



Submission to the

Senate Community Affairs References Committee

Inquiry into Hearing Health in Australia

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EXECUTIVE SUMMARY

Hearing loss is a reduced ability to hear. At present one in six Australians is affected by some degree of hearing loss. Due to an ageing population, it is anticipated that one in four Australians will be affected by some degree of hearing loss over the next forty years¹. Hearing loss is now the third most prevalent chronic health condition in older people, following arthritis and high blood pressure.²

NSW Health's work in hearing is primarily focused on detection and diagnosis. It is recognised that due to resource limitations, workforce issues and geographic barriers in rural and remote areas, collaboration between health sectors and agencies is vital for individual organisations to succeed in meeting their goals.

Other organisations including the Office of Hearing Services, Department of Health & Ageing provide for fitting and maintenance of devices, therapeutic interventions and a range of other services which assist the hearing impaired to participate in the community and the workforce. However, access to these services is subject to strict eligibility criteria and many consumers who do not meet eligibility criteria, must seek private services or choose not to pursue care.

NSW Health is currently undertaking the NSW Hearing Services Review, a comprehensive review of public, private and not for profit hearing services across the state. The Hearing Services Review will put forward recommendations to improve the coordination and delivery of hearing services in NSW.

The NSW Hearing Services Review is likely to recommend increased collaboration between agencies to develop coherent and focused strategies addressing the many and complex needs of people with hearing loss of all ages. Given the predicted increase in prevalence of hearing loss and limited resources, it is necessary for agencies and organisations that provide hearing health services to work together in this way.

^{1&2} Access Economics *Listen Hear! The economic impact and cost of hearing impairment in Australia*, February 2006

1. The extent, causes and costs of hearing impairment in Australia

Hearing impairment is a reduced ability to hear, and includes:

- a mild loss (25-40 decibels), which causes a difficulty hearing whispers;
- a moderate loss (41-55 decibels), which causes a difficulty hearing normal speech;
- a moderately severe loss (56-70 decibels), characterised by the ability to hear loud speech only;
- a severe loss (71-90 decibels), characterised by the ability to only hear loud speech very close to their ear; or
- a profound loss (>90 decibels), leading to deafness and the inability to even hear speech that is amplified.

1.1 The extent of hearing impairment in Australia

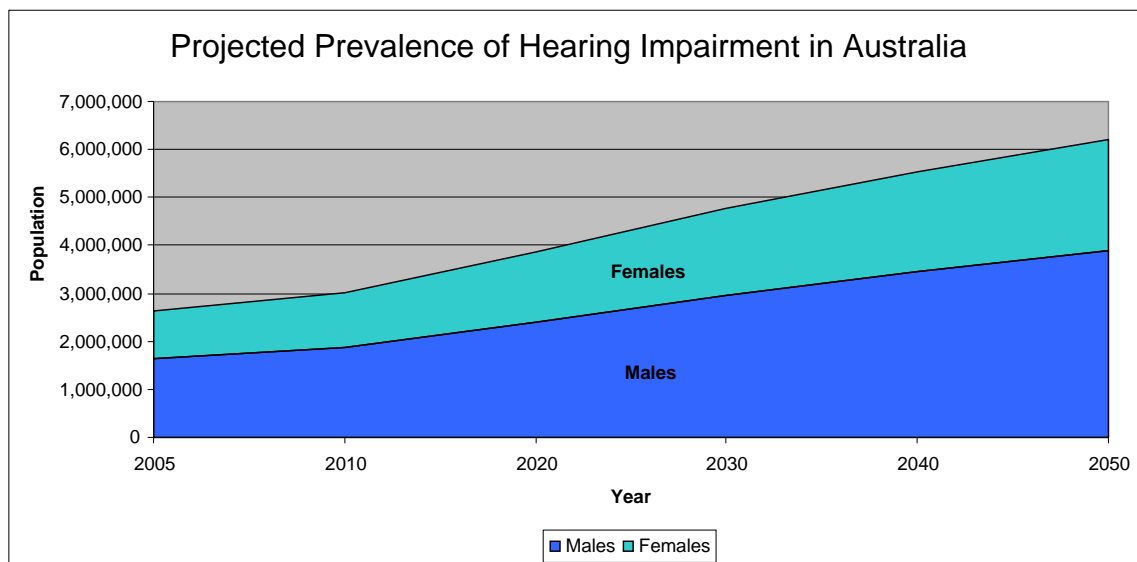


Figure 1 Data sourced from Access Economics *Listen Hear!* report

At present one in six Australians is affected by some degree of hearing loss and this is anticipated to increase over the next forty years. Hearing loss can be present at birth or develop at any time throughout life, but typically it increases with age. Hearing loss is now the third most prevalent chronic health condition in older people, following arthritis and high blood pressure.³

According to the Access Economics report into the economic impact and cost of hearing impairment in Australia, the predicted number of Australians with a hearing loss will steadily increase until the year 2050 when it is estimated that more than one in four of the population will have some type of hearing loss. 26.7% of people aged between 15 and 50 will have a hearing impairment (mild, moderate or severe in their worse ear) in 2050, compared with 17.4% for the same age group in 2005⁴.

³ Access Economics *Listen Hear! The economic impact and cost of hearing impairment in Australia*, February 2006, p5

⁴ Access Economics *Listen Hear! The economic impact and cost of hearing impairment in Australia*, February 2006, p7

This increased prevalence is due to the ageing of the population, since hearing loss increases with age. The Australian Bureau of Statistics reported data collected in the 2006 census which demonstrated that those aged between 50 and 59 increased from 10% of the population to 13% between 1996 and 2006, while the number of those entering the workforce (aged between 15 and 24) fell from 14.5% to 13.6%.

