

**SENATE INQUIRY INTO HEARING HEALTH IN
AUSTRALIA**

**SUBMISSION FROM AUSTRALIAN HEARING
OCTOBER 2009**



TERMS OF REFERENCE

1. The extent, causes and costs of hearing impairment in Australia
2. The implications of hearing impairment for individuals and the community
3. The adequacy of access to hearing services, including assessment and support services, and hearing technologies
4. The adequacy of current hearing health and research programs, including education and awareness programs
5. Specific issues affecting Indigenous communities

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EXECUTIVE SUMMARY – KEY ISSUES AND IMPACTS

1. EXTENT, CAUSES AND COSTS OF HEARING IMPAIRMENT IN AUSTRALIA

- One in six people in Australia has a hearing loss
- The most significant cause of hearing loss in Australia is exposure to loud noise. Thirty seven per cent of the adult population have had their hearing affected to some degree by noise
- Hearing loss is also associated with ageing. With the ageing of the Australian population, hearing loss is projected to increase to one in every four Australians by 2050¹
- Hearing loss costs Australia almost \$12 billion a year.¹

2. THE IMPLICATIONS OF HEARING IMPAIRMENT FOR INDIVIDUALS AND THE COMMUNITY

- Hearing loss isolates people from those around them and can lead to depression, anxiety, paranoia, exhaustion, loss of intimacy and anger¹³
- If the person cannot hear or communicate easily it can reduce the opportunity to participate equitably in the community.

3. THE ADEQUACY OF ACCESS TO HEARING SERVICES, INCLUDING ASSESSMENT AND SUPPORT SERVICES, AND HEARING TECHNOLOGIES

Australian children with hearing loss receive services and devices through the Australian Government Hearing Services Program at no cost to families. The services provided are good quality and the standard of service provided is consistent across Australia. The Australian system for providing services to children is highly regarded throughout the world.

However there are a number of factors that currently impact on the adequacy of access to hearing services.

- Limited access to primary and secondary level hearing assessment services, particularly for children aged under three years
 - This may potentially delay diagnosis of hearing loss leading to a reduction in the efficacy of subsequent intervention
 - Delays in access to service for children who may need referral for Ear Nose and Throat (ENT) management of chronic middle ear disease.
- Access to hearing aid technology for individuals who are not eligible for the Australian Government Hearing Services Program
 - Individuals on low income (often due to the presence of a hearing loss) may be unable to afford appropriate hearing aid technology to maintain or improve their education or employment status.

- Access to updated or replacement cochlear implant technology for individuals over 21 years of age
 - Individuals on low income who have obtained a cochlear implant through a publicly funded program may be unable to afford to replace the speech processor when it is lost or unable to be repaired.
- Access to hearing services is limited in some rural and most remote areas of Australia
 - People with hearing loss, particularly those in remote Indigenous communities, who do not meet the eligibility criteria for the Australian Government Hearing Services Program have to access services from another provider even though Australian Hearing may be at the community providing services to eligible clients. People may need to travel some distance to access a private provider.
- Limited financial support for clients who need to travel for audiological services
 - People on low income who live some distance from a hearing services provider may not be able to access the service as they are unable to afford the travel costs.

4. THE ADEQUACY OF CURRENT HEARING HEALTH AND RESEARCH PROGRAMS, INCLUDING EDUCATION AND AWARENESS PROGRAMS

- The National Acoustic Laboratories (NAL) provides leading research that is used worldwide. Research carried out at NAL leads the world in methods for treating hearing loss with hearing aids. Assessment methods, prescription methods, evaluation methods, and signal processing software used within hearing aids developed at NAL, many of them also in conjunction with the HEARing Co-operative Research Centre (CRC), are used on a daily basis throughout the world
- Education and awareness programs are provided by many not for profit organisations. Australian Hearing offers community education as part of its Indigenous outreach program and through the community engagement program with Culturally and Linguistically Diverse (CALD) client groups.

5. SPECIFIC ISSUES AFFECTING INDIGENOUS COMMUNITIES

- Primary and secondary level hearing services are fragmentary in many Indigenous communities
 - This impacts on Australian Hearing's ability to provide effective tertiary level intervention services
 - Outcomes for children in remote communities may fall behind those of their mainstream peers due to the lack of hearing and medical services within the community.
- Traditional hearing aids are often culturally unacceptable in Indigenous communities. The use of classroom amplification systems and good acoustic design would address the hearing needs to many Indigenous children, however there is no single authority, state or federal, education or health, that has responsibility to ensure that classrooms with a high proportion of Indigenous children have been acoustically treated or had classroom systems installed.

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Australian Hearing offers the following information in relation to the Senate Inquiry into Hearing Health in Australia.

Background - About Australian Hearing

Australian Hearing is the Government provider of hearing services under the Australian Government Hearing Services Program and includes the National Acoustic Laboratories (NAL), the research division of Australian Hearing.

