

**SUBMISSION TO:**

**COMMONWEALTH OF AUSTRALIA  
SENATE COMMUNITY AFFAIRS REFERENCES COMMITTEE**

**REFERENCE: INQUIRY INTO HEARING HEALTH IN  
AUSTRALIA**

**SUBMISSION FROM:**

**Associate Professor Linnett Sanchez  
School of Medicine  
Flinders University  
GPO Box 2100  
ADELAIDE SA 5001**

**Email: [linnett.sanchez@flinders.edu.au](mailto:linnett.sanchez@flinders.edu.au)  
Phone: (08) 8204 7010**

**Scope of Submission:**

This submission addresses all of the references [(a) to (e) inclusive] with **specific reference to indigenous Australians in remote Communities in South Australia**. The comments are likely to be generalisable to remote desert communities elsewhere in Australia.

**Evidence of expertise:**

Between 2003 – 2008 I was the leader of a program supported by the SA Government Department of Education and Children’s Services (DECS) which made annual visits to communities in the Anangu Pitjantjatjara Yankunytjatjara Lands (APY Lands) in far north western South Australia for the purpose of assessing hearing and ear health in school-age children on a whole of population basis. Commencing in 2009 I am the Chief Investigator of a Commonwealth Government Research Program (Dept. of Health and Ageing: Hearing Loss Prevention Program) (funded 2009-2011)<sup>1</sup> investigating the effect of swimming pools on hearing and ear health of school-age children on the APY Lands<sup>2</sup>. (also a whole of population study) which assesses children in all communities on the APY Lands twice a year. Our combined data represent more than 2000 occasions of service assessing hearing levels and measures of ear health to the present.

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<sup>1</sup> With co-investigators: Ms. Karen Sparrow and Assoc. Prof. Simon Carney

<sup>2</sup> Two communities which are also Anangu communities but located in the Maralinga-Tjarutja Lands in the south west of South Australia are also included in the project.

## Summary:

Indigenous school-age children on the APY Lands have a high prevalence of hearing impairment and middle ear pathology which is unchanging and which is a national disgrace. The consequences of hearing impairment and middle ear pathology are far-reaching as they will impact on education and social development. Current health care resources are not adequate to lessen the problem given that more visible and acute health care problems in children and adults generally consume resources. To achieve parity for remote indigenous children with non-indigenous Australian children in the provision of health care in hearing and ear health would require a great increase in targeted funding within local health services delivering primary care and access to specialist medical care. Without this an important persisting barrier to educational outcomes and social development for remote indigenous communities will not be lifted.

## Submission:

### Reference (a) The extent, causes and costs of hearing impairment among school age indigenous children in remote communities in the APY Lands.

**Extent:** Our research has demonstrated a consistent and exceedingly high level of impaired hearing and middle ear pathology amongst school-age indigenous children in the APY Lands. The Table below gives various measures of hearing and middle ear pathology. Previous reports of high levels of middle ear pathology exist but we believe that these data are the most comprehensive longitudinal data on the extent of the problem in the APY Lands. The Table also includes comparisons with indigenous urban children based on recent data also generated from on-going collaboration between DECS and Flinders University. Non-indigenous children in urban society have somewhat lower levels of ear pathology depending on socio-economic status.

**Table 1: Comparison of hearing and ear health status in school-age indigenous children in metropolitan Adelaide and in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands**

	Northern Adelaide Area (2007-2008)	APY Lands (remote SA) (2003-2007)
Number of children	665	682
Fail screening: bilateral 20dBHL (4 freq: 0.5,1,2,4kHz)	35.9%	74.2%
Mean PTA in “failing ears”	25.4dBHL	30.2 dBHL
Perforations (% ears observed) (perforation ratio: wet/dry)	1.34% (8/7)	32.2% (202/178)

These data show that 37% of indigenous children on the APY Lands have one or both ears with a perforation of the ear drum<sup>3</sup> (almost entirely the consequence of middle ear disease) and that somewhat more than half of these involved active ear disease at the time of observation. The average level of hearing impairment in ears which fail the screening hearing test (30.2 dBHL) is a level which will significantly impact on a child's capacity to function in the school environment.

