Achieving better ear health for Aboriginal children by improving collaboration and communication

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Context

It is universally understood that ear disease is prevalent in Aboriginal and Torres Strait Islander children.

Research and health practitioner experience in the field demonstrates time and time again the apparent intractable nature of this problem.

However, the true extent of ear disease and its complications are not accurately known in the Aboriginal population because of lack of consistent data collection¹. Additionally, the reasons for the high prevalence of ear disease are still not completely understood but contributing factors as listed on the NSW Health Website include:

- exposure to tobacco smoke
- premature birth
- bottle feeding, especially ‘prop’ feeding and falling asleep with a bottle in the mouth
- household overcrowding
- malnutrition².

The consequences of ear disease can be dire in terms of the development of chronic ear disease, progression to glue ear and the impact that chronic disease has on hearing, speech and language development and learning.

This is in contrast to ear disease in the non-Aboriginal population where the problem is more likely to be acute, short lived and responsive to treatment.

In acknowledgement of this problem in Aboriginal communities the Department of Health launched the Healthy Ears Better Hearing Better Listening (HEBHBL) Program in 2013 and funding was provided to Rural Workforce Agencies or other health organisations in all states and territories for the development of outreach health services aimed at reducing the burden of ear disease in Aboriginal children.

The NSW Rural Doctors Network (RDN) is responsible to implement the HEBHBL program in NSW and the ACT.
RDN’s response to the HEBHBL Program in NSW

RDN implements the HEBHBL program alongside the other longstanding Commonwealth funded outreach programs, namely the:

- Rural Health Outreach Fund
- Medical Outreach Indigenous Chronic Disease Fund
- Visiting Optometrist Scheme
- Coordination of Indigenous Eye Health Activity Project.

Through these programs, RDN supports over 1200 outreach services to rural and remote people in NSW and the ACT and also to Aboriginal people in some metropolitan areas.

RDN’s approach to identifying service gaps requiring funding in all the programs it manages includes consulting widely in the field. RDN has developed strong linkages with a number of organisations including the following as appropriate:

- Aboriginal Community Controlled Health Services (ACCHSs)
- Local Health Districts (LHD)
- Primary Healthcare Networks and their predecessors
- private medical practices
- schools
- local government
- other bodies with an interest in health care.

Local stakeholder consultations, that included site visits, interviews and surveys, were able to identify a range of service deficits that varied from District to District. To support this, an analysis of available population, geographic, socio-economic and workforce data was undertaken to assess needs identified by local stakeholders and prioritise the distribution of program resources.

To assist with the identification of deficits, RDN developed a flow chart that identified all the service access points for ear disease from prevention, identification, treatment of acute disease, management of chronic disease and amelioration of adverse outcomes such as speech and language disorders and hearing problems that affect learning (Figure 1).

Services deficits across the spectrum from prevention to surgical management were prioritised and project plans completed for approval. Identified deficits included barriers many Aboriginal families had to overcome in order to access services such as long travel distances, financial hurdles that included private practitioners’ fees or the cost of transport and accommodation, and a lack of services that were meeting the cultural safety needs of Aboriginal families.

**ENT surgery and limited access in rural areas**

Surgical procedures performed by Ear Nose and Throat (ENT) specialists, or otolaryngologists, are an important treatment for ear disease but access is limited for many Aboriginal families. Surgical management for Glue Ear (otitis media) requires the insertion of a tube (Grommets) through a small
cut in the tympanic membrane—a myringotomy procedure. This allows the free drainage of fluid built up behind the ear drum and assists the afflicted child to retain hearing and support learning.

While prevention and early treatment are preferable to a surgical procedure, the insertion of Grommets in a proportion of children is inevitable. However, in rural and remote NSW timely access to this procedure cannot be guaranteed for a variety of reasons including:

- an absolute shortage of ENT surgeons
- limitations on the availability of operating theatre time, including limited facilities and staff required to anaesthetise children in rural areas
- other factors affecting referrals to ENT assessment in the first place such as shortages in audiometry and audiometrist services
- long waiting times to access public ENT services
- fees charged by some private ENT providers that can deter Aboriginal families from seeking assessments, procedures and follow-up.

Supporting access to surgery has required a particular focus because of the complexities inherent in the provision of surgical services in rural and remote NSW.