Australian Hearing is a statutory authority constituted under the *Australian Hearing Services Act 1991*, and is subject to the requirements of the *Commonwealth Authorities and Companies Act 1997*. Australian Hearing reports through a Board to the Minister for Human Services, Financial Services, Superannuation and Corporate Law, the Hon Chris Bowen MP.

The functions that Australian Hearing can undertake are defined in Section 8 of the *Australian Hearing Services Act 1991*. The activities relating to service provision that Australian Hearing can undertake, are limited to people who meet the eligibility criteria under the Australian Government Hearing Services Program.

The Australian Government Hearing Services Program is administered by the Department of Health and Ageing through the Office of Hearing Services. The Hearing Services Program has two streams; the Voucher program and the Community Service Obligation (CSO) program.

Eligibility criteria – Voucher Program

To be eligible to receive services under the Australian Government Hearing Services Program as a Voucher client a person must be an Australian citizen or a permanent resident 21 years of age or older and a:

- Pensioner Concession Card holder
- Repatriation Health Card holder where the card is issued for all conditions
- Repatriation Health Card holder where the card is issued for conditions that include hearing loss
- recipient of a sickness allowance from Centrelink
- dependant of a person in one of the above categories
- member of the Australian Defence Force or
- referred clients of an Australian Government funded vocational rehabilitation service.

Eligibility criteria – CSO Program

To be eligible to receive services under the Australian Government Hearing Services Program as a Community Service Obligation client a person must be an Australian citizen or permanent resident who is:

- under 21 years of age
- an adult client who meets the Voucher program eligibility criteria and has a profound hearing loss or hearing loss and severe communication impairment
- an Aboriginal person or Torres Strait Islander person who is over 50 years of age
- an Aboriginal or Torres Strait Islander person who is a participant in a Community Development Employment Project Program
- an Aboriginal or Torres Strait Islander person who was a former participant of a Community Development Employment Project Program between

- 1 December 2005 and 30 June 2008 (valid until 1 July 2012)
- a person who meets the Voucher program eligibility criteria, and lives in a remote area of Australia
 - a person referred by the Safety, Rehabilitation and Compensation Commission under the *Safety, Rehabilitation and Compensation Act 1988* or
 - a person engaged under the *Public Service Act 1999* or a member of staff of a body that is a Commonwealth Authority and referred for the purpose relating to a medical examination in connection with the person's employment.

Australian Hearing competes with over 200 private service providers to provide services to people who meet the eligibility criteria for the Voucher program.

Australian Hearing is the sole provider of services to Australian citizens and permanent residents who qualify for services through the CSO program.

Australian Hearing cannot provide services to people who do not meet the eligibility criteria for the Australian Government Hearing Services Program.

Australian Hearing offers the following comments in relation to the Terms of Reference specified for this inquiry:

1. THE EXTENT, CAUSES AND COSTS OF HEARING IMPAIRMENT IN AUSTRALIA

1.1.1 Prevalence of hearing loss

One in six people in Australia has a hearing loss. With the ageing of the Australian population, hearing loss is projected to increase to one in every four Australians by 2050.¹

1.1.2 Hearing loss among children

In Australia, between nine and 12 children per 10,000 live births will be born with a moderate or greater hearing loss in both ears. A further three to four per 10,000 are born with a mild hearing loss. About a further 23 children per 10,000 will acquire a hearing impairment that requires hearing aids by the age of 17 through accident, illness or other causes.¹

By school entry age approximately 20 children in every 10,000 have been fitted with hearing aids or cochlear implants for permanent hearing loss. This figure climbs to 32 in every 10,000 by 10 years of age.

1.1.3 Hearing loss among Indigenous Australians

The level of ear disease in the Aboriginal population is much higher than the general population. Hearing problems within Indigenous communities are largely caused by unresolved middle ear disease in childhood.

The majority of Aboriginal babies in remote communities will have symptoms of ear disease by the time they are three months old. By the time an Indigenous child reaches the age of 14, they are likely to have spent 32 months with ear disease and hearing loss. This compares with an average of three months for a non-Indigenous child.

In a study of remote communities in the Northern Territory, 80 per cent of children had bilateral disease or suppurative infection and 12 per cent had unilateral Otitis Media with Effusion or perforation.² In an urban Aboriginal population over a six year period, middle ear disease was evident in just over 40 per cent of children at first screening visit.³

The World Health Organisation regards any incidence of chronic suppurative Otitis Media in a defined population of over four per cent to represent a significant public health problem.

Up to seven in 10 Indigenous adults experience hearing loss. Chronic ear infections can lead to permanent hearing loss and many Indigenous adults suffer from hearing loss as a consequence of repeated childhood ear infections.

1.1.4 Hearing Loss among seniors and veterans

More than half the population aged between 60 and 70 has a hearing loss.⁴ This increases to more than 70 per cent of those 70 years and older⁴ and 80 percent of those over the age of 80.⁵

Men have a higher incidence of hearing loss than women,⁵ mainly due to noise exposure in the workplace and during war service. Hearing loss is the second most

common medical condition reported by both Australian war veterans and war widows.

