



## **Senate inquiry into hearing health in Australia**

Two vital technologies that will bridge the gap for Deaf and hearing impaired Australians

### **Relevance to inquiry**

This submission addresses the extent and costs of hearing impairment in Australia and the adequacy of access to hearing technologies.

### **About Australian Communication Exchange (ACE)**

Australian Communication Exchange is a dynamic and innovative not-for-profit Australian organisation. We have been delivering the relay service component of the National Relay Service for almost 15 years, under a contract with the Commonwealth. We have over 100 staff who relay calls for the Deaf, hearing impaired, speech impaired and the hearing. However, ACE recognises that there are other communication solutions available. We look for new ways to meet the changing communication needs of our communities.

### **ACE Vision**

Access to Communication for Everyone

### **ACE Mission**

ACE is a partnership between people who are Deaf, communication or hearing impaired and the hearing. We are united by our determination that people who are Deaf or are communication or hearing impaired will have access to all forms of communication of their choice. At ACE we will achieve this by facilitating and providing services to meet the changing needs of the partnership

### **In this submission**

- Existing gap in technology for Deaf and hearing impaired Australians
- Social and economic impact of hearing loss
- Hearing loss and the telephone
- The importance of equal access to telecommunication services
- Two key technology solutions that provide the equivalent of a standard telephone to Deaf & hearing impaired Australians
- Action required

### Existing gap in technology for Deaf and hearing impaired Australians

Approximately 200,000 Australians are Deaf or have a hearing impairment, and a further 3 million Australians have an acquired hearing loss through age or industrial deafness (Access Economics, Listen Hear Report 2006; Straterjee Analysis, 2008). Despite the growing number of Australians with a hearing loss, this group is provided with a communication medium that is outdated and slow. In fact, many Deaf and hearing impaired Australians currently utilise a text communication tool that is only slightly faster than Morse code.

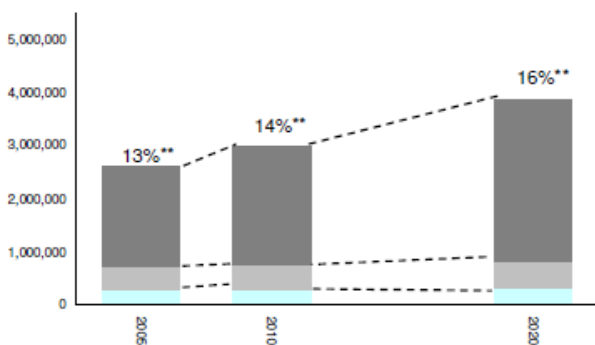
In 2008, ACE examined the different communication needs and wants for Australians who are Deaf or hearing impaired, or who have acquired hearing loss.

	Deaf	Hearing Impaired	Acquired hearing loss
<b>Core needs</b>	- Communication not primarily based on hearing the voice of the other party	- Communication not always based on hearing the voice of the other party	- Additional communication not based on hearing voice of other party
<b>Wants</b>	- Communication in Auslan, speech and/or lip-reading - Two sub markets: those who prefer only Auslan and those who are comfortable with both Auslan and English (in part driven by education/upbringing)	- English preferred language - Technology that allows user to speak directly but has supplementary text or video in other direction	- Normalisation, simulate lost ability to hear - Most acquired hearing loss occurs in adulthood so English is preferred language - Preference for supplementary text

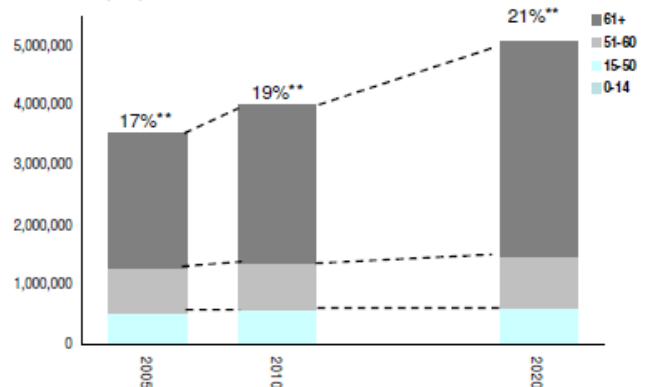
Source: NRS Customer Satisfaction Research 2008, Association Journals

The analysis also revealed the extent to which hearing loss impacts older Australians:

**BETTER EAR HEARING LOSS > 25dB - PROJECTIONS BY AGE**  
Number of people affected \*



**WORSE EAR HEARING LOSS > 25dB - PROJECTIONS BY AGE**  
Number of people affected \*

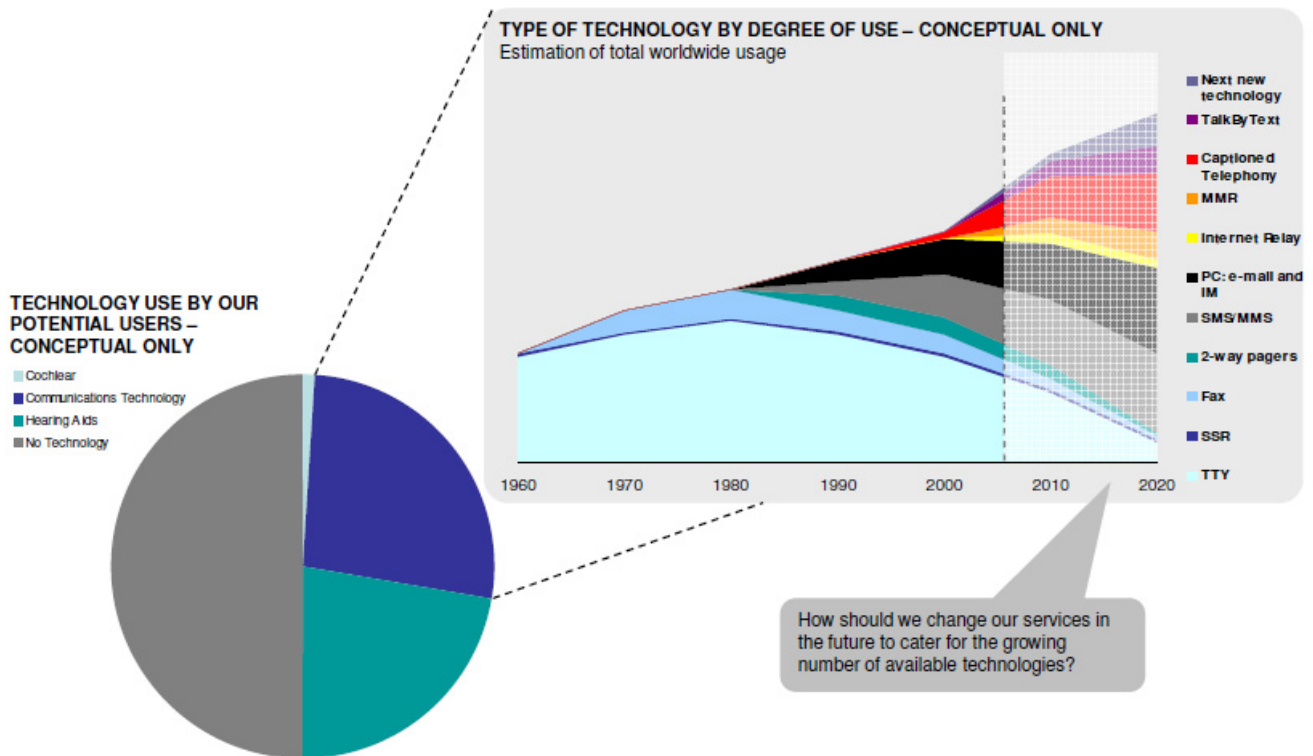


NB: >25dB is the World Health Organization (WHO) definition of hearing loss

- Trend affects two of our user groups – hearing-impaired and ageing
- Total number of people with hearing loss growing considerably with an expected increase of 32% between 2005 and 2020, primarily driven by the baby-boomers
- By 2020 almost all baby-boomers will be part of the ageing user group

\* Numbers include those with mild, moderate and severe hearing loss  
 \*\* Percentage of projected population with hearing loss  
 Source: Access Economics Listen Hear! Report, Straterjee analysis

The range of technologies available for the hearing impaired is becoming more diverse but in Australia, many don't have access to technologies that are available worldwide. Indeed, ACE estimates that over half of the Australians experiencing hearing difficulties are not seeking any technological assistance:



Source: US trends, Association Journals

Independent research has shown that those who experience hearing loss and do not receive suitable assistance choose to withdraw from society. This has far-reaching social and economic impacts for Australia.

