EarHealth**ForLife**

A national approach to monitoring ear health

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INTRODUCTION

The #earhealthforlife network is committed to a national Aboriginal and Torres Strait Islander Hearing Health Taskforce that can provide evidence-based advice to Government about hearing health.

Recognising the extent of missing data and inconsistent metrics on hearing health across Australia, we are also committed to better embedding hearing health in the Closing the Gap targets and associated strategies, and an agreed national standard, database and ongoing reporting.

We propose that governments support this taskforce to better measure outcomes rather than activity, and improve data linkage by establishing national key performance indicators. A taskforce could also help guide a more holistic approach to hearing healthcare.

In the absence of a taskforce, below is a summary of existing approaches to monitoring ear health. Given the extensive expertise available within the #earhealthforlife network, this paper will not go into the social determinants and causes of ear disease and other chronic health conditions. The draft Australian Hearing Aboriginal and Torres Strait Islander Ear Health and Hearing Road Map[1] and the Australian Indigenous HealthInfoNet 2013 Review of ear health and hearing among Indigenous Australians[2] provide excellent syntheses of these issues.

Decreasing the likelihood that ear infections become chronic, particularly in babies and young children, allows them to achieve their educational and employment aspirations. Surveillance of hearing health as part of comprehensive primary health care is an essential component of this, because without coordinated electronic systems that guide decision making and support treatment, children with ear disease will continue to fall through the cracks. These data need to be localised and regularly shared with relevant services involved in delivering healthcare to target efforts where resources are needed.

Sibthorpe et al (2017) outline seven evidence-based indicators which could be extracted from existing health records to enable continuous quality improvement (CQI) in the prevention and management of otitis media. Irrespective of inconsistency in electronic health records, CQI is now a requirement of all primary healthcare services receiving funding for care for Aboriginal and Torres Strait Islander people.[3]

As a baseline for establishing population prevalence, governments should commit to being able to report the number and proportion of Aboriginal children aged between 3 months and 5 years who have ear discharge in each local area in their jurisdiction. This is based on the Northern Territory model and could be adapted over time to suit the ear health needs of other jurisdictions.

BACKGROUND

The continuing prevalence of ear disease and hearing loss in Australia's Aboriginal and Torres Strait Islander populations is a clear barrier to closing the gap priorities.

Gruen et al (2008) found that dynamic interactions between multiple system components is a core principle of a comprehensive approach to health-program sustainability, along with the program's context and resource availability.[4]

In the case of ear disease, Kong & Coates (2009) highlight the difficulty in establishing incidence and prevalence rates across Australia due to definitional and diagnostic differences and uncertainty.[5] One estimate from the World Health Organization in 1996 reported Aboriginal people had among the highest rates of chronic otitis media in the world (12-25%), and cautioned that a prevalence of >4% indicates a massive public health problem requiring urgent attention.[6]

A 2010 Senate Inquiry into hearing health in Australia recommended a national dataset and register for neonatal hearing screening that could track children through neonatal hearing screening, diagnosis and intervention, and eventually all children diagnosed with a hearing impairment later in life.[7]

At the biennial Australian Otitis Media conferences in 2014 and 2016, experts in the field of chronic ear disease from all around Australia passed motions calling on governments to establish a national hearing health taskforce and program as a matter of urgency.

EXISTING APPROACHES TO MONITORING EAR HEALTH

In 2017, we are still unable to monitor the national prevalence of ear disease, its geographic distribution, screening rates, wait times between referrals or whether timely and appropriate treatments are being delivered. Data are unlinked within various silos and infrequently released.

There are considerable missing data in the approaches listed below. For example although annual primary health checks are available to all Aboriginal and Torres Strait Islander people, the majority do not access them, or may not identify their ethnicity when accessing health services.

2014/15 data from the Indigenous health check data tool show that of the 0-4 age group, more than 63,000 children did not receive a health check, compared with 21,825 checks billed to the MBS. The proportion of young people not receiving a check was even larger in the 5-14 and 15-24 age groups and the Australian Institute of Health and Welfare estimates about 50% of all Aboriginal and Torres Strait Islander people have not received a health check in the past five years (unpublished data).