The prevalence of hearing loss in the worse ear is expected to more than double by 2050 (a 2.2-fold increase).¹

1.2 Causes of hearing loss

The major causes of congenital hearing loss in children are genetic factors, multiple complications of prematurity or birth trauma and maternal infections.

The most significant single cause of hearing loss in Australia is exposure to loud noise. Thirty-seven per cent of all Australians over the age of 15 years exhibit evidence of damage from noise in their hearing sensitivity, though for many the degree of damage is slight and may not yet be categorised as a hearing loss.⁴ However, hearing loss can also occur through illness, accident, exposure to certain drugs and chemicals, and as part of the normal ageing process. These processes are additive, and for many people it is difficult to determine how much of the hearing loss is due to noise and how much is due to other factors.

1.3 The cost to the economy

Hearing loss costs Australia almost \$12 billion a year. Almost 160,000 people do not work because they can not hear well enough.¹ In addition, compensation claims for noise-induced hearing loss comprise a significant proportion of all claims for occupational diseases.¹ The impact of hearing loss on workforce participation will become greater as the population ages, and the pension entitlement age increases.

2. THE IMPLICATIONS OF HEARING IMPAIRMENT FOR INDIVIDUALS AND THE COMMUNITY

If the hearing loss is not managed appropriately it can have an adverse impact on many areas of a person's life. Hearing loss isolates people from those around them, and can lead to depression, anxiety, paranoia, exhaustion, loss of intimacy and anger.¹³ If a person cannot hear or communicate easily it can reduce the opportunity to participate equitably in education and training; to attain employment and career advancement; and can lead to social isolation and depression.

2.1 Impact of congenital hearing loss on children's development

There is now a considerable body of published research to indicate that early detection of, and prompt intervention for, congenital hearing loss are required in order for children to reach their full potential.^{15,16,17} Congenitally hearing impaired children who commence intervention at greater than six months of age have been shown to perform equivalent to a normally hearing child with a mild intellectual impairment.^{15,16}

2.2 Effect of late diagnosis of acquired hearing loss.

Auditory deprivation has been shown to significantly impact upon an individual's ability to benefit from the ultimate provision of amplification.^{15,16} Cochlear implants have been shown to be less efficacious as the duration of profound deafness prior to implantation increases.

2.3 Hearing loss and depression

Australian Hearing released results of a survey in 2007, which found that people suffering hearing loss may be at increased risk of developing the debilitating effects of depression.⁶ The survey found that 60 per cent of those with hearing loss had displayed some of the symptoms associated with depression. It also found that almost 20 per cent of those with hearing loss demonstrated at least three key symptoms of depression.⁷ Specifically:

- fifty-two per cent displayed increased irritability and frustration
- twenty-two per cent had trouble sleeping or experienced restlessness and
- eighteen per cent showed a loss of interest or pleasure in most activities.

An appropriately fitted hearing aid can significantly reduce the physical and emotional consequences of hearing loss. People who wear hearing aids are less affected by depression, have improved health, and experience a better sense of independence and control over their lives.^{8,13}

2.4 Impact of Otitis Media

Otitis Media (middle ear infection) is often associated with temporary or fluctuating hearing loss. The levels of Otitis Media in the Aboriginal and Torres Strait Islander populations are much higher than the general population. Hearing loss that occurs as a result of ear disease can affect a child's learning, language development and behaviour. It can impact on enjoyment of school, forming of friendships, educational achievement and vocational choices. Hearing loss is also acknowledged to be a factor leading to entanglement in the criminal justice system.

3. THE ADEQUACY OF ACCESS TO HEARING SERVICES, INCLUDING ASSESSMENT AND SUPPORT SERVICES, AND HEARING TECHNOLOGIES

3.1.1 Background

There is a range of hearing services providers and funding mechanisms for hearing services in Australia. Service availability varies across States and accessibility varies in urban, rural and remote areas of Australia.

There are conditions that need to be met in order to qualify for financial support with hearing services, particularly device costs.

In general, hearing rehabilitation services are free under the Australian Government Hearing Services Program if the person is an Australian citizen or permanent resident and is:

- aged under 21 years
- a holder of a Pensioner Concession Card or Repatriation Health Card or their dependant
- a recipient of a Sickness Allowance or their dependant
- referred client of a Government funded rehabilitation program
- a member of the Australian Defence Force
- an Aboriginal or Torres Strait Islander person aged over 50 years or participants of CDEP or former participants of CDEP between 1 December 2005 and 30 June 2008.

People outside of these categories have to cover the cost of hearing rehabilitation services that involve hearing aid fitting themselves, regardless of the level of income they receive.