Otitis media has been reported as occurring in Aboriginal children between the ages of 0-14 at 2.4 times the rate of non-Aboriginal children. This contrasts with the rate of myringotomy procedures accessed by Aboriginal children which occurs at the same rate as non-Aboriginal children, 1.8 per 1000 children, and indicates an imbalance in access.

The approach to Aboriginal ear disease in Port Macquarie and Kempsey: a case study

The ACCHSs and other stakeholders worked together to identify hearing needs, design an ENT surgery model that was integrated with public and private services, and implement services.

Aboriginal children in the region and limited access to ENT services

The regional NSW towns of Port Macquarie and Kempsey are home to an estimated 3,124 and 2,416 Aboriginal people, respectively, and 38% are below the age of 15. The ACCHSs in these communities, Werin Aboriginal Corporation Medical Clinic (Werin ACMC) and Durri Aboriginal Corporation Medical Service (Durri ACMS), identified the need for increased access to ENT surgery assessments and procedures for Aboriginal families through RDN's 2014 HEBHBL needs assessment.

The only ENT service in the vicinity was a sole ENT surgeon who provided services from private rooms in Port Macquarie and conducted procedures at Port Macquarie Base Hospital. While bulkbilling of ACCHS clients was provided, the existing ENT service was under significant pressure from the region's growing population which ultimately restricted the number of appointments available. The coordination of Aboriginal patients between GPs at the two ACCHSs, the private ENT service and the hospital was limited. In addition, mechanisms to support the cultural safety of Aboriginal families did not adequately extend through the ENT surgery pathway. At the time, Aboriginal families experienced significant waiting times of up to 12 to 18 months to access ENT procedures. The nearest public ENT surgery services were in Coffs Harbour and Newcastle where families could also expect long waiting times.
NB: ENT surgery needs were also identified by Galambila Aboriginal Health Service in Coffs Harbour and an initial assessment clinic was provided; however, it proved logistically difficult to link to the Port Macquarie and Kempsey service and it was agreed that an alternate ENT surgery access arrangement was needed.

All stakeholders designed and contributed to the solution

Following the identification of the ENT surgery access needs, a meeting of key stakeholders was facilitated by RDN in June 2015 to discuss the needs and identify potential solutions. Participants at this discussion included ACCHS representatives, LHD hospital managers and surgical staff, the incumbent ENT surgeon, a Sydney-based ENT surgeon and members of RDN’s Outreach Team. All stakeholders acknowledged that the current ENT surgery wait times were not acceptable and a visiting service was required to supplement local capacity and ultimately improve hearing health outcomes for Aboriginal children in the region.

A number of complicating factors and solutions were identified including a plan to manage clinical risk associated with tonsillectomy procedures which were sometimes required, the multifaceted nature of the service and importance of effective service and patient coordination, the potential of increased referrals to exacerbate the hospital’s already significant waiting list and the necessary contribution of resources and personnel.

There was a consensus amongst stakeholders that no individual agency could provide all of the service’s components. Subsequently, at this discussion and in the months that followed, each of the stakeholders agreed to support and contribute to increasing access to ENT surgery through the following:

- **THE ACCHSs** agreed to expand the roles of Aboriginal health practitioners/workers based in both services to engage families and coordinate their access to audiology assessments, GP referrals, visiting ENT assessment and follow-up clinics (at ACCHS facilities), preadmission clinics and support families during procedures including accompanying families to the hospital.

- **The LHD** would provide access to theatre facilities, support the service with staff anaesthetists and nurses, initially support ACCHS GPs to undertake preadmission clinics and make a co-contribution to the cost of procedures.

- **The Children’s Hospital at Westmead and the visiting ENT** would commit to providing four, two-day outreach clinics each year, which involved assessment/follow-up clinics at the two ACCHSs and an ENT surgical list at the hospital to provide myringotomy, myringoplasty and adenoidectomy procedures that were estimated to make up 60%-70% of the case load.

- **The incumbent ENT surgeon would receive tonsillectomy referrals**, provide procedures and post-operative support that is necessary to manage the risk of bleeding during the two weeks following this procedure.