The projected prevalence of hearing loss supports hearing loss early detection and intervention programs, as well as strategies to prevent noise induced hearing loss through hearing health promotion and education.

1.2 The causes of hearing impairment

All types of hearing loss will result in the inability of a person to hear sounds and understand speech particularly in noisy places. Conductive and Sensorineural Hearing Loss are the two most common types of hearing loss.

A conductive loss is the most common cause of hearing loss in children and can be caused by conditions associated with the external ear or the middle ear that block the transmission of sound, such as with an ear infection (Otitis Media), fluid in the ear (Otitis Media with effusion), impacted ear wax (cerumen), a perforated ear drum, otosclerosis, a foreign body in the ear canal (such as a bead), a cholesteatoma, or birth defects, such as those that cause a small or absent ear canal. Many forms of conductive hearing losses can be treated with surgery.

A sensorineural loss or 'nerve deafness' is caused by conditions associated with the inner ear or central auditory pathways of the brain. It can develop prenatally, be present from birth or can develop later, and is most commonly caused by:

- congenital infections (CMV, rubella, herpes, syphilis, toxoplasmosis)
- use of ototoxic drugs (such as chemotherapy and certain antibiotics)
- prematurity with birth weight < 1500g
- neonatal illnesses, including jaundice with a bilirubin high enough to warrant treatment with an exchange transfusion, persistent pulmonary hypertension of the newborn associated with mechanical ventilation, and conditions requiring extracorporeal membrane oxygenation (ECMO)
- heredity (with a family history of permanent childhood hearing loss)
- bacterial meningitis
- head trauma
- exposure to loud noises
- syndromes associated with hearing loss such as neurofibromatosis, osteopetrosis, and Usher's syndrome
- neurodegenerative disorders, such as Hunter syndrome
- sensory motor neuropathies, such as Friedreich's ataxia and Charcot-Marie-Tooth
- natural phenomenon of aging (presbycusis)

Auditory Neuropathy Spectrum Disorder (ANSD) and Auditory Processing Disorders are less common conditions which affect hearing.

ANSD is a permanent hearing loss that is caused by inadequate transmission of nerve impulses from the cells of the inner ear or through the brainstem. At birth it affects approximately 0.2 children per thousand live births and is most common in children who have risk factors for deafness.

Auditory processing disorders may be temporary, reversible or permanent. It is believed that an auditory processing disorder may be caused by a range of potential disorders within the brainstem and/or auditory cortex which prevent sounds from being properly understood, particularly in the presence of background noise.

According to the Access Economics report, 37% of hearing loss is caused by exposure to excessive noise and is preventable⁵. In these instances, changing behaviours and attitudes is critical.

1.3 The costs of hearing impairment in Australia

Hearing impairment creates a range of costs including direct health care costs, loss of productivity and loss of income tax revenue. A study by Access Economics in 2006 estimated the real cost of hearing impairment to the community as \$11.75 billion in 2005, by calculating direct health costs as well as productivity losses, education and support services, communication aids and devices, carers, losses associated with government transfer payments and loss of wellbeing (burden of disease).

Loss of productivity accounts for more than half (57%) of all the financial costs (\$6.7 billion). For instance, in 2005, approximately 158,876 people were not employed due to hearing loss, with half of those with hearing loss being of working age⁶. While devices and support can assist people with hearing impairment to maintain employment, these services are often difficult to access.

The cost of providing devices which enable people with hearing loss to communicate is also significant. Approximately \$370 million a year is spent on hearing aids, including more than \$240 million by the Commonwealth government through the Office of Hearing Services Program, and over \$10 million a year is spent on cochlear implants.

The earlier a hearing loss is identified and intervention is commenced the better health outcomes, educational attainment, community and workforce participation can be achieved. Initial investments in hearing health care, by screening early in life and providing technological and therapeutic interventions as soon as required, minimise the impact of hearing impairment on development. Children who receive this early intervention and investment are often able to attend mainstream school. Where special needs are supported in this environment and ongoing clinical and technological services are available, future costs can decrease.

Given the predicted increase in hearing loss incidence, the real financial cost of hearing loss is set to grow. The best protection for individuals, communities and the economy is to provide timely, appropriate services and management of hearing losses at the earliest opportunity.

⁵ Access Economics *Listen Hear! The economic impact and cost of hearing impairment in Australia*, February 2006, p5

⁶ Access Economics *Listen Hear! The economic impact and cost of hearing impairment in Australia*, February 2006, p5

2. The implications of hearing impairment for individuals and the community

Hearing underpins communication between people. As a result, unmanaged hearing loss has considerable implications for individuals, families, communities and the economy.

As stated in the *Listen Hear!* Report:

“The consequence of hearing loss is a reduced capacity to communicate. The ability to listen and respond to speaking is reduced and for some, the ability to speak is lost or impaired. Reduced communication abilities impact on a person’s life chances through the reduced opportunity to equitably participate in education, to gain competitive skills and employment and to participate in relationships. Adverse health effects are associated with hearing loss.”⁷

Development of speech and language skills depend on hearing, just as social development is nurtured by social interaction. Enabling a child to progress through a development path as close to that of a non-hearing impaired child as possible is critical to the implications on the child’s speech and language development.

Without the presence of other conditions, a child whose hearing loss was detected and managed from their first year of life can often attend mainstream school, where they learn to participate as children without hearing loss. The social, health and educational outcomes for this child are strengthened by early intervention services received.

With ongoing access to appropriate interventions and support throughout life, the impact of hearing loss can be managed effectively. Conversely, unmanaged hearing loss can seriously restrict an individual’s interactions, experiences and opportunities. In terms of disability weighting, *Listen Hear!* compares mild hearing loss to mild asthma, moderate hearing loss to chronic pain from a slipped disc and severe hearing loss to chronic pneumonia.

