Needs Analysis: Key issues impacting primary health care sector capacity to improve ear and hearing health outcomes for Aboriginal and Torres Strait Islander children in the Northern Territory

EAR COORDINATOR PROGRAM

ABORIGINAL MEDICAL SERVICES ALLIANCE NT (AMSANT)

MARCH 2021

Contents

1 List of acronyms

ACCHS	Aboriginal Community Controlled Health Service
AMSANT	Aboriginal Medical Services Alliance Northern Territory
AHP	Aboriginal Health Practitioner
AOM	Acute Otitis Media
CARPA	Central Australian Rural Practitioners Association
CC	Communicare
CHN	Child Health Nurse
CLO	Community Liaison Officer
CNS	Clinical Nurse Specialist
CQI	Continuous Quality Improvement
CSO	Community Service Obligation
CSOM	Chronic Suppurative Otitis Media
ECP	Ear Coordinator Program
ENT	Ear, Nose and Throat
FaFT	Families as First Teachers
FGD	Focus Group Discussion
GP	General Practitioner
HA	Hearing Australia
HAPEE	Hearing Assessment Program – Early Ears
IDI	In-Depth Interview
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
NHS	Newborn Hearing Screening
NT	Northern Territory
NTG	Northern Territory Government
NTKPI	NT key performance indicators
OME	Otitis Media with Effusion
PCIS	Primary Care Information System
PHC	Primary Health Care
RAHC	Remote Area Health Corps
RAN	Remote Area Nurse
WHO	World Health Organisation

2 Executive Summary

The Australian Government funds a number of initiatives to address the high prevalence of ear disease and hearing loss in Aboriginal and Torres Strait Islander populations. The Ear Coordinator Program (ECP) is one of these initiatives. Established in the Northern Territory (NT) in 2020 and based at the Aboriginal Medical Services Alliance NT (AMSANT), the overall aim of the ECP is to work with Aboriginal Community Controlled Health Services (ACCHSs), Northern Territory Government (NTG) primary health care (PHC) clinics, ear and hearing health services, and other relevant stakeholders to reduce the impact of ear disease among Aboriginal and Torres Strait Islander children in the NT. This report constitutes one component of the ECP, namely a baseline needs analysis, the method and findings for which are summarised in turn below.

Method

The evidence base for this report included consultation with PHC clinicians via a range of methods, including an online survey of 34 respondents, 12 individual in-depth interviews (IDIs) and nine focus group discussions (FGDs). Those consulted represented a mix of regions, organisations, professions and lengths of time working in Aboriginal PHC in the NT. Permission was obtained from respondents' organisations before they were approached to participate. All consultation instruments were piloted before use.

Key insights

The needs analysis focuses on five key areas, key insights for each of which are presented in Table 1.

Table 1 | Key insights from baseline needs analysis

Workforce capability and capacity building	• Despite the ongoing work and commitment of the sector and health professionals, there are still large capability and resource gaps in the management of ear health at PHC service delivery level. • These gaps indicate that some PHC clinicians are not well equipped to follow best practice, potentially contributing to the high burden of ear disease and hearing loss in the NT. • More than half of survey respondents indicate they have never been trained or not trained in the last five years when asked about their access to ear health training. • While other factors such as availability of equipment contribute to the identified issues, this initial needs analysis confirms a need to increase the awareness, knowledge and prevention of ear disease at all levels of PHC. • The system also seems to have limited capacity to meet the needs of the population, as demonstrated by long waiting lists for specialist appointments as well as difficulty to manage follow-up at community level. • Under resourcing of Aboriginal PHC services is a factor; funding dedicated ear and / or community liaison positions at the local PHC level would increase the capacity of PHC services to manage ear health needs.
Workforce training and skill development	• Staff are more likely to prioritise the diagnosis and management of ear disease if they understand the importance of doing so. • Staff require simple, regular equipment training, including how to use a tympanometer and otoscope.

	• Any training provided to clinicians should be regular and ongoing and include follow-up support. This will embed learning and ensure clinicians are capable and confident when conducting ear examinations in children. • PHC clinicians suggest that specialist ear services should conduct clinical visits and training separately. The specialist ear services visit clinics in the community infrequently and for a limited amount of time, which can make it difficult to achieve both in one visit. • Delivering training to specific staff who will directly use skills or transfer them to the rest of the clinic staff can be more effective than training all clinical staff, although best approaches can be clinic-dependent (size, turnover, presence of local health workers). • Any design and delivery of future training opportunities will need to consider the main barriers that exist for health professionals in accessing training
Continuous Quality Improvement (CQI) and data driven approaches	• Use of existing guidelines by PHC clinicians - such as CARPA, NT Hearing Services Referral Pathway, National OM Guidelines - is not widespread indicating a need for greater awareness of these (and other relevant) guidelines. • There is limited support to PHC services for CQI activities around ear health to ensure consistency in recording ear health data, and how to use this data to improve service delivery.
Prevention and health promotion	• Few PHC services have run ear and hearing health promotion activities in the last 12 months, despite concerns regarding the lack of community awareness and understanding about ear disease. • Existing ear and hearing health promotion resources are not always appropriate for an Indigenous audience. Posters with pictures of what is 'normal' and not normal and providing health hardware such as soap or tissues were viewed as more effective resources. Use of digital otoscopes that show an image of a child's ear was also identified as a good health promotion tool. • The main barriers to conducting more ear health promotion activities include lack of time, capacity, knowledge and resources. • PHC services want more support around ear and hearing health promotion in their community but do not always know who to approach for this support. • School and Families as First Teachers (FaFT) were identified as important places to run health promotion activities, and social media also has the potential to be targeted and impactful. • Timing ear health promotion activities before specialist ear service visits might help to address 'ear mob' confusion at the same time as educating the community. • There would be benefits of ear health being part of broader and more holistic health promotion approaches, that address issues such as nutrition, environmental factors, breast feeding, passive smoking etc..
Intersectoral action and collaboration	• The different specialist ear services visiting NT PHC clinics are considered as useful by PHC staff. • There are many different "ear mobs" visiting the communities, and their respective roles are not always understood by the communities, the PHC services and other local actors such as schools. All agree they would benefit from a clear understanding of "who is who" and "who does what". • Improved communication and collaboration with the local ecosystem is identified as a priority area for specialist ear services visiting communities. Improved collaboration and communication between specialist ear services would also have positive impacts on hearing health outcomes.

	• There is a gap in service provision to children who regularly move between urban and remote communities. • The provision of specialist ear health services outside of the clinic was viewed as needed, such as at the school, while still ensuring all children are serviced and integration with clinical teams continues. • Exploring different models of specialist ear service delivery (in collaboration with PHC services) to communities is needed. • Stakeholders also highlighted the potential for improvement in the areas of recalls, referrals and follow-up .

The next steps to progress this program of work include:

- A meeting with the Ear and Hearing Health Steering Committee on 7 April 2021 to share early insights from data analysis.
- Interviews to discuss and complete a list of key strategic considerations in April and May.
- A workshop by the end of June to identify solutions and prepare a one- to two-year workplan.
- Validation of the workplan at a July 2021 steering committee meeting.

3 Introduction and context

3.1 Ear disease in the NT

Aboriginal and Torres Strait Islander children in Australia experience some of the highest rates of ear disease and associated hearing loss in the world[1]. This has been and continues to remain a significant health issue. In the 2018-19 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the proportion of Indigenous Australians with measured hearing loss (43 per cent) was higher than self-reported hearing loss (12 per cent) among those aged seven and over[2]. Additionally, in some remote NT communities, studies have found rates of ear disease and hearing loss in children be as high as 90 per cent[3]. The World Health Organisation (WHO) considers a four per cent prevalence rate of Chronic Suppurative Otitis Media (CSOM) as a "public health emergency" requiring immediate attention. Whilst the rate of CSOM among Indigenous children has declined 24 per cent in 2001 to 14 per cent in 2012[4], these prevalence rates remain extremely high with profound, long-term impacts for Aboriginal children and adults.

3.2 Funding

In recent years there has been a considerable amount of funding by the Commonwealth Government through various initiatives aimed at tackling ear disease and hearing loss. With the recent announcement by the Australian Government of $21.2 million over the next five years to implement recommendations from the RoadMap for Hearing Health[5], this pushes this investment to just under $100 million for the period of 2018-19 to 2021-22[6]. Despite this large investment, there has been little direct funding given to the Aboriginal PHC sector.

3.3 Ear and hearing health services in the NT

In the context of addressing ear and hearing issues among Aboriginal and Torres Strait Islander children, it is useful to present a brief outline of existing ear and hearing providers the NT. There are several key services funded to deliver ear and hearing programs to both urban and rural/remote communities. Some have been operating for many years, others more recently and these have entered the ear and hearing landscape as new providers. These services are outlined below.

NTG Hearing Health Services

The NT Government Hearing Services (NTG Hearing Services) have been the main specialist ear provider[7] to PHC services across the NT. Over the last decade (since 2007-2008), the Australian Government has funded the NTG to deliver hearing health outreach services to Indigenous children and young people aged under 21 in the NT. The NT Remote Aboriginal Investment Hearing Health Program provides

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[1] WHO (World Health Organization) 2004. Chronic suppurative otitis media: burden of illness and management options. Geneva: WHO.

