

Accessing Hearing Services in SA

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On behalf of:

**HIDKON
(Hearing Impaired & Deaf Kindred Organisation Network)**

Organisations represented at HIDKON meetings

- Adelaide Hearing Consultants
- Audiological Society of Australia (SA Branch)
- Australian Hearing
- Cora Barclay Centre for Hearing Impaired Children
- Cochlear Implant Group (CICADA)
- Can Do for Kids
- Deaf Blind Association
- Deaf SA
- Department of Education & Children's Services (DECS)
- Farm Noise & Hearing Project
- Hearing Solutions (SA Govt Funded Service)
- Royal Adelaide Hospital – Audiology Department
- Sensory Directions (SA Govt Funded Service)
- Tinnitus SA (SA Govt Funded Service)

Background

Hearing loss has been identified as one of the most common physical impairments occurring in our community (Ries 1982; Wilson et al 1998; Wilson et al 1992). Hearing loss causes communication difficulties, resulting in reduction to one's quality of life. Affected are the social, emotional and general health and well being of the individual, their family and the community at large. The aim of this paper is to highlight poor access to funding and professional services for people with hearing related issues in South Australia.

Incidence of hearing loss & community impact

A 1998 South Australian Health study found that hearing loss occurs in approx one in five adults (Wilson et al 1998). It was also noted in this research that the incidence increasing sharply with age. This is significant consideration in regards to future planning for the aging population.

It is commonly known that noise exposure is a significant risk factor of hearing loss. Financially occupational noise induced hearing loss costs the Australian industry around \$35 million annually in compensation (workcover 2000). Noise & hearing loss is one of the most preventable injuries in our community.

Also, it is commonly known that Tinnitus becomes a major issue for many people with hearing loss

- Approximately 50% of people with hearing loss have tinnitus
- Approximately 10% of people with noise induced tinnitus are severely affected (ie: 5% of people with NIHL have severe tinnitus)

It is well documented that hearing loss is closely linked with increased episodes of poor health. People with hearing loss experience 3 times more psychological disturbance than the general population. This includes increased incidence of depression, anxiety, isolation and loneliness, increased stress and fatigue (Wilson et al 1992; Hindley et al 1994; Vernon et al 1993; Knutson et al 1990). Increased episodes of poor general health results in increased contact with medical practitioners and the health system as a whole.

The Rising Incidence and Cost of Hearing Loss

More recent figures show that one in six Australians is affected by hearing loss. Prevalence rates for hearing loss are associated with increasing age, rising from less than 1% for people aged younger than 15 years to three in every four people aged over 70 years. With an ageing population, hearing loss is projected to increase to 1 in every 4 Australians by 2050. While interventions such as hearing aids and cochlear implants enhance a person's ability to communicate, the majority of people with hearing loss (85%) do not have such devices. In 2005, the real financial cost of hearing loss was \$11.75 billion or 1.4% of GDP. This figure represents an average cost of \$3,314 per person per annum for each of the 3.55 million Australians who have hearing loss or \$578 for every Australian.

The largest financial cost component is productivity loss, which accounts for well over half (57%) of all financial costs (\$6.7 billion). Nearly half the people with hearing loss are of working age (15-64 years), and there are an estimated 158,876 people not employed in 2005 due to hearing loss. The productivity cost arises due to lower employment rates for people with hearing loss over 45 years and subsequent losses in earnings (The Economic Cost and Impact of Hearing Loss in Australia. A Report by Access Economics Pty Ltd, February 2006)

Summary of Issues:

- 1. Hearing loss is a significant issue in the community.**
- 2. Hearing loss is a rising issue in our community due to the increasing aged population.**
- 3. Hearing loss affects communication, social wellbeing & relationships with others.**
- 4. Due to its hidden nature the effects of hearing loss is often under estimated, with increased chance of mental health issues and associated conditions.**

Accessing hearing services

The following outlines access, including entry funding and possible issues, to public and private hearing services in South Australia:

Assessment at Public Hospitals

- Audiology department
- Full auditory assessment
- Metro area only
- Free to members of the public (adults and children)
- Some private Audiologists visit country hospitals which may attract fee for service
- Hospitals do not fit hearing devices / aids

Assessment by an ENT (Ear Nose & Throat Surgeon)