⁷ Access Economics *Listen Hear! The economic impact and cost of hearing impairment in Australia*, February 2006, p5

3. NSW Department of Health - Hearing Initiatives

NSW Health currently manages a number of programs that address hearing health, including:

- The Statewide Infant Screening – Hearing (SWISH) Program
- Aboriginal Otitis Media Program
- Cochlear Implant Program
- Hearing Health Network Development

NSW Health also convenes the Ministerial Standing Committee on Hearing whose members represent NSW Health, NSW Department of Education and Training, Commonwealth Department of Health and Ageing, Early Hearing Intervention Centres, parents and consumers including an Aboriginal representative.

3.1 Statewide Infant Screening – Hearing (SWISH) program

The NSW Statewide Infant Screening – Hearing (SWISH) program commenced in December 2002. The program is the first universal hearing screening program implemented in Australia. The aim of SWISH is to identify all babies born in NSW with significant permanent bilateral hearing loss by 3 months of age, and for those children to be able to access appropriate intervention by 6 months of age.

All well infants born or residing in NSW are offered a screen. Screening is conducted in multiple locations, including maternity and birthing hospitals, community health centres and in the home. In 2007/08, 99% of newborns were screened.

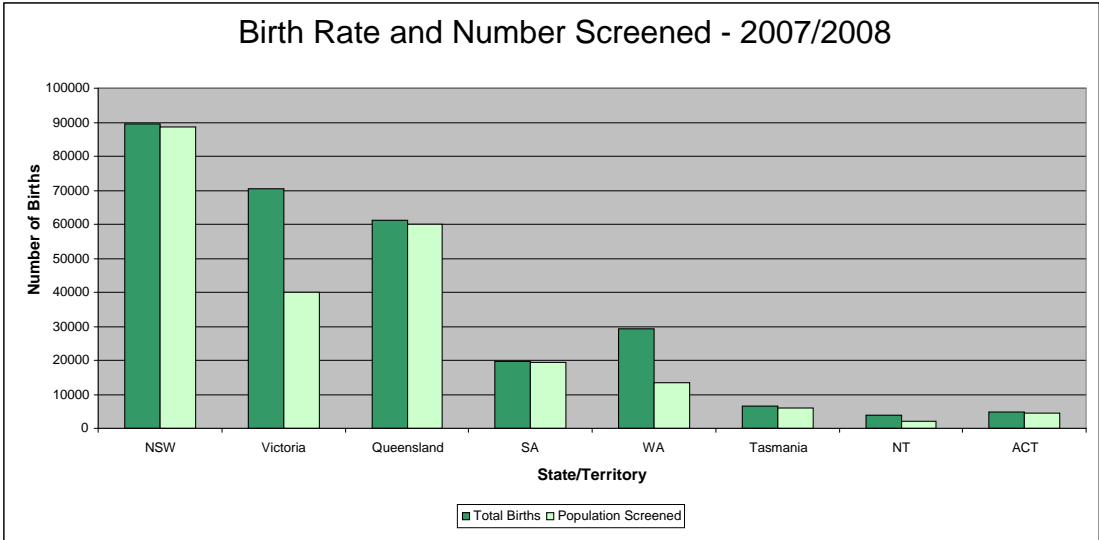


Figure 2 Birth rate and number of these births screened in 2007.

Of the screening for hearing loss at birth undertaken in Australia, 37% are performed in NSW.

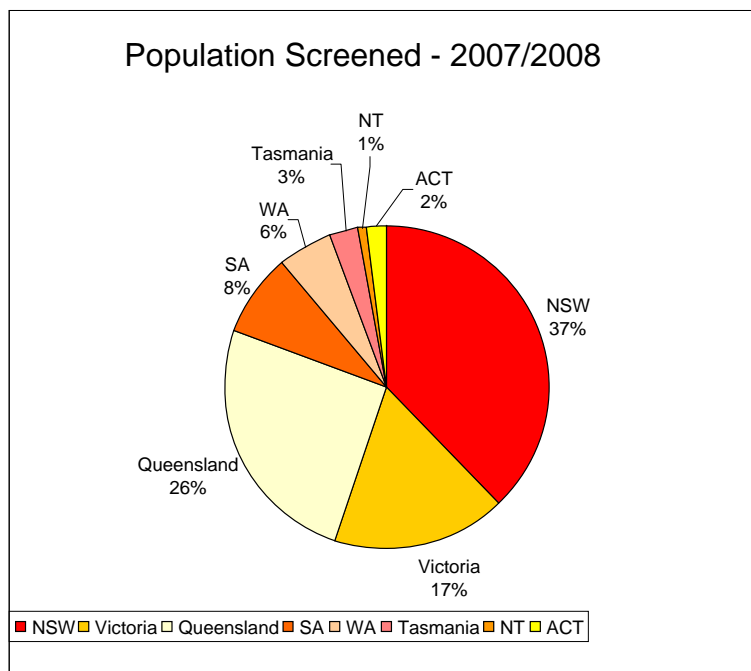


Figure 3 Australian population screening rates 2007/2008

Since the program's inception, SWISH has screened over 550,000 babies, referred over 1700 infants diagnosed with bilateral hearing loss, and has diagnosed over 650 with a significant bilateral hearing impairment.

The program uses Automated Auditory Brainstem Response (AABR) screening to detect congenital hearing impairment in infants as young as six hours old. The screening detects sensorineural hearing loss in the cochlea and hearing nerve.