## Social and economic impact of hearing loss

### Social impact

There is no doubt that hearing loss can become a barrier for many people. However, it is not to be assumed that individuals with lower levels of hearing are necessarily more handicapped than those with superior levels of hearing. In 2008, ACE commissioned an independent report on health-related quality of life, hearing loss and the value of assistive technologies (Professor Luke B Connelly, Professor of Health Economics and Director of Australian Centre for Economic Research on Health UQ). The report examined quality of life impacts for both Deaf and hearing impaired people.

In terms of social impacts, the report highlighted a significant difference between the experiences of Deaf and hearing impaired people and showed that high degrees of hearing loss do not necessarily correlate with low measures in health related quality of life.

People who are born severely to profoundly deaf may grow up in or later join the Deaf Community. Within the Deaf Community deafness is understood as a cultural-linguistic experience.

This group would define the social consequence of hearing loss in terms of reduced social participation in the broader community and encounters the impact of this in terms of socio-economic loss and reduced social interactions rather than perceiving it as a burdensome disease (Access Economics 2006, Listen Hear Report).

It is now understood that the degree to which a hearing loss affects health-related quality of life is highly related to the consequences that a hearing deficit has on individual's daily activities (for example, does it restrict their participation at home, at work or at leisure). The findings of a mental distress and quality of life study, showed that:

... the hard of hearing tend to have more restricted social lives than those with complete prelingual deafness, as the latter are part of a supportive deaf culture using sign language, while those that are hard of hearing may be cut off from others by their disability and struggle to survive in a culture of those with normal hearing (J. Fellinger, D. Holzing, U. Dobner, J. Gerich, R. Lehner, G. Lena & D. Goldberg. Mental distress and quality of life in a deaf population. *Soc Psychiatry Psychiatr Epidemiol*, 40(9): 737 – 742, Sep 2005).

There is now a substantial body of literature to show that acquired hearing loss does result in serious limitations for a person's daily living activities and frequently leads to psychological problems which reduce their health related quality of life.

[The potential] consequences of hearing loss experienced by older adults include altered psychological behaviour; strained family relations; limited enjoyment of daily activities; jeopardized physical well-being; interference with the ability to live independently and safely; interference with long-distance contacts on the telephone (potentially jeopardizing safety and security); interference with medical diagnosis, treatment and management; and interference with compliance with pharmacologic regimens (P. B. Kricos. Hearing assistive technology considerations for older individuals with dual sensory loss. *Trends Amplif*, 11(4):273–279, Dec 2007.).

Moreover, there is also evidence to show that spouses of people with acquired hearing loss also suffer from poorer psychological, physical and social wellbeing. This effect is stronger for the wives of men with hearing loss than it is for the husbands of women with hearing loss (M. I. Wallhagen, W. J. Strawbridge, S. J. Shema, and G. A. Kaplan. Impact of self-assessed hearing loss on a spouse: a longitudinal analysis of couples. *J Gerontol B Psychol Sci Soc Sci*, 59(3):S190–S196, May 2004).

Another common theme is that older people with acquired hearing loss hide their handicap and are disinclined to admit they could benefit from assistive devices such as hearing aids (J. Jerger, R. Chmiel, N. Wilson, and R. Luchi. Hearing impairment in older adults: new concepts. *J Am Geriatr Soc*, 43(8):928–935, Aug 1995). There are often feelings of shame and low self-worth as well as using avoidance strategies to cope with the underlying disability (P. C. Kerr and R. I. Cowie. Acquired deafness: a multidimensional experience. *Br J Audiol*, 31(3):177–188, Jun 1997). Social isolation can become a way of coping with interaction problems in social settings, and this can lead to anxiety and depression problems (A. Hogan. Hearing rehabilitation for deafened adults: a psychosocial approach. Taylor and Francis, London, 2001).