[2] https://www.earandhearinghealth.org.au/what_is__otitis_media

[3] https://www.aihw.gov.au/reports/australias-health/indigenous-hearing-health

[4] https://www.earandhearinghealth.org.au/what_is__otitis_media

[5] https://www.health.gov.au/sites/default/files/documents/2021/02/roadmap-for-hearing-health-improved-hearing-health-for-indigenous-australians.pdf

[6] https://www.liberal.org.au/latest-news/2019/05/11/30-million-program-protect-indigenous-childrens-hearing

[7] Outside of rehabilitative services, which provide hearing aids, etc.

outreach audiology, ear, nose and throat (ENT) and Clinical Nurse Specialist (CNS) services[8] [9]. As well as outreach, NTG Hearing Services consists of an urban and Newborn Hearing Screen Program. They are also funded to provide ear health education and promotion across the NT. Their services are detailed below.

Hearing Services: Urban

The NTG Hearing Services' urban service, often referred to as 'NT Hearing', provides audiology and audiometric services including health promotion and training, identification, diagnosis, monitoring and referral for medical management and rehabilitation for adults and children living in urban locations across the Territory.

Newborn Hearing Screening (NHS) Program

The NHS Program provides hearing screening for all babies after birth and before they leave hospital with the aim to identify hearing loss at birth and provide early intervention.

Hearing Services: Outreach

There are four services included in the NTG Hearing Services' outreach program:

1. Health education, promotion and prevention (including a Community Hearing Worker (CHW) Program).
2. Outreach audiology (primary focus of zero to five years).
3. ENT teleotology (outreach).
4. CNS (case management)[10].

Hearing Australia

Hearing Australia delivers two separate programs in the NT, both of which are funded by the Commonwealth Government: The Community Service Obligation (CSO) scheme, which has been operating in the NT for a number of years, and the more recently funded Hearing Assessment Program – Early Ears (HAPEE) Program.

CSO

Through the National CSO scheme, Hearing Australia provides. provides specialised, hearing services to children and young adults, Aboriginal and Torres Strait Islander people 0-26 years old and from 50 years and over and people living in remote areas.[11] Devices may include hearing aids and other listening equipment. Services may include access to a broader range of fully subsidised hearing devices, communication training, ongoing services and support to assist clients with their hearing loss.[12,13] In the NT, Hearing Australia provides these service to both urban and remote centres.

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[8] Australian Institute of Health and Welfare 2019. Hearing health outreach services for Aboriginal and Torres Strait Islander children in the Northern Territory: July 2012 to December 2018. Cat no. IHW 213. Canberra: AIHW, p.V

[9] https://nt.gov.au/wellbeing/hospitals-health-services/hearing-services

[10] Australian Institute of Health and Welfare 2019. Hearing health outreach services for Aboriginal and Torres Strait Islander children in the Northern Territory: July 2012 to December 2018. Cat no. IHW 213. Canberra: AIHW.

[11] https://www.health.gov.au/sites/default/files/documents/2020/12/hearing-services-review-interim-advice-to-government-implementation-of-hsp-changes_0.pdf

[12] https://www.hearing.com.au/About-Hearing-Australia/Who-we-care-for

[13] www.hearingservices.gov.au

HAPEE

HAPEE, delivered by Hearing Australia nationally, is one of the new providers into the NT servicing both urban and remote communities. In 2019 the Commonwealth Government announced a 32-million-dollar initiative aimed at providing diagnostic hearing assessments for all Aboriginal Australian children aged zero to six years who do not attend full time school. As well as diagnostic hearing assessments, HAPEE is funded to provide support for PHC staff to undertake initial hearing screening assessments at local health services and activities to raise awareness about the importance of early identification of ear and hearing problems[14].

Hearing Unit Department of Education

The Department of Education Hearing Unit provides support for children (from birth to school leaving) who have a hearing loss, their families and schools or childcare centres etc. The program assist individuals, families and schools in tiered support ranging from intensive individual support (language and communication) to whole school strategies and professional learning opportunities[15].

Menzies School of Health Research

Hearing for Learning Program

Another new Program in the NT is the Hearing for Learning initiative, funded $7.9 million from July 2018 to June 2023. This community-based service enhancement program is run by the Menzies School of Health Research. It aims to integrate locally based ear health project officers into existing services to assist Aboriginal and Torres Strait Islander children with ear and hearing problems in the NT. The program will work with 20 communities, employ 40 part-time ear health facilitators and screen 5,000 children aged zero to 16 years. The goal is to work with communities to establish reliable, sustainable, culturally appropriate services that ensure every ear of every child is healthy and hearing every day[16].

TAFE NSW

EarTrain Program

TAFE NSW is another new provider recently funded (until June 2022) by the Australian Government under the Indigenous Health Division, to develop and deliver ear health training nationally. "EarTrain" is a series of online training modules developed by TAFE NSW on how to identify, manage and treat ear disease and hearing loss. Delivered through an interactive online training platform with an option to register for practical skills workshops, these modules are free for healthcare professionals who care for Aboriginal and Torres Strait Islander people. A 'soft launch' of the online training package occurred in early 2021 and is open for access nationally. An NT Working Group is currently working to tailor the resource to the NT context before widely promoting it as an ear training resource.

3.4 Ear Coordinator Program

One of the Indigenous Ear and Hearing Health Initiatives funded by the Australian Government to address the high prevalence of ear disease and hearing loss in Aboriginal and Torres Strait Islander populations, is the Ear Coordinator Program (ECP). As part of a national group, ear health coordinators sit within their

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[14] https://www.hearing.com.au/Hearing-loss/HAPEE

[15] https://nt.gov.au/learning/special-education/hearing-services

[16] https://www.menzies.edu.au/page/Research/Centres_initiatives_and_projects/Hearing_for_Learning_Initiative/

respective ACCHS peak body in each state or territory. Ear Health Coordinators have only recently (2020) been established in the NT and are based at AMSANT.

The overall aim of the ECP in the NT is to work with ACCHS and NTG PHC clinics, ear and hearing health services, and other relevant stakeholders to reduce the impact of ear disease among Aboriginal and Torres Strait Islander children in the NT and facilitate best practice care through:

- improving collaboration between ear health providers and PHC
- improving prevention, screening, diagnosis and management of ear disease within PHC (through, for example, training and resources; CQI approaches).

Needs Analysis

One of the activities undertaken as part of the ECP is a needs analysis. The key areas explored in this needs analysis, based on the Program's funding agreement, includes:

- workforce capability and capacity building in ear health management and follow-up
- workforce needs: training and skill development
- CQI and data driven approaches to improving ear health service delivery
- prevention and health promotion
- intersectoral action and collaboration on ear/hearing health.

This report details the methods and results collected from this baseline needs analysis, offering some key insights and recommendations from these findings.

4 Methodology

Data Collection

Data for this needs analysis were collected through two main methods:

1. Quantitative online survey
2. Qualitative discussions.

The questionnaires administered are in the Appendices.

Quantitative: online survey

An online survey was developed aimed at PHC clinicians in the NT. Using the online SurveyMonkey platform, 31 questions (yes/no, multiple choice, open comment) were developed to elicit information relating to the key areas discussed in the introduction. This survey was piloted before being finalised.

ACCHSs across the NT were individually contacted regarding the survey and, for those who agreed to participate, a representative from that service distributed the online survey to their clinic staff. Participants were sent a web-link to the online survey together with a summary document about the ECP and the purpose of the needs analysis (Appendix A.2). Permission to collect information from NTG PHC clinicians was also sought and the online survey was distributed to PHC NTG clinicians by a key representative in that department.

Qualitative: IDIs; focus group discussions; meeting discussions

IDIs and FGDs were conducted to gather more detailed data to inform the key areas discussed above. Participants for these interviews were approached after permission was granted to do so by each ACCHS and relevant NTG department. Where possible, interviews were conducted face-to-face. Due to travel restrictions and/or time limitations, interviews were also conducted via telephone or zoom. With permission from participants, interviews were recorded on a dictaphone. The IDI and FGD questions (see Appendix A.3 and A.4) were piloted before being finalised and were used as a guide for interviewers. Notes taken during unstructured meetings with key stakeholders were also viewed as data relevant to the needs analysis and included in the data analysis phase.

Data Analysis

Quantitative analysis

Quantitative data were analysed using the analytic tools available through the Survey Monkey platform and are presented throughout this report.

Respondent demographics

A total of 34 people completed the online survey. Of these respondents:

- the majority (85 per cent) were from the Top End
- 15 per cent were from the Central and Barkly region
- 53 per cent represent remote regions, 47 per cent urban
- 56 per cent were from an ACCHS; 38 per cent from NTG PHC service; six per cent were from 'other' (PHC service transitioning from NTG to Aboriginal controlled; Hearing Health Service)

- 12 per cent had worked in Aboriginal PHC in the NT for less than six months; 15 per cent for six- to 24-months; 73 per cent for longer than 24 months (average: 12 years, range three to 28 years)
- 41 per cent were remote area nurses (RANs) (18 per cent of which were child health nurses (CHNs)); 26 per cent general practitioners (GPs), 26 per cent clinic managers, 3 per cent 'other' (diabetes educator); 3% were Aboriginal Health Practitioner (AHP) respondents.

Qualitative Analysis

Recorded interviews were transcribed. For interviews that were not digitally recorded, detailed notes were taken at the time of interview. All interview notes were manually analysed for key themes. Notes taken from meetings with key stakeholders were also reviewed and analysed for key themes. These findings are discussed throughout this report.

A total of 12 IDIs were conducted with AHPs, RANs, CHNs, GPs and clinic managers. Six participants were from ACCHS (five remote, one urban), five were NTG clinic staff (all remote); one participant was a remote school principal who expressed interest in being interviewed when we were in community. Nine of the 12 interviews were conducted face-to-face, two via phone/zoom. The average time of interviews was 33 minutes. Across IDI participants, the average length of time worked at a PHC in the NT was 8.4 years (range: eight months to 28 years).

