Submission to the Australian Government Department of Health's Implementation Plan Advisory Group (IPAG)

Consultations on the Social and Cultural Determinants of Indigenous Health

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Contact:

Tony Coles, CEO
Audiology Australia
Suite 7, 476 Canterbury Road
Forest Hill VIC 3131
Phone: 03 9877 2727
Fax: 03 9877 0645
Email: tony.coles@audiology.asn.au

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About Audiology Australia

Audiology Australia thanks the Department of Health's Implementation Plan Advisory Group (IPAG) for the opportunity to provide a submission on the social and cultural determinants of Aboriginal and Torres Strait Islander people's health.

Audiology Australia is the peak professional body, representing 2,500 audiologists in Australia. Audiologists work with clients to help them to preserve, manage and improve their hearing, their ability to process and understand sounds, and their balance. Audiologists help clients of all ages - from infants to older adults - and clients with complex needs to improve their ability to communicate and interact in all situations.

Audiology Australia's mission is to give value to its members as the peak professional body in audiology by providing education, advocacy, and setting ethical standards of practice, to ensure audiologists are able to deliver the highest standards of hearing health care and are valued by the community for their services.

Audiology Australia strives to succeed in this mission through various initiatives, including:

- Rigorous self-regulation for the profession of audiology, with Audiology Australia's clinical certification program at the core;
- Accreditation of Australian Masters-level degrees in audiology;
- Audiology Australia's Code of Conduct for members, which is in line with the National Code of Conduct for Health Care Workers;
- Scientific conferences and courses that promote evidence-based practice;
- Webinars on best practice available across Australia;
- Information Sheets and Issues Papers on political developments and changes to funding sources of relevance to members; and
- Audiology Australia's comprehensive Professional Practice Standards, which provide guidance on evidence-based practice across the full range of audiological services.

Audiologists provide services in a broad range of settings, including: early intervention agencies, aged care facilities, hearing aid clinics, medical practices, educational facilities, hospitals, community health clinics, government funded agencies, cochlear implant clinics, private practice, and ear nose and throat (ENT) specialist and otology clinics.

Survey topic 3. Early childhood development, education and youth

> *"Experiences of learning start early, and continue throughout life. Educational attainment is a determinant of health, and also directly affects other social determinants of health such as employment prospects.*
>
> *In addition, literacy and numeracy directly impacts health choices and interactions with services and government systems."*

Question 3.1. We are looking for experiences, ideas and evidence that show how to strengthen early learning, educational engagement and achievement. Please tell us your story.

Aboriginal and Torres Strait Islander people are disproportionately affected by poor hearing health

- (Chronic) Otitis Media – broadly, inflammation and infection of the middle ear space – is considered a disease of poverty and associated poor living conditions. Aboriginal children in Australia have among the highest rates of Otitis Media in the world, including the developing world.
- Research beginning in the 1990s has established a large difference between age of onset of Otitis Media in Aboriginal compared to non-Aboriginal infants (see, for example, (1) & (2)). Australian Bureau of Statistics data confirms that ear/hearing problems, including total/partial hearing loss and Otitis Media is up to three times higher among Indigenous than non-Indigenous children (3). Results confirming the high rate of Otitis Media in Aboriginal children have been shown in other studies (4) – (7), including, for example:
  - Examinations at 6 to 8 weeks of age, Otitis Media with Effusion (OME) or Acute Otitis Media (AOM) was observed in 95% of 22 Aboriginal infants, but OME was seen in only 30% of 10 non-Aboriginal infants (1).
  - 1 in every 2 Aboriginal children had "otoscopic signs consistent with suppurative ear disease, and 1 in 4 had a perforated tympanic membrane." (8).
- The degree of hearing loss caused by Otitis Media/ear disease varies with ear disease type and stage, ranging from intermittent to permanent hearing loss (9).
  - Aboriginal people often spend most of their childhood with (Chronic) Otitis Media, and therefore may have little time without hearing loss, even if they don't experience permanent hearing loss as a result of (Chronic) Otitis Media.
- Aboriginal children in remote areas (of South Australia) are more likely to fail hearing screening tests than Aboriginal children from urban populations (10).

Good hearing health is crucial to achieving positive educational, social and health outcomes

- For children, hearing is critical in the development of auditory skills, speech and language.
  - Hearing loss in children, whether intermittent or permanent, can impact on literacy, learning, educational outcomes, behaviour and, later on, higher education and employment options (11) & (12).
- The effects of hearing loss on Aboriginal children's development is further exacerbated when their first language is not English and the language of the classroom is English.
- Hearing loss experienced during childhood may result in significant communication difficulties in adulthood, which will then impact on relationships, educational outcomes and employment opportunities, and may in turn lead to social isolation and decreased quality of life.