- Medicare rebates (gap payments may apply)
- Requires GP referral
- Access to this service is for options regarding medical treatment of active ear condition – not usually for a routine hearing assessment
- Do not fit external hearing devices / aids

Assessment by Audiologists or Audiometrists

1. Adults:

1.1 Pensioners

- Eligible Pensioners (Commonwealth Government Pension Card - does not include Government “benefits” or “allowances” – Aged and Disability) can obtain a Commonwealth Government hearing services voucher
- Present their voucher with an accredited contracted provider
- Voucher funds a full audiological assessment every 2 years which is free to client

1.2 Non Pensioners / Private Clients

- “free hearing screening” at private hearing practices (can be useful *but may end in fee for service*)
- Medicare rebates do not apply unless under an “Enhanced Care Plan” with an accredited Audiologist
- Some private health funds provide rebates for assessment (but rare)

2. Children:

- Public Hospitals
- Child & Youth Health – screening of children
- Child & Youth Health – State wide screening and diagnostic of infants (newborn)
- Australian Hearing – usually once hearing loss has been identified
- Long waiting lists. Reality GP to ENT to WCH – many cases

Other:

- Some GP centers do provide screening audiometry (?gap payments)

Summary of Issues:

1. Basic hearing assessment is available for adults and children across several funding areas.

2. Access hearing evaluation through the public system in rural areas is limited and qualitatively questionable.

Country SA

Hearing loss does not only target the urban population. It is commonly known that farmers use noisy equipment, machinery, workshop tools and firearms. They are often exposed to noise for long periods of time. They are also exposed to intense work commitments at certain times of the year. That is, seeding and harvest seasons. On rural properties noise is often both continuous (tractor) and / or impulse/impact (workshop & firearms). As discussed, there is a significant incidence of hearing loss in the community. The Farm Noise and Hearing Network (FNHN) has studied the impact of noise and hearing loss on farmers across rural South Australia. A specific study conducted at the Northern Yorke Peninsula Field Days (Paskeville) investigated the impact noise has on farmers. This study found almost 56% of presenting farmers suffered from some form of hearing loss and close to 50% reported tinnitus (Williams, Forby-Atkinson, Purdy, Gartshore 2002). Also, noise exposure over a period of time has a major impact on the health of the auditory system. To make this scenario more complex many farmers are somewhat isolated due to physical location on rural properties and have a casual attitude to health, especially at a prevention level.

Farm Noise and Hearing Project:

Since 1993, the Farm Noise and Hearing Network has been conducting hearing tests on farmers at Field Days held across the state. The Farm Noise and Hearing Network is made up of a volunteering group of farmers and health professionals that aim to promote noise reducing practices and subsequently reduce hearing loss caused by noise exposure in those working on the land. This involves hearing screenings and information provision at rural field days, country shows and events. This much needed project has been stretched to breaking point. Currently this much needed primary prevention project is on the brink of folding due to poor absence of funding and Government and Regional Community Health support.

In country SA many rural centres have limited hearing health access / services. Audiological services are usually in the form of visiting private services. There are no state funded audiological positions in Local Community Health Services in country SA and local primary hearing prevention initiatives are often limited and poorly funded

Valid and reliable hearing assessment can only be performed under controlled acoustic conditions. The suitable acoustic conditions for testing are defined by Australian Standard 1269.0-1998 for maximum acceptable background noise levels. Such conditions are readily available in metropolitan locations in the private and public sector but are not routinely available in rural and remote settings.

Currently, there is no portable hearing testing resource in South Australia. In many instances hearing health programs that conduct hearing assessments are doing so in facilities or rooms that are difficult and costly to maintain or are not acoustically adequate.

In the past the Farm Noise and Hearing Network (FNHN) has accessed a hearing testing van which was owned by the Department of Industrial Affairs and administered through the Northern Yorke Peninsula Community Health Service (NYPCHS). This van was maintained on a small grant obtained from Bernafon Australia, a private hearing aid company. In recent years the ongoing maintenance and administration costs have stretched the goodwill of private grants and the NYPCHS.

The FNHN hearing testing van lost its roof on the way to Paskeville Machinery Field Days in September 2003. This facility is no longer usable.