**Causes:** Identifying the origins of this baleful level of hearing impairment and middle ear pathology is not part of the research that we have undertaken. High levels of middle ear disease and related hearing loss are observed in a number of indigenous populations around the world, however those of indigenous children in remote Australia are consistently higher than elsewhere. Common factors which are believed to contribute to the early onset and perpetuation of middle ear disease include: poverty, overcrowding, poor nutrition, poor education and poor hygiene, all of which are present in indigenous communities in the APY Lands at levels which greatly exceed such problems in urban or regional Australia.

**Costs (see (b) below)**

**Reference (b) The implications of hearing impairment for individuals and the community.**

Mild to moderate hearing impairment is commonly an "unseen" disability and most middle ear disease is not readily apparent. In indigenous communities it is more likely to go unrecognised because of cultural and language differences, the exigencies of daily life for families in remote communities and less health surveillance. Health Clinics in indigenous communities are frequently stretched to provide care for what are perceived as more serious health problems: chronic disabling conditions, acute infections and trauma. Ear disease may not be recognized, may simply be untreated and where treatment occurs, compliance may be poor with unsatisfactory outcomes. The consequences of impaired hearing may be life-long principally due to its impact on education. Children on the APY Lands learn English as a second language and this usually commences when they start school. It is overwhelmingly the language of instruction in schools, yet the primary language of use is Pitjantjatjara. Hearing impairment at the levels we record will impact significantly on a child's ability to learn, particularly where a second language is the means of instruction, with global consequences for the acquisition of basic literacy and numeracy. Hearing impairment thus contributes to the cycle of poverty and disadvantage so common in remote indigenous communities.

Poor levels of school attendance in remote indigenous communities vex indigenous leaders and Governments alike. Recent increased Federal Government funding for the education of remote indigenous children in the States and Northern Territory explicitly links funding to improved school attendance. We believe that the high prevalence of

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<sup>3</sup> 32.2% of ears with perforated ear drums translates into 37% of children with perforations in our sample given that children may have unilateral or bilateral perforations.

hearing impairment in school-age indigenous children is a key and very under-recognised contributing factor to poor school attendance.

**Reference (c) The adequacy of access to hearing services, including assessment and support services, and hearing technologies.**

On a positive note there have been two consequences of our work (under the auspices of DECS: 2003-2008) which have led to improvements in the implementation of hearing technologies and hearing services to improve the experience of school for Anangu children and the educational outcomes. Firstly there has been a program to progressively fit “sound field” FM systems to all classrooms in schools in all communities. This provides for amplification of the teacher’s voice. It probably assists in classroom compliance as well as aiding children with mild hearing loss. Teacher compliance in the use of sound field systems is not complete but we believe is improving. Secondly the number of Anangu children who now meet criterion for DECS’ “Students with Disabilities” program has increased four-fold (from 15 students in February 2005 to 65 students in April 2008) largely as a result of our early identification of children with significant hearing loss who then more readily meet the criterion of two audiometric assessments demonstrating educationally significant hearing loss in an 18 month period. The related increase in resources for the Anangu schools provides more support for the individual child and additional staffing and infrastructure resources for the schools.

Audiologists from Australian Hearing also regularly visit the APY Lands. Their remit is to assess referred children and to fit hearing aids where appropriate. However as our results demonstrate, many children with significant middle ear disease are undiagnosed and have hearing losses which, while impacting on education, are not of a severity that would meet the appropriate Australian Hearing criterion for provision of hearing aid(s)<sup>4</sup>.

Australian Hearing focuses on rehabilitation services for identified children with the poorest hearing from middle ear disease and/or permanent hearing impairment. They do not have a “whole of population” remit and their services address only the tip of the iceberg. The number of children on the APY Lands who would be referred for ENT specialist assessment, if they were living in regional or urban Australia, but who under present arrangements will never obtain such referral, is very large indeed.