The success of the universal screening program is most clearly demonstrated in the impact on language and speech development following early fitting of hearing aids.

The National Acoustics Laboratory is currently conducting a longitudinal study into the outcomes of early and later identified infants with hearing impairment. The Longitudinal Outcomes of Children with Hearing Impairment (LOCHI) study is the first large scale prospective study of the impact early identification of hearing loss has on speech, language and psychosocial outcomes.

NSW Health currently provides funding to the National Acoustics Laboratory to include all infants identified with hearing loss in the SWISH program in the LOCHI study sample. As a result of this funding, NSW has the highest recruitment rate in the study (234 of the 475 infants recruited to participate).

It is anticipated that the results of the LOCHI study will be significant to future developments of and improvements to the SWISH program.

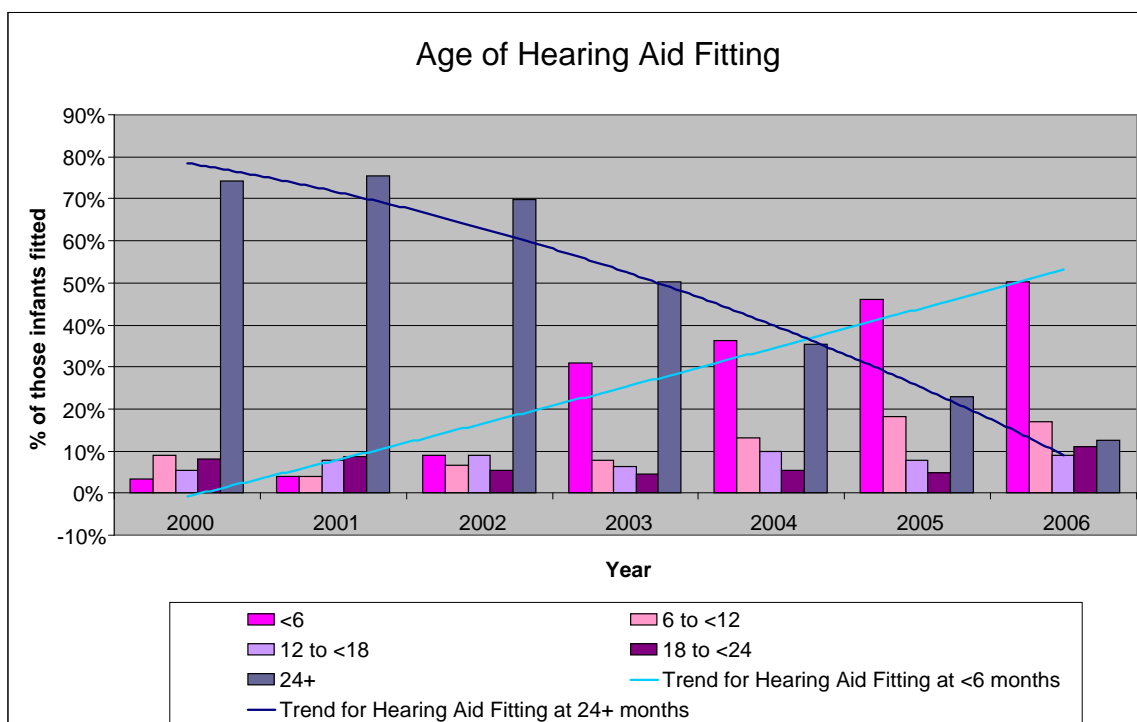


Figure 4 The age of Hearing Aid fitting has dramatically reduced since commencement of the SWISH program.

3.2 Cochlear Implant Program

The management of approximately 90% of the NSW Health funded cochlear implants is coordinated through the Sydney Cochlear Implant Centre (SCIC). The remainder are managed through The Shepherd Centre.

The decision to implant is based on complex and rigorous scientific clinical criteria. This approach ensures equitable access to this technology for those residing in NSW.

Currently NSW provides funding for the insertion of 101 cochlear implants each year, 54 of which are for children and babies. As a result of this funding, children and babies who have been assessed as requiring an implant are scheduled for surgery. For children in NSW there is no waiting period for cochlear implants.

The threshold for implantation in adults is less well defined. Despite significant investment over many years, waiting times still exists for adults requiring a publicly funded cochlear implant.

Where the decision to implant is supported, the entire in-patient cost is provided including cost of the implant. In addition, funding is provided for a range of support services including habilitation, psycho-social and biomedical engineering support for public patients. These services are provided at no cost to consumers (public and privately insured).

There are new technologies available that combine acoustic benefits of a hearing aid and the electronic signal of a cochlear implant currently being commercialised and this has the potential to increase the cohort of potential recipients of a cochlear implant. The implications for the NSW cochlear implantation program of providing implants as opposed to hearing aids for this cohort would be significant.

3.3 Ministerial Standing Committee on Hearing

The Ministerial Standing Committee on Hearing (the Committee) was formed in February 2004 and first met in March 2004.