- Otitis Media in the first five years of life has been linked with development of Spatial Processing Disorder (SPD), a form of (Central) Auditory Processing Disorder ((C)APD), in later years.
    - The prevalence of (C)APD in the general paediatric population is thought to be 2–3% (13) and, of those referred for assessment due to reported listening difficulties, between 17-19% present with SPD (14).
- Recent research suggests prevalence of SPD-type APD among Aboriginal children seems to be in the order of 10% (15), compared to 2-3% in the general paediatric population (13).
- SPD makes it harder to understand and learn in the classroom.
    - The link between auditory processing, reading disorders like dyslexia, and reading/literacy outcomes has been well-established (e.g., (13), (16) – (18)).

Gaps in knowledge

- The Closing the Gap Clearinghouse Resource Sheet No. 35 (19), identified the following gaps in knowledge that need to be addressed:
    - Why some of the ear disease in Indigenous children is not amenable to treatment and management, in contrast to its transitory nature in non-Indigenous children;
    - Why the uptake of Indigenous population-specific, evidence-based clinical guidelines is still slower than desired;
    - The epidemiology of ear disease in Indigenous children is still poorly understood;
    - The full extent of the problem can't be assessed as there is no nationally consistent data collection in Australia.

Working towards solutions

In his recent article in The Australian, Dr Chris Perry - President of the Australian Society for Otlaryngology Head and Neck Surgery – said "To close the gap in health, we need a definitive -national approach to address the Aboriginal ear disease crisis." (20) (also see (21)). Audiologists play a crucial role in any national approach to address hearing health in Aboriginal and Torres Strait Islanders.

Audiology Australia looks forward to working with the IPAG to develop resources and training for audiologists working with Aboriginal and Torres Strait Islander people that will build on our existing resources (see (5) & (22)).

Audiologists may contribute to the identification and management of ear disease and associated hearing loss and the outcomes from that intervention by:

- Counselling families in how to identify ear health or hearing concerns, and teaching primary health staff to support surveillance programs, to help ensure early identification of ear health and hearing problems.
    - In general, "… improved knowledge and diagnosis of the signs and symptoms of Otitis Media will contribute to improvements in the provision of early medical intervention to populations at high risk for early Otitis Media." (1).
    - Reduced prevalence of Otitis Media and better hearing health will enable Aboriginal and Torres Strait Islander children to benefit from Federal, State and Territory initiatives aimed at improving early childhood education.
- Managing both fluctuating conductive hearing loss caused by (Chronic) Otitis Media and APD by providing personal FM systems or classroom soundfield systems (e.g., (23)).
    - Documenting the extent of hearing loss at the whole-of-school level in the remote APY Lands (24) resulted in all classrooms being fitted with sound field systems, and new classrooms and schools being built with much greater attention to classroom acoustics (and some retro-fitting of classroom for better acoustics).

- Providing strategies and tactics to maximise benefit from residual hearing. Support for speech/language development and auditory skills development is paramount to improving outcomes in learning for children with ear health and hearing problems, regardless of whether or not they are fitted with an aid/device.
    - In order to build community capacity to support the child's communication and learning, strategies and tactics may be imparted not only to the child, but also; families, educators and other community-based people relevant to the care of the child.
    - Auditory training provided by audiologists can complement personal amplification devices to improve hearing and understanding in the classroom for children (e.g. (25)).

Examples of past and current hearing health initiatives

Audiology Australia provides the following examples of current and past hearing health initiatives for Aboriginal and Torres Strait Islander people that Audiology Australia members report they have been involved with. Snaphots of relevant initiatives for Aboriginal and Torres Strait Islander people have also been published in our member magazine, Audiology Now ((26) & (27)).

The aim of this section is to showcase the wide range of ear-health services and initiatives that audiologists contribute to in Aboriginal and Torres Strait Islander communities. We encourage the IPAG to contact the relevant agencies directly for more information on these programs, including any research into their feasibility and/or effectiveness.

