Submission to inquiry into Hearing Health in Australia from The University of Melbourne, Audiology and Speech Sciences

Prepared by Professor Richard C. Dowell BSc MSc DipAud PhD FASA(CC)
Professor of Audiology and Speech Sciences,
Head, Department of Otolaryngology, The University of Melbourne
Director, Melbourne Cochlear Implant Clinic,
Royal Victoria Eye and Ear Hospital

Preamble: Professor Dowell has 30 years of experience in research, teaching and clinical services in the hearing health field. The University of Melbourne and the Royal Victorian Eye and Ear Hospital employ over 35 audiologists in a range of clinical, teaching and research activities across the spectrum of hearing health care. The University of Melbourne has an international reputation in the Cochlear Implant Field as the original developer of the cochlear implant technology, commercialized by Cochlear Ltd, that has become standard treatment around the world for severe and profound hearing loss.

A. The extent causes and costs of hearing loss in Australia.

In 2006, the Cooperative Research Centre for Cochlear Implant and Hearing Aid Innovation (now the Hearing CRC) along with VICDEAF commissioned a report from Access Economics to document the economic impact and cost of hearing loss in Australia (LISTEN HEAR!) This document provides a comprehensive investigation of these issues and I refer the Reference Committee to this report regarding issues of extent and costs of hearing loss. The study concluded that the real financial cost of hearing loss in Australia was $11.75 billion in 2005, with a further $11.3 billion in terms of "loss of well-being".

It is worth highlighting that the direct health care costs amount to only 6% of the real financial cost. There would appear to be a persuasive argument for additional spending in the research and health care areas related to hearing as long as such spending is targeted to produce measurable outcomes in terms of improved productivity and well-being.

As to the causes of hearing loss, the two risk factors of noise exposure and age account for a very large proportion of all significant hearing losses. Legislation already seeks to protect employees in Australia from exposure to dangerous levels of noise but there remain problems in the implementation and acceptance of hearing protection and the susceptibility to noise damage appears to vary

widely across the population. Research into the susceptibility to noise damage and into pharmacological protection of the ear could have a large impact on this area. In addition, smarter forms of hearing protection may provide more acceptance by employees and have less impact on communication in the work place. Recreational noise exposure tends to generate a lot of discussion and in recent years has tended to focus on the use of Ipods and other portable music devices. It is clear that recreational noise exposure reaches levels that are known to be dangerous. It is not well-established how much this recreational exposure is contributing to significant hearing loss in later life and the burden of disease and economic costs. Other recreational activities such as shooting, motor sport and the use of power tools may also be contributing to the levels of hearing loss in the community. Long term population-based research is needed in this area to really understand the extent of the problem.

B.The effects of hearing loss on individuals and the community

It did not surprise me when the Access Economics report put a figure of over $11 billion per annum on the cost of hearing loss as I have observed first-hand the effects that significant hearing loss has on people's lives over a long period. In our modern society, communication is almost everything. How many people do not have a mobile phone? How many job descriptions do not have a criterion relating to "excellent communication skills". Even mild hearing losses may be limiting in the vocational arena where every nuance of a meeting or negotiation could be critical. Once a hearing loss reaches the severe level (a point where people are unlikely to be able to use the telephone successfully), the effects on vocational, social and educational activities are often truly devastating.

In the main, the effects of hearing loss are hidden from view. It is not obvious that someone has a hearing disability as it would be for physical or visual handicap. People with hearing loss tend to withdraw from activities that involve spoken communication (virtually all activities if you consider this for a moment), and therefore become invisible to the general population. The most devastating effects of hearing problems occur with significant congenital hearing loss. For children born deaf they may never learn to speak intelligibly and often do not develop language skills to a level beyond early primary school. This is again a hidden deficit as it is quite obvious when someone's speech is difficult to understand but not obvious at all when they have not developed the language structures that all of our more abstract cognitive abilities are built on.

This is the real educational problem for hearing impaired children – their language skills lag continually behind their hearing peers. This gap grows over time such that very few are in a position to gain an adequate secondary education. Studies of the language progress of children with significant hearing impairment show growth rates between 0.4 and 0.6 compared with normal. The practical significance of this simple result is that a child entering secondary school at 12 years of age will have the reading ability of a first grader. There are exceptions to this rather dismal average result for children educated through both visual methods (sign language) and oral methods (spoken language), and there is much debate about which approach is best, but until recently the prospect of normal educational and vocational opportunities for congenitally deaf people has been remote.