The newly funded Commonwealth research program (“Swimming pools project” mentioned above) involves clinical assessment by an ENT surgeon or registrar (a doctor in the specialist training program). Early results from two Anangu communities (Maralinga Tjurtja Lands) demonstrate that 35% of the children examined had middle ear pathology that warrants ENT assessment (Table 2). This degree of need is likely to be replicated in the APY Land communities. Few if any of these children would, in the normal course of events, be likely to see an ENT specialist. The potential implications of this vacuum of medical care for likely ongoing ear health problems and educational consequences are self-evident.

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<sup>4</sup> Compliance with the use of hearing aids and their maintenance are significant problems in indigenous communities.

**Table 2: Summary of clinical/management recommendations for two Anangu Communities**

Recommendation	Yalata & Oak Valley (2009)
School age children	N= 75
No action	32
Observation only	10
Ear drops only	4
ENT referral + ear drops	9
ENT referral + ref Australian Hearing	1
ENT referral	16
Referral Australian Hearing	3

**Reference (d) The adequacy of current hearing health and research programs, including education and awareness programs.**

As indicated above (Reference (b) with respect to resources at Health Clinics) current health care resources are inadequate to enable appropriate primary health care programs addressing hearing impairment and ear pathology to be undertaken. Given the high level of middle ear disease such primary health care should include regular ear examinations of all children prior to school age<sup>5</sup> and ear examinations and hearing assessments at regular intervals throughout the school years. Additional resources would be needed to enable this to be done.

There is a plethora of data on middle ear disease in indigenous Australian communities. Further descriptive research is not needed. Specific research, such as the current program to assess the possible benefits of salt-water chlorinated swimming pools on hearing and ear health is warranted. The Commonwealth government is to be applauded for funding such initiatives and should continue to fund targeted research.

Education and awareness programs about middle ear disease and its consequences are essential but it is our opinion that attempts to implement them and to maintain them are frustrated by lack of ongoing funding and cultural problems that commonly result in a lack of adequately trained and motivated indigenous health care workers.

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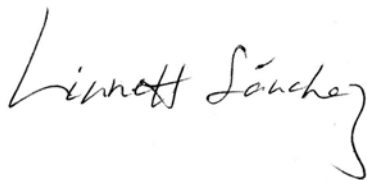
<sup>5</sup> Published data suggest that remote indigenous infants have much earlier onset of first middle ear disease than urban and regional indigenous or Caucasian babies.

Further, the general lack of interaction between the health and education sectors on this issue results in missed opportunities for effective energising collaborations, which would improve the use of human and social capital, indigenous and non-indigenous, in communities. Some States in recent years have made effective inroads with hearing and ear health programs of variable scope and size directed to indigenous children. A comprehensive program, the Deadly Ears Program, is underway in Queensland which is working cross-sectorally within communities. Further this program engages professionals from the fields of medicine, audiology, speech pathology and education as well as indigenous health and education workers. With a single focus and under a common banner there is a likelihood of greater success and sustainability. Programs such as this could well be templates for initiatives in other States. There will need to be a more concerted effort by health professional organisations and Federal and State funders to build on successful pilot or developed programs. And discrepancies of effort between States must not be allowed to persist.

The lamentable and unchanging extent of hearing impairment and poor ear health in indigenous children has multiple causes. Some of these have to do with broader aspects of the social determinants of health operating in the APY Lands. But the inadequacy of both primary and specialist health care directed to hearing impairment and middle ear pathology is undoubtedly a contributing factor. Addressing this inadequacy and increasing the involvement of the education sector are vital if progress is to be made. This important health issue that begins in infancy, rolls on through childhood and frequently into adulthood has major consequences for education and global underachievement.

**Reference (e) Specific issues addressing indigenous communities.**

This has been the focus of this submission and comments appear in (a) to (d) above.

A handwritten signature in black ink that reads "Linnett Sanchez". The signature is written in a cursive style with a long, sweeping tail on the letter 'y'.

**Linnett Sanchez**

**8<sup>th</sup> October 2009**