The Committee has a broad role and strategic focus, working with other government departments and non-government organisations. In this way, the Committee facilitates multicultural and multidisciplinary collaboration of service providers across the whole spectrum of care (including screening, diagnosis, treatment, research, education and occupational safety).

i. Terms of Reference

The Terms of Reference for the Committee are as follows:

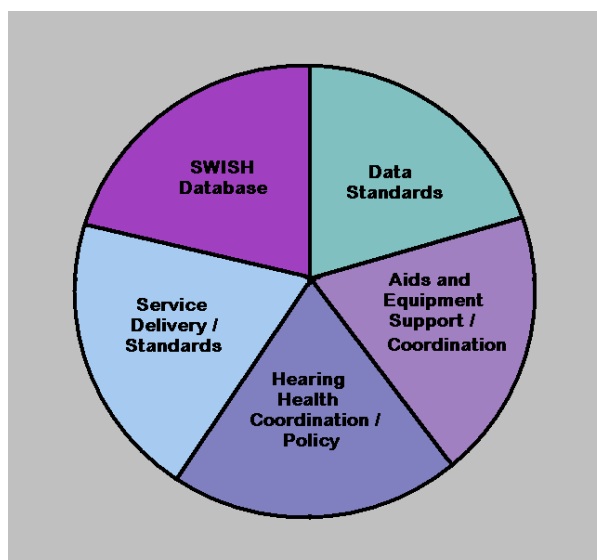
- To set strategic directions for hearing services in NSW, in consultation with key interest groups including people with hearing disabilities, members of the wider community, and health professionals
- To identify gaps in the provision of hearing services whether in particular sectors of the community or by geographical area
- To identify, consider and advise the NSW Minister for Health on issues relating to:
 - Funding priorities for hearing services
 - Quality and appropriateness of hearing services, including the use of standard, agreed clinical pathways and treatment protocols
 - Timely and equitable consumer access to required services, including for rural residents
 - Outcomes of investments in hearing services
 - Research, education and training programs

The Committee also provides advice on hearing services in NSW such as, the NSW SWISH program, the Aboriginal Otitis media program and Cochlear Implant program.

ii. Key Priorities

The Committee has developed a number of key priorities determined through an extensive consultation process. These priorities have provided the Committee with an ambitious work plan to focus its efforts on and have been divided into two working streams; Hearing Services and Cochlear Implant priorities.

Hearing Services Priorities



The Hearing Services Priorities were developed at a Joint meeting of the Ministerial Standing Committee on Hearing, Adult Services and Family Support Working Groups in July 2006.

These priorities included:

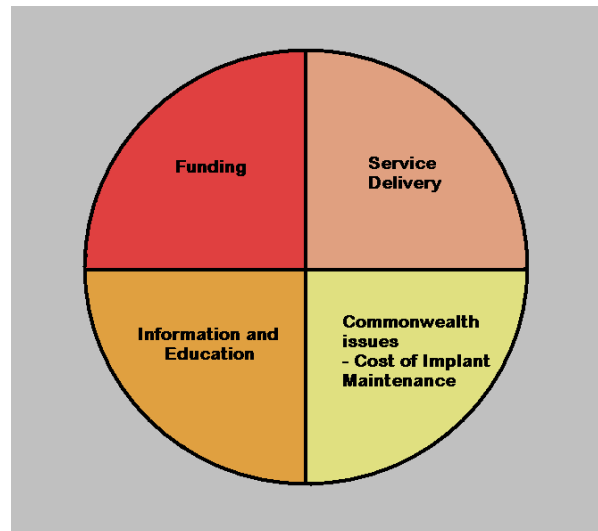
- Developing a data base for the SWISH program.
- Defining standards for data collection.
- Providing financial support for children and adults to purchase aids and equipment such as smoke detectors, video relay services and hearing loops which lessen the impact of their hearing loss.
- Establishing a hearing health coordination policy or a point of contact in the Area Health Services to gather, disseminate information and establish a hearing health network.
- Mapping current care coordination and setting standards of care.

Other areas of work identified included, providing better information on hearing services, protecting consumers who are using private hearing services, promoting hearing health to prevent hearing losses caused by noise damage, training and credentialing of persons who work in hearing health and working with Justice Health to determine the impact of hearing loss in justice health.

From the above listed priorities, NSW Health currently focuses on the following:

- Hearing health coordination and policy: establishment of a Hearing Health Network to coordinate referral networks within NSW is progressing
- Developing a data base for the SWISH program: a tender for the SWISH database is currently advertised with the aim to improve data collection, reporting and facilitate monitoring of screening, diagnosis and referral of infants within the SWISH program.
- Defining standards for data collection: NSW Health is actively involved in the development of national standards for newborn hearing screening data collection through the Australian Neonatal Hearing Screening Working Group, a sub-committee to the Australian Population Health Development Principal Committee (ADHPS) formed under the Australian Health Ministers' Health Council (AHMAC).

Cochlear Implant Priorities



The key priorities for Cochlear Implantation were developed by the Cochlear Implantation Sub Committee in August 2006.

These priorities are:

- Develop a funding model and policy that takes account of projected demand, cost of implants, replacements of implants, provision of bilateral implants in exceptional circumstances and allows flexibility of funding between centres.
- Develop strategies for improved services to groups with particular needs – rural and remote, indigenous, Culturally & Linguistically Diverse (CALD) and socio-economically disadvantaged communities.
- Develop an information and education strategy covering the costs of implants, services available and the social and economic benefits of implants.
- Liaise with the Commonwealth Government regarding the Cost of Implant Maintenance.

4. The adequacy of access to hearing services, including assessment and support services, and hearing technologies

NSW Health is committed to providing high quality services to detect, diagnose and manage hearing impairment and acknowledges the need to build on its existing work to ensure equitable access to services throughout NSW. As reported by *Listen Hear!*, the majority of people with hearing loss (85%) do not have hearing aids or cochlear implants which could enhance their ability to communicate⁸.

NSW Health's current focus is the development of a Hearing Health Network to streamline pathways for people with hearing impairment through different hearing health services, reducing duplication of services, and improving consumer hearing health outcomes. To this end, NSW Health commenced a review of hearing services in early 2009, which will inform the establishment of this Network.

4.1 NSW Hearing Services Review

The NSW Hearing Services Review is undertaking a comprehensive assessment of public, private and not for profit hearing services provided across the state. As well as shaping the Hearing Health Network, the Review will also serve as a baseline for future planning and evaluation of hearing services.