Examples (in alphabetical order):

- Australian Hearing's Outreach programs (28) and other Australian Hearing initiatives, including collaborations with State and Territory programs.
- Deadly Kids Deadly Futures policy in Queensland, which includes the work of Deadly Ears in Queensland, a Queensland Health program working with specific rural/remote communities to manage Otitis Media through direct support and building local service capacity ((29) & (30))
- Earbus Foundation (Western Australia) is a not-for-profit children's charity providing identification, surveillance, treatment and ongoing management of middle ear disease in Aboriginal communities in WA ((31) & (32)).
- Earbus in NSW – 'Hear our Hearts', a non-profit program run by Teachers of the Deaf (33)
- The Hearing, EAr health and Language Services (HEALS) programme: An initiative funded by New South Wales Health to expedite specialist health care interventions for Aboriginal children ((34) & (35)). This included the Sydney Children's Hospitals Network (SCHN) and Aboriginal Community Controlled Health Services (ACCHS) jointly liaising with "audiologists, ENT surgeons, anaesthetists and hospitals to ensure appropriate pre-operative consultations, surgical procedures and post-operative assessments within the tight timeframes." (35).
- Northern Territory's Hearing Health Program: involving audiology, ear, nose and throat (ENT) teleotology and Clinical Nurse Specialist (CNS) services delivered under the National Partnership Agreement on Northern Territory Remote Aboriginal Investment (36).
- Several programs in South Australia (see (37)), including:
    - 'Under Fives' screening program done through Watto Purrunna (SA Health) in conjunction with Public Health Partnerships Brand and CaFHS;
    - Flinders University, school age screening in conjunction with DECD in 2010, and;
    - Healthy Ears – Better Hearing, Better Listening Outreach by Rural Doctors Workforce Agency.

Question 3.2. What are your key recommendation(s)? (one sentence per recommendation please) What needs to happen?

Audiology Australia submits that:

1. Audiologists must conduct a holistic assessment of Aboriginal and Torres Strait Islander people's hearing health needs and goals in order to determine eligibility for all Government hearing programs and schemes, rather than determining eligibility based on restrictive, threshold-based criteria.
2. The full range of required rehabilitation services provided by audiologists for auditory and balance disorders must be accessible to all Aboriginal and Torres Strait Islander people, from counselling to aids/devices.
3. There must be long-term funding for hearing health initiatives that improve outcomes for Aboriginal and Torres Strait Islander children.
4. There needs to be a focus on prevention of hearing loss in Aboriginal and Torres Strait Islander children, by detecting infection and potential hearing loss much earlier so that the children have healthier ears when going to school.
    - 4.1 Otoscopy whenever Aboriginal and Torres Strait Islander children present to an appropriately trained health service provider, allowing for detection of early-onset Otitis Media to facilitate appropriate early intervention, treatment and follow-up.
    - 4.2 Early Learning Centres and schools should be utilized as target areas for surveillance of young children for hearing loss and Spatial Processing Disorder along with other developmental and health checks.
    - 4.3 Primary health staff in these communities should have access to funding for training by audiologists to expand their scope of practice where appropriate, and be encouraged to routinely check the ears of indigenous infants and children, following 'the OATSIH Guidelines' (6) to support early identification and management of ear health and hearing problems.
        - 4.3.1 One opportunity is dedicated funding to Aboriginal and Torres Strait Islander people wishing to receive a TAFE qualification as an audiometrist or a Masters degree to become an audiologist.
5. Follow-up of potential hearing loss and ear disease must be medical **and** audiological:
    - 5.1 Audiologists should be contacted at the same time as the Ear Nose and Throat (ENT) surgeon so that a hearing rehabilitation program, which may include device fitting by an audiologist, can be developed as soon as possible.
    - 5.2 Audiologists can work together with families, local health care workers and school staff to manage hearing loss.
6. Interdisciplinary collaboration and education should be promoted as an efficient option, and flexible funding should be available to promote such initiatives, such as:
    - 6.1 Community members and other regularly-visiting professionals could be trained by audiologists in practices that may lead to improved hearing outcomes and/or in audiological procedures where within scope of practice.
    - 6.2 Audiologists could work with other health care providers to identify areas where referral and follow-up processes can be improved and/or streamlined.
7. All schools and early childhood and family centres should have access to funding to improve the acoustic environment and to install and maintain soundfield systems in consultation with an audiologist who can identify simple and cost-effective measures, preferably at the design stage.
    - 7.1 There must be the funding and opportunity for audiologists to train teachers and support staff in the applications and management of:
        - Simple measures to improve the acoustic environment in classrooms;
        - Personal FM systems and soundfield systems, and;
        - Strategies and tactics to maximize benefits from residual hearing.

Question 3.3. References: If there is a published paper, a website, a trial or an evaluation that shows the impacts of your recommendation(s), please enter this information below.

Please also see the documents uploaded in support of this response.