- **RDN would provide HEBHBL funding** to support the visiting ENT, theatre staff at the hospital, the ACCHSs and Aboriginal health workers. RDN’s Outreach Team would also provide project support including planning schedules and budgets, monitoring progress on behalf of stakeholders and troubleshooting issues as they arose. RDN’s HEBHBL program has also supported Werin ACMC and Durri ACMS to provide outreach speech pathology clinics that are linked to the ENT service and audiology clinics for screening and referral to the Australian Hearing services.
• There are no other Aboriginal-specific screening programs operating in Port Macquarie at this time, and the fundholder has reported that this is a significant barrier in accessing mainstream services. Providing this service through Werin ACMC ensures that access will be increased to the Aboriginal population of Port Macquarie.

The model and health pathway for patients (Figure 2)
The hearing services integrated between the two ACCHSs and the MNC LHD facilities give Aboriginal children in Port Macquarie and Kempsey access to the full spectrum of hearing health services that circumvent pre-existing distance, financial and cultural safety barriers by providing services within these communities, providing bulk-billed or public attendances and delivering clinics in environments that are culturally safe and supported by Aboriginal health workers who also provide an integral Aboriginal Ear Health Coordination role.

The health pathway typically starts with the Aboriginal health practitioner and GPs at Durri AMCS or Werin ACMC that provide a 715 health check or other opportunistic hearing check when Aboriginal children present at these ACCHSs. Children are referred for audiometry screening which some Aboriginal health workers are trained to provide. Speech pathologists will also refer to the audiometrist for screening if hearing loss is potentially contributing to speech or developmental delay. Children who require further care are referred to a local audiologist or ENT surgery service including procedures and follow-up when required. The two-day visiting ENT clinic usually starts with a half-day surgical session at Port Macquarie Base Hospital that is followed by one half day clinic after the surgery and a full day clinic the following day at the ACCHSs before the specialist returns to Sydney.

At each stage along the ENT pathway, the Aboriginal Ear Health Coordinator supports patients and their families throughout the process from the initial assessment to post surgery follow-up. The Aboriginal Ear Health Coordinator also communicates with clinicians and administrators including the ENT surgeon, ACCHSs, GPs who perform pre-anaesthetic assessments, the hospital’s theatre booking manager and surgical coordinator to coordinate services. Prior to each surgical session, a meeting between the specialist, hospital staff, Aboriginal Ear Health Coordinators and RDN is organised to reach agreement on scheduling, equipment, and arrangement of patient care before, during and after surgery.

The Aboriginal Ear Health Coordinator also provides associated services including health promotion (e.g. education on nose blowing) at screening appointments and provision of individual assistance before and after surgery (e.g. completion of hospital admission documentation, transportation and attendance on the day of surgery, and following up the day after surgery) which, importantly, reduces barriers and social stress and supports better continuity of care for patients and families.

The outcomes
The collaborative ENT service model employed in Port Macquarie and Kempsey clearly demonstrates increased access for Aboriginal families as a result of stakeholders’ commitment to integrating services to achieve this goal. The following outcomes have been reported since the initial assessment, which took place in August, 2015:

• The Aboriginal communities in Port Macquarie and Kempsey now have access to the full spectrum of hearing health services that include detection, treatment and management.
• Waiting times for Aboriginal families referred to ENT services have reduced to:
  – three months or less for ENT surgery assessment and follow-up consultations;
  – three to six months to receive low risk ENT procedures; and
  – a total waiting time from the initial GP referral to ENT procedure of between less than six months to nine months—an approximate reduction of six to 12 months since the establishment of the HEBHBL ENT service.
  – (NB: Anecdotal feedback indicates some families did not access ENT services at all prior to the HEBHBL ENT surgery service.)

• Thirteen ENT assessment/follow-up clinics have been provided at Durri AMCS and Werin AMC—approximately one each quarter.

• Fifty outreach clinic hours and ninety-eight occasions of service (OoS) have been provided by the ENT service.

• Five ENT surgical sessions have been provided at Port Macquarie Hospital during which 25 procedures were performed—comprising of 18 low risk procedures and three tonsillectomies provided by a local ENT surgeon.

• The supporting Aboriginal health workers provided 36 clinics during this time and reported 270 OoS including supporting patients to undergo 715 health checks and subsequent coordination of their access to the hearing health pathway when necessary.

• Visiting speech pathologists have also provided 145 clinic and 853 OoS at the two ACCHSs and both receive referrals from the ENT clinic as well as refer children for ENT assessments.

A continuous quality improvement process is embedded in RDN’s HEBHBL program which includes quarterly assessments and responses to qualitative and quantitative information and annual service reviews, including consumer and stakeholder feedback, to inform planning for the subsequent year. This is an essential part of the program to ensure it is responsive to the changing environment, referral patterns, emerging needs and opportunities.