Particular focuses of the NSW Hearing Services Review include:

- Assessing coordination between services.
- Assessing accessibility of services.
- Identifying gaps that exist for specific groups for instance due to age, degree of hearing loss, or geographical location.
- Identifying and improving opportunities for collaboration with other hearing service providers.
- Assessing the characteristics of relevant workforces (audiology, nurse audiometry and Ear, Nose and Throat medical specialists).

Based on findings of the Review to-date, accessibility is a significant issue for consumers across metropolitan, rural and remote areas of the State. Figure 5 illustrates which services are available for groups based on demographic and clinical characteristics according to these preliminary findings. The table demonstrates the current roles and responsibilities of the Commonwealth Department of Health & Ageing, NSW Health, the NSW Department of Education & Training, not for profit and private organisations.

⁸ Access Economics *Listen Hear! The economic impact and cost of hearing impairment in Australia*, February 2006, p5

Public and Private Hearing Health Services in NSW

		Birth	<21 years	21 - 65 years	65+ years
		AGE			
Detection	Commonwealth				
	NSW Health	SWISH	Otitis Media & some school screening	Limited services by Nurse Audiometrists and Audiologists	
	Education & Training				
	Not for profit	GAP: Public Nurse Audiometry & Audiology FTE's needed			
	Private				
Diagnosis	Commonwealth				
	NSW Health	SWISH	Limited Diagnostic Audiology and Ear Nose & Throat Medical Specialists		
	Education & Training				
	Not for profit				
	Private	Private health insurance cover for private services varies			
Cochlear Implant	Commonwealth				
	NSW Health	Funds limited cochlear implant surgery, device & fitting (101 per year, including 54 for infants and children)			
	Education & Training				
	Not for profit	Fund some in special circumstances			
	Private	Private health insurance may cover private surgery &/or device &/or re-fitting			
Hearing Aid	Commonwealth	Device & fitting		Device & fitting for some low income earners	For pensioners only
	NSW Health				
	Education & Training	GAP: Those fitted under 21 years need continued access & assistance			
	Not for profit	Hearing Aid banks for low income earners			
	Private	Private Health Insurance cover for private services varies			
Device Management	Commonwealth	Maintenance and replacement parts for HA & CI			Hearing Aid maintenance for a small annual fee
	NSW Health	GAP: Those fitted under 21 years need continued device management			
	Education & Training				
	Not for profit				
	Private				
Intervention	Commonwealth				
	NSW Health				
	Education & Training	Limited school support provided			
	Not for profit	According to relevant eligibility criteria			
	Private	Private health insurance may provide cover for private services			

Figure 5 Current situation and identified gaps based on findings to date of the NSW Hearing Services Review

For instance, detection and diagnosis is a State responsibility, while the dispensation and maintenance of hearing aids is provided by the Commonwealth. Intervention therapies, educational assistance and other essential services are provided by NSW Department of Education & Training, not for profit and private organisations.

4.2 Detection

The SWISH Program operates throughout NSW, and is the leading statewide Universal Newborn Hearing Screening program in Australia in terms of coverage with 99% of newborns screened in 2007/2008.

NSW Health is currently tendering for the development of a database to enhance the SWISH data collection and enable monitoring of infants from screening, to referral, and diagnosis. Another advantage of the database is that it will enable the collection of demographic data such as Aboriginal and Torres Strait Islander status. This will facilitate an analysis of how well the SWISH pathway accommodates specific groups, and will inform targeted strategies in response.

National newborn hearing screening standards are under development through the Neonatal Hearing Screening Working Group of the Screening Subcommittee of the Australian Population Health Development Principal Committee. NSW Health supports the development of national standards as a means to ensure consistency between and quality within State programs.

The value of the Healthy Kids Check Commonwealth Government initiative is recognised by NSW Health. Implemented in 2008, the Healthy Kids Check is undertaken by General Practitioners and Practice Nurses in association with Medicare Benefits Schedule Items 709 and 711. This program is important for identifying children with hearing impairment and other conditions that may cause developmental delays at the age of four. NSW Health seeks to work with the Commonwealth Government to ensure that this program is optimally integrated with existing services such as those in Community Health Centres provided by Nurse Audiometrists and Child and Family Health Nurses.

Due to the limited capacity of community health services, school screening programs have been phased out in most parts of NSW. Screening sometimes takes place in schools out of necessity, for instance to detect hearing loss amongst newly arrived school children from African and Middle Eastern countries.

Further, Figure 5 illustrates a gap in publicly funded hearing screening services for adults. It is recommended that funding is allocated to screening services for adults in the workforce according to industry and need.

RECOMMENDATION 1: That the Commonwealth consider extending the Healthy Kids Check for Audiologists and Nurse Audiometrists to conduct hearing checks prior to school entry.

4.3 Hearing aids

The Commonwealth currently funds access to hearing aid technology and supportive services for those under 21 years of age, some low income earners, and pensioners. After the age of 21, very limited publicly funded services are available and strict eligibility criteria applies resulting in a number of hearing impaired persons being unable to upgrade, repair or seek advice around their hearing aid. At a time when young people pursue employment and/or tertiary education, this change in service availability often has a negative impact on their attainment of qualifications and generation of personal income, which in turn may limit their means to access hearing services.

RECOMMENDATION 2: That the Commonwealth provide lifelong access to hearing aid technology and supportive services, in recognition of the ongoing needs of the hearing impaired for devices and upgrades, and associated supportive services. Consideration should also be given to the Commonwealth supporting hearing aid banks by funding further development.