1. Boswell, J., & Terry G. Nienhuys, T. (1995). Patterns of persistent Otitis Media in the first year of life in Aboriginal and non-Aboriginal infants. *Annals of Otology, Rhinology & Laryngology*. Volume: 105 issue: 11, page(s): 893-900. DOI: https://doi.org/10.1177/000348949610501110
2. Boswell, J. (1997), Presentation of early otitis media in 'Top End' Aboriginal infants. *Australian and New Zealand Journal of Public Health*, 21: 100–102. doi:10.1111/j.1467-842X.1997.tb01663.x
3. Australian Bureau of Statistics. (2006). Health of Children in Australia: A Snapshot, 2004-05 (www.abs.gov.au/AUSSTATS/abs@.nsf/mf/4829.0.55.001/)
4. Access Economics (2006). *Listen Hear! The economic impact and cost of hearing loss in Australia.* (www.hearingcrc.org/crc-corporate-publications/listen-hear)
5. Audiology Australia. (2012). *Chronic Otitis Media and Hearing Loss Practice (COMHeLP) – A manual for audiological practice with Aboriginal and Torres Strait Islander Australians*.
6. Morris, P., Leach, A., Shara, P., et al. (2010). *Recommendations for clinical care guidelines on the management of Otitis Media in Aboriginal and Torres Strait Islander populations*. Prepared by the Darwin Otitis Guidelines Group in collaboration with the Office for Aboriginal and Torres Strait Islander Health Otitis Media Technical Advisory group. Commonwealth of Australia.
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14. Dillon et al. (2012) in Cameron, S., Dillon, H., Glyde, H., Kanthan, S., & Kania, A. (2014). Prevalence and remediation of Spatial Processing Disorder (SPD) in Indigenous children in regional Australia. *Int J Audiol*, 53(5):326-335.
15. Dillon, H. (2017) Personal Communication. Via emails to Audiology Australia on 20170331 and 20170329.
16. Sharma, M., et al., (2006). Electrophysiological and behavioral evidence of auditory processing deficits in children with reading disorder. *Clinical Neurophysiology*, 2006. 117(5): p. 1130-1144.
17. Sharma, M., Purdy, S., & Kelly, A. (2009). Comorbidity of auditory processing, language, and reading disorders. *Journal of Speech, Language, and Hearing Research*, 2009. 52(3): p. 706-722.

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22. Audiology Australia. (2013). *Professional Practice Standards – Part B Clinical Standards*.
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26. Audiology Australia. (2011). Spotlight on Services- Snapshots of audiological services for Aboriginal and Torres Strait Islander Australians around the country. Trying to work better and lessons learned. Audiology Now. Spring Edition; Issue 46, pp.20-21.
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research: The Hearing, EAr health and Language Services (HEALS) project. Australian and New Zealand Journal of Public Health; 40(6): 523-528.
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Question 3.4. What do you feel this recommendation is about (can choose more than one)?

- ☑ **Early childhood education**
- ☑ **Primary education**
- ☑ **Secondary education**
- ☑ **Tertiary education**
- ☑ **Training**
- ☑ **Other**

Question 3.5. If this entry also relates strongly to one or more of the other determinants of health, please select which ones below:

- ☐ Connection to family, community, country & culture
- ☐ Racism
- ☑ **Employment & income**
- ☑ **Housing, environment & infrastructure**
- ☑ **Interaction with government systems**
- ☐ Law and justice
- ☑ **Health choices**
- ☑ **Food security**

Question 3.6. Relevant supporting documents to be uploaded

Audiology Australia. (2012). *Chronic Otitis Media and Hearing Loss Practice (COMHeLP) – A manual for audiological practice with Aboriginal and Torres Strait Islander Australians*.

Survey topic 6. Systems: Interaction with government systems

> *"How can government services be more people friendly? How can they be made more accessible, clearer, and offer support when it is most needed? Suggestions of ways to remove barriers, examples of wrap-around-service models, communications or streamlining service provision that would reduce inequalities are relevant here.*
>
> *Government systems could include the health system, welfare system, education system, etc."*

Question 6.1. We are looking for experiences, ideas and evidence that show how Aboriginal and Torres Strait Islander peoples' access to and interaction with government systems can be improved. Please tell us your story.

National funding across all areas of hearing and balance health needed

The Council of Australian Governments (COAG) Health Council agreed in its Communique of 24 March 2017, on the item 'Ear disease and hearing loss in Aboriginal and Torres Strait Islander children', that:

> *"Ministers agreed that the ear and hearing health of Aboriginal and Torres Strait Islander children is an important issue that impacts on their health, education, and employment outcomes.*
>
> *Accordingly, Ministers agreed to explore the feasibility of a national approach to reducing the burden of middle ear disease and associated hearing loss on Aboriginal and Torres Strait Islander people. This is an important step towards achieving Closing the Gap targets."*

Audiology Australia welcomes this commitment from the COAG Health Council to explore a national approach and hopes it will discuss possible options with Audiology Australia.

Potential for improved hearing service provision under the NDIS

Please also see Audiology Australia's submission to the Joint Standing Committee on the NDIS in January this year for details regarding the issues raised here.