Seven FGDs were conducted with AHPs, RANs, CHNs and GPs. Five of these FGDs were with ACCHS staff (three remote, two urban) and two were with NTG clinic staff (all remote). Of the seven FGDs interviews, four were conducted face-to-face, three via phone/zoom. The average time of interviews was 47 minutes. Across the 19 FGD participants, the average length of time worked at a PHC in the NT was 7.6 years (range six months to 24 years).

Limitations

There are a number of data limitations of this needs analysis. Firstly, there were very few Indigenous participants across the survey and detailed consultations. In addition, participants across the online survey and detailed consultations were more representative of clinicians with longer experience working in the Aboriginal PHC sector and may bias findings to this extent, as their responses would be different to those of new PHC clinicians, locums, etc. Lastly, the findings represent the views of the PHC workforce and does not give the perspective of Aboriginal communities, parents or children.

5 Workforce focus area: workforce capability and capacity building in ear health management and follow-up

This section provides survey and consultation findings about primary health professionals' capability in delivering ear health services and the capability building opportunities available to them.

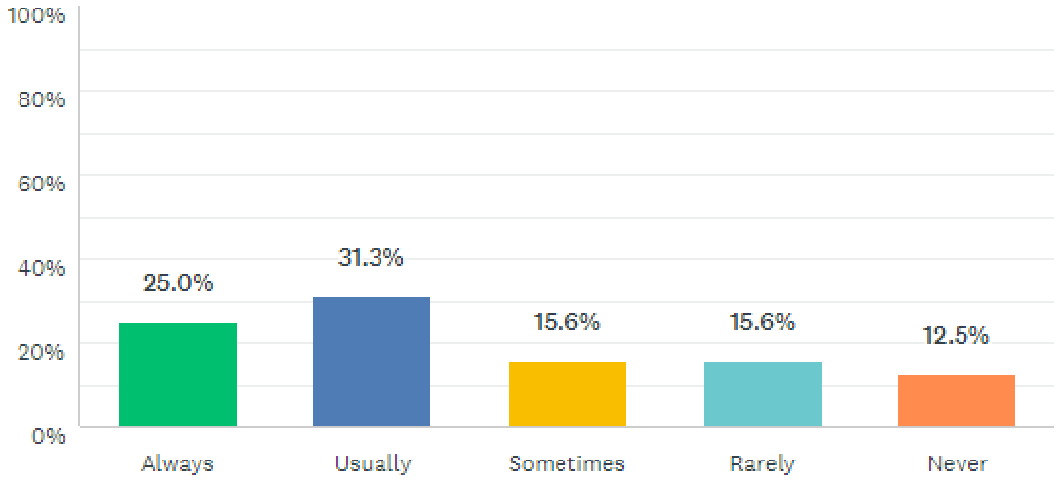
Key insights from this section:

- Despite the ongoing work and commitment of the sector and health professionals, there are still large capability and resource gaps in the management of ear health at service delivery level.
- These gaps indicate that some PHC clinicians are not well equipped to follow best practice, potentially contributing to the high burden of ear disease and hearing loss in the NT.
- More than half of survey respondents indicate they have never been trained or not trained in the last five years when asked about their access to ear health training.
- While other factors such as availability of equipment contribute to the identified issues, this initial needs analysis confirms a need to increase the awareness, knowledge and prevention of ear disease at all levels of PHC.
- The system also seems to have limited capacity to meet the needs of the population, as demonstrated by long waiting lists for specialist appointments as well as difficulty to manage follow-up at community level.
- Under resourcing of Aboriginal PHC services is a factor; funding dedicated ear and / or community liaison positions at the local PHC level would increase the capacity of PHC services to manage ear health needs.

Half the online survey respondents always or usually perform ear examinations on children presenting at the clinic

Figure 1 shows that 51 per cent of survey respondents always or usually perform ear examinations on all children presenting to their clinic, regardless of the reason for their visit. The remaining respondents only sometimes, rarely or never do so.

Figure 1 | Do you perform an ear examination on all children who present at the clinic (regardless of reason for their visit)?



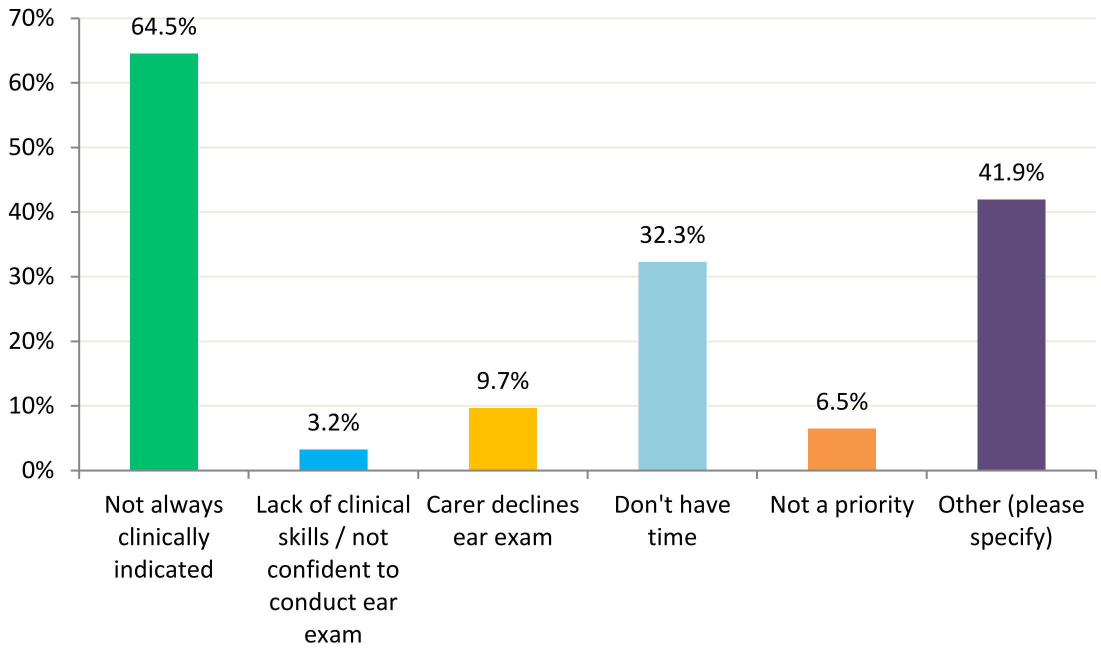
Survey respondents as well as IDI and FGD participants noted that new RANs often have no knowledge of how to examine ears or have no child health experience. Ears are therefore often only examined if a child is in pain or has come in for a health check. A focus group participant who has been a RAN for six months and had previously been a hospital-based paediatric nurse made a statement which illustrates how a lack of experience coupled with low general rates of ear examinations perpetuates a tendency to only perform them where specifically requested or required:

> *"I would never look in kids' ears. You are trying to learn, you are relying on other staff and CARPA [Central Australian Rural Practitioners Association] – but what are you actually looking at?"*

Ear examinations being perceived as not clinically indicated and lack of time were the two main reasons for non-systematic ear examination

A total of 65 per cent of the latter survey group said they did not perform the exam because it had not been clinically indicated; 45 per cent said they did not have the time or that it was the not the priority and only three per cent of respondents (CHN, length in PHC = 6-24 months) said they did not perform the exam because they lacked the clinical skills or confidence to conduct ear exam. 'Other' reasons specified by a minority of survey respondents included: my role does not involve clinical examination; child declined; children with ear problems are referred to the GP. One stakeholder interviewed noted some children refuse ear exams or hearing tests.

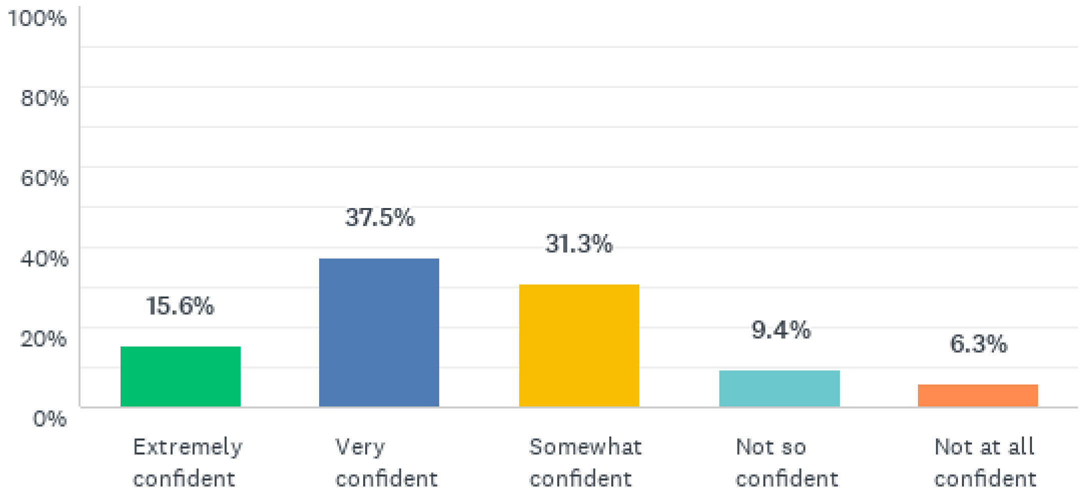
Figure 2 | Reasons for not performing an ear examination on all children presenting at the clinic



Around half of survey respondents said they are somewhat confident or not confident in conducting ear examinations

Per Figure 3, 52 per cent of survey respondents were extremely or very confident in conducting ear examinations on children whilst just under half (48 per cent) were somewhat to not at all confident.

Figure 3 | How confident do you feel conducting an ear examination on children?



