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Response to the Terms of Reference
Senate Community Affairs Reference Committee
Inquiry into Hearing Health in Australia

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

The extent of hearing loss in Australia is approximately 1in5 Australians but in particular the burden falls heavily on Indigenous children with the effect of this on their speech, language, educational and vocational outcomes. The causes of this Indigenous ear problem will be discussed in section e. But in essence the chronic suppurative otitis media seen in many Aboriginal children is a direct result of poverty. Poverty in all its forms includes lack of adequate housing, lack of running water, suboptimal food, hygiene issues, and lack of ready access to medical help, as described in our Editorial to the Medical Journal of Australia which will be sent separately in a pack of information. The Access Economics report on the cost of otitis media in Australia is a major report which the Otolaryngology Head Neck Surgery Department at Princess Margaret Hospital for Children in Perth participated in. Otitis media in direct terms is between$100-400 million. With respect to newborn hearing screening it has been determined by Flinders University Medical Economists (and the figures in the US and Europe are almost exactly the same) as $1.2 million saving for each baby detected with bilateral severe or profound sensor neural hearing loss and habilitated before the age of 6 months. These savings in future community costs particularly in education and to a lesser degree in health and in savings in the provisions of pensions and other special care programs. In Western Australia for example since the first universal newborn hearing program commenced in February 2000 over 120,000 babies have been screened and the savings of the 130 babies detected with bilateral

severe or profound sensori neural hearing loss to the community has been in the order of $140 million. If this is extrapolated ten times to the population of Australia of its birth cohort then the savings of the universal newborn hearing screening which the Prime Minister, Mr. Kevin Rudd has committed to by the end of 2010 will be enormous. We must however not forget that for every child that is born deaf the number of children with permanent hearing loss doubles by age 5 and triples by age 10 because of progressive sensori neural hearing loss and acquired hearing loss from meningitis, head injuries etc.

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

Helen Keller wrote that of her three major infirmities, the lack of hearing was the handicap which was the most severe and impacted on her most. In Australia there are some 250-300 born deaf with severe hearing handicap every year as well as those with unilateral sensoi neural hearing loss who often have educational issues subsequently as well. Australia by virtue of its universal newborn hearing screening roll-out, the ready access of hearing amplification through Australian Hearing and our outstanding cochlear implant technology and availability is in an excellent position to provide outstanding detection and habilitation for these babies so that they may join there hearing peers in normal schools and universities and other vocations in the future. In the Indigenous communities where English maybe a second or third language there hearing handicap particularly when the child reaches school age is significant. The child with hearing loss not only has problems learning is disinclined to attend school, may have behavioral and social isolation issues and may leave school early and there may be pregnancy issues or substance abuse and interaction with the law with spiral of despair may lead to incarceration and a life time without work. (Prof Fiona Stanley has noted that the number of deaths in adult aboriginal prisoners in Darwin prison is highly out of proportion to the number of deaths of individuals in the community)

A noted geneticists from Washington DC stated that with genetic engineering, universal newborn hearing screening, and new cochlear implant technology including totally implantable cochlear implants, the deaf community as it is will

not exist within 75 years. This of course has caused great consternation amongst the deaf community but it is a fact of life a child who has had early detection of there permanent hearing loss, appropriate habilitation and amplification can join there hearing colleagues at school and university and may in fact marry into the hearing community rather than remain within the siding community. A survey in the past noted that the adult signing deaf in New South Wales had 50% of their number either on pensions or on “protected” jobs. Australia’s up take of universal newborn hearing screening and early habilitation will increase the number of adult deaf people having a vocation and not relying n pensions.

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

Australia with its vast area and sparse population outside the urban areas provides a challenge for the adequate provision of hearing services to the regional and remote population. Having said that with the excellent services provided by Australian Hearing and regional audiologists as well as health workers, medical practitioners, nurses and visiting Ear Nose and Throat surgeons there is a reasonable but not optimal service through the country. Speaking of Western Australia and the Northern Territory where I have the most involvement and interest there are inadequate numbers of audiologists in for example the Kimberley. Currently there is one audiologist in Derby and no audiologists in Kununurra or in Broome both birthing centres where one would expects to have the audiologist in charge of the universal newborn hearing screening program and in addition doing the diagnostic testing. The visiting Australian hearing audiologists and the audiologists who accompany visiting ENT surgeons provide assessments and hearing aid provision. Support services however particularly with respect to teachers of the deaf and provision of deaf schools are inadequate in the north of Western Australian and in the Northern Territory. Currently teachers of the deaf attempt to provide services throughout the Northern Territory to widely scattered children with significant hearing handicap and often have to rely on video link from NSW for

teaching and habilitation of the children. There is an urgent need for a deaf school for children in Darwin.