**Recommendations**

Whilst the HEBHBL ENT surgery and related services in Port Macquarie and Kempsey are relatively new, RDN has observed the following factors that have been essential to its success so far:

• ACCHSs should inform priority health needs for their communities and how to engage the community to address these.

• Multiple health agencies and practitioners should actively communicate to design and deliver integrated and comprehensive hearing health pathways—no individual agency has all of the components to do this alone and would risk duplicating services if this was attempted. Support for collaboration from agency executives and funding for the missing components, i.e. a visiting ENT surgeon, are necessary catalysts.
• A coordinator of the whole hearing health pathway, ideally an Aboriginal health worker/practitioner, is essential to support patient centred care and access, trouble-shoot issues, coordinate clinicians and support the integration of multiple agencies involved.

• Services that have an Aboriginal health focus should be delivered from ACCHSs whenever this is practical if they are to be successful and embedded in the community. There are of course exceptions when specialist equipment, facilities and cost constraints exist; however, alternative services should be supported by Aboriginal health workers.

• Continuous quality improvement should be a part of service operations including seeking feedback from agencies, practitioners and consumers and acting on this valuable input to enhance ongoing effectiveness.

References


Presenter
Dr Elizabeth Barrett has a medical degree from the University of NSW and further qualifications in family planning and health management and a Masters Degree in Public Health. She is a Fellow of the Faculty of Public Health Medicine. After clinical practice, Dr Barrett worked in public health and senior health management positions in rural and metropolitan NSW. She is currently a medical adviser with the NSW Rural Doctors Network and a surveyor for the Australian Council on Healthcare Standards. Dr Barrett’s previous commitments include President of Quality Management Services, membership of the Optometrical Board of NSW, membership of the Charles Sturt University (CSU) and University of Western Sydney Advisory Councils and the CSU Ethics Committee. She has been engaged in research for the Australian Medical Workforce Advisory Committee, The National Health Strategy and Hepatitis B prevalence and management in Western NSW. Dr Barrett has undertaken rural health consultancies in China and Queensland and occasionally works as a relief hospital Director of Clinical Services.

Laurie Clay is a decedent from of the Kamilaroi Nation from Denman in NSW Hunter Valley. He has worked in Aboriginal health since 1993. He is married and has four adult children. He enjoys his work and the dignity and self-esteem it brings, and enjoys meeting and engaging patients old and new. Laurie enjoys life and believes we live in the best country in the world. He likes watching and being part of sporting activities, engaging in outdoor activities as much as possible. Laurie lives at Crescent Head and travels to Port Macquarie for work at Werin Aboriginal Clinic daily. He is currently employed as a Regional Aboriginal ENT Co coordinator. In the time he has worked in Aboriginal health, chronic disease has been the majority of his focus, coordinating clinics, screening, referrals and follow up, access for patients to allied health services, coordinating and facilitating in conjunction specialist
clinics. His current position is invigorating as he has had to learn new skills sets and training and he has been introduced to a new patient cluster and age group with the hearing program. The Ear and Hearing Clinics facilitate education management and treatment, with a pathway to the visiting ENT specialist who attends four times a year. Laurie likes to keep fit and likes to be active, playing rugby union with Kempsey Cannonballs whom he originally joined in 1990. He enjoys encouraging and motivating the younger players and volunteers with maintenance of the home ground. He has been a volunteer first aid officer as well. Laurie plays golf and has won numerous Club Championship Awards at Crescent Head Club. He coached a children's golf clinic from 1998 to 2000 and has run Charity Golf Days for Diabetes Australia for over 10 years. He has volunteered in community events with Crescent Head Lions Club as first aid officer over the past several years, has attended Juvenile Camp retreats with the McLeay Valley Diabetes Group to volunteer his services educating children and their families on Diabetes. He has been breeding birds for over 30 years, mostly finches since his teens.
Figure 1  RDN’s HEBHBL Ear Health Pathway Model

Prevention
- Public education and health promotion activities to engage children, families and caregivers and raise awareness of:
  - Hygiene, healthy nutrition and lifestyle;
  - Smoking cessation;
  - Breastfeeding and;
  - Vaccinations.