It should be noted that there are several different programs that fund hearing services to the indigenous communities in SA & NT. Outside of the indigenous consumer group the provision of hearing services to people from Non English speaking (NES) backgrounds or who are linguistically diverse and who live in country areas, is questionable.

Summary of Issues:

- 1. No government funding allocated for audiological positions in country SA for non pensioners and those who are not of aboriginal descent. Therefore, no funded hearing services for community members over 21 years and not on a pension.***
- 2. Lack of signing interpreters in rural area.***

Hearing aid and device funding

The following outlines issues related to hearing aid and device funding in SA:

- No Medicare rebates for hearing aids
- Providers include Audiologists & Audiometrists and are located in metro and rural areas. Most rural providers are of a visiting nature.
- Hearing aids are expensive to purchase privately. Costs vary depending on the chosen devices (between \$1400 - \$6000 per device)
- Private health funds can provide rebates (minimal when considering overall cost approx \$400 - \$800 per aid). There are many conditions (ie rebates every 3 years)
- Approved claims for hearing injury at work can seek funding for hearing services under Workcover.

1. Pensioners & children under 21 years

- Hearing aids are funded through the Commonwealth Hearing Services scheme (current hearing services voucher required) for pensioners with aged and disability status. Pensioners choose a hearing service provider.
- Children under the age of 21 are seen by Australian Hearing and do not require voucher application.
- The Commonwealth Government provides additional funding to Australian Hearing for children under the age of 21 years and of Aboriginal and Torres Strait Islander descent and device and rehabilitation provision for pensioners who have “complex” needs. This funding is separate to the voucher scheme.
- Pensioners have the option of either bulk billed devices (free to client) or “top up” devices (gap payment required) as per government device listing schedule.
- Under the voucher scheme pensioners are cared for by the chosen provider under a 12 month contracted period – a small yearly fee is charged (approx \$35-00) to the pensioner. This covers hearing aid battery supply and hearing aid care/maintenance.

2. Non Pensioners (over 21 years & not on a pension)

This is primarily the key working age and members of the community within this age bracket are either involved in employment or are seeking employment. This group of consumers is significantly disadvantaged. They rely on private health insurance to provide rebates for hearing aids. Not all of this patient group is able to access private health insurance. For those who can afford private health insurance, rebates for hearing aids are small in comparison to the required financial outlay.

Currently there is no level of government funding for hearing devices for this age group. People of low income are extremely disadvantaged. In most cases do not have access to private health insurance and are unable to afford the cost of private hearing aid fitting. Thus they are unable to access hearing services in this state.

- Employment services can provide small one off funding to assist individuals to gain employment. However, funding does not cover cost of hearing devices, resulting in out of pocket expense. To be seeking employment under these schemes would usually illustrate a picture of financial hardship and private hearing aid purchase is not achievable.

2. Non Pensioners (over 21 years & not on a pension) cont.

- Commonwealth Rehabilitation Service (CRS) can seek a Commonwealth Hearing Services Voucher (similar to pensioners) but the individual must be accepted for a rehabilitation program under their charter. Hearing loss alone is not an entry point to this service.

Summary of Issues:

- 1. Pensioners and children under the age of 21 years are able to access free hearing aids and basic hearing services.***
- 2. People eligible for hearing aids under Workcover are cared for under this scheme.***
- 3. People over the age of 21 and do not hold pensioner or Workcover (Key group of community members seeking employment) rely on private health insurance.***
- 4. A gap exists in government funding. There is no government funding for hearing devices for people over the age of 21 and not on a pension.***
- 5. People with low income are severely disadvantaged and are unable to afford private hearing aid purchase.***
- 6. Those who do not have private health insurance for hearing services have no level of financial assistance.***

Cochlear Implantees

The cochlear Implant is a surgically implanted device to people with severe to profound hearing loss.

Surgery holds rebates under Medicare & private health.

Significant auditory rehabilitation is required. Audiological services are funded through private health or CI funding provided to hospitals.