There are specific funding arrangements that apply to cochlear implants which create an inconsistency in access for cochlear implants versus hearing aids. There is public funding available for the initial implant regardless of age or income but not for hearing aids. Ongoing clinical services are charged to Medicare for cochlear implant users but not for hearing aid users. Subsidised clinical services for hearing aid users is only available if the person qualifies for the Australian Government Hearing Services Program.

3.1.2 Accessibility of Primary, Secondary and Tertiary level hearing services

The ease of access to hearing services depends on whether the person is a child or an adult, and whether the person:

- requires a basic hearing test to determine if a hearing problem exists, that is, needs to access hearing screening, (primary level services) or
- requires a diagnosis of the degree and cause of the hearing loss, that is, needs to access audiological assessment services, (secondary services) or
- requires hearing habilitation/rehabilitation services that is, hearing aid fitting and rehabilitation services (tertiary level services).

3.2 Hearing assessment services (primary/secondary level hearing services)

3.2.1 Hearing assessment services - Children

Universal newborn hearing screening is currently provided in NSW, Queensland, Tasmania, South Australia and the Australian Capital Territory and will be implemented in all States in Australia by 1 January 2011. Infants who fail the hearing

screening test are referred to a hospital diagnostic centre to have the hearing loss confirmed. There is no charge for the hearing screening and diagnostic services related to newborn hearing screening programs in most States. Most States have programs to meet the cost of travel for families who need to access diagnostic services if their infant fails the initial hearing screening. However the travel schemes do not extend to covering the cost of travel for the families of children who require hearing aid fitting and live in locations that require them to travel some distance to an Australian Hearing centre.

Newborn hearing screening programs will identify approximately one third of the children who will eventually require hearing aid fitting. Australian Hearing data on children fitted with hearing aids for the first time in 2008⁹ showed that the largest number of children fitted for the first time were children born in 2008, supporting the effectiveness of newborn hearing screening programs.

The next largest group was children at age six years. However there is no universal screening program in place to identify hearing loss acquired after birth. Most States no longer have school hearing screening programs. The Australian Hearing data suggests that it is at school entry that a high proportion of children with acquired hearing loss are identified though many children are not identified for several years after that.

Therefore it would be highly beneficial for there to be a hearing screening around the time of school entry to ensure that all hearing loss occurring before school entry is detected and habilitated before it affects school achievement.

Additionally, creation of a national database that contained the records of children diagnosed with hearing loss, and children who have received hearing habilitation would minimise the number of children lost to follow-up after diagnosis.

If the families or teachers suspect a hearing loss, children can access services from:

- some community health centres and Aboriginal Medical Services (AMS), with hearing screening programs. There is no cost for families to access this service
- hospital audiology clinics where available. There is no cost for families to access this service
- Ear Nose and Throat (ENT) Specialists. There is a cost to families, some of which can be claimed on Medicare
- some private hearing services providers. There is a cost to families. It may be possible for the services to be claimed on Medicare depending on the arrangements
- children at risk of hearing loss requiring hearing aid fitting are seen by Australian Hearing. There is no cost to families for this service.

The availability of hearing assessment services varies across States and across urban, rural and remote areas of Australia. When hearing loss is suspected outside of the newborn period, children under three years of age have the most limited access to services due to the nature of testing required. However it can also be difficult to access hearing assessment services for older children and adults particularly in rural and remote areas.

Publicly funded secondary hearing service providers usually employ some sort of triage or waiting list system in order to manage limited resources. Inadequate or delayed access to diagnostic audiology has the potential to lead to delayed diagnosis

of late onset hearing loss which in turn will reduce the efficacy of any subsequent intervention.

Access to ENT specialists is limited in regional and remote areas of Australia. This has the potential to delay access to medical intervention for chronic Otitis Media, which may lead to development of a permanent hearing loss which could have otherwise been avoided.

3.2.2 Hearing assessment services - Adults

Adults who require a hearing assessment can access services from:

- hospital audiology clinics where available, at no cost
- Ear Nose and Throat Specialists for a fee, some of which can be claimed on Medicare
- private hearing services providers where there may be a charge
- Adults who meet the eligibility criteria under the Australian Government Hearing Services Program can access services from accredited hearing services providers including Australian Hearing. Services provided under this program are free. Adults who do not meet the eligibility criteria for the Australian Government Hearing Services Program cannot access hearing assessment services from Australian Hearing.

The availability of services varies across States and across urban, rural and remote areas of Australia.

3.3 Support services (tertiary level services)

3.3.1 Support services - Children

Under the Australian Government Hearing Services Program, Australian Hearing is the sole provider of services to children requiring hearing aids. Australian Hearing provides the following services to children:

- hearing assessment and ongoing monitoring of hearing levels
- hearing aid fitting and evaluation services
- fitting and evaluation of personal frequency modulated (FM) systems to improve listening performance in educational settings
- information counselling and support services
- hearing aid maintenance services
- cochlear implant speech processor maintenance
- cochlear implant speech processor upgrade program.