Even when children are receiving health checks, no information is available on ear health problems diagnosed and follow up to ensure problems are resolved.

Where other data are available, it may not be complete. For example hearing health status may not be recorded, or time spent waiting for an intervention.

With this in mind, below is a summary of some of the existing approaches to monitoring ear health.

ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH PERFORMANCE FRAMEWORK[9]

This comprehensive approach to monitoring progress in Aboriginal and Torres Strait Islander health outcomes, health system performance and the broader determinants of health is collated by the Department of Prime Minister and Cabinet, and released every two years. The most recent iteration was released in June 2017.

The report draws on statistics from a range of Commonwealth, state and territory government agency resources and experts. Much of the data included on ear health in the 2017 Health Performance Framework is analysed and provided by the Australian Institute of Health and Welfare (AIHW). The AIHW also compile online tables[10] from data provided by states, territories and the Commonwealth.

MEDICARE STATISTICS

Medicare offers MBS item number 715 (Health Assessment for Aboriginal and Torres Strait Islander People).[11] To claim for this, the Associated Notes state that medical practitioners are required to undertake an ear examination, including otoscopy, in patients under 55,[12] however there is no record of whether this is actually undertaken.

The Australian Institute of Health and Welfare hosts the Indigenous health check data tool which allows users to search 715 uptake by Medicare Local areas or Primary Health Network.[13] It is also possible to search for services provided by item number on the Department of Human Services website.[14]

Aboriginal and Torres Strait Islander people can be referred by a medical practitioner for allied health follow-ups when a health assessment has been undertaken and a need for follow-up has been identified. These services are covered by 13 separate items in the 81300 to 81360 range, including audiologist (81310) and speech pathologist (81360), and can also be carried out by a practice nurse or an Aboriginal and Torres Strait Islander health practitioner on behalf of a medical practitioner (10987). Medicare statistics don't capture all the work on hearing health carried out by Aboriginal Health Services.

Referral rates between July 2012 - June 2016 under items 81310 and 81360 were as follows:

	STATE								TOTAL SERVICES
	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	
	Services	Services	Services	Services	Services	Services	Services	Services	
81310	200	2	1,223	8	8	2	2	33	1,478
81360	5,114	382	3,768	106	148	8	5	47	9,578

Source: AIHW analysis of Medicare data.

EAR HEALTH PROGRAM DATA

The Commonwealth Department of Health's main commitment to improving the ear health of Aboriginal and Torres Strait Islander people is the Healthy Ears – Better Hearing, Better Listening program.[15] The program received around $24 million from 2013-14 to 2016-17 and is currently under review.

While all participating team members need to demonstrate that they have undertaken cultural awareness and safety training (although whether this is locally specific is not mandatory), there is no mention of data requirements in the service delivery standards. Funding agreements also do not include clear requirements about data that must be collected and in some cases the Commonwealth has not capitalised on jurisdictional efforts to improve the usefulness of data collection efforts.

Data that are provided comes from a range of services with different service delivery models and information collected.

It is hoped that through the current COAG Health Council process which is exploring the feasibility of a national approach to reducing ear disease, we can gain a greater understanding of what the various states and territory programs are collecting and data gaps. National Key Performance Indicators should be introduced.

NORTHERN TERRITORY REMOTE ABORIGINAL INVESTMENT: EAR AND HEARING HEALTH PROGRAM

This report presents data on the Indigenous children and young people who participated in the audiology, ear, nose and throat teleotology and Clinical Nurse Specialist services delivered under the National Partnership Agreement on Northern Territory Remote Aboriginal Investment.

Data captured include:

- Outreach audiology services provided
- ENT teleotology services provided
- Clinical Nurse Specialist visits
- Levels and type of hearing loss and impairment recorded
- Ear conditions recorded
- Type of referral
- Demand for services

As at 30 June 2016, 2,462 children and young people were on the ENT teleotology service waiting list and 90% of them had an outstanding referral.[16] This program has shown some improvements in hearing health among children in the Northern Territory.

THE NATIONAL ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH SURVEY

This survey was last conducted in 2012-13 as part of the wider Australian Bureau of Statistics Australian Health Survey. Its next cycle will be in 2018-19. It is designed to produce data about health status, risk factors, socioeconomic circumstances and physical measurements including height, weight, waist circumference and blood pressure.