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

The current hearing health programs and education and awareness programs are adequate but not optimal. There is slow progress on ear health in some communities and in one particular community that I visited recently (Warmun) although there is still a high prevalence of ear disease it was apparent that with excellent Aboriginal Health Workers and nursing staff that inroads into this middle ear disease has been made. This stems from having reasonable housing, access to running water, access to healthy food and living in an environment where alcohol is banned. Having visited the town of Gove in East Arnham Land I was struck by the stories from my medical colleagues of the enormous reduction in crime, trauma and child abuse since the AGI commenced and alcohol licensing was brought in to that community. What can we do to improve hearing health? If one looks at the New Zealand and other overseas models then the most important person in the Team is the Aboriginal Ear Health Worker who has been trained and either concentrated on ear health or as suggested by Dr Ken Wyatt, Director of Aboriginal Health in Western Australia training of “Mr/Ms TEE” who specialize in teeth, eyes, and ears in their community. Similarly the New Zealand Ear Bus method which has been translated to several buses in Perth and some within Victoria by my colleague Dr Kelvin Kong, Ear Health Workers or as in New Zealand Ear Nurse Specialists can see preschool and kindergarten children who may not access medical care normally, assess their hearing, diagnose their ear conditions and facilitate referral to ENT surgeons or Australian Hearing for definitive management. The Ear Buses in Perth and Bunbury are funded by the Variety Clubs as they were in New Zealand and a General Practitioner and hearing screener go out to community preschools, schools and crèches to screen and treat children with middle ear disease. Another dream that I have is the concept of an operating theatre bus which can travel to communities which have hospitals without operating theatres, park next to the hospital and perform day surgery on children and adults with middle ear

disease and they can then be recovered in the hospital. In the Kimberley region this could mean that children in Wyndham, Halls Creek and Fitzroy Crossing could have access to surgical treatment in their own community and at their own hospital with the mobile operating bus. This model would be excellent to be a combined government/private charitable organization and I have had great interest expressed by Mr. Andrew Forrest for the Pilbara region.

Australia bats well above its weight in ear research and centres in Queensland, Menzies School of Health in Darwin and in Perth are conducting excellent research in to Aboriginal children's ear disease. In addition there is the world famous Centre at the Eye and Ear Hospital and Bionic Ear Institute in Melbourne and another similar group in Sydney. There must be more research funding and in particular translational research that will impact on policy matters. A good example of this is the fact that management of chronic otorrhoea in the Northern Territory is often by utilization of tissues spears using toilet paper to suck up the muco-pus from the ear canal and middle ear where as in Western Australia and Queensland we irrigate and dislodge the infection and underlying bacterial biofilm by using a dilute Betadine solution. There have been no clinical trials in Australia comparing these two modalities with the application of non-ototoxic ear drops following this to compare their efficacy and perhaps change treatment policy.

E. Specific issues affecting Indigenous communities.

A very large amount of money is expended on Indigenous health and often even after 20 years there is little obvious improvement. The improvement in ear health of Indigenous children who move to the city is obvious although they still have a higher incidence of closed middle ear disease (otitis media with effusion) all year round compared with their non-indigenous peers (refer to Urban Aboriginal Ear Study paper MJA). The improved public health facilities in the cities demonstrate that this is by far the most important aspect of care necessary to improve the ear health of Australian Indigenous children. The three most common organisms found in acute otitis media are becoming more resistant to the usual antibiotics used yet there are new vaccines

available which cover both pneumococcal infection and that of H. influenzae. Although the current pneumococcal vaccine has reduced the number of children requiring grommet insertion it has made little impact on recurrent acute otitis media. The combined pneumococcal/H. influenzae vaccine particularly if it is given early before gross invasion of the nasopharynx by encapsulated organisms occurs, may well be the best method of preventing early ear infections in Indigenous children. Early treatment of otitis media particularly if there is a discharge and not accepting of this as being inevitable is very important. The role of the adenoid in middle ear disease is becoming more apparent and studies in Perth and in the United States have shown the presence of bacterial biofilm on the adenoids and intracellular bacteria throughout the stroma of the adenoids. It is well known throughout the world and particularly in 50 000 cases of grommet insertion in Western Australia that removal of the adenoids reduced the need for a subsequent set of grommets by 50%. This is because the bacterial load present in the adenoids is reduced and less infection travels up the Eustachian tube to cause middle ear disease. This is not to imply that adenoidectomy alone is the answer to middle ear disease but if children require insertion of ventilation tubes or grommets for middle ear disease then we should be considering adenoidectomy at the first opportunity rather than for subsequent surgery.

The use of hearing aids and FM systems in remote communities has been indifferent and the best option in classrooms is for FM infrared sound field systems allowing the teacher with a microphone to have all children in the class hearing amplified lesions. All new Australian classrooms should have the facility for sound field systems particularly in towns where there is a high Indigenous population.

Exciting new research into tissue engineering and into the causation of otitis media may well help reduce the severity of disease in these children and perhaps enable repair of their tympanic membrane perforations with a much more minor procedure than the current major ear surgery necessary.

I will send as I have mentioned earlier copies of appropriate articles that are relevant to this inquiry. Thanks once again for the opportunity to comment

Kind regards

Yours sincerely

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