Notably, PHC staff new to remote settings were not the only ones to declare a lower level of confidence. Of the CHNs who participated in the survey, most of whom had worked in Aboriginal PHC for over two years, only 34 per cent were extremely or very confident when conducting an ear examination on children. 16 per cent of them were somewhat confident and 50 per cent not so confident or not at all confident. Of the RAN respondents, 20 per cent felt very confident, whilst 80 per cent felt somewhat confident. Note that there were only six CHNs and five RANs who responded to this survey, so it is unclear if this is representative of the broader trend. However, individual and focus group discussions did also find that many RANs felt they lacked the skills and confidence in how to conduct an ear examination, particularly when it came to using clinical tools such as a tympanometer. Some of the reasons survey respondents noted for their responses in Figure 3 are outlined below.

> *“I have been conducting ear examinations on Indigenous children for 35 years”*

> *“After eight years still struggle to be confident in what I am seeing in ears”*

> *“Whilst I am confident there are always more things I could learn”*

> *“Ear assessments were not part of my nursing studies, so [I] have only just learnt how to perform them”*

> *“Have done lots of examination, but have never done tympanometry”*

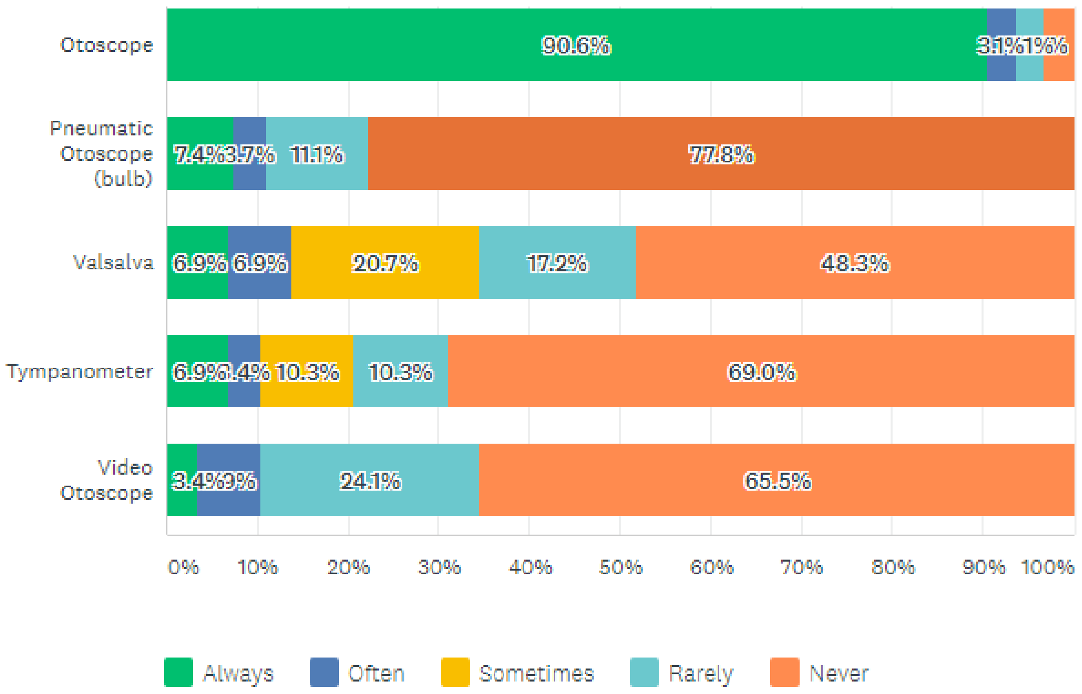
> *“Not part of my regular role”*

Respondents reported using a limited number of tools for ear examinations

As shown in Figure 4, 90 per cent of survey respondents indicated always using an otoscope when performing an ear examination on children. Only a very small proportion of survey respondents reported always or often using other available examination support tools. The proportion who never used these other tools, however, was very high: just under 80 per cent for pneumatic otoscope; 48 per cent for valsalva; 69 per cent for tympanometer; and 65 per cent for video otoscope.

It is important to consider the potential impact of the combination of limited confidence and limited use of clinical tools. These factors can result in misdiagnosis, leading to an increased use of antibiotics or an under reporting of ear disease for closed infections (e.g. OME in remote settings in the NT).

Figure 4 | Do you use the following to perform an ear examination?

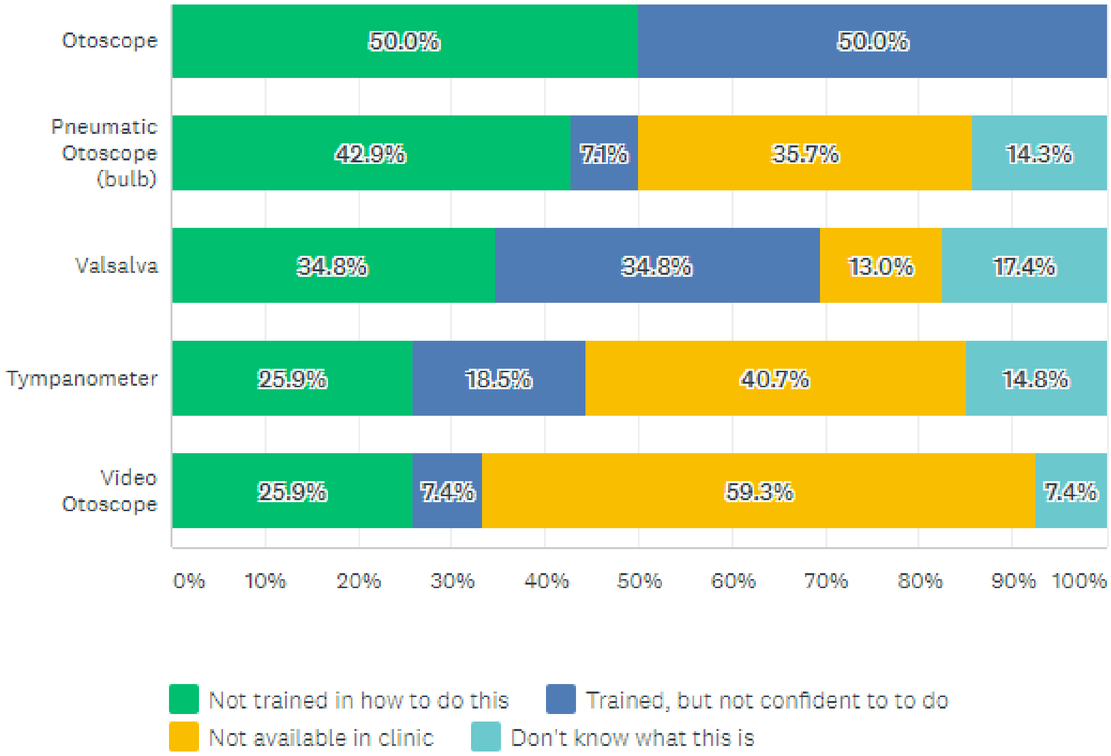


Reasons for the limited use of clinical tools vary for each tool: from lack of training to confidence issues and absence of equipment in the clinic

For the 10 per cent who did not always use an otoscope (Figure 4), 50 per cent said that they were not trained in how to use one and the other 50 per cent said they were trained but not confident to use one (Figure 5). For those survey respondents who did not always use the other clinical tools listed, Figure 5 displays the reasons why and these are summarised as follows:

- Pneumatic otoscope – lower levels of training on how to use it and a lack of availability.
- Valsalva – lower levels of training or a lack of confidence despite training.
- Tympanometer – mostly lack of availability, but also low levels of training on how to use it or lack of confidence despite training.
- Video otoscope – predominantly lack of availability, but also low levels of training on how to use it.

Figure 5 | If you don't always use some equipment, why don't you use them?



Consistent with this, interview participants reported that many clinics do not have tympanometers or video otoscopes and those that do generally do not use them. One reason for this is that they are often out of action (for as long as six- to 12-months) when sent off to be calibrated (e.g. because they are sent back to a central office and never distributed on to the remote clinics. In one FGD, a RAN was told they could not use the clinic tympanometer because they weren't trained in how to use it.

> *"At one stage we noticed that 20 of our tympanometers were all located in our central office, not out in individual clinics. Even after we had them all serviced and we re-distributed and invested a lot of time and effort to train staff in how to use them, a year later the same thing happened – they were all sent to central locations to be serviced but were never re-distributed back out to remote clinics."*

This issue could be addressed through a rotating system for calibrating equipment but, as one stakeholder noted, "...it's just another layer of complexity that someone has to monitor all the equipment...also there's no point calibrating them if they haven't been used for six months anyway" (participant).

An additional suggestion was that key people have their own tympanometers for which they are responsible – just as they would have their own stethoscopes – rather than having four tympanometers sitting in a clinic that are rarely or never used.