The National Disability Insurance Scheme (NDIS) has the potential to offer means of engaging Not-For-Profit and For-Profit hearing health care providers to give them the capacity and incentive to service Aboriginal and Torres Strait Islander people living in rural and remote areas.

Currently, based on reports from our members, hearing service provision to Aboriginal and Torres Strait Islander children and adults in rural and remote areas appears to vary from region to region and throughout time. In some areas and periods, there are excellent planned and funded services such as the Federal, State and Territory Governments' hearing health programs outlined above in our responses to 'Early childhood development, education and youth'. Unfortunately, others describe that, at times, service provision in a given region relies on volunteer, privately-funded, or intermittently-funded services. This is particularly the case for hearing services for adults, as many Federal, State and Territory initiatives in these communities tend to primarily focus on children's hearing health.

The NDIS therefore has the potential to contribute to ensuring the viability of Government and non-government service providers in rural and remote areas. It is, however, critical to ensure that Aboriginal and Torres Strait Islander people who require audiology services and ongoing support,

such as those with chronic middle ear disease, can access funding for the range of services available through the NDIS. Equally as important is the need for a coordinated and collaborative approach across programs. Non-government service providers working in the sector could potentially complement the existing Government services by working together to ensure even coverage of hearing services for both children and adults across Australia.

The potential for teleaudiology to help meet the needs of Aboriginal and Torres Strait Islander people

Advances in technology provide new and exciting opportunities for the delivery of services (1), especially in remote areas where access to health care is limited and significant inequalities exist (2). Teleaudiology and teleotology, therefore, is likely to shape future audiological practice by changing the way services are delivered to Aboriginal and Torres Strait Islander people. Audiology Australia's position is that telepractice is an appropriate model of service delivery for the audiology profession.

If teleaudiology received funding, expected outcomes include:

- Increased efficiency and feasibility of audiology services;
- Increased and more timely access to audiological services for populations who are unable to access face-to-face services due to geographical reasons;
- Increased and more timely access to audiological services for populations who are unable to access face-to-face services due to socioeconomic or physical disadvantage;
- Increased professional support to personnel involved in delivering services; and
- Competent performance of services and mitigation of risk for patients and clinicians.

Question 6.2. What are your key recommendation(s)? (one sentence per recommendation please) What needs to happen?

Audiology Australia submits that:

1 Aboriginal and Torres Strait Islander people must be provided with the information and support they need to choose hearing service providers with the relevant experience and qualifications.

2 Government works with Audiology Australia to improve coordination of service delivery among government and non-government providers, to ensure ongoing access to audiology services for Aboriginal and Torres Strait Islander people.

3 Funding must be allocated for local support workers to help facilitate links with hearing service providers, e.g., by organising transport to appointments.

4 Government should ensure individuals are not disadvantaged by program eligibility restrictions.

5 Teleaudiology should be recognised as a service delivery option and receive funding through all Government schemes (including Medicare and the NDIS).

5.1 This funding should service the need for development, maintenance and training in the use of internet and telecommunication facilities.

6 When developing Government facilities, especially early childhood and family facilities and schools, it must be ensured that the environment is supportive for people with hearing impairments:

6.1 Advice from an audiologist on measures to improve acoustics and decrease noise reverberation must be obtained during the design phase.

Question 6.3. References: If there is a published paper, a website, a trial or an evaluation that shows the impacts of your recommendation(s), please enter this information below.

1 Psarros, C., & McMahon, C. M. (in preparation). Evaluating the benefits of a telepractice model.

2 Williams, T., May, C., Mair, F., Mort, M., & Gask, L. (2003). Normative models of health technology assessment and the social production of evidence about telehealth care. *Health Policy*. 2003;64:39–54.

Question 6.4. If this entry also relates strongly to one or more of the other determinants of health, please select which ones below:

- ☐ Connection to family, community, country & culture
- ☐ Racism
- ☑ **Early childhood development, education & youth**
- ☐ Employment & income
- ☑ **Housing, environment & infrastructure**
- ☑ **Law and justice**
- ☑ **Health choices**
- ☐ Food security

Question 6.5. Relevant supporting documents to be uploaded

Audiology Australia. (2017). *Submission to the Joint Standing Committee on the National Disability Insurance Scheme (NDIS) – Inquiry into the provision of hearing services under the NDIS.*

Survey topic 7. Law and Justice

"Aboriginal and Torres Strait Islander people are significantly overrepresented in the justice system. This can have a long-lasting impact on health.