The last two decades have revolutionized audiology and provided us with the tools to provide near normal opportunities for 80% of deaf children. The development of cochlear implants, the improvement in hearing aid technology and the ability to diagnose hearing loss at birth have changed the field dramatically. The latest research indicates that with three components in place, most children born deaf can look forward to near normal opportunities in life.

1. Identify significant hearing loss accurately within the first month of life
2. Fit appropriate hearing devices (conventional hearing aids or cochlear implants) as early as possible (but definitely before 12 months) and make sure these are operating every minute of every day.
3. Make sure that Mum, Dad and teachers talk to the child as often as possible providing a meaningful spoken language model.

Although this sounds simple, it is being achieved in less than 50% of cases in Victoria due to failures at 1, 2, 3 or a combination. To improve the situation, we need to ensure that hearing screening programs are rolled out across all states and regions, and are monitored carefully. We need to make sure that appropriate hearing aids and cochlear implants are available to all children who need them and that follow-up is in place to deal with technical problems, maintain comfort and ensure consistent use. Finally, we need an approach to early intervention based on evidence rather than philosophical beliefs or tradition.

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

There are a number of major issues in Australia that lead to inequities for hearing-impaired people and inappropriate management of hearing loss. Australia potentially has the best services for hearing-impaired people of any country in the world, but historical traditions in health care, inadequate, complex or contradictory models of funding and a failure to recognize the importance of rehabilitative services makes it extremely difficult to run a viable patient-focused comprehensive hearing clinic, something we have been striving for nearly 30 years. I believe the main issues worthy of attention and action are:

1. FUNDING OF DIAGNOSTIC AUDIOLOGY

Medicare funding for audiology services in Australia is controlled by medical practitioners who, in most cases, have no training in the practicalities of modern audiology testing or the interpretation of results. Furthermore, there is no requirement that trained audiologists perform the diagnostic services, although these days most of the services are provided by appropriately trained practitioners (I hope). The fact that under Medicare, a medical practitioner with very limited knowledge of hearing assessment can be funded for complex diagnostic tests performed by an untrained technician is simply ridiculous, and provides no assurance for patients that their hearing problem will be managed appropriately. In addition, the scheduled fees for various assessments tend to drive some decisions as to what tests are performed, not necessarily in the best interests of solving a patient's problems. Services attracting a low fee (or none) will tend to be rushed through or left out, despite sometimes being the most important for achieving an effective patient outcome. There are also ludicrous differences in funding schemes where, for instance, the same activity billed via Medicare will attract a payment of ~$50 and if billed through the Office of Hearing Services will attract ~$120. Within the various State Health systems, there will be yet another funding rate for this type of service.

The Medicare funding schedule and regulations for audiology services should be completely overhauled and updated with input from experienced audiologists. Particular issues are the requirement for audiological qualifications for those performing these tests, a more comprehensive range of tests being available, and a careful consideration of the scheduled fees to prevent the financial incentives for over and under servicing. Oversight and responsibility for these services should rest with trained audiologists rather than medical practitioners.

Due to inadequate and outdated provisions of Medicare it has been almost impossible to run a viable, comprehensive, diagnositic audiology service and maintain the level of quality and patient outcomes expected within the audiology profession. This is a major factor that is preventing access to good quality hearing care in Australia.

2. INEQUITIES IN THE PROVISION OF A H SERVICES

Provision of hearing technology for children and pensioners through Australian Hearing (AH) has been one of the excellent initiatives in Australia that is unique in the world in terms of the consistency and quality of audiological services. There are, however, some substantial inequities that come about through AH's current "rules of engagement". Patients in most need of support are those born with significant hearing loss or those who become deaf early in life. This group is well looked after by AH until they are 21 years of age, but are then on their own in a financial sense. Those with the most severe hearing problems are those who will have the largest financial burden to maintain their hearing technology (particularly cochlear implant users). This group will also the most affected by hearing loss with perhaps decreased educational and vocational opportunities. I would suggest that AH's scope of service be extended to adults who have had significant levels of bilateral hearing loss from early in life. An additional inequity arises for adults with severe hearing loss. If they reach a stage where they are considered for a cochlear implant, this ~$50,000 procedure will be funded almost completely by private health insurance or public funding. If you are not quite bad enough for a cochlear implant, your hearing aids (up to $10,000 every 4-5 years) have to be financed by the patient in most cases. This actually creates a strange "false economy" situation where an occasional patient will exaggerate their hearing loss to try to qualify for a cochlear implant because they feel they cannot afford new hearing aids. There would seem to be scope for providing AH services to all adults who reach a certain level of hearing loss.