The last sample included a representative group of around 11,500 Aboriginal and Torres Strait Islander people from approximately 6,000 households. The next survey will include questions on some new topics including mental, behavioural and cognitive conditions, experiences of violence, e-cigarette use, and a hearing test. The National Acoustic Laboratories are developing a laptop-based application that will use an automated paradigm to find air conduction thresholds at two frequencies in each ear.

AUSTRALIAN ATLAS OF HEALTHCARE VARIATION

The Australian Commission on Safety and Quality in Health Care collaborated with the Australian, state and territory governments, specialist medical colleges, clinicians and consumer representatives to develop the first Australian Atlas of Healthcare Variation released in 2015.

The first edition includes sections on antimicrobial dispensing and hospital admissions for myringotomy. The second edition, released in June 2017, builds on some areas identified for action in the first edition but omits antimicrobial dispensing and myringotomy.

The first edition reports that in 2013-14, the number of antimicrobial prescriptions was 11.5 times higher in the area with the highest rate (Campbelltown, NSW) compared to the area with the lowest rate (West Arnhem, NT).[17]

In 2012-13 there were 34,065 myringotomy admissions to hospital representing 621 admissions per 100,000 people aged 17 years and under. The number of admissions was 6.8 times higher in the area with the highest rate (Onkaparinga, SA) compared to the area with the lowest rate (Alice Springs, NT).[18]

These findings warrant further investigation.

The report also noted that rates of myringotomy in Indigenous children aged under four are about one-third lower than in non-Indigenous children in NSW, and that variation in myringotomy admissions across Australia may be due to the distribution of Indigenous people and their access to targeted ear health services.

NATIONAL KEY PERFORMANCE INDICATORS

In return for Commonwealth Department of Health funding, primary health care organisations providing services primarily to Aboriginal and Torres Strait Islander people are required to capture data for the Commonwealth's national Key Performance Indicators data collection. Appendix 1 lists the 19 indicators.[19] Hearing health is not addressed.

DATA COLLECTED BY ABORIGINAL COMMUNITY CONTROLLED ORGANISATIONS

The Australian Institute of Health and Welfare's Aboriginal and Torres Strait Islander health organisations: Online Services Report - key results 2015–16 provides data on services delivered by ACCHOs. It notes that over half the organisations providing primary healthcare services reported mental health/social and emotional wellbeing services as a service gap (54%); and the recruitment, training and support of Aboriginal and Torres Strait Islander staff as a key challenge to delivering care (67%).[20]

Some organisations felt that clients with high needs had to wait too long for some services, in particular access to specialist and dental services. This was more commonly reported by organisations in remote or very remote areas. Around half reported the coordination of clinical care with other providers (50%), and appropriate health service infrastructure (49%) as challenges.[21]

STATE AND TERRITORY ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH PLANS

The Aboriginal and Torres Strait Islander Health Performance Framework summarises state and territory actions to address Aboriginal and Torres Strait Islander health priorities more broadly.

AUSTRALIAN EARLY DEVELOPMENT CENSUS

The Australian Early Development Census (AEDC) is a population-based measure of children's development as they enter their first year of full-time school, and takes place nationally every three years.[22] Data are released in the year following its collection.

Teachers complete the Australian version of the Early Development Instrument (AvEDI) for each child in their class, which is collected using a secure data entry system. This is completed based on the teacher's knowledge and observations of the children in their class. The AvEDI includes approximately 100 questions across five domains of child development:

- Physical health and wellbeing
- Social competence
- Emotional maturity
- Language and cognitive skills (school-based)
- Communication skills and general knowledge.[23]

The latest results show that while there are some positive outcomes, over the period 2009-2015 the gap between the proportions of developmentally vulnerable children in the most disadvantaged areas, relative to the least disadvantaged areas, widened across all five domains.[24]

Section D of the AvEDI focuses on emerging needs and asks specific questions related to hearing impairment; however these data are not publicly available. History of otitis media or hearing difficulties was included for all children in the 2009 and 2012 data collections based on findings from the Indigenous Australian Early Development Index project, which would suggest that its impact was considered important enough to warrant inclusion.[25]