The management of hearing impaired infants is a highly specialised area of audiology. In order to provide the expertise required to deliver services to hearing impaired infants and their families, Australian Hearing has established "infant fitting centres" which have the equipment and clinical expertise required to manage these complex cases.

Services are provided at no cost to the client. There is a small annual maintenance fee of \$26.25 as a contribution towards the cost of batteries and device maintenance.

Provision of cochlear implant related clinical services to children is not a service defined under the *Australian Hearing Services Act 1991* and therefore Australian Hearing cannot provide these services. Clinical services for children with cochlear implants are provided through cochlear implant clinics and are charged to Medicare.

Australian Hearing works closely with early intervention and educational facilities that provide educational services to hearing impaired children. Australian Hearing

provides unbiased information and written material to families on the intervention options available. The written material is also available in other languages.

Australian Hearing's paediatric program is highly regarded internationally. As the sole provider of services to hearing impaired children under the CSO Program, Australian Hearing is able to ensure a consistent standard of service is provided to children across Australia. It can also use its infrastructure to deliver services in a cost efficient way. The concentration of children into the one national service provider enables the clinicians involved to develop a high level of specialised expertise that services in few countries can match. Insufficient expertise in dealing with children with hearing loss has been found to be the major source of dissatisfaction with services in other countries.¹⁴

3.3.2 Support Services - Adults eligible for services under the Australian Government Hearing Services Voucher Program

The Department of Health and Ageing's Office of Hearing Services (OHS) specifies the services and devices that can be provided to adults who qualify for the Australian Government Hearing Services Voucher Program. These services include:

- hearing assessment
- hearing aid fitting and rehabilitation services
- hearing aid maintenance services

3.3.3 Support Services - Adults eligible for services under the Australian Government Hearing Services CSO Program

Australian Hearing provides the following services to adults who qualify for the Australian Hearing Services Program and who have severe to profound hearing loss or hearing loss and severe communication impairment:

- hearing assessment and ongoing monitoring of hearing levels
- hearing aid fitting and evaluation services
- communication assessment
- communication training
- information counselling and support services
- hearing aid maintenance services
- cochlear implant speech processor maintenance services.

The programs offered to these clients have a strong focus on rehabilitation services.

Services are provided at no cost to the client. There is a small annual maintenance fee of \$31.50 as a contribution towards the cost of batteries and device maintenance.

Provision of cochlear implant related clinical services to adults is not a service defined under the *Australian Hearing Services Act 1991* and therefore Australian Hearing cannot provide these services. Clinical services are provided through cochlear implant clinics and are charged to Medicare.

Adults with severe to profound hearing loss or hearing loss and severe communication impairment who do not qualify for services under the Australian Government Hearing Services Program are not able to access the intensive rehabilitation programs and expertise available at Australian Hearing.

3.3.4 Support Services - Other Adults

Adults who do not qualify for the Australian Government Hearing Services Program would access hearing services in the private sector. The cost of purchasing hearing devices varies according to the devices selected and would be in the range of \$3,000

- \$10,000 per pair of hearing aids or \$8,000- \$12,000 per cochlear implant speech processor. (The latter includes just the external processor; the internal implant, surgery and post fitting care costs in the vicinity of \$60,000). Private health insurance provides some assistance for the purchase of devices for those with appropriate ancillary insurance cover. However, the level of cover is dependent on the health fund and the product and there are usually waiting periods to qualify for assistance.

Some charitable organisations manage “hearing aid banks” to assist people on low income. The hearing aids are donated, usually by people who no longer use their devices. Therefore the range of devices available through hearing aid banks is limited and knowledge about the existence of these schemes amongst those who could benefit is limited.

Adults who do not qualify for the Australian Government Hearing Services Program would also need to cover the cost of batteries, repairs and earmoulds for their devices. The annual cost of maintenance varies according to the type of device fitted and the reliability of the device. The cost of batteries and earmoulds could range from \$200 - \$500 annually. The cost of repairs can range from \$50 - \$350 per repair.

Access to a hearing services provider for an adult who does not qualify for the Australian Government Hearing Services Program would vary across urban, rural and remote areas of Australia.

3.4 Hearing technologies

3.4.1 Hearing technologies - Children

Australian Hearing determines the specifications for devices provided to hearing impaired children who access hearing services through the Australian Government Hearing Services Program and ensures that the devices meet the needs of hearing impaired children within the funding allocated. The devices provided by Australian Hearing are free for children. The technologies provided to children are:

- *Hearing aids*

Hearing aids are selected according to the clinical needs of the child. Children are generally provided with two hearing aids. Hearing aids are replaced if the child's hearing levels or circumstances change. Devices are also replaced if the hearing aids are lost or damaged beyond repair.

- *FM systems*

Australian Hearing provides children with an FM system (a wireless transmission system that conveys clear sound from the talker to the child) where clinically appropriate for use at school and at home.

