NRS relay provider) also provides two other relay services which are currently in trial. These two services are:

¹106 calls are made using a landline, which gives the emergency call person and emergency service organisation access to the caller's address, using the IPND, or Integrated Public Number Database. This facility is not currently available to calls using Voice Over Internet Protocol – VOIP - or mobile phones or calls made over the internet such as VRS or internet relay. ACCAN and others have submitted to the ACMA that it is essential that callers from these services should also have their locations known, and in fact the ACMA recently amended the Telecommunications (Emergency Call Services) Determination to reflect this, at least in relation to calls from mobile phones. ACCAN will continue to lobby the ACMA to include VOIP and other internet-based calls in the Determination's location requirements.

² 106 calls and Speak and Listen calls (given that any Speak and Listen call inbound to the NRS could potentially be a call to 000) are given priority over other NRS calls. "The call answer performance standard for 106 and speech-to-speech calls [Speak and Listen] requires that at least 99 per cent of calls are answered by a relay officer within 10 seconds (quarterly average)." (ACMA, 'NRS Report 2008-2009', http://www.acma.gov.au/webwr/assets/main/lib100096/nrs_report_2008-09.doc)



- Video relay, for consumers who are Deaf and use Auslan
- Captioned telephony, for consumers who are hearing-impaired and use either a CapTel phone or a computer accessing WebCapTel

Both of these services can provide access to 000 – and both of them were unavailable during the flood-related interruptions. Again, although these services are both in trial, it is essential that they remain accessible to calls to 000 – or, if not, that customers are informed clearly (and in the language of the service) that the services should not be considered an appropriate way to contact 000, and that consumers need to plan in advance other ways in which they can contact emergency services. Obviously, this is less than ideal, and the aim should be that ACE and the ACMA work towards guaranteed access to 000 via both of these services. ACCAN and other consumer bodies representing people with disability believe these services should be included in the improvements to the NRS foreshadowed by Minister Conroy in 2010.

Although the NRS and the ACMA worked hard to ensure continuing access to 106, users of the NRS Speak and Listen and internet relay services and the ACE Video Relay Service and captioned telephony services remained without access to emergency calls for almost 24 hours.

Finally, it is important to note that these outages affected NRS users across the nation, at a time when not only Queensland, but also a number of other states were being affected by natural disaster.

3. Future emergency services

The upcoming SMS emergency service too, though not a real-time service³ and therefore by definition a less reliable service than other forms of emergency access, will require clear information to consumers about the limitations (if any) of such a service. Nonetheless, the ACMA should put in place as many protections as possible for SMS emergency users.

Again, obligations under the *Telecommunications Act 1997*, the *Telecommunications (Consumer Protection and Service Standards) Act 1999*, the *Disability Discrimination Act 1992* and the *United Nations Convention on the Rights of Persons with Disabilities* mean that, ultimately, consumers must be able to make emergency calls, regardless of the technology used to do so.

4. 'Caller no response'

Under the *Telecommunications (Emergency Call Services) Determination*, the Emergency Call Person (ECP) has an obligation to minimise non-emergency or non-genuine calls to 000 (and 106). This is an important and necessary function, as a high incidence of non-emergency or non-genuine calls hinders the ability of the ECP to handle genuine emergency calls.

One call type to 000 is known as 'caller no response' calls, where a caller may have accidentally dialled 000 and does not respond to the ECP's query about which emergency service the caller wishes to contact. Under the *Determination*, the ECP minimises non-genuine caller no response calls by asking callers who do not respond verbally to this question to press the digits '55' to prove that they are a genuine caller (allowing callers who are unable to speak either due to disability or duress to contact emergency services). Callers who repeatedly fail to press '55' are usually disconnected.

³ That is, SMS messages can be stored rather than necessarily received in real time.