INNOVATIVE PRACTICES

Effective primary prevention strategies have typically addressed prevention and awareness; early identification; and treatment and support.[26]

There are several examples of best practice collaboration, data collection and monitoring that could guide a national approach to monitoring ear health including:

- The award-winning Deadly Ears program.
- The Northern Territory's Hearing Health Information Management System (HHIMS) – a Department of Health custom-built hearing health record that stores specialist ear and hearing clinical data to support multidisciplinary care and outreach, launched April 2017.
- The NSW Hearing Ear Health and Language Services project demonstrated the ability to deliver a high number of services in very tight timeframes due to strong, longstanding relationships between the research, medical and Aboriginal community controlled health sector.[27]

KEY ISSUES FOR GOVERNMENT CONSIDERATION

It is crucial that any Government funding provided to address ear health is tied to properly benchmarked outcomes, particularly for those most at risk of and affected by ear disease.

Claims against item 715 need to be aligned with the national Clinical Care Guidelines on the Management of Otitis Media which provide clear guidance on appropriate indications for diagnosis and referral.

The provision of taxpayer funds requires continuous quality improvement in the prevention and management of otitis media, therefore benchmarked data on access to ear and hearing services and clinical outcomes are needed. These might include improvement in hearing, numbers of people with adequate hearing for daily communication, fewer tympanic membrane perforations and language outcomes. Coordination between the different services providing hearing health services is critical.

As a minimum basis for benchmarking, we recommend governments measure:

1. Ear discharge ratio: number with ear discharge/ number measured.
2. Coverage ratio: number measured/total population.

Over time, this baseline prevalence would help to inform additional metrics that may be available, such as:

- The proportion of Aboriginal and Torres Strait Islander people by age group who have received an age-appropriate ear assessment in line with the national clinical care guidelines on the management of otitis media in the past year, and data captured (preferably type of middle ear infection where detected).
- The proportion of Aboriginal and Torres Strait Islander people by age group who have received a hearing check in the past year, data captured and the extent of follow up for children who had a hearing problem diagnosed.
- The proportion of children failing hearing checks.
- Needs assessment at the local level so that efforts can be targeted.
- Wait times for interventions and the proportion of children by age group seen within the clinically recommended time.
- Rates of hospitalisation for respiratory and ear infections.
- Rates of ENT surgical interventions for Aboriginal and Torres Strait Islander people vs non-Aboriginal and Torres Strait Islander people by age group. In the long term, rates of patients achieving better hearing outcomes should also be measured.
- Rates of rehabilitative audiological interventions (hearing aid fitting) for Aboriginal and Torres Strait Islander people vs non-Aboriginal and Torres Strait Islander people by age group.
- Wait times for follow up consultations.
- Rates, type and degree of hearing loss among children beginning school who have not received a hearing test previously, compared to when the program began.
- Data capture of prevention and early intervention.

Consideration should be given to annual surveys of people working in Aboriginal Community-Controlled Health Organisations and local practices to gauge staff confidence in conducting ear health checks, the use of equipment, and knowledge of referral pathways. As per the MBS item range 81300 to 81360, it is essential that practice nurses and Aboriginal and Torres Strait Islander health practitioners have the skills and confidence to deliver these services.

A 2016 Australian Medical Association submission into a Commonwealth inquiry into the hearing health and wellbeing of Australia notes that contact with the criminal justice system provides a valuable opportunity to detect and address health conditions experienced by detainees/prisoners.[28] Providing screening and a general health assessment upon admission would also generate a much better picture of ear disease and its burden on individuals and society.

Noting the AMA's 2008 recommendation that Australian governments set and achieve a target of 90 per cent of Indigenous children having a hearing assessment prior to entering school within 10 years, the evidence indicates screening and intervention in the <3 age group is the most critical.[29]

Much of the data required are already captured in the approaches to monitoring ear health listed above; however it needs to be synthesised and reported more regularly and comprehensively, particularly to policy makers and people and organisations involved in the delivery of ear health services. It is also important to provide localised data, so that geographical areas of need can be identified. A similar model has been applied successfully to eye health.

A national approach to monitoring ear health depends on the commitment of governments across Australia, the health workforce and families, and interoperability solutions for information systems.

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