Service access:

1. Public – Flinders Medical Centre (adults); Women’s & Children’s (paediatric)
2. Private – Rehab: SA Cochlear Implant Centre (SACIC)
Surgery: Range of private hospitals

Service issues:

1. Waiting lists – originally 3; 5; now 9 public patients per year for adults.
 - a. Children also have waiting lists
 - b. FMC waiting lists recently cut
2. Accessing private CI centres with appropriate audiological support.
3. Travel and costs associated with the work up prior to implantation.
4. Ongoing rehabilitation costs such as remapping (reprogramming device), replacement parts, cords, batteries, coils etc.
5. Breakdown and replacement of devices (DBR). Young individuals implanted some years back are reaching the end life of their speech processors.
6. Ongoing appointments and costs (accommodation etc for country patients)
7. Inconsistent approach of private health funds when considering rebates for CI.
8. Processors – Many people are unable to afford to have speech processors replaced / upgraded. Without adequate speech processor function the implant is useless, leaving the individual with a total hearing loss in that ear.

Issues related to hearing services in SA - General Summary

- There is a definite need for hearing services in the community. Incidence and aging population highlights this.
- Hearing related conditions attract a high co morbidity of mental health issues and associated conditions.
- A range of avenues are available for consumers to seek basic funding for hearing assessment, hearing aid fitting and hearing support services for pensioners and those under the age of 21 years.
- However, over 21 and not on a disability or aged pension there is no available funding for hearing aids and cochlear implants.
 - This raises issues for low income community members
 - Purchase of devices
 - Maintenance / replacement of devices
- Limited government funded hearing services in rural areas.
- There is a need for a project officer to be appointed to further define this need.

Summary of issues identifying gaps in service requiring further action / planning:

- 1. Access to hearing evaluation through the public system in rural areas is limited and qualitatively questionable.***
- 2. No government funding allocated for audiological positions in country SA for non pensioners and those who are not of aboriginal descent.***
- 3. People over the age of 21 and do not hold pensioner or Workcover (Key group of community members seeking employment) rely on private health insurance. (limited options for people seeking employment and of low income)***
- 4. A definite gap exists in funding of basic hearing care. There is no funding available for hearing devices for people over the age of 21 and not on a pension.***
- 5. People with low income are severely disadvantaged and are unable to afford private hearing aid purchase and associated rehabilitation (country & metro).***
- 6. Those who do not have private health insurance for hearing services have no level of financial assistance. Private health rebates provide limited financial assistance for device only. Private health insurance does not rebate hearing assessment.***

Individual cases scenarios highlighting community issues.

Case 1:

Adult who is 5 years post implant, his speech processor is DBR just through normal wear & tear, and he has no funding or ability to purchase a replacement processor. There is no funding for replacement speech processors for adults. However, through the state government funding, this man was given the wonderful opportunity to hear again via a CI and now 5 years down the track he is more disadvantaged.

Professional concern / response to this case:

This scenario will become more and more common as the base of publicly implanted patients grows and as the children who have been funded for replacements & upgrades, move into the adult program. The government's response to this situation has been:

- € People could have private cover – can't afford it
- € People should insure their speech processors – doesn't cover normal wear & tear
- € People can purchase a new processor and get a tax rebate – can't afford and the low income levels of these patients mean that there are no tax breaks.

Case 2:

28 year old male. Severe to profoundly deaf. Low income. Works casually in a winery. Job is not in jeopardy, therefore not eligible for CRS (??if he ever would be anyway). Fitted with hearing aids as an under 21 year old. Hearing aids are now at the end of their working life (usual wear and tear). Aids now 12 years old. Can afford to purchase new devices. No level of funding available to assist.

Case 3:

42 yo single mother. Medical treatment caused her to lose hearing and vision. ***In need of urgent amplification due to her total sensory deprivation.*** NO financial assistance to obtain hearing devices, not even temporary devices. Therefore, due to the tragic nature of this case provider (audiologist) funded the devices from his own pocket. Took 2 months to obtain disability pension and eligibility for hearing services. Significant issues arise with the deprivation of hearing and vision across a two month period. Much confusion, anxiety and emotion. We don't shut people in quiet dark room and deprive them of any input for two months...why do it to people with hearing and vision loss!

Case 4:

I am finally getting my new Freedom upgrade – I have now had my implant 7 years so Mutual have finally agreed to pay and a copy of their agreement has gone in with my claim for \$8050. It still hurts that I was advised to get an upgrade earlier but my Benefits would not pay where other Benefits pay out each 3 years (if I had had surgical intervention – replacement or gone bilateral there would not have been any problem).

Case 5:

One 23yr old male who lives in rural (Victor Harbour) with his cochlear repair/update issues.