3. EVIDENCE-BASED, GOAL DRIVEN EARLY INTERVENTION

Early intervention and educational management for hearing-impaired children is crucial for successful outcomes, particularly in the pre-school years. This field, however, is driven by philosophy and beliefs rather than science and evidence. There is a widely held belief that additional resources provided for pre-school early intervention programs for hearing-impaired children will

assist in providing improved outcomes. There is also some good evidence to support this notion, however, early intervention programs must be held accountable for the progress and outcomes of children in their care. The concept of consistent measurement of progress against norms and goals is not well accepted in the sector and it is likely that a shift to an evidence based approach will need to be mandated and linked to funding, preferably at a national level. Without this shift in approach, we are likely to continue to see tragic cases where children are placed in inappropriate educational programs and remain there until it is too late to do anything about it.

4. FAMILY SUPPORT FOLLOWING DIAGNOSIS OF HEARING LOSS

There is a current gap in the clinical pathway for families of children with diagnosed hearing loss. The diagnosis itself is often a devastating and emotional experience and families are often left grieving while they are given sometimes conflicting advice from up to seven agencies or professionals that may claim part "ownership" of the case. Many countries have established a family support scheme where a case-manager becomes the main point of contact and helps coordinate the necessary assessments and consultations until a degree of stability is reached. It is generally agreed that this is a service that needs to be established in the Australian context. Not many will agree, however, about who or how it should be achieved. The debate centres mainly on the degree of bias towards one approach or another that an individual case-manager may bring to the situation. Again, a focus on evidence-based and family centred practice should be able to assist in bringing families to a level of stability and empowerment suitable for clear decision-making.

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

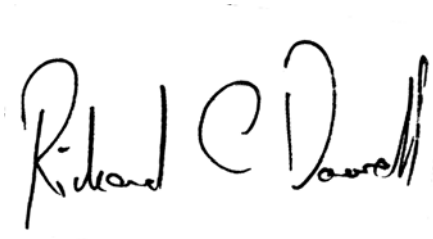
Australia has a good record in hearing research, and could perhaps claim a premier position given the work that has come out of NAL on hearing aid fitting and the development of the cochlear implant. Despite these successes, there is an urgent need for more research, particularly to inform early intervention programs, to understand the reasons for non-use of hearing devices, to understand and prevent the more common types of hearing loss and to increase awareness of the importance of hearing health and the services available. Less than 20% of adults who could benefit from hearing devices, actually access these services. Less than 10% of people who could benefit from cochlear implants actually seek this form of treatment.

E. SPECIFIC ISSUES AFFECTING INDIGENOUS COMMUNITIES

It is well-documented that the rate of hearing loss due to middle ear disease in indigenous communities can be as high as 80%. The reasons for this major problem are not completely clear but it is likely that they relate mostly to the general standard health and hygiene encountered in indigenous communities. The raising of this standard has remained a frustrating issue over many years and I don't believe I can offer any simple solutions. Despite some concerted efforts to treat middle ear disease, there is limited success due to lifestyle issues and the failure to improve the general standard of living within these communities. It is possible that hearing loss in indigenous children is a major cause of educational under-achievement. Given that in the short-term there does not appear to be an effective way to reduce the incidence of middle ear disease, a novel approach to the educational problem has been suggested by Dr Harvey Dillon from the National Acoustics Laboratories. He has proposed that the hearing loss issues could be overcome in the classroom by installing sound field systems in every classroom. This is a simple amplification system whereby the teacher's voice is raised in level using a wireless microphone. I believe this is an ingenious suggestion well worth considering in indigenous communities at least as a pilot program .

Thank you for considering this submission to the inquiry,

Yours sincerely,



Richard C Dowell
Professor of Audiology and Speech Sciences
The University of Melbourne