4.4 Device management

As above, devices which enable hearing impaired people to communicate require maintenance, upgrade and other support in order to continue to benefit the user. The Office of Hearing Services currently provides hearing aid device management for individuals aged under 21, or pensioners for a small annual fee. Cochlear implant repairs are also provided by The Office of Hearing Services for individuals aged under 21 years.

RECOMMENDATION 3: That the Commonwealth provide consumers with lifelong access to hearing aid and cochlear implant device management through the Office of Hearing Services, in recognition of the ongoing needs of the hearing impaired for maintenance of hearing aid and cochlear implant devices.

4.5 Intervention

Not for profit organisations provide the bulk of intervention services available in NSW. The current economic climate has increased existing fundraising challenges of these organisations who deliver a vital service working to support and enhance the government's investment in hearing.

Children with hearing impairment are increasingly able to access mainstream education due to the implementation of SWISH, the provision of devices and early intervention services.

5. The adequacy of current hearing health and research programs, including education and awareness programs

5.1 The adequacy of hearing health programs in NSW

One of the objectives of the NSW Hearing Services Review is to map the current situation in public, private and not for profit hearing health services across NSW. Findings to-date strongly suggest that while services provided in NSW are of high quality and achieves good health outcomes, accessibility is a significant barrier to treatment for many. Partly this is due to limited public Audiology, Nurse Audiometry and Ear Nose & Throat positions in public health services. Also, the geographical distribution of services is inconsistent.

Following the review, NSW Health will seek to collaborate with the Department of Health & Ageing, the NSW Department of Education & Training, not for profit and private services in the development of coherent and focused strategies addressing the many and complex needs of people with hearing loss of all ages. Given the predicted increase in prevalence of hearing loss and limited resources, it is necessary for organisations that provide hearing health services to work together in this way.

i. The adequacy of NSW Statewide Infant Screening – Hearing program

Specific to paediatric hearing health, the LOCHI study outlined in section 3 of this submission is the first large scale prospective study of the impact early identification of hearing loss has on speech, language and psychosocial outcomes. Results from this study will become available over the next few years, however, early evidence from the study demonstrate the significant benefits children with hearing impairment identified at birth experience as a result of technological and therapeutic interventions.

Programs like SWISH have increased demand for early intervention services and strengthened the outcomes achieved by these services. Despite this success, hearing impairment is incurable and assistance is typically needed throughout life. Early identification and intervention programs need to be followed up by accessible continuing services in educational and occupational contexts and throughout adulthood.

The early diagnosis of newborns may also impact on families and the attachment between the parents and their child. While the opportunity to address their child's needs effectively is welcomed, diagnosis of infants with hearing loss causes grief to some parents. The provision of comprehensive support services including counselling and education is necessary to support families and fully utilise the benefits of early intervention.

Furthermore, some hearing losses are not detected or present during infancy and may not develop until later. For each child identified by SWISH, another child will have acquired some permanent hearing loss by 8 years of age. Some of these

children may have been identified with unilateral and mild losses by SWISH which did not meet criteria for early intervention services. The need for another screening program, at or before school entry, and appropriate interventions for these children must be examined.

RECOMMENDATION 4:

- (a) Funding be provided by the Commonwealth for enhanced support services to parents of diagnosed infants and children.
- (b) Extension of the Healthy Kids Check for hearing screening be considered by the Commonwealth.

5.2 The adequacy of hearing health research programs

There is a broad range of research projects that would benefit State and Commonwealth governments. Suggested focuses for these projects include:

- Understanding and awareness of hearing loss.
- Prevalence in NSW and Australia, including rates of co-morbidity with other conditions.
- Causes and treatments for Aboriginal Otitis Media.
- Rates of premature retirement amongst hearing impaired individuals.
- Psychological impact of infant hearing loss diagnosis on parents and associated effect on attachment.
- Nature of personal music player use amongst children and adults, demographic characteristics associated with high risk use⁹.

NSW supports the suggested areas for research recommended by the Access Economics report *Listen Hear!*, including:

- Prevention of hearing loss (cost-effective measures), in particular regarding personal protection equipment;
- Barriers to use of personal protection equipment
- Bio-molecular and genetic approaches to hearing loss
- Health effects of hearing loss
- Cost-effective models of enhancing informal care
- Enhancing the productivity of people with hearing loss.

RECOMMENDATION 5: That the Commonwealth commission research into the above areas of concern, in consultation with State governments, key private and not for profit stakeholders.

5.3 Health Promotion – Prevention of Noise Induced Hearing Loss

NSW Health has recognised the importance of developing appropriate hearing health promotion strategies that build on the knowledge that is available.

⁹ A media release published by the Australian Communications & Media Authority in 2007 indicated that 76% of Australian Households where children aged between 8-17 years reside have mp3 or mp4 portable music devices.

NSW Health is currently developing a Hearing Health Protection Strategy. The proposed strategy will aim to raise awareness and encourage people to protect their hearing against preventable hearing loss.

The proposed campaign aims to:

- increase awareness of the risk of hearing loss from personal entertainment devices such as MP3 players and other sources of noise;
- reduce the projected increase in prevalence of hearing loss;
- promote the work of NSW Health in hearing health promotion, protection and care; and
- support the NSW Health Hearing Services Review.

In doing this work, NSW Health seeks to collaborate with other agencies to ensure consistent hearing health messages and avoid duplications. NSW Health is also currently liaising with the Department of Health & Ageing to understand the range of health promotion activities currently being undertaken in this area and determine how the Department might contribute to existing health promotion activities.

RECOMMENDATION 6: That State and Commonwealth governments collaborate in health promotion activities to ensure consistent hearing health messages and avoid duplications.