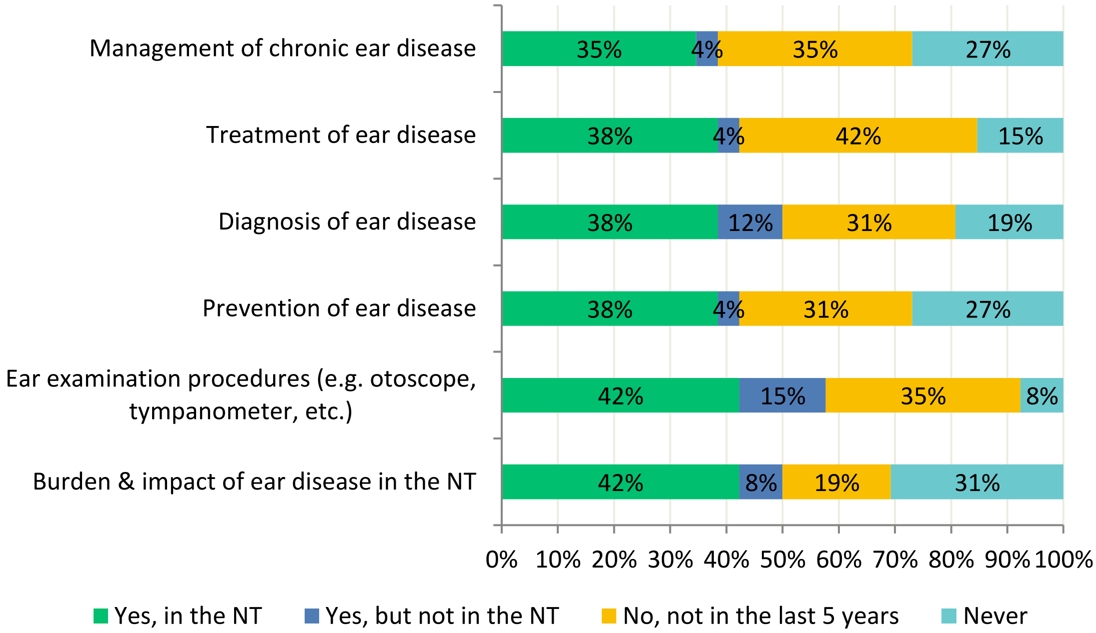
It is worth noting that various Australian Government schemes provide funding so that remote PHC services can freely order equipment such as tympanometers and otoscopes from a central provider.

However, PHC services are often not aware that this is available to them and/or PHC staff might not always be aware that these clinical tools are already sitting in their clinic for use.

The majority of survey respondents have never been trained in ear health or not been trained in the last five years

Overall, more than 50 per cent of respondents indicated they had never received training or had not been trained in the last five years on ear related topics. Figure 6 describes in more detail the percentage of respondents with training in key ear health components: burden of disease, examination, prevention, diagnosis, treatment and management of chronic ear disease.

Figure 6 | Percentage of survey respondents who have received a training in ear health



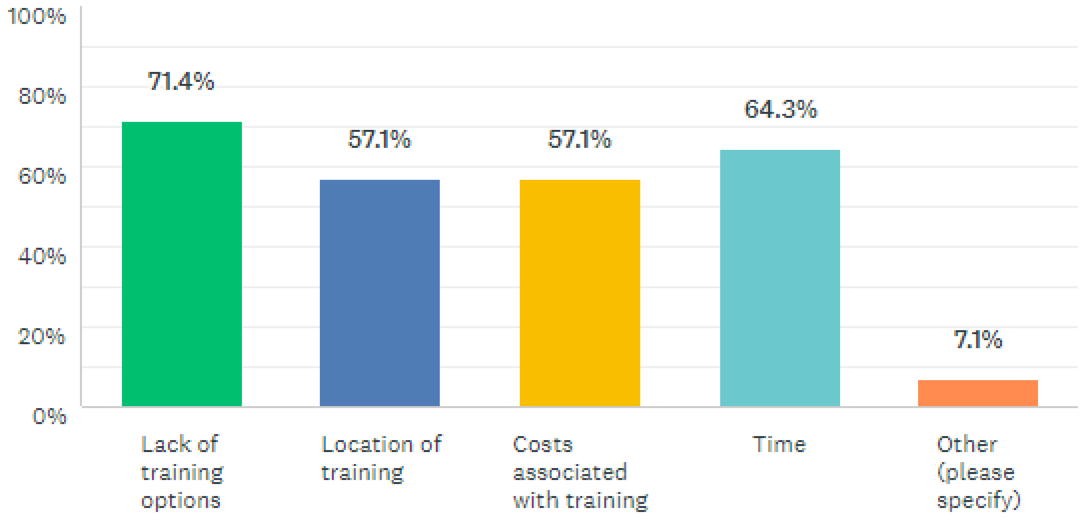
A key theme across IDI and FGD participants was the lack of ear health training options available to them, particularly training with a NT focus, impacting on appropriate detection and management of ear disease in the NT. Many respondents – both new and long-standing to the territory – recognised that training in basic assessment skills and use of clinical tools available for new staff was essential but lacking.

High staff turnover and inexperience working in a remote context were cited in IDI and FGD discussions as factors contributing to the need for increased training opportunities.

The barriers to training combine lack of training options and practical issues

Amongst survey respondents, the main barriers to accessing ear and hearing health training are listed in Figure 7. These are representative of barriers health professionals face when working in remote and very remote clinics. Other reasons cited include the complexity to backfill while away.

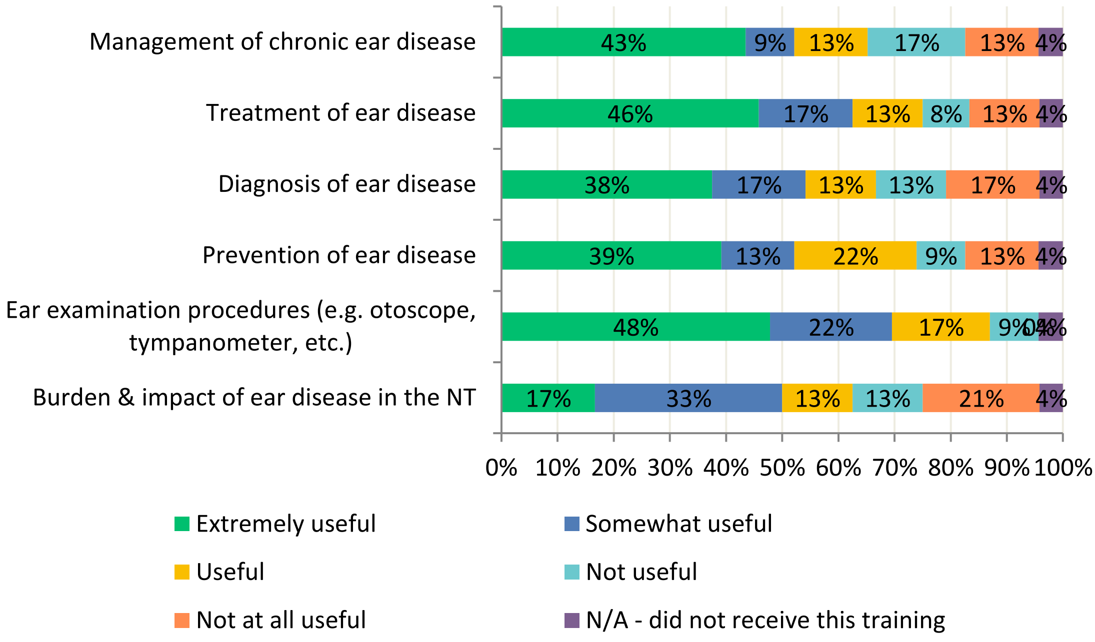
Figure 7 | Barriers for accessing ear and hearing health training



When trained, the majority of respondents found their training useful

The vast majority of the trained survey respondents found their training useful or somewhat useful. Survey respondents considered the most useful trainings were the ear examination and treatment of ear disease. The training related to the burden and impact of ear disease was the least useful (although 63 per cent considered it useful or somewhat useful). Figure 8 details these results.

Figure 8 | Usefulness of ear-related training



The ear and hearing health sector does not seem to have the capacity to manage the load of clients and deliver best practices

This lack of capacity is apparent at different levels:

- **Limited capacity to follow up at clinic level**. Respondents indicated that while they understand the importance of follow-up, it is a time-consuming activity and they don't always have the time to actively follow-up children and parents.
- **Limited specialist ear service visits.** Respondents from both urban and remote settings identified a need for increased specialist ear service visits, with an urban service suggesting that it did not have enough appointments to manage the demand. Many individual and focus groups from remote settings raised the lack of regular specialist visits as a key issue particularly when it can be very challenging to get children in to see the specialist ear services teams when they are visiting.
- **Limited capacity to deliver training.** Respondents commented on the lack of time allocated to training by specialists visiting the remote clinics. This is partly a consequence of the long waitlists specialist ear teams have to manage when visiting clinics.

A dedicated ear health position in PHC services is perceived as potentially valuable

A key theme across discussions was the importance of having a dedicated ear health position in PHC services where possible, preferably Indigenous. Such a position could support families through the ear disease management journey, provide education and case management, encourage attendance at follow-up appointments and engage with the different hearing services.

Where such a position already existed, usually under the CHN, it ensured the PHC service had the time and capacity to engage with visiting ear and hearing services; for example, actively reviewing the PHC and other services' recall lists and ensuring children on the relevant list are actively followed up.

It is worth noting that no respondents mentioned the NTG Hearing Services' CHW Program. Whilst CHWs are not located in all communities in the NT, this may indicate a need for improved collaboration between PHC services and the CHW who are based at FaFT and out of the clinics. It is also worth noting that CHW are not clinically trained.

Under Resourcing

Some participants reported these dedicated ear positions had previously existed and been valuable, but did not continue due to lack of funding:

> ***"In the past we had a Hearing Community Liaison Officer (CLO), it absolutely helped. She went to the school, did health promotion, home visits, had the conversations [with families], [was involved in] case management, and worked with the ENT team. Back then, we knew all the kids on the [CSOM care] plan but now we don't. We don't know them at all."***

One participant suggested a Hearing Community Liaison Officer (CLO) would be more valuable than a full-time audiologist "…but the answer is always that there is no money."