We are interested in hearing a broad range of ideas on the links between experience of Indigenous people in the justice system and health outcomes, but mainly on ways to improve the current situation. These could include (but are not limited to):

- *ways to prevent juvenile or adult offending;*
- *ways to improve health in the prison system;*
- *ways to prevent re-offending;*
- *ways to improve policing, sentencing and interactions in court."*

Question 7.1. We are looking for experiences, ideas and evidence that show how Aboriginal and Torres Strait Islander offending and incarceration can be reduced, and ways court and police interactions with Indigenous people can be improved. Please tell us your story.

Audiology Australia's members have reported impacts of the higher rate of hearing loss in Aboriginal and Torres Strait Islander people (see response to 'Early childhood development, education and youth', above), including:

- The House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs "received much evidence that hearing loss affects a large number of Indigenous youth and has the potential to have a negative impact on their contact with police, the courts and the corrections system." during its 2011 Inquiry (1).
  - For example, "if an individual can't hear well they may not be able to benefit fully from employment, training, rehabilitation or diversion programs." (2).
- The effects of inmates who cannot hear and therefore communicate effectively while in the justice system may be compounded when their first language is not English.
- There is a potential link between hearing loss, communication difficulties, education and the propensity to reoffend (3) & (4).
- "Recent research in the Northern Territory among young Indigenous adults in the social justice system has linked the prevalence and severity of conductive hearing loss in young Indigenous Australians to a range of negative outcomes for employment and training opportunities and their overrepresentation in prison populations. [citing (5)] (Vanderpoll & Howard, 2011)." (6)
- Some Audiology Australia members report a lack and/or inconsistency of funding for hearing services in prisoner populations, and this tends to be confirmed by AIHW's 2015 report (7) which describes that "in the general community, health services are provided through both the Australian Government and the relevant state or territory government… health services for prisoners are the responsibility of state and territory governments only, and the manner in which these services are delivered varies among jurisdictions" with:
  - State or Territory Health Departments responsible for health service delivery in prisons in some cases, and;
  - State or Territory Departments of Justice or Corrections in others, using a "mix of directly-provided services, community health services and contracted health services." (7).
- As with Medicare, the Hearing Services Program (HSP) is funded by the Australian Government, and therefore is unable to be accessed directly by State and Territory health services, with the result that prisoner health services are effectively excluded from such benefits. However, some

people in remand or serving a prison sentence may be eligible to access or continue to access hearing care under the HSP "… where access has been agreed to by prison authorities." (2).

Question 7.2. What are your key recommendation(s)? (one sentence per recommendation please) What needs to happen?

1. Dedicated Federal and/or State and Territory funding for comprehensive detection, diagnosis and rehabilitation of hearing loss while in the prison system to ensure continuity of access to health care and improved outcomes for Aboriginal and Torres Strait Islander minors and adults.
    - 1.1 Law enforcement officers and other justice system staff should have access to and training in the use of assistive listening devices (e.g., a personal amplifier) to facilitate communication with adults with a suspected/known hearing loss.
    - 1.2 Hearing screening must occur for both minors and adults entering the justice system prior to court appearance and sentencing – this could be done by audiologists, or audiologists could be engaged to train staff in basic hearing screening.
    - 1.3 Hearing loops, interpreters and other supports should be made available in court throughout proceedings.
    - 1.4 Staff at correctional facilities should receive training in the importance of inmate hearing health care from audiologists, and be briefed regularly on how support for aural (re)habilitation can be accessed via Government-funded programs.
    - 1.5 Staff in programs that support people released from prison should receive information on the programs available to support people with hearing loss.

Question 7.3. References: If there is a published paper, a website, a trial or an evaluation that shows the impacts of your recommendation(s), please enter this information below.

1. House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs (2011). Doing Time – Time for Doing: Indigenous youth in the criminal justice system. The Parliament of the Commonwealth of Australia.
2. Australian Hearing. (2014). What hearing services are available for prisoners? www.hearing.com.au/information-corrective-services/, last accessed 20170425.
3. Australian Indigenous HealthInfoNet. (2004). *Review of ear health and hearing*. Australian Indigenous HealthInfoNet. www.healthinfonet.ecu.edu.au/ear_review, last accessed 20170425.
4. Senate Community Affairs References Committee (2010) *Hear us: inquiry into hearing health in Australia*. The Parliament of the Commonwealth of Australia.
5. Vanderpoll, T. and Howard, D., (2011). Investigation into hearing impairment among Indigenous prisoners within the Northern Territory Correctional Services. www.healthinfonet.ecu.edu.au/uploads/resources/21173_21173.pdf, last accessed 20170424.
6. Sanchez, L., Carney, A.S. Estermann, A., Sparrow, K., & Turner, D. (2012). An evaluation of the benefits of swimming pools for the hearing and ear health status of young Indigenous Australians: a whole-of-population study across multiple remote Indigenous communities [internet]. Final report to the Department of Health and Ageing, Canberra. (www.healthinfonet.ecu.edu.au/key-resources/programs-projects?pid=969)
7. AIHW (2015). *The health of Australia's prisoners*. Australian Institute of Health and Welfare, Canberra. www.aihw.gov.au/prisoner-health/, last accessed 20170424.