- *Bone anchored hearing aids*

Australian Hearing provides the device and associated consumables to children who meet the candidacy criteria for a bone anchored hearing aid. Australian Hearing does not cover the cost of surgery or any implantable components. Australian Hearing covers the cost of device repairs and will replace a device that is lost or damaged beyond repair.

- *Cochlear implant speech processors*

The cost of the initial implant is funded by:

- State Government
- Charitable organisations
- Private health insurance

Australian Hearing is funded to provide access to higher level cochlear implant speech processor technology for children as it becomes available and to provide replacement processors for children if the processor is lost or damaged beyond repair. However the provision of clinical services relating to the cochlear implant is not a defined activity under the *Australian Hearing Services Act 1991* and therefore Australian Hearing is not able to provide cochlear implant related clinical services to children. Clinical services are provided through cochlear implant clinics and are charged to Medicare.

3.4.2 Hearing technologies - Adults who are eligible for services under the Australian Government Hearing Services Voucher Program

The devices provided to adults who qualify for services under the Australian Government Hearing Services Voucher Program are specified by the Department of Health and Ageing's Office of Hearing Services. The hearing aids and assistive listening devices specified under the Voucher Program meet the clinical needs of the client. These devices are free for clients who qualify for the Program. Clients also have the option of making a co-payment to access devices with features that are beyond those specified under the Voucher Program. These devices are referred to as "top-up" devices.

3.4.3 Hearing technologies - Adults who are eligible for services under the Australian Government Hearing Services CSO Program

Australian Hearing determines the specifications for devices that will meet the needs of adults who meet the eligibility requirements for the Australian Government Hearing Services CSO Program. Australian Hearing provides the following devices to adults who qualify under the CSO Program:

- *Hearing aids*

Devices are selected that meet the clinical need of the client. This includes all styles of hearing aids including in the ear, behind the ear, bone conduction, vibrotactile and body level devices as appropriate.

- *FM systems*

Australian Hearing provides adults who are eligible for the CSO Program with FMs where there is a clinical need.

- *Supplementary devices*

Australian Hearing provides a limited range of supplementary devices that help clients with severe to profound hearing loss or hearing loss and severe communication disability to maximise their residual hearing.

- *Bone anchored hearing aids*

Australian Hearing provides the device and associated consumables to adults who meet the candidacy criteria for a bone anchored hearing aid. Australian Hearing does not cover the cost of surgery or any implantable components. Australian Hearing covers the cost of device repairs and will replace a device that is lost or damaged beyond repair.

- *Cochlear implants*

The cost of the initial implant is funded by

- State Government
- Charitable organisations
- Private health insurance
- Department of Veterans' Affairs

- Individual payment

Australian Hearing covers the cost of cochlear implant speech processor maintenance and replacement parts to adults who are eligible for the Australian Government Hearing Services CSO Program. The Australian Government Hearing Services Program does not cover the cost of replacing the speech processor if it is lost or damaged beyond repair nor does it cover the cost of providing access to upgraded technology. Recently Cochlear Ltd announced the obsolescence of four models of cochlear implant speech processors. Cochlear implantees who rely upon these devices will need to purchase a replacement once their processor is deemed beyond repair, at a cost of \$8,000 – \$12,000.

The provision of clinical services relating to the cochlear implant is not a defined activity under the *Australian Hearing Services Act 1991* and therefore Australian Hearing is not able to provide cochlear implant related clinical services to adults who otherwise qualify for services under the Australian Government Hearing Services CSO Program. Clinical services are provided through cochlear implant clinics and are charged to Medicare.

3.5 Service Accessibility

Australian Hearing provides services across Australia at over 100 permanent offices, approximately 300 visiting locations and over 230 Indigenous outreach sites in urban, rural and remote areas.

Although Australian Hearing may be the only hearing services provider in some locations, particularly in remote areas, it cannot provide hearing services to clients who do not meet the eligibility requirements of the Australian Government Hearing Services Program. This can present difficulties, particularly in Indigenous communities, where Australian Hearing may be on site providing services to children, and Indigenous adults aged over 50 years or CDEP participants. People identified with hearing loss who do not meet the eligibility criteria for the Australian Government Hearing Services Program are referred to other providers for assistance. This may require the person to travel some distance to access services.

While there are State funded travel schemes in place to assist individuals to access medical appointments, these travel schemes do not extend to funding travel to allied health professionals such as hearing services providers. The only exception is for families where their infant has failed the newborn hearing screen and is referred to a diagnostic centre to have the hearing loss confirmed. In some States the cost of travel to the diagnostic centre is covered as part of the newborn hearing screening program.

3.6 Access to hearing services for Culturally and Linguistically Diverse clients

Australian Hearing does not receive specific funding to meet the needs of Culturally and Linguistically Diverse (CALD) clients. However Australian Hearing is committed to providing equitable and accessible services to Culturally and Linguistically Diverse (CALD) clients.