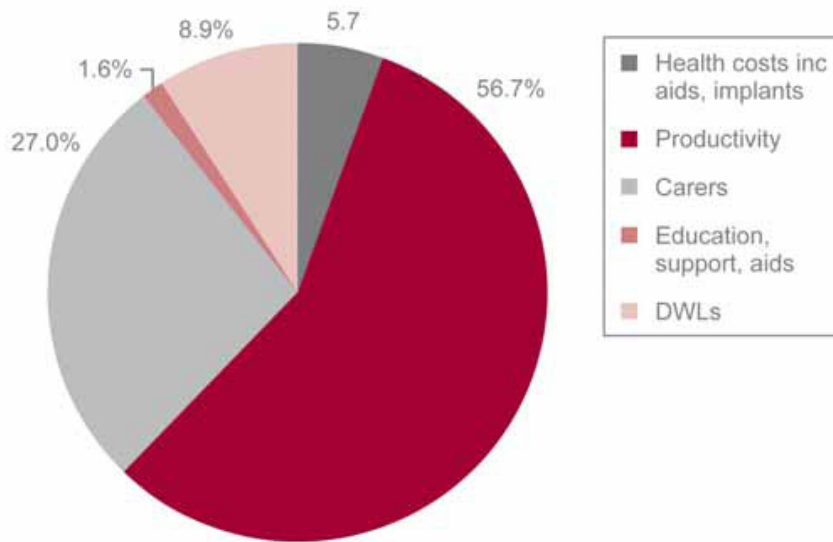
Deaf people who use sign language are also at a higher risk of mental illness and mental distress in comparison to the hearing population. A study of 236 deaf people who use sign language, found that they reported significantly lower levels of health-related quality of life than the general population and high levels of emotional distress (J. Fellingner, D. Holzinger, U. Dobner, J. Gerich, R. Lehner, G. Lenz, and D. Goldberg. An innovative and reliable way of measuring health-related quality of life and mental distress in the deaf community. *Soc Psychiatry Psychiatr Epidemiol*, 40(3):245–250, Mar 2005).

### **Economic impact**

There are two important economic impacts associated with hearing loss. Firstly, people with a hearing loss are less likely to earn higher incomes and have lower employment rates. Secondly, those who experience hearing loss are more likely to retire early. The report which highlights this is the Access Economics (2006) Listen Hear – The Economic Impact and Cost of Hearing Loss in Australia.

Access Economics highlighted that people with a hearing loss are 25% less likely to be earning high incomes than people without hearing loss (South Australian Health Omnibus Data, 1994). People with hearing problems are also 6.8% less likely to be in paid work (South Australian Health Omnibus Data, 1994). For people with hearing problems, aged 15-64, 12.1% reported being retired versus 4.3% of people without hearing problems (South Australian Omnibus Data, 1994).

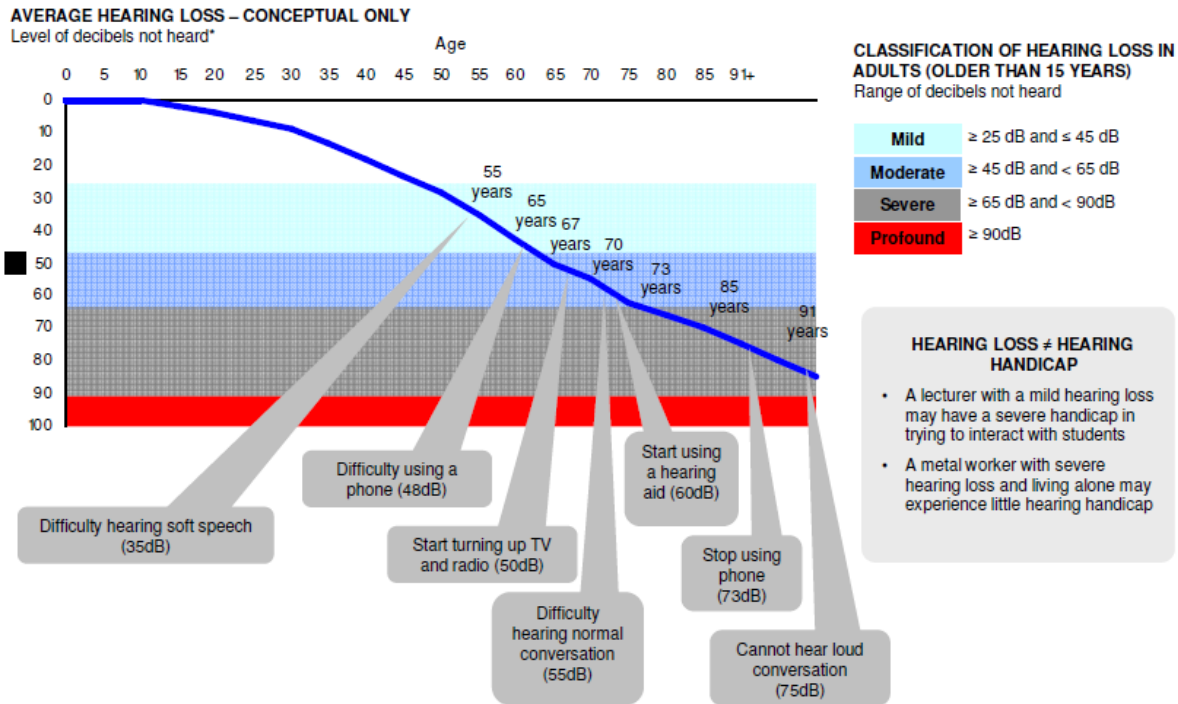
Access Economics also outlined the overall financial cost that hearing loss has for Australian in terms of health costs, productivity costs, carer, education support/aids and deadweight losses. Ultimately, the real financial cost of hearing loss is \$11.75 billion or 1.4% of GDP per annum.