While the Australian Government has recognised that building the capacity of the Aboriginal PHC sector is essential to reach the targets as outlined in the Close the Gap Initiative, very little of the $100 million recently invested in ear and hearing health was directly given to the Aboriginal PHC sector to develop and implement their own ear and hearing health approaches – such as dedicated ear and / or CLO positions to meet community needs.

6 Training focus area: workforce needs – training and skill development

The previous section highlights the need for more ear health training opportunities to improve the detection and management of ear disease in the NT. Only 40 per cent of PHC clinicians reported having received any ear or hearing health training in the NT in the last five years.

This section explores the avenues to improve the content, format and frequency of ear and hearing health training.

Summary of key insights

- Staff are more likely to prioritise the diagnosis and management of ear disease if they understand the importance of doing so.
- Staff require simple, regular equipment training, including how to use a tympanometer and otoscope.
- Any training provided to clinicians should be regular, ongoing and include follow-up support. This will embed learning and ensure clinicians are capable and confident when conducting ear examinations in children.
- PHC clinicians suggest that specialist ear services should conduct clinical visits and training separately. The specialist ear services visit clinics in the community infrequently and for a limited amount of time, which can make it difficult to achieve both in one visit.
- Delivering training to specific staff who will directly use skills or transfer them to the rest of the clinic staff can be more effective than training all clinical staff, although best approaches can be clinic-dependent (size, turnover, presence of local health workers).
- Any design and delivery of future training opportunities will need to consider the main barriers that exist for health professionals in accessing training.

Training should be aligned with best practice and emphasise the importance of effective diagnosis and management

IDI and FGD participants noted that current best practice guidelines available should be used to guide training development and delivery. This will ensure that all staff are able to diagnose and manage ear disease effectively. One participant, who was aware of the CARPA and National OM Guidelines, made the comment below regarding the use of tympanometers.

> *"At what stage should people use tympanometers when checking children's ears? Do we expect [all] staff to do this or not? What is ideal? How often should kids be seen? We need to have best practice guidelines that people can refer to for the NT when it comes to managing ear disease."*

IDI and FGD participants also noted that PHC staff are more likely to prioritise the diagnosis and management of ear disease in clients if they understand the importance of doing so. Training and development opportunities should therefore focus on why ear health is important.

Respondents identified some clear training and development needs

Survey respondents identified the following training opportunities as being most valuable:

- Complete training package including ear disease diagnosis, prevention, management and tympanometry.
- Regular refresher/update training.
- Specific skills training, including understanding of tympanic membrane changes and use of video otoscope.

In addition to the survey responses above, respondents highlighted a need for simple, regular equipment training, including how to use a tympanometer, digital otoscope, the valsalva technique and pneumatic otoscope.

Many IDI and FGD participants indicated that they do not know how to use a tympanometer, noting that this may be because they are new, or it has been too long since previous training. It was suggested that tympanometer training should be kept simple, so clinicians are not discouraged from using them. It was also suggested that explaining the importance of using a tympanometer will embed the learning and encourage staff to use them on an ongoing basis.

> *"We need to debunk the myth that the "tymp" is too hard..."*

Survey respondents and participants also highlighted training in how to use a digital otoscope as important, suggesting that very few clinicians are able to operate one. Being able to use a digital otoscope outside of the clinic was also viewed as being useful, and respondents suggested that training in how to set it up for portable devices would be valuable

Training in the valsalva technique and how to use pneumatic otoscopes were also identified as being useful for PHC staff.

The right format and frequency of training will positively impact uptake

IDI and FGD participants offered several insights and suggestions regarding how the format and frequency of training delivery can improve uptake. These included:

- **Face-to-face training is preferred.** Respondents noted that the most preferred format for ear health training is face-to-face, particularly for practical training. Respondents also noted that face-to-face training is not always possible and suggested that training providers should utilise existing telehealth/online training package options that PHC services are able to access. Some respondents suggested that initial training could be delivered face-to-face with follow up support being provided virtually.
- **Training delivery should occur separately to clinical visits.** Respondents expressed concern that when training is provided as part of a regular clinical visit to a community, there is a risk that trainers will have insufficient time to deliver quality training. More importantly, respondents indicated a preference that visiting specialists should prioritise treating clients over training delivery given their limited time in community and very long waitlists. As such, respondents suggested that separate visits should be made for training delivery and clinical visits.
- **Training should be regular, ongoing and include follow up support.** Respondents suggested that training should be delivered regularly to ensure new staff do not fall through the cracks and to refresh

the skills and knowledge of existing staff. There was also a resounding belief among respondents that provision of training needs to be followed up with practical support. The respondent quotes below illustrate this.

> *[I] have been trained, but there was no follow-up with how we were using it and so we forgot about it and never used them. Now I don't have time to try and rethink how to use it.*

> *Training was done and nothing changed in the clinics. No doctors or RANs had conducted a tympanometry test. It's just not something that was ever done regularly and it's hard to change people's practice.*

> *[Our service] did half hour training in tympanometry with NT Hearing but I never felt confident enough to do it after the training.*

> *Regular training/reminders would be ideal to support ongoing use of, and confidence in, skills learnt.*

> *If you have equipment you need to maintain it and you need to train and retrain.*

> *Repeated check-ins are needed. A self-evaluation tool would be useful, as a 'retest'.*

Ear and hearing health training should be targeted to specific staff

Many respondents suggested that training should be targeted to staff who will directly use the skills acquired or who can take their new skills and knowledge and share them with other staff. It is not practical for an average RAN to be trained in everything as they will not be able to apply everything they have learned. Similarly, it is not practical for small clinics to spare multiple staff members to attend a training session on the same day – these staff are needed to see clients.

Respondents suggested that CHNs and/or staff with a child health specialisation are the key staff to receive targeted ear training as they do regular ear examinations and can make use of the skills learned. On the other hand, some respondents from small clinics said it is better for all staff to be trained so the clinic is not relying on the skills and knowledge of one person.

> ***"Even if we have one... person per clinic who is trained in ears, then they can teach other staff how to use otoscopes, etc. and [we] may start to see an increase in use of this equipment and techniques."***

Reference to Menzies' Hearing for learning program was made in terms of one possible solution to the issues of staff turnover and training given that the focus is on training local Indigenous people who see people more regularly than RANs and know the local context of housing issues, etc. If done well, the long-term benefits of this were highlighted in terms of a good model for local workers doing ear checks, being a liaison point for follow-up reviews, supporting and educating families (tissue spears, medication, etc.).

Some respondents said it would be valuable if any ear or hearing health training provided was transferable and/or accompanied by a recognised certificate that they could transfer to other organisations.

An ear health network would facilitate a coordinated approach

When asked about the development of an ear and/or child health network to facilitate a more coordinated approach to improving ear health among children in the NT, survey respondents indicated they thought this would be valuable. Some suggestions on what the network could focus on included: upskilling; outreach and support with follow-up of clients (including in urban areas); and improving communication (for example, between hospitals and clinics).

7 “CQI and data” focus area: CQI and data driven approaches to improving ear health service delivery

This section explores two issues relating to CQI and data, including:

- the extent to which guidelines regarding good practice are available and used
- the extent to which health professionals are able to enter and access high-quality data.

Each is discussed in turn below.

Summary of key insights

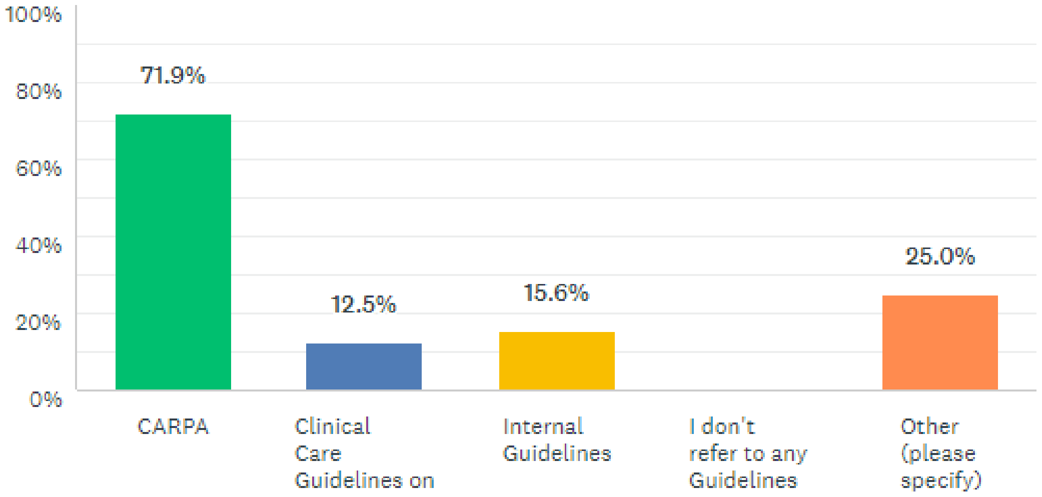
- Use of existing guidelines by PHC clinicians - such as CARPA, NT Hearing Services Referral Pathway, National OM Guidelines - is not widespread indicating a need for greater awareness of these (and other relevant) guidelines.
- There is limited support to PHC services for CQI activities around ear health to ensure consistency in recording ear health data and how to use this data to improve service delivery.

Various guidelines and best practices exist which can enable CQI in ear health services, but they vary in their use by and usefulness to clinicians

Many consultation participants concurred that having consistent clinical guidelines, such as Central Australian Rural Practitioners Association (CARPA) guidelines, to refer to for managing and treating ear disease was helpful. Figure 9 illustrates which guidelines and protocols survey respondents use in their practice. The majority (70 per cent) of survey respondents referred to the CARPA Guidelines when managing middle ear disease in children and one quarter of respondents referred to their GP. Consultation participants also identified that calling on District Medical Officers for advice on how to manage and treat presenting ear disease was another helpful resource. It is worth noting, that these guidelines are largely related to clinical treatment and management of ear disease but do not cover broader PHC aspects, such as prevention or the social determinants of health.