5.4 Legislation and Regulation

NSW Health considers it important to review whether legislation is required to protect consumers in situations where noise may potentially damage patrons' hearing, such as at hotels, bars, clubs and areas where concerts are performed as well as for personal music device manufacturers.

The European Commission is reported to have developed a range of proposals around noise output levels of personal music players and mobile phones. Specifically, a limit of 80db is the proposed maximum decibel level (currently 100db). Consideration of compliance with this type of regulation for manufacturers supplying Australian consumers is supported by NSW Health, to avoid preventable hearing losses and minimise associated costs.

RECOMMENDATION 7: That the Commonwealth commission an evaluation of existing guidelines and how these are monitored by an Audiologist with specialist expertise in noise, and consider the need for regulations limiting noise output levels of personal music players and mobile phones sold in Australia.

5.5 Consumer Protection

The Office of Hearing Services in the Commonwealth Department of Health and Ageing oversees the policies around the provision of hearing aids and devices. The system developed includes provision of a voucher to eligible clients to purchase hearing aids from accredited dealerships.

While the voucher covers the cost for a basic hearing aid, consumers may be advised that they need to purchase a more expensive device.

There is some regulation for Office of Hearing Services accredited dealerships. NSW Health supports the development of standards and codes of practice for the ethical provision of hearing aids based on the needs of customers including those using vouchers and those purchasing a hearing aid independently, such as self funded retirees.

RECOMMENDATION 8: That standards and codes of practice are developed by State and Commonwealth governments for the ethical provision of hearing aids by retailers to publicly funded and self funded consumers.

6 Specific issues affecting indigenous communities

6.1 NSW Aboriginal Otitis Media Program

Otitis media (commonly referred to as "glue-ear") is an infection in the middle ear. Recurring and chronic middle ear infections can adversely affect health, learning ability, interaction skills and educational attainment. Middle ear infection is significantly higher in Aboriginal children than non-Aboriginal children.

While overall social, economic, educational and health disadvantage play a role, the prevalence of Otitis Media is directly affected by several modifiable risk factors including:

- Smoking during pregnancy
- Environmental tobacco smoke
- Limited duration breastfeeding
- Unsafe and overcrowded housing
- Poor nutrition
- Cross infection from siblings and other children
- Limited public transport (rural) to access health care

The Aboriginal maternal smoking rate during pregnancy is 53.6% while in the non-Aboriginal population the rate is only 12.3%.

NSW Health funds 11 Aboriginal Otitis Media Coordinator positions throughout NSW located at Area Health Services and Aboriginal Community Controlled Health Services.

In the period 2004/2005 to 2007/08, approximately 60,000 hearing health screenings for Aboriginal children in the 0-6 age group were conducted across NSW. Of those screenings, approximately 30% required referral for further screening or assessment, with approximately 3% requiring referral to Ear, Nose and Throat specialists.

Overall, there is little clinical research conducted in NSW on Otitis Media in Aboriginal communities, however one project is The Study of Environment on Aboriginal Resilience & Child Health (SEARCH) by the Sax Institute.

SEARCH is a longitudinal study which aims to investigate the causes of illness in Aboriginal children aged 0-17 years, focussing on health environment and selected health issues.

RECOMMENDATION 9: NSW Health recommends further support from the Commonwealth for programs which address risk factors associated with Otitis Media including Housing for Health and SmokeCheck.

7. Conclusion

NSW Health is working to improve equitable access to hearing services and to meet the demand of existing and projected prevalence of hearing loss through the development of a Hearing Health Network and improvements to the SWISH Program.

Through the Hearing Services Review, NSW Health is currently collecting comprehensive data to map the current situation of public, private and not for profit hearing services in order to develop evidence based strategies.

It is recognised that due to resource limitations, workforce issues and geographic barriers in rural and remoteness, collaboration between health sectors and agencies is vital for individual organisations to succeed in meeting their goals.

NSW Health recommends that State and Commonwealth governments form partnerships to develop coherent and focused strategies to ensure the nation's hearing health needs are adequately addressed. NSW Health also seeks to work with the non-government and private service sectors to effectively minimise duplications, maximise accessibility and appropriateness of services and the use of resources available.

SUMMARY OF RECOMMENDATIONS

1. That the Commonwealth consider extending the Healthy Kids Check for Audiologists and Nurse Audiometrists to conduct hearing checks prior to school entry.
2. That the Commonwealth provide lifelong access to hearing aid technology and supportive services, in recognition of the ongoing needs of the hearing impaired for devices and upgrades, and associated supportive services. Consideration should also be given to the Commonwealth supporting hearing aid banks by funding further development.
3. That the Commonwealth provide consumers with lifelong access to hearing aid and cochlear implant device management through the Office of Hearing Services, in recognition of the ongoing needs of the hearing impaired for maintenance of hearing aid and cochlear implant devices.
4. (a) Funding be provided by the Commonwealth for enhanced support services to parents of diagnosed infants and children. (b) Extension of the Healthy Kids Check for hearing screening be considered by the Commonwealth.
5. That the Commonwealth commission research into the above areas of concern, in consultation with State governments, key private and not for profit stakeholders.
6. That State and Commonwealth governments collaborate in health promotion activities to ensure consistent hearing health messages and avoid duplications.

7. That the Commonwealth commission an evaluation of existing guidelines and how these are monitored by an Audiologist with specialist expertise in noise, and consider the need for regulations limiting noise output levels of personal music players and mobile phones sold in Australia.
8. That standards and codes of practice are developed by State and Commonwealth governments for the ethical provision of hearing aids by retailers to publicly funded and self funded consumers.
9. NSW Health recommends further support from the Commonwealth for programs which address risk factors associated with Otitis Media including Housing for Health and SmokeCheck.