This 'call minimisation' method, however, has had the unforeseen effect of directly disadvantaging some genuine emergency callers. Consumers who use disability telecommunications services may need to call 000 directly if their usual disability telecommunications service is unavailable (such as during the recent outage) or indeed while awaiting the implementation of the SMS emergency service. People who are Deaf or hearing-impaired are, in these circumstances, at genuine risk of disconnection, and this risk is magnified by the fact that the caller is unlikely to be aware of the fact that they have been disconnected.

5. Service disruptions to non-emergency calls

Although 106 remained online, all other NRS and ACE relay services were unavailable during the 24-hour period associated with the Brisbane flood (and there was also a period of approximately three days after this, when the NRS was operating at less than full capacity, during which time callers were advised to consider delaying making calls).

The inability of all NRS/ACE users throughout Australia to make non-emergency calls during this time, though not as critical as the issues related to emergency calls, was nonetheless serious.

During the natural disaster in Queensland – and indeed in other states - consumers were advised to contact the SES for assistance. All NRS and ACE customers were unable to do so, thus putting both safety and property at risk. Some consumers in Queensland were unable to even send text messages via SMS to family and friends via mobile phone, due to disruptions to networks and electricity services. The inability to contact the SES created an even greater threat and sense of isolation for disaster-affected people with disability.

In order to avoid future disruptions to service provision, the NRS and ACE need to have emergency sites which have a different risk profile from the main site/s, in terms of electricity supply, telephone exchange and provider, staffing arrangements, and flood, fire and earthquake hazard. This may or may need locating the emergency site in a different city or state.

6. Communication with NRS/ACE users during periods of disruption

ACCAN applauds the ACMA, NRS and ACE for communicating with consumer and disability organisations early to inform them of the disruptions to services.

We recognise that information about the outage was distributed through networks - for example, ACCAN advised its members, both organisational and individual, and many other people and organisations learnt about the outage through personal networks in the Deaf, hearing-impaired and speech-impaired communities.

ACCAN notes, however, that some information circulated at this time was not all entirely consistent and we encourage the ACMA, NRS and ACE to rationalise information where possible. ACCAN is happy to assist in 'spreading the word' around future urgent communications relating to relay services.

Finally, we have congratulated the ACMA for ensuring that information about the disruption to the NRS was provided in Auslan^{iv}, and indeed it was impressive that information was also provided in Auslan about the resumption of NRS services.

It would be useful if the NRS's future emergency communications plan committed to providing information in Auslan within a certain period of time from the point at which information is known,



and that it is made clear – including to NRS users – which website (that is, ACMA's, the NRS's, ACE's, a Deaf Society's) will be updated with important or urgent information in Auslan (and in English).

Recommendations:

1. **The Telecommunications (Emergency Call Services) Determination requires amendments to ensure that users of the NRS's Speak and Listen and internet relay services have the same protections as 106:**
 - a. NRS relay officers for Speak and Listen and internet relay call must have Emergency Call Person status
 - b. There must be emergency call handling requirements on the ECP, and on the initial caller's carrier, carriage service provider and/or internet service provider, in order to avoid situations such as where a consumer whose phone or internet service has been restricted being unable to make an emergency call, callers being put on hold by the NRS because their call has not been given priority, or – as we experienced during the floods – callers being unable to make emergency calls because priority is not given to ensuring access to internet relay or Speak and Listen in a crisis.
2. **Caller no response emergency calls must be handled in a way that does not discriminate against people with disability.** ACCAN looks forward to resolving this matter via ACMA's Emergency Call Service Advisory Committee.
3. For the purposes of the Telecommunications (Emergency Call Services) Determination, the ACMA should acknowledge that **VRS is a location-independent communications service** which connects with the PSTN (public switched telephone network), given that it requires that the video interpreter call the hearing party (in this case, Triple Zero) via the PSTN^v. This would require Carriage Service Providers (CSPs) to supply an emergency telephone service to VRS users, under sections 13 and 14 of the Determination.
4. Recognising that this would require a change in policy, ACCAN recommends that the ACMA considers **expanding the definition of a location-independent communications service to include data transmission over a public mobile telecommunications device** so that SMS emergency can be included.
5. The NRS Relay provider (ACE) needs to **rethink the location of its emergency site**. We understand that ACE has an emergency site, and that the two sites use separate servers, phone exchanges and electricity exchanges. Obviously, the secondary site was well considered and of course it is not possible to predict all potential risks with certainty; however, given that the recent floods appear to have threatened staff safety at, or access to, both sites, it is clear that further considerations need to be taken into account.
6. **The SMS emergency service announced by Minister Conroy in April 2010^{vi} needs to be established as soon as possible.** ACCAN appreciates that there are a number of technical and costing issues to be overcome; nonetheless, such a service (while it cannot guarantee the same level of utility and reliability as Triple Zero and 106) is, for many people with disability, the only way of contacting emergency services, especially when away from home. ACCAN would be happy to work with the Department of Broadband, Communication and the Digital Economy, the ACMA, the NRS and disability organisations to develop ways to ensure that consumers understand the use and limitations of the SMS emergency service.
7. Although there are agreements between the 106 Emergency Call Provider (ACE) and the Triple Zero Emergency Call Provider (Telstra), ACCAN would appreciate further information from the ACMA on how these agreements offer strong protections to consumers, given that