Question 7.4. If this entry also relates strongly to one or more of the other determinants of health, please select which ones below:

- ☑ **Connection to family, community, country & culture**
- ☐ Racism
- ☑ **Early childhood development, education & youth**
- ☑ **Employment & income**
- ☐ Housing, environment & infrastructure
- ☑ **Interaction with government systems**
- ☑ **Health choices**
- ☐ Food security

Question 7.5. Relevant supporting documents to be uploaded

Survey topic 8. Health Choices

> *"Structural factors, such as income, availability, affordability and access to healthy food and exercise options, directly influence individual choices and behaviours like eating, exercise, smoking and drinking alcohol."*

Question 8.1. We are looking for experiences, ideas and evidence that show how structural factors such as income, access and knowledge can be influenced to improve health choices relating to exercise, eating, smoking or drinking. Please tell us your story.

As highlighted in our response to 'Early childhood development, education and youth', Chronic Otitis Media can result from poor living conditions. Where available, healthy choices can affect multiple health outcomes, including ear and hearing health. Consistent reinforcement of primary ear and hearing health education and prevention messages are important at all levels of service delivery (see, for example, (1)). Thus, along with audiologists, other health care and allied professionals have a role to play, but only if they work in collaboration with Aboriginal and Torres Strait Islander people (2).

Here, Audiology Australia provides some of the many examples of how health choices can affect hearing health and thereby outcomes for Aboriginal and Torres Strait Islander People:

- **Healthy food:** Low-cost, healthy food options are lacking in rural and remote communities.
  - Subsidies can be an effective way of promoting healthy food choices (e.g., (3)). Audiology Australia members have had the experience of visiting a remote community in Arnhem Land (Milingimbi), which had the cost of healthy food options subsidised, making them significantly cheaper than unhealthy options.
  - Community resources to educate people about healthy choices are also important; one example is the Northern Territory Government's 'Aboriginal and Torres Strait Islander Guide to Healthy Eating' (4).
- **Healthy exercise:** A study on the prevalence and severity of Chronic Otitis Media in remote Aboriginal school children, established by the Flinders University Swimming Pool Study (5), showed significantly poorer ear health in summer than in winter. This was not attributable to swimming in swimming pools as this finding held also for those communities without pools in the same geographic area. Rather, it is likely to reflect the practice of children swimming in rock pools/waterholes and polluted water tanks, etc. during the summer.
- **Smoking:** Exposure to environmental tobacco smoke (ETS) increased the risk of specialist-diagnosed Otitis Media in Aboriginal children in the Kalgoorlie-Boulder region of WA (6). Impedance audiometry (tympanometry) results suggestive of fluid in the middle ear space was also associated with passive smoking in Aboriginal children. The researchers concluded that "reducing the exposure of children to ETS is a public health priority, especially for Aboriginal children. A smoke-free environment will help reduce the burden of OM" (6).
- **Immunisation:** "In addition to addressing environmental risk factors for carriage such as overcrowding and exposure to environmental tobacco smoke, early administration of pneumococcal-Haemophilus influenzae D protein conjugate vaccine to reduce bacterial carriage in infants, may be beneficial for Aboriginal children" (7).

Question 8.2. What are your key recommendation(s)? (one sentence per recommendation please) What needs to happen?

1 Audiologists must be supported and funded to access rural and remote communities to facilitate two-way learning of what feasible and culturally-appropriate health-choice initiatives may promote hearing health to a given target group.
2 Audiologists should be involved in public health campaigns, as healthy choices such as sanitation (hand-washing, nose-blowing), nutrition (e.g., healthy eating campaigns), immunisation, and smoking can affect multiple health outcomes, including ear and hearing health.

Question 8.3. References: If there is a published paper, a website, a trial or an evaluation that shows the impacts of your recommendation(s), please enter this information below.