Source: Access Economics 2006, Listen Hear Report

### Hearing loss and the telephone

The graph below highlights that telephone usage becomes difficult for those with mild hearing loss and particularly around the age of 65 years.



Source: Access Economic Listen Hear! Report, Australian Hearing, ACE estimates

There are approximately three million Australians who have difficulty using the telephone because they are hearing impaired. While the sms, email and instant messaging can provide alternative ways of making contact, nothing replaces the need to phone colleagues, families, friends and key services. The telephone is still an essential communication device in the workplace, to make appointments and to get emergency assistance. The Australian Communication Exchange is trialling new technologies that can provide improved and equal access to telecommunication services.

### The importance of equal access to telecommunication services

ACE believes that introducing two key technologies will dramatically improve telecommunication access for both Deaf and hearing impaired Australians and that this will have the following benefits for Australia;

- **Access to key services** – Improved telephone access enables greater servicing at homes, reducing stress on key state services such as health and welfare. These technologies will also allow commerce to service customers through the lower cost telephone channel.
- **Savings to health** - The real financial cost of hearing loss is \$11.75 billion or 1.4% of GDP per annum (The Economic Impact and Cost of Hearing Loss in Australia, Access Economics, 2006). The total burden of different health issues to the Australia, has age-related hearing loss in fourth position in the overall category of non-fatal conditions, just in front of asthma (The Australian Institute of Health and Welfare, The burden of disease and injury in Australia, 2007).
- **Economic benefits** – People who can confidently use the telephone can remain actively engaged in the economy for longer as both a consumer and an employee. This will provide additional tax revenue to the Government.
- **Social benefits** – The telephone is a key communication tool for staying in contact with family and friends. In particular, the ageing population will see various emotional and mental health benefits (further reducing health and welfare costs).
- **Rural benefits** – The new technologies will allow Australians in rural and remote areas to receive the functional equivalent of the standard telephony that hearing users enjoy. This will improve their connections to key services, families and friends.
- **Emergency services** – Equal access to the telephone is vital to maintain connectivity to 000 emergency services.