Detection
- Assessment for hearing loss in children and adolescents
  - Newborn: Early childhood nurse assessment
  - Pre-school:
    - Comprehensive screening or audit for those not in pre-school
    - Referral to GP/ENT procedures, for example: denontronction of tonsils, grommets, myringoplasty, etc.
  - K–Year 12:
    - Comprehensive screening:
    - Year 5/6: Ad hoc screening - referred by teacher or parent
    - Referral to Audiologist
  - All ages (up to 21):
    - GP presentations/opportunistic screening

Treatment
- ENT procedures, for example: denontronction of tonsils, grommets, myringoplasty, etc.
- device (according to recommended clinical care)
- Referral to Audiologist

Management
- Speech therapy
- Occupational therapy
- Parent/family education

Workforce
- Teachers
- Indian CHL teachers
- School executive/advisory and support workers
- Aboriginal health worker
- Community/social workers

Equipment/Infrastructure/Training
- Post procedure accommodation
- Hearing amplification devices
- Training of Australian Hearing
- Sound field equipment
- Professional learning on understanding hearing loss

Participating organisations
- Department of Education and Communities (DECE)
- MoH/LHD
- ACCHS
- ML
- Deafness Management (DoEC)
- MoH/LHD
- ACCHS
- ML
- Participation training providers, i.e. Aboriginal Health College, Australian Hearing and RIDBC
- Not for profit/community organisations and associations

Assistive listening devices in classrooms
- Personal amplification

Public education and health promotion activities to engage children, families and caregivers and raise awareness of:
- Hygiene, healthy nutrition and lifestyle;
- Smoking cessation;
- Breastfeeding and;
- Vaccinations.

Pre-school:
- Comprehensive screening or audit for those not in pre-school
- Referral to GP/ENT procedures, for example: denontronction of tonsils, grommets, myringoplasty, etc.

K–Year 12:
- Comprehensive screening:
- Year 5/6: Ad hoc screening - referred by teacher or parent
- Referral to Audiologist

All ages (up to 21):
- GP presentations/opportunistic screening

Speech therapy
- Occupational therapy
- Parent/family education

Teachers
- Indian CHL teachers
- School executive/advisory and support workers
- Aboriginal health worker
- Community/social workers

Department of Education and Communities (DECE)
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- ML
- Deafness Management (DoEC)
- MoH/LHD
- ACCHS
- ML
- Participation training providers, i.e. Aboriginal Health College, Australian Hearing and RIDBC
- Not for profit/community organisations and associations

Public education and health promotion activities to engage children, families and caregivers and raise awareness of:
- Hygiene, healthy nutrition and lifestyle;
- Smoking cessation;
- Breastfeeding and;
- Vaccinations.
Figure 2  The Mid North Coast Hearing Pathway Model

Aboriginal families seeking care

GP + AHW 715 clinics/post-surgery monitoring
Health checks inc. hearing checks at Durri AMCS & Werin ACMC

Hearing condition detected?
Yes

GP opportunistic ear checks
Acute presentations at Durri AMCS & Werin ACMC

No, GP + AHW monitoring

Further assessment needed?
Yes

HEBHBL audiometrist (AHW)/hearing pathway coordinator
Monthly/Weekly assessment clinics at Durri AMCS & Werin ACMC. Audiometrist (AHW) also provides family education and support, and hearing pathway coordination.

Yes

Speech condition detected?

HEBHBL speech pathologist clinics
Weekly/Fortnightly assessment and therapy at Durri AMCS and Werin ACMC

Hearing assessment needed?
Yes

No, GP + AHW monitoring

Refferal to ent

Yes

Referral to audiology

Yes

Procedures needed?

Yes, higher risk: ie. tonsillectomy procedures

Post-surgery monitoring

Yes, low risk: ie. Grommets, myringoplasty, adenoidectomy

HEBHBL ENT surgery assessment & follow-up clinics
Quarterly at Durri AMCS & Werin ACMC

Audiologist (Local)
Australian Hearing service provides assessments, amplification devices, and others.

Yes

Higher risk ENT surgical sessions
GPs provide preadmission clinic at Durri AMCS and Werin ACMC
Tonsillectomy procedures and monitoring provided by local ENT surgeon and theatre team at Port Macquarie Base Hospital

Yes

HEBHBL ENT surgical sessions (quarterly low risk procedures)
GPs provide preadmission clinic at Durri AMCS and Werin ACMC
Procedures provided by outreach ENT surgeon and theatre team at Port Macquarie Base Hospital