both entities are private entities. ACCAN's preference is for the ACMA to institute legal and regulatory protections for consumers of current NRS services such as 106, Speak and Listen and internet relay (and potentially future NRS emergency services). For example, the ECP for 106 (and, by extension, for Speak and Listen and internet relay emergency calls) should be covered by the same obligations required under Division 3.1, paragraph 35 of the Telecommunications (Emergency Call Services) Determination (which governs the Triple Zero ECP's obligations in relation to call minimisation requirements), in order to ensure that consumers with disability receive the same minimisation protections provided to consumers of Triple Zero. Similarly, Division 4.1, paragraphs 38 and 45, which provide protections for consumers of 000 in regards to access by the 000 ECP to the Integrated Public Number Database Scheme, should be amended to include the 106 ECP (and, by extension, Speak and Listen and internet relay calls), to provide these same protections for callers with disability.

8. ACCAN believes that it is imperative that the issue of emergency call-back capacity – including to consumers who make emergency calls via mobile phones (voice or SMS), VOIP, TTY-based relay services, Speak and Listen relay service, internet relay, and even captioned telephony and video relay - be specifically addressed by the ACMA as part of the issue of enhanced mobile location information. The ability of emergency services to call back a consumer in the event that the consumer is disconnected is absolutely essential to ensure consumer safety. For some relay consumers, registration may be required to allow a call-back. It appears that the only mention of call-back capacity in the ACMA's 'Mobile location information – location assisted response alternatives' document was on p20, in relation to overseas approaches to enhanced MOLI. This is an issue which deserves further attention.



Part B: Emergency warnings and information

1. Emergency announcements

1.1 Information in Auslan

ACCAN was delighted to see Auslan/English interpreters working at Premier Bligh's emergency-related press conferences. We were, however, disappointed to learn that these interpreters were working as volunteers, coordinated pro bono by Deaf Services Queensland, itself a not-for-profit organisation severely affected by the floods.

Australia's Deaf community uses Auslan as a first or preferred language. Although some Deaf people are also fluent in English (written and/or spoken) this is certainly not the case for many Deaf people.

For this reason, the United Nations *Convention on the Rights of Persons with Disabilities* requires that governments take "all necessary measures" to protect the safety of persons with disability^{vii} and that this information should be provided in accessible formats, including sign language^{viii}.

Compliance with the Convention demands that governments take responsibility for the provision of emergency information in accessible formats. In the case of the Queensland floods, for example, the State Government should have included the hiring, briefing and coordination of NAATI-accredited^{ix} professional Auslan/English interpreters for televised emergency information.