- my cochlear is now broken, it doesn't work anymore, I knew the time was coming soon and it has so I'm totally deaf at work, home, everywhere so it's very different.
- went to FMC (Flinders Medical Centre), where my cochlear is being held at the moment, had to re-apply for a new Hearing Service Card coz mine has expired and is still classified as a 'child' not as an adult.
- came home, booked an appointment with my GP to fill the application form out
- post that off
- now I have to wait until it returns in my mail with a voucher

- as I get that voucher I have to ring Victor Harbour hearing service centre, coz they only do cochlear implants on a friday every fortnight, to book an appointment, pay 34 bucks for a new member and explain that i dont need a hearing test. I just need my cochlear to be repaired.
- as i have paid, I have to contact FMC to say that I have a new card, and paid for it, then she will finally send it off, then it may be a month wait who knows!!
- waiting for the mail and the voucher, say if its not ready or being fixed by July 14th, bad luck
- I will contact FMC before I leave and she may mention me to go with the cochlear that I have on loan.
- without the Cochlear, my mind becomes more worried or something like that too.
- also work isnt looking good also, having trouble fitting in, they have been pushing me over the edge, so im working faster and harder so this comes to pressure and stress, i get snapped at (even though i cant hear them) so i lose distraction in what im doing on my job and not finishing properly

Case: 6

21yr old female who has worn hearing aids pretty much all her life and through recent changes in her hearing loss (now profound in left ear and severe to profound in right ear) she can only wear one hearing aid in right ear in which she is finding hard to still hear much these days (she did only have a moderate to severe in her left ear which was once her better ear). She has a case of an enlarged vestibular aqueduct syndrome in which may still further reduce her hearing levels to become profound in both ears in future. She has been going thru various assessments, and testing through FMC to try approving for a cochlear. She has a major appt end of Oct (29th) to gather all docs, audiologist, ENT, along with all reports to further discuss if she's go ahead with receiving a coclear and if so when she could possibly receive it (on the waiting list - but for how long??) She has relied on hearing aids all her life for hearing, but now that the hearing aids cannot provide enough support with hearing/listening she is persistent to continue to hear provided she can access the cochlear. She is currently doing cert 4 at TAFE (community services - family support) and struggles with communication and lectures. She does use some interpreting when they can provide it with enough funding (at this stage she gets one full class time out of 7 or 8 classes for interpreting). She uses more oral than AUSLAN in her everyday life and rather chos es to continue communication this way. The concern here is a young adult (over 18yrs age bracket) who urgently needs a cochlear for everyday communciation because she is now limited to using the phone to communicate wit families, her partner, and friends because she cannot hear them, and struggles to have conversations in noisy environments even in cafes, TAFE, working environments in the past like retail stores or supermarkets.

Professional concern/response:

There continues to be an ongoing battle for our youths (21 and over) whom if they continue to lose more hearing or need to update their cochlear or hearing aids, do not have the funding or money available to pay for it alone, and are either placed on the waiting list or become disheartened by the un affordable costs. And if they have no choice but to pay for it then they miss out as most cannot afford to pay for the device alone (looking at figures up and over a couple of thousands for 2 aids or more for a cochlear). Therefore they then become deaf without their aids/device and try finding other ways to communcate like AUSLAN so they do not have to keep missing out on

some communication throughout their lives. This is quite sad that this limits their opportunity to be something more, and have more choices in how they wish to communicate provided they can access devices, equipments and aids to continue supporting them throughout their life cycle which includes having a family, employment, social networks, travelling, playing sports, and doing everyday things to choice them in living life. Unfortunately some clients deaf/hearing impaired are on low incomes (who are not eligiable for DSP), and struggle to find the full finance (and find suitable employment without being discriminated against because they lack communication or cannot participate fully as a employable worker due to their hearing impairment impacting their rights to work in that job) to pay for aids, devices etc. These are the ones we need to continue supporting because they want to continue to have communication and have a part of life trying to do everything like a hearing individual has opportunities to do, but with the extra support.