1 Australian Government, Department of Health, *Care for Kids' Ears Campaign*. www.careforkidsears.health.gov.au, last accessed 11 April 2017
2 Henderson, I. (1993). Remote area Aboriginal ear and hearing health – Who defines the problem? *Aboriginal and Torres Strait Islander Health Worker Journal*: 17 (4), pp19-22.
3 Ruopeng, A. (2013) Effectiveness of Subsidies in Promoting Healthy Food Purchases and Consumption: A Review of Field Experiments. Public Health Nutr. 2013 Jul; 16(7): 1215–1228. (www.ncbi.nlm.nih.gov/pmc/articles/PMC3898771/)
4 Department of Health and Community Services (n.d.). *Aboriginal and Torres Strait Islander Guide to Healthy Eating*. Northern Territory Government.
5 Sanchez, L., Carney, A.S., Estermann, A., Sparrow, K., & Turner, D. (2012). An evaluation of the benefits of swimming pools for the hearing and ear health status of young Indigenous Australians: a whole-of-population study across multiple remote Indigenous communities [internet]. Final report to the Department of Health and Ageing, Canberra. (www.healthinfonet.ecu.edu.au/key-resources/programs-projects?pid=969)
6 Jacoby, P. A., Coates, H. L., Arumugaswamy, A., Elsbury, D., Stokes, A., Monck, R., Finucane, J. M., Weeks, S. A., & Lehmann D. (2008). The effect of passive smoking on the risk of otitis media in Aboriginal and non-Aboriginal children in the Kalgoorlie-Boulder region of Western Australia. *Med J Aust.* 2008 May 19;188(10):599-603.
7 Sun, W., Jacoby, P., Riley, T. V., Bowman, J., Leach, A. J., Coates, H., Weeks, S., Cripps, A., Lehmann, D., & Kalgoorlie Otitis Media Research Project Team. (2012). Association between early bacterial carriage and otitis media in Aboriginal and non-Aboriginal children in a semi-arid area of Western Australia: a cohort study. *BMC Infect Dis.* 2012 Dec 21;12:366. doi: 10.1186/1471-2334-12-366.

Question 8.4. What do you feel this recommendation is about (can choose more than one)?

☑ **Food security**
☑ **Nutrition**
☐ Alcohol
☑ **Tobacco**
☐ Drugs
☐ Exercise
☑ **Other**

Question 8.5. If this entry also relates strongly to one or more of the other determinants of health, please select which ones below:

- ☑ **Connection to family, community, country & culture**
- ☐ Racism
- ☑ **Early childhood development, education & youth**
- ☑ **Employment & income**
- ☑ **Housing, environment & infrastructure**
- ☑ **Interaction with government systems**
- ☐ Law and justice
- ☑ **Food security**

6. Relevant supporting documents to be uploaded

Survey topic 10. Other social or cultural determinants

> *"Use this space to describe ways to improve social and cultural determinants of Indigenous health only if your idea simply does not relate to any of the other listed determinants."*

Question 10.1. We are looking for experiences, ideas and evidence that show how social and cultural determinants of health can improve Aboriginal and Torres Strait Islander peoples' health. Please tell us your story.

Workforce development*: *Culturally-appropriate Hearing Health Care/Service Provision

- Culturally inappropriate or insensitive practices of health care practitioners can affect the likelihood of people feeling comfortable to approach or seek help with hearing health care.
- Access to trained interpreters is only part of the equation to support the cultural determinant of self-determination, and effectively identify and meet the needs of Aboriginal and Torres Strait Islander clients/patients (see for example (1)).
- Audiology Australia's Professional Practice Standards (2) include the criterion "to effectively cross culture and language barriers to provide audiological re/habilitation that meets the needs of individual Aboriginal and Torres Strait Islander clients and their families."
- In addition, Audiology Australia encourages members to engage in Indigenous Health Worker training activities through recognition of professional development in this area.

Question 10.2. What are your key recommendation(s)? (one sentence per recommendation please) What needs to happen?

1 Audiology Australia submits that if funding and/or training in the AHMAC Cultural Respect Framework (3) was made available, it would be able to develop and provide training for audiologists in this framework in order to support professional practice.
2 Funding should be made available for audiologists to train Indigenous Health Workers in ear health and hearing/Otitis Media screening.

Question 10.3. References: If there is a published paper, a website, a trial or an evaluation that shows the impacts of your recommendation(s), please enter this information below.

1 Cass, A., Lowell, A., Christie, M., Snelling, P. L., Flack, M., Marrnganyin, B., & Brown, I. (2002). Sharing the true stories: improving communication between Aboriginal patients and healthcare workers. Med J Aust 2002; 176 (10): 466-470.
2 Audiology Australia. (2013). *Professional Practice Standards – Part B, Clinical Standards*, Sections 8 and 22.
3 Australian Health Ministers' Advisory Council's (AHMAC's) National Aboriginal and Torres Strait Islander Health Standing Committee (2016) Cultural Respect Framework 2016-2026 for Aboriginal and Torres Strait Islander Health: A national approach to building a culturally respectful health system. AHMAC.

Question 10.4. Relevant supporting documents to be uploaded

Audiology Australia. (2013). *Professional Practice Standards – Part B, Clinical Standards*, Sections 8 and 22.