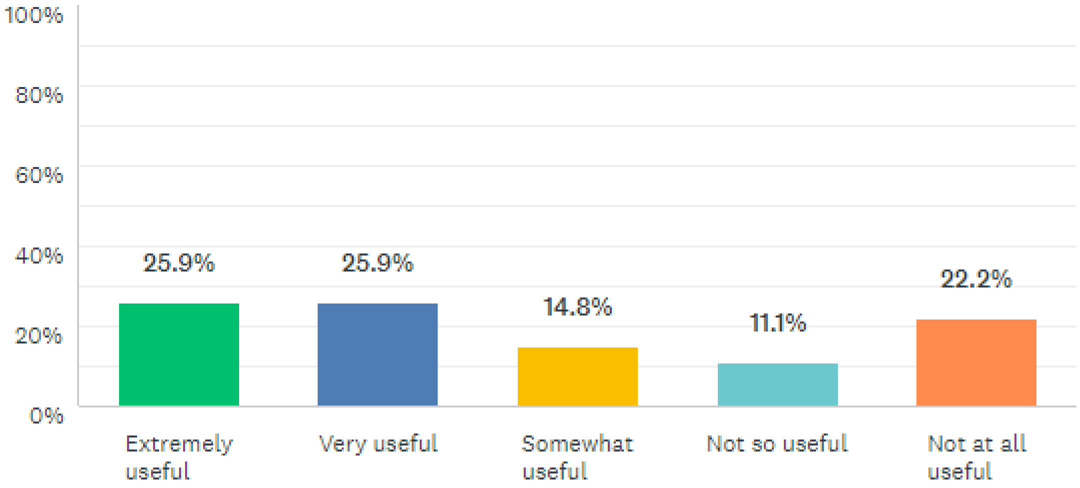
Some consultation participants said that some PHC clinicians do not check clinical guidelines or items such as the National Guidelines on Otitis Media and others as often as they should. This is reflected in the survey response in Figure 9 which shows that only a minority of respondents refer to Internal Guidelines or the Clinical Care Guidelines on the Management of Otitis Media in Aboriginal and Torres Strait Islander populations.

Figure 9 | What clinical guidelines or protocols do you refer to when managing middle ear disease in children at your service?



Many respondents (60 per cent) are aware of the Hearing Services Referrals Pathways Guidelines, but only half of them found the guidelines extremely of very useful as shown in Figure 10. The other half found the guidelines somewhat to not at all useful. This indicates a need for greater awareness of these guidelines amongst PHC clinicians as some may find them very useful in their work, and also exploring what would make the guidelines more useful for those who are already aware of them.

Figure 10 | If aware of the Hearing Service Referrals Pathways Guidelines, how useful do you find these guidelines?



Clinicians reported a need for NT key performance indicators (NT KPIs) that more usefully and accurately capture the state of ear health in communities to promote early diagnoses and raise awareness

The current NTKPIs for ear health are based on whether a client has ear discharge. Some consultation participants were satisfied with this as it satisfactorily confirms the existence of the relevant pathology. However, one participant thought that KPIs which revolve around already having ear discharge is catching issues too late in the process as children would already be presenting with a disease at that point. They asserted a need for KPIs which reflect the need to get on top of ear disease before there is a problem.

Another participant raised the need for KPIs that include closed ear disease to provide a more accurate measure of how big the issue ear disease actually is in communities, as this is not adequately captured simply through discharging the ear. Capturing the breadth of the issue will be important to getting ear health prioritised on training agendas. However, it is important to note that closed ear disease such as OME is difficult to diagnose which may be a barrier to capturing this data with accuracy.

Participants also identified a need to know what proportion of all children are getting an ear check each year as well as the number of follow-up visits children with Acute Otitis Media (AOM) have had (e.g. average in last six months). These KPIs would assist in reporting the level of success for effected children, which is currently difficult to do without such indicators. Participants also thought that it would be important to identify the current rate of people filling in the ear section in Communicare. However, one barrier to recording this KPI data is that Communicare is very sensitive, so clinicians cannot pull reports on data that has been incorrectly entered.

> ***"Communicare is such a big and adaptable system, so it would be hard… no one is putting in a diagnosis of AOM or anything. Maybe reporting on kids with AOM on an action plan, number of children who have had an ear check would be good indicators."***

For data to be useful for CQI activities, there is a need to improve clinician capability and confidence in entering data appropriately and accurately

Around half of the survey respondents (48 per cent) were very or extremely confident in entering ear data in Primary Care Information System (PCIS) and Communicare with not much variance in confidence between the platforms. 41 per cent were somewhat confident and 11 per cent were not so confident or not at all confident. This indicates that PCIS and Communicare are seen as user-friendly platforms by some clinicians, but others would likely benefit from extra training and assistance to boost capability and confidence in their use. Comments made by respondents suggest that those who are new to the platform or use the platforms infrequently are the least confident. Their comments included:

- "I don't have much experience with having to document this information".
- "I'm still new nursing and not 100 per cent sure what I am seeing".
- "I have only been working with my current organisation for a short time and did not receive any training on Communicare – I have flown by the seat of my pants learning and asking questions as I go".
- "I'm somewhat more confident now than when I first started".

Participants identified a need to improve the completeness and quality of data being entered into local systems

This includes (among other things) tympanometer results, reports to be uploaded into client files, doctors' reviews and referrals to ENT. They also identified a need for a more consistent approach to how PHC services input or review their ear and hearing data to ensure the data is entered correctly. A number of specific issues were raised relating to the consistency of data input:

- One participant said they did not know of any specified fields to input tympanometry readings, so clinicians input the data into the free-text box in the ear section. This is despite the existence of a specific tympanometry readings field, suggesting that further training and education is needed to upskill clinicians on the use of Communicare and increase their confidence.

- Visiting services do not have access to Communicare on their laptop and some often do not enter ear data into the local database. Some PHC services try to provide training to visitors to their clinics to ensure this data collation occurs, but this is not always the case. This results in reports being sent to clinics without them being put into Communicare to be looked at.
- Sometimes the GP enters basic data that is relevant to other templates in Communicare outside of the ear section or they scan audiograms into the system, but no action gets taken.
- There is limited data on outcomes. For example, one participant stated "what is the point of seeing lots of children if we don't know what the outcomes are from the numbers we see? There needs to be a better, updated system to be able to look at outcomes from the Hearing Health database".

With some awareness about this, one remote ACCHS has been working with Hearing Services and Australian Hearing CSO Program so that data, which was not being entered into Communicare, will now be input into the local system. This has been enabled by the lending of ACCHS laptops to visiting specialist ear services so that hearing teams can now look at a child's history before seeing the child and to input data directly into the local system. There was clear appreciation among consultation participants of Hearing Services' commitment to this level of data entry, as they technically are not required to enter data into Communicare as well their own database. It is worth noting that each ACCHS service will have different expectations of visiting specialist services regarding data entry.

As reflected in the example above, tympanometry results are a particularly troublesome data point for many clinicians. Multiple consultation participants reported they did not know what the results meant or how to proceed with them, which in turn reduced the importance of recording it.

> *"What is the point? What do the results mean – it is double dutch to us. We do the test and nowhere does it tell us what to do with the results."*

Given the scope of the problem, one participant specifically noted their service's concerted effort to train staff in entering tympanometry data. A suggestion on how to encourage clinicians to conduct a tympanometry test as well as record the appropriate information into Communicare, rather than just in the free text box, is to ensure clinicians, including RANs, AHP and visiting specialist ear service staff, understand:

1. Tympanometry is a Medicare item.
2. How to add tympanometry as a clinical item in Communicare.
3. How to search for the clinical item and then selecting the template for tympanometry.

Few survey respondents reported having participated in CQI activities to improve ear and hearing outcomes despite the need for improved CQI

18 per cent of respondents said they were unsure of how to use clinical data and 40 per cent reported not having participated in any CQI activities at all as shown in Figure 11. This, along with the other issues in CQI outlined in this section of the report, suggests that there is a need for increased capability building for clinical staff in the use of clinical data and data collection platforms.

Figure 11 | Have you participated in any of the following (CQI) activities to improve ear and hearing outcomes in your community? Check all that apply:

Activities to improve data quality (1)	0.0%
Professional development / in-service training in using clinical data (2)	14.8%
Routinely review and interpret KPI reports and other data (clinical, service) to improve (ear) health care delivery (3)	18.5%
Feedback given to clinical teams regarding data reviews (4)	18.5%
I am not sure how we use our clinical data (5)	18.5%
None (6)	40.7%
Other (please specify) OR please provide additional comments (7)	7.4%

8 “Prevention” focus area: prevention and health promotion

The Ottawa Charter defines health promotion as “the process of enabling people to increase control over, and to improve, their health.”[17] Health promotion is not only focused on strengthening the skills and capabilities of individuals but is also directed at changing social, environmental and economic conditions that impact public and individual health. The Ottawa Charter provides a framework for implementing health promotion practice and outlines five health promotion action areas: 1. Reorienting Health Services; 2. Creating Supportive Environments; 3. Developing Personal Skills; 4. Strengthening Community Actions; and 5. Building Healthy Public Policy.[18] Thus, health issues can be effectively addressed by adopting a holistic approach that encompasses actions at individual and community levels, health system strengthening and multi sectoral partnership.[19]

A summary paper on developments in Indigenous health promotion[20] states: “Health promotion for Indigenous people needs to take into account culture, diversity within the population; socioeconomic circumstances; numerous languages and dialects, geographic location and… the consequences of colonisation… Specific health issues and their contributing factors need to be assessed in the context of Indigenous people’s lives and the disproportionate burden of disadvantage they bear compared with the non-Indigenous population.”