Broadcasters too must accept their responsibilities under the Disability Discrimination Act, and ensure that Auslan/English interpreters provided at such press conferences are included in the broadcast. Consideration should also be given by broadcasters to themselves hiring Auslan/English interpreters to provide 'box' interpreting of news broadcasts, by using 'open' interpreting which is seen by all viewers in a 'box' in a corner of the screen, or, with the advent of digital TV, by using 'closed' or even 'avatar' interpreting⁴, which would allow Deaf viewers to watch the Auslan interpretation by opting in to watch the interpretation.

1.2 Information in English: captions and voice-over

Another accessible format which is required is captioning, which are like subtitles, but which also provide information on music and sound effects which a person who is Deaf or hearing-impaired would otherwise miss. Captioning can be open (visible to all viewers) or closed (visible only to those who 'turn on' the captions).

Almost 20% of the Australian population has a hearing impairment, with the number set to rise^x. Many of these individuals require captioning in order to fully understand televised information. Although closed captioning is mandated for news and current affairs on main channels (but not on digital multichannels), these are not always switched on in the person's home, and only very rarely in public places such as hospitals, airports and hotels, where access to captioning is beyond an individual viewer's control. It is therefore essential that emergency information be **open captioned** and therefore accessible to any viewer, whether or not they have access to closed captions or whether this access feature is switched on.

Finally, people who are blind or vision-impaired do not have access to written information on screen (such as scrolling flood warnings or emergency numbers, for example); it is essential that any such information also be provided using voice-over.

⁴ Royal National Institute for Deaf People, 'Sign Language on Television', http://www.rnid.org.uk/howwehelp/research_and_technology/communication_and_broadcasting/signing_on_television/



2. Emergency information

ABC Local Radio plays an essential role in communicating emergency information as the Emergency Broadcaster.

'Broadcasting', however, implies more than radio. For the near 20% of the population with a hearing impairment, radio is either inaccessible, or an inefficient and ineffective method of receiving vital and urgent information.

The ABC's web pages currently provide some good emergency information, but it is difficult to find and, given that the website is not a mandated Emergency Broadcaster, may not always be accurate.

If ABC TV and ABC online were to be mandated as Emergency Broadcasters, accurate and up-to-date emergency information would be accessible to a much greater number of Australians.

ACCAN also notes that people from non-English speaking backgrounds may also encounter barriers in receiving up-to-date emergency information, and we therefore recommend that SBS radio also be mandated as an Emergency Broadcaster.

Recommendations:

9. **Government emergency plans must include the hiring, briefing and coordination of professionally accredited Auslan/English interpreters for the purposes of interpreting televised emergency-related press conferences, emergency warnings and emergency information.**
10. **FreeTV Australia, the ABC and the SBS must commit to including these interpreters in all emergency broadcasts**
11. **All emergency broadcasts must be open captioned**
12. **All emergency broadcasts which include written information must provide that same information using voice-over**
13. **ABC TV, ABC online and SBS Radio must be mandated as Emergency Broadcasters, and this needs to be marketed strongly to the Australian public, particularly to older Australians, Australians with disability and Australians from a non-English speaking background.**

Conclusion

ACCAN is committed to improving the information and communications environment for all consumers with disability, particularly in relation to emergency issues. We strongly recommend that the relevant government and regulatory bodies – the ACMA, Attorney-General's Department and State Governments, working alongside private entities such as ACE, FreeTV, the ABC and the SBS, where necessary - incorporate ACCAN's recommendations in an effort to protect the safety and inclusion of Australians with disability.

As the peak body representing consumer issues in the information and communications sector, we are well placed to consult in the development and implementation of these recommendations. As such, we are happy to be available in this capacity to provide any further assistance.