Case 7:

I am 35 years old and live in rural SA. Farming is a tough slog at the moment. I cant hear well due to the years I have been around farm machinery. It has damaged my hearing. I have significant tinnitus which impacts on my communication and state of mind. I can concentrate to do the BAS and my hearing loss means that I have difficulty when attend lectures to learn how. My GP sent me to an ENT, I had to drive 3x to Adelaide all for him (in an arrogant way!!) to say there was nothing he could do. This left me on the shelf. After a time I was told that was cause he was a surgeon and I didn't qualify for surgery. I tired to do the right thing and I have investigated hearing aids and after paying for a another hearing test (cause the community health doesn't do it!!) I found out they would cost a couple of thousand dollars – at a minimum. Ive gone down hill in the past year. Im now on antidepressants and antianxiety medication. I feel like Im giving up. I don't go to meetings any longer, don't attend church and avoid social situations cause I cant hear. Communication with my family is very difficult and I know it is causing relationship breakdown. Sometimes it would be easier to end it all. I don't get why government cant give some financial assistance through the community health to support us farmers and their hearing health. Several of my neighbours and mates report the same. We are isolated casue we live some 2 – 3 hours from the city. We cant get basic hearing help under the community health. But they can run seminars for diabeties. I think hearing cause it is hidden it is avoided. My community health and GP say there is no funding. My audiologists really wanted to help but there was no funding for him to seek. He did his best, looked at all options, even waived charging me. I learnt a few years back at a field day about noise and hearing loss and now wear ear muffs all the time to protect them. But its too late. I have since heard that the field days are becoming so commercial that the hearing project cant afford to come...cause they were all volunteers.

I hope my story helps. I am happy to assist in any way I can to help others if needed.

Case 8:

Dear Sir/Madam,

I live in a small town in SA. I have general good health now, but in the years gone by have undergone chemo for cancer. Subsequently I have a hearing loss. My oncologist reported that it may relate to the treatment. Hearing is down, but at least Im still here. I

am amazed at the lack of rural assistance for people with hearing loss. My GP has no idea! The hospital has a ENT who visits, but he just does surgery (and doesn't communicate very well!). I need hearing rehabilitation, the same as a physio gives someone with an injured back. I have an injured ear. There are visiting hearing people that come here but I don't get any financial assistance. Nothing. I don't have private health. I can't even get a hearing test through community health. I can get my blood pressure checked and the moles looked at on my back. My aged mother (who had a stroke) even got speech pathology from the hospital and physio through her private health. I don't understand it. Hearing is a basic sense and the government doesn't provide basic hearing health care. Im amazed and appalled at what I have found out since my hearing loss started.

I hope this email helps to raise awareness with the government.

Case 9:

I don't like to travel to the city. I can get a hearing test when someone visits from the city, but it is a free screening test. Im tired of free screening tests. I want to move forward, but I cant cause I have no money. I tried the hospital and no one knows anything about hearing except the fellow that visits. I thought I could go to the hospital and have a basic hearing test and get some hearing aids. Im only 55 therefore I don't get the aged pension. I just stay home now and keep my garden. I don't go out cause I cant hear. I feel a bit sad about it really.

References:

The Economic Cost and Impact of Hearing Loss in Australia. A Report by Access Economics Pty Ltd, February 2006

Hindley P. et al, (1994) Psychiatric Disorder in Deaf and Hearing Impaired Children and Young People: A Prevalence Study, p 929

Knutson J. & Lansing C., (1990).The Relationship between Communication Problems and Psychological Difficulties in Persons with Profound Acquired Hearing Loss (p 661)

Ries, P. (1982) Hearing ability of persons by sociodemographic and health characteristics. Vital Health Stats 10(140): 1-60

Vernon M. & LaFalce-Landers E., (1993) Longitudinal Study of Intellectually Gifted Deaf and Hard of Hearing People (p 430)

Williams, W.; Forby-Atkinson, L.; Purdy, S.; Gartshore, G. (2002) Hearing Loss and the farming community. J Occup Health Safety – Aust NZ 18(2): 181-186

Wilson, D.; Walsh, P.; Sanchez, L.; Read, P. (1998) Hearing Loss in an Australian Population. Centre for population studies in epidemiology SA Department of Human Services.

Wilson, D.; Xibin, S.; Read, P.; Walsh, P.; Esterman, A. (1992) Hearing Loss- an underestimated public health problem. Aust J Public Health 16(3): 282-286.

Workcover Corporation (2000) Why are noise regulations needed? Information sheet 6.