Australian Hearing has implemented a number of strategies that make it easier for individuals from CALD backgrounds to access the Australian Government Hearing Services Program including:

- provision of interpreters at no cost to the client
- provision of key materials in ten priority languages
- easy access to translated materials on the Australian Hearing website

- provision of telephone hearing check in Cantonese and Mandarin with other languages to follow in 2009/10
- provision of staff training on working with multicultural clients
- provision of policies on the use of interpreters and translation services
- community engagement with CALD agencies and representatives from CALD communities
- awareness sessions with CALD communities.

4. THE ADEQUACY OF CURRENT HEARING HEALTH AND RESEARCH PROGRAMS, INCLUDING EDUCATION AND AWARENESS PROGRAMS

4.1 Research

The funding provided through the Australian Government Hearing Services CSO Program also supports the National Acoustic Laboratories (NAL), the research division of Australian Hearing. NAL is recognised as a world leader, if not the world leader, in applied research on hearing loss.

It is also a core party in the HEARing Cooperative Research Centre (CRC) which commenced in July 2007. The core parties are Australian Hearing, Cochlear Ltd, Macquarie University, Siemens Hearing Instruments Pty Ltd and the University of Melbourne.

The *Australian Hearing Services Act 1991* defines the functions that NAL can perform. NAL undertakes research in the following areas:

- (i) assessment of hearing
- (ii) hearing aids and procedures for fitting hearing aids
- (iii) hearing rehabilitation
- (iv) hearing loss prevention and
- (v) the effects of noise on the community

NAL provides leading research that is used worldwide. Research carried out at the National Acoustic Laboratories (NAL) leads the world in methods for treating hearing loss with hearing aids. Assessment methods, prescription methods, evaluation methods, and signal processing software used within hearing aids developed at NAL, many of them also in conjunction with the Hearing CRC, are used on a daily basis throughout the world. NAL and the CRC also devised the world's first device for preventing acoustic shock injury, a device now being manufactured by an Australian company, Polaris.

4.2 Education and Awareness Programs

Australian Hearing promotes awareness of hearing loss and the consequences of hearing loss to the broader community through:

- regular promotional campaigns of Australian Hearing and the services available
- participation in Hearing Awareness Week Activities
- promotion of research that is of interest to the general community particularly research relating to the effects of noise and the psycho-social impact of hearing loss
- community engagement and awareness activities with CALD communities
- delivery of community education as part of its Australian Hearing Specialist Program for Indigenous Australians

Also, the Office of Hearing Services (OHS) has recently funded NAL to develop a hearing protection program for children that can be incorporated into education curricula and this program is now in development.

5. SPECIFIC ISSUES AFFECTING INDIGENOUS COMMUNITIES

5.1 Background

Aboriginal and Torres Strait Islander peoples experience up to 10 times the prevalence of ear disease and associated hearing loss when compared to the non Indigenous population. This increased prevalence of Otitis Media is found in all Indigenous communities (remote, rural and urban) and across all age groups. This fact places an emphasis (often not applicable in many audiological practices) on dealing with the medical aspects of ear disease, including chronic discharge and the rehabilitative needs associated with mild, often fluctuating, hearing loss. The early onset (often during infancy) of middle ear disease and inadequate access to medical services tends to result in long-term impairment. Hearing problems often carry through into adult life.

Early detection, through primary hearing health screening by Aboriginal Health Workers and nurse practitioners employed in medical services, can result in early treatment and follow-up and may prevent or reduce hearing loss from ear disease.

However, it has been found that Aboriginal children can have a persistent (often fluctuating) hearing loss, even with good medical or surgical care. At this point children are referred, with parent or caregiver approval, to Australian Hearing for consideration of hearing aid fitting. It is not uncommon for medical intervention and fitting of amplification to be carried out concurrently.

5.2 Primary, Secondary and Tertiary hearing services

Otitis Media is a condition that is managed initially through medical intervention. Hearing screening (primary level hearing services) occurs in the community and is provided by community nurses or Aboriginal Health Workers. People requiring a diagnostic assessment of their hearing (Secondary level services) are seen by State/Territory audiologists.

Due to the chronic nature of the condition within the Indigenous population, hearing aid fitting is often considered to help overcome the hearing loss associated with the middle ear problem. Australian Hearing provides these tertiary level services to people who meet the eligibility requirements of the Australian Government Hearing Services Program.

Service delivery across the primary, secondary and tertiary levels is, at times, fragmented. Australian Hearing relies on the existence of appropriate referral pathways in order to target its services and funding to the clients who require hearing aid fitting. If primary and secondary hearing services are not in place Australian Hearing, as a tertiary level provider, cannot work effectively.

5.3 Issues in fitting hearing aids to Indigenous children

Many Indigenous children do not like to admit that they do not hear properly or may not be aware of their disability. Parents/care-givers may have 'normalised' chronic Otitis Media, be unaware of the long term effects of Otitis Media and hearing loss and be unaware of the behavioural indicators.

The hearing loss may fluctuate greatly or the ears may be discharging rendering the fitting of an individual amplification device unsuitable.