Definitions

Captioned telephony – handset	A way of making and receiving phone calls using a special phone which has a screen. The user speaks for themselves, but a relay officer creates ‘captions’ in real time so that the user can read on the screen what the other person says. Unlike NRS calls, the relay officer re-speaks what the other person says, and speech recognition software translates this into captions (rather than the relay officer typing what the other person says). Currently in trial form using CapTel handsets under the Australian Communication Exchange (ACE) with plans to become a trial under the NRS. Available for both outbound and inbound calls.	Used by people with hearing impairment
Captioned telephony - web	Similar to captioned telephony with handset, but the user makes a phone call using a regular phone, and views the captions via the internet. Currently in trial form under ACE using web-based captioned telephony. Available for both outbound and inbound calls; however, for inbound calls, customer must be awaiting the call with both a regular handset and web access available.	Used by people with hearing impairment
Internet relay	A type of National Relay Service call in which the user contacts the NRS using the internet from a computer or smartphone (via the NRS website or instant messaging) and the NRS relay officer relays the call to a landline, mobile phone or TTY. Currently available for outbound calls only.	Used by people who are Deaf, hearing-impaired or speech-impaired (including those with complex communication needs)
National Relay Service (NRS)	An Australia-wide relay service, funded by a levy on eligible carriers, which enables real-time phone calls between people who are Deaf, hearing-impaired or speech-impaired, and those in the wider community. The NRS is currently provided by contract to the ACMA by the Australian Communication Exchange	Used by people who are Deaf, hearing-impaired or speech-impaired, and people in the wider community to contact these groups



	(ACE) and WestWood Spice.	
TTY	Also known as telephone typewriter or textphone; a specialised telephone which includes a keyboard and screen.	
Video relay service, or VRS	<p>A type of telephony whereby the user signs in Auslan (Australian Sign Language), using Skype via a computer or, possibly, smartphone, to an interpreter, who relays what the caller says in spoken English to a hearing person who is using a landline or mobile phone. The interpreter then interprets the spoken English of the other party into Auslan. Available for both outbound and inbound calls; however, for inbound calls, customer must be awaiting the call, with web access available.</p> <p>VRS is not currently provided by the NRS but is being trialled by ACE.</p>	Used by Deaf people.

References

ⁱ United Nations, 'Convention on the Rights of Persons with Disabilities and Optional Protocol', <http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>; Article 9 – Accessibility

ⁱⁱ *Telecommunications (Consumer Protection And Service Standards) Act 1999* - Section 6, http://www.austlii.edu.au/au/legis/cth/consol_act/tpassa1999620/s6.html

ⁱⁱⁱ *Telecommunications Act 1997* - Schedule 2, http://www.austlii.edu.au/au/legis/cth/consol_act/ta1997214/sch2.html

^{iv} Australian Communications Consumer Action Network, 'Australia's Deaf community congratulates and thanks the Queensland Government and the ACMA for Auslan-interpreted flood updates', 14 January 2011, <http://accan.org.au/blog.php?date=2011-01>

^v Australian Communication Exchange, 'ACE Video Relay Service', http://www.aceinfo.net.au/index.php?option=com_content&view=article&id=5&Itemid=16

^{vi} Senator S. Conroy, 'Address to CommsDay Summit', April 20 2010, <http://www.minister.dbcde.gov.au/media/speeches/2010/006>

^{vii} United Nations, 'Convention on the Rights of Persons with Disabilities and Optional Protocol', Article 11 - Situations of risk and humanitarian emergencies, <http://www.un.org/disabilities/default.asp?id=271>

^{viii} United Nations, 'Convention on the Rights of Persons with Disabilities and Optional Protocol', Article 21 - Freedom of expression and opinion, and access to information, <http://www.un.org/disabilities/default.asp?id=281>

^{ix} National Accreditation Authority for Translators and Interpreters, Accreditation Standards for Translators and Interpreters in Australia, <http://www.naati.com.au/at-accreditation.html>

^x Access Economics, 'Listen Hear: The Economic Impact And Cost Of Hearing Loss In Australia', February 2006, <http://www.audiology.asn.au/pdf/ListenHearFinal.pdf>