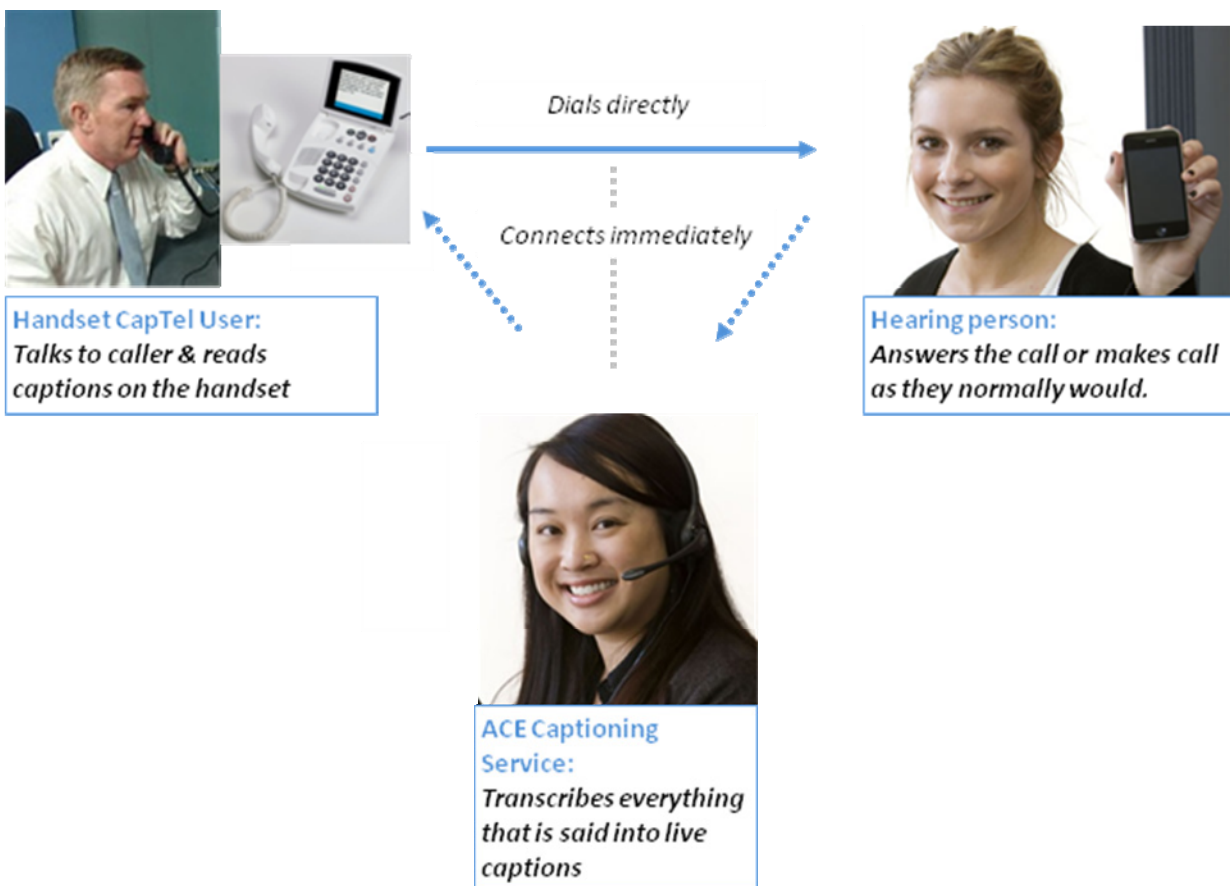
## Two key technology solutions that provide the equivalent of a standard telephone to Deaf & hearing impaired Australians

There are 21<sup>st</sup> century advances in technology that will enable both Deaf people who use Auslan and people who have lost their hearing in later years, to gain fair and equal access to Australian telecommunication networks.

Australian Communication Exchange (ACE), alongside peak Deaf and hearing impaired consumer bodies, is proposing two new technologies that will give more Australians equal access to important communication services. The two cutting-edge technologies that are already available to Deaf and hearing impaired people in other countries, but not in Australia, are:

### 1. CapTel

Captioned telephony (CapTel) is ideal for people with a hearing impairment or acquired hearing loss, because it works like any other telephone with one crucial addition: the captioned telephone displays every word the caller says throughout the conversation. The user can speak as they would on a normal phone, they listen to as much of the phone conversation as possible, but they can also read what the other person is saying in the telephone display window or on their computer screen.



US testimonials:

- "I love this phone. It's like gaining part of my independence."
- "CapTel makes a huge difference both in my husband's professional and private life. Communicating over the phone would be impossible without it."
- "Our CapTel phone has improved the quality of our retirement considerably."