Hearing aids are often strongly disliked and cause acute embarrassment and shame. The learning disabilities associated with poor hearing exacerbate absenteeism especially among boys.¹⁰

5.4 Sound-field amplification systems

Indigenous children have exceptionally high rates of middle-ear infection during early childhood. There are also high rates for children of school age. For many Indigenous children, English is their second language. The combination of hearing loss, listening in a second language, and classrooms that are acoustically reverberant result in greatly reduced ability of Indigenous children to understand the lessons they are being taught in school. This combination is thus part of a long-term cycle where poor hearing leads to poor education, with consequent poorer employment and lower income prospects, lower living conditions and poorer health, including poor hearing.

It is possible to break the strength of this cycle by ensuring good hearing in school, despite the existence of hearing loss. The necessary technology exists - acoustic absorption to make rooms less reverberant and a sound-field amplification system (a low-power PA system with a wireless microphone) to give all children in the class a louder and clearer signal. The system provides proven educational benefits, even in classrooms where there is not a high prevalence of hearing loss^{11,12}

Teachers who have used sound-field amplification system report it is helpful because:

- students with mild hearing loss can hear and follow instructions more easily
- students behave better because they know what they're supposed to be doing
- students are less distracted by outside noises
- students can concentrate longer and get more involved in activities
- there is less noise in the classroom because students are more on-task
- the teacher's voice is less strained.

The Australian Government Hearing Services Program does not fund the purchase of sound-field amplification systems.

There is no single authority, state or federal, education or health, that has responsibility to ensure that classrooms with a high proportion of Indigenous children have been acoustically treated or had sound-field systems installed.

5.5 Intervention services

As newborn hearing screening programs roll out across the country this will present challenges in how to provide tertiary level services in remote areas for infants diagnosed with hearing loss.

In order to provide the expertise required to deliver services to hearing impaired infants and their families, Australian Hearing has established "infant fitting centres" which have the equipment and clinical expertise required to manage these complex cases.

As there are no travel schemes that will support families who need to travel to Australian Hearing centres for services, and Indigenous families may not find this model of service delivery to be culturally appropriate, Australian Hearing will need to determine other models of service delivery for infants diagnosed with hearing loss in remote areas.

The educational options for infants in remote areas are also quite limited. Programs such as “Teleschool” that is provided by the Royal Institute for Deaf and Blind Children allows families to access the expertise required through video conferencing systems. This program is provided in partnership with a local teacher and the family.

5.6 Programs for Indigenous Australians provided by Australian Hearing

Australian Hearing receives funding under the Australian Government Hearing Services Community Service Obligations Program to deliver two specific programs for eligible Indigenous Australians.

5.6.1 Australian Hearing Specialist Program for Indigenous Australians (AHSPIA)

Australian Hearing provides culturally appropriate hearing rehabilitation services through an outreach program to eligible Indigenous clients. This program is known as the Australian Hearing Specialist Program for Indigenous Australians (AHSPIA). Children and eligible adults can receive hearing services through the outreach program.

From small beginnings in the Northern Territory 30 years ago, Australian Hearing has been providing outreach programs to Indigenous Australians, where services are delivered away from mainstream Hearing Centres. These outreach services are now provided to individuals and communities in urban, rural and remote localities across Australia.

The outreach program is underpinned by three guiding principles that were developed in consultation with Indigenous people:

1. Services will be provided to Indigenous people in a culturally sensitive way in localities that actively encourage Indigenous people to use the services
2. Where appropriate, services will be ‘shaped’ to meet the different audiological needs that arise, in Indigenous communities, caused by the high prevalence of Otitis Media and its associated hearing loss, and
3. Indigenous health workers (and other relevant individuals in Indigenous communities) will be encouraged to undertake the planning, developing and delivery of (at least) primary hearing health care services for their communities. Collaboration is a priority. Shared responsibility for outcomes will be encouraged.

Services are planned in cooperation with individual Aboriginal Community Controlled Health Services; State and Territory Government Health and Education Departments/Services; parents; doctors; community elders; individual Indigenous health and education workers; teachers; schools; parent committees and non-government organisations such as the Royal Flying Doctor Service.

Increasingly, Australian Hearing’s outreach services are underpinned by a Service Agreement which is negotiated with the community and other relevant stakeholders. These Agreements formalise and promote predictable access to specialist audiological services. A Service Agreement clarifies roles and responsibilities, increases cooperation and improves coordination of primary, secondary and tertiary services. They have also resulted in a better geographical spread of services within and across regions and better targeted services that has allowed Australian Hearing to optimise its use of available audiological resources.

5.6.2 Indigenous Eligibility (IE) Initiative

Australian Hearing receives specific funding to provide hearing services to Indigenous Australians aged over 50 years or participating in a Community Development Employment Project (CDEP) Program or former participants of CDEP between 1 December 2005 and 30 June 2008. These clients may access services at Australian Hearing permanent, visiting or Indigenous outreach sites.

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