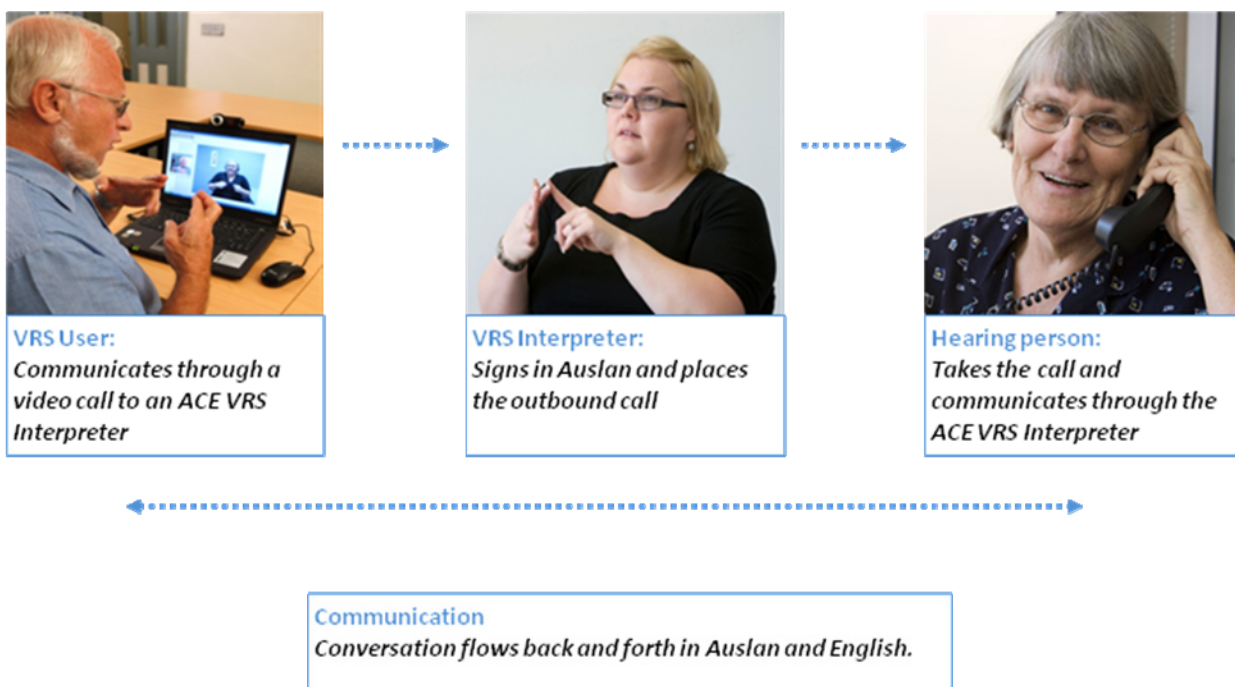
- “Without the CapTel phone, I wouldn’t speak to anybody. It gives me contact again.”
- “Thank you for making it possible to maintain contact with my family and friends.”

Australian testimonials from the ACE Web CapTel trial:

- “I am using the new Web CapTel and its great, miles miles better and other people like receiving calls from it.”
- “I registered with Web CapTel for my 15 year old daughter who has a hearing impairment. Before today, she has never made a phone call. We are really enjoying trying this out.”
- “It is so lovely to be able to talk to my son rather than communicating through text. I have only had 2 or 3 conversations but it makes such a difference.”

## 2. Video Relay Service (VRS)

Video Relay Service is an online interactive video teleconferencing service. A Deaf person can use VRS to make and receive phone calls from a hearing person. The video service is a fast and effective way for the Deaf to communicate in their first language - Auslan.



Australian testimonials from the ACE VRS trial:

- “I wish to convey my sincere appreciation with the ACE VRS pilot. I have found them to be friendly and easy to use and very efficient. I have already made a couple of calls and was surprised how easy it is to use, and the conversation flow is nothing compared to what we normally use with TTY and is much quicker.”
- “When I heard about ACE VRS, I quickly had a look and tried it out. It was the best thing ever, and I felt so much better about making phone calls to employers or agencies relating to employment as a professional. I am able to see/connect to emotions which makes me feel more connected in my role and with the person I am conversing with.”

Both CapTel and VRS services are user-friendly communication solutions that will provide this part of our community with crucial connectivity to work colleagues, friends, family and 000 emergency services. VRS will provide Deaf people who use sign language (including those in regional and rural areas), with a functionally equivalent telecommunication service that is enjoyed by all other Australians.

After extensive engagement with the Deaf and hearing impaired communities, ACE has invested \$2 million to pilot these two vital technologies. ACE is facilitating access to these communication options to demonstrate the technology appropriateness for all Australians who are Deaf or have a hearing impairment. ACE launched the first Australian VRS pilot in November, 2008. The pilot will last for two years but already over 200 users have signed up and ACE has doubled the availability of Auslan interpreters. Users are reporting that the service is faster, more natural and provides them with a way to finally communicate both emotions and content. The ACE Web CapTel pilot was launched in October, 2009 and within one month, hundreds of Australians have requested to be part of the trial.

### Action required

The *Disability Discrimination Act 1992* and the *Telecommunications (Consumer Protection and Service Standards) Act 1997* provides for all people in Australia to have reasonable access to the standard telephone service which includes the supply of necessary equipment for people with a disability and continually improving the service available. Current federal legislation does not allow the above solutions to be quickly integrated into the existing National Relay Service. The peak Deaf and hearing impaired consumer bodies advocating for these services, are calling for policy and legislative changes to bring equality to Australian telecommunication services.

### Further information

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