This section contains an overview of survey and consultation findings about how prevention and health promotion activities are conducted in the ear and hearing health sector, about their efficacy and suggestions for improvement.

Key insights from this section:

- Few PHC services have run ear and hearing health promotion activities in the last 12 months, despite concerns regarding the lack of community awareness and understanding about ear disease.
- Existing ear and hearing health promotion resources are not always appropriate for an Indigenous audience. Posters with pictures of what is ‘normal’ and not normal and providing health hardware such as soap or tissues were viewed as more effective resources. Use of digital otoscopes that show an image of a child’s ear was also identified as a good health promotion tool.
- The main barriers to conducting more ear health promotion activities include lack of time, capacity, knowledge and resources.
- PHC services want more support around ear and hearing health promotion in their community but do not always know who to approach for this support.

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[17] https://www.euro.who.int/__data/assets/pdf_file/0004/129532/Ottawa_Charter.pdf

[18] https://create.sahmri.org/wp-content/uploads/2020/02/schapter_5_Health-Promotion.pdf

[19] Kumar S, Preetha G. Health promotion: an effective tool for global health. Indian J Community Med. 2012;37(1):5-12. doi:10.4103/0970-0218.94009

[20] https://healthinfonet.ecu.edu.au/healthinfonet/getContent.php?linkid=620392&title=Summary+of+developments+in+Indigenous+health+promotion

- School and FaFT were identified as important places to run health promotion activities, and social media also has the potential to be targeted and impactful.
- Timing ear health promotion activities before specialist ear service visits might help to address 'ear mob' confusion at the same time as educating the community.
- There would be benefits of ear health being part of broader and more holistic health promotion approaches, that address issues such as nutrition, environment factors, breast feeding, passive smoking etc.

Findings

Health professionals are aware of the need for greater ear health promotion to address a low level of community awareness around ear disease and hearing loss

A total of 70 per cent of PHC staff survey respondents agreed that their service needs more support around ear and hearing health promotion activities. The following are suggestions they made on how support could be provided:

- professional development and training for clinical staff
- appropriate health promotion materials

A recurring theme in the focus group discussions was a low level of community awareness around ear disease and hearing loss, demonstrated by:

- high rates of ear disease in children seen in clinics
- families bringing their children in for an ear check only once an ear complication had already advanced
- not being able to get families to return to the clinic for follow-up examinations, especially in regard to antibiotic treatment
- families not attending specialist or ENT appointments after being on the waitlist for a long time.

Improving community awareness and engagement about how they can prevent ear disease is crucial to improving ear health outcomes

This sentiment was echoed in focus groups and individual discussions. Participants made several suggestions regarding the potential content of ear health promotional messaging that would improve engagement of parents in managing their children's ear disease. Their suggestions included content regarding nose blowing; bringing children back to the clinic even if their ears are not sore anymore and tissue spears.

However, health promotion activities around the prevention and treatment of ear disease is only one aspect of what is required. For example, addressing the narrative (held by many parents) that ear disease or 'runny ears' is normal because they (parents) grew up with it themselves was raised as an important part in enabling parents to actively engage in preventing ear disease in their own children and, in turn, knowing they are contributing to long-term, positive outcomes for their children and community.

Survey respondents identified several strengths in health promotion within their services and communities

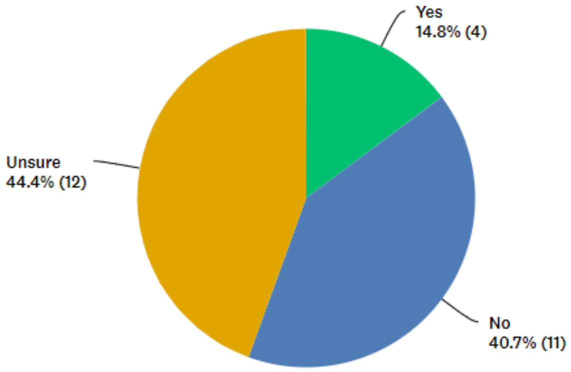
Respondents identified that clinical staff were interested and invested in ear health because of the significant impact it has on a person's future. There is an opportunity to leverage this interest into increased promotion with the right support and tools. Respondents also noted the importance and positive impact of AHPs and local Indigenous staff in the delivery of culturally appropriate health promotion. Having the right people to deliver the promotional materials is critical to having the intended impact. Use of digital otoscopes that show an image of a child's ear was also identified as a good health promotion tool.

Ear health promotion activities are rare despite an awareness for the need of such activities

While survey respondents acknowledged the importance of ear health promotion, only a minority (15 per cent) indicated that their service had run health promotion programs in the last 12 months to raise awareness around ear disease and hearing loss in their community; in contrast, 40 per cent indicated that no health promotion programs had been run in that time and 45 per cent were unsure (see Figure 12). The majority of participants in the focus groups and individual interviews also stated that they were not aware of any ear health promotion activities delivered by or at their health service and community during their time at the service, which ranged from a few weeks to 25 years.

> *"There has never been any health promotion activities here around ears. Sometimes we talk to people about ear health when they come to the clinic to see us."*
>
> *Remote AHP who has been working at the PHC service for 25 years*

Figure 12 | Has your service run any health promotion programs in the last 12 months to raise community awareness about ear disease and hearing loss in children?



Health promotion activities that had been run in respondents' service or community included Healthy Harold, weekly school visits and in-service for teachers to educate best hygiene practices in school. By contrast, one respondent noted that in urban areas health promotion often comes from media and communications teams or specific health promotion teams within PHC services.

Whilst all participants believed their community would benefit from more ear and hearing health promotion activities, they were unsure about who they could approach to support the delivery of such activities.

A lack of time and resources were identified as the main reasons for a lack of health promotion activities

A majority of survey respondents identified a lack of time, capacity, knowledge and resources as being the key barriers to providing ear and hearing health awareness (see Figure 13). A smaller proportion of survey respondents said that promoting ear and hearing health awareness was not a priority for their service or community or that there was a lack of awareness of priority areas. Other barriers identified included the COVID-19 pandemic, a lack of a dedicated person to organise it or to liaise with and community resistance to health promotion that was just education as “most mums have heard it all"; 17 per cent said there were no barriers to promotion.

Figure 13 | What barriers exist for your service when it comes to promoting ear and hearing health awareness in your community, including to other services?

Lack of time		65.2%
Appropriate resources		65.2%
Staffing numbers		60.9%
Staff training		60.9%
Not a priority area for community		21.7%
Not a priority area for service		21.7%
Lack of awareness of priority areas		8.7%
There are no barriers		17.4%
Other (please specify)	Responses	8.7%

Similarly to the survey participants, most focus group participants reported a lack of ear health promotion in their service and community. One example where ear health promotion had been delivered was in a service that had a staff member whose role was to manage ear and hearing health and deliver ear health promotion activities. However, this role no longer exists at the service due to lack of funding. Another participant from a remote PHC service reported having a centralised health promotion role which is separate from the nurses’ role. Instead, in that service, nurses are generally invited to be involved in community health promotion activities only if they have the time. From these accounts, having dedicated resources to ear health promotion appears to deliver successes. Otherwise, ear and hearing health promotion was considered by participants as being tough to deliver, particularly given the competing demands of working in a busy clinic.

> *“[I] don’t have time to do health promotion because [I’m] stuck in the clinic.”*

There was very low awareness of external supports available to assist with ear health promotion, with a majority of survey respondents (92 per cent) reporting that they were not aware of any services that are funded to do health promotion for ear health in their community. Those who were aware of these services (eight per cent), identified the NTG Hearing Services and/or Health Promotion teams within PHC services.

Several solutions and ideas have emerged from the consultation which require testing and validation

Consultation participants several raised ideas for improving the efficacy of ear and hearing health promotion activities relating to the:

- choice of location or event for health promotion
- use of social media and other platforms
- use of appropriate learning resources
- use of "health hardware"
- timing of health promotion activities
- importance of collaboration with non-clinical services
- importance of early intervention.

Choice of location or event for health promotion

The success of basing hearing health services at schools instead of clinics indicated that running health promotion activities at the school would be impactful in engaging both children and their families. The school fete, for example, was flagged as a yearly event which presents a reoccurring opportunity for ear health promotion.

Other suggestions included leveraging the clinic dietitian's school visits to talk to kids about healthy eating and the Stronger Kids for Stronger Families program focusing their health promotion campaigns at FaFT and schools. Tapping into events such health promotion days that clinics sometimes run (covering things such as eyes, skin, heart, food, etc.) was also raised as a potential opportunity for ear and hearing health messages and education.

Use of Social Media and other platforms

One participant indicated that, for non-ear health issues, their service used their clinical data (e.g. increase in scabies presentations) to inform targeted messaging on social media, such as Facebook. A similar approach of using targeted social media promotion could be used for ear health where an increase in ear infections is predicted. For example, there is often an increase in ear infections following rainy weather due to children swimming in dirty watering holes. This approach was viewed as a relatively quick and easy thing for clinic staff to do.

Using SMS messaging was also suggested as something to think about for health promotion and also as a follow-up tool. However, there was recognition that this could be tricky as phones are often lost or numbers often change. Leveraging Indigenous television and or radio was also raised as an underutilised option for promoting health messages to communities.

Use of appropriate learning resources

Overall, participants indicated that there were not many useful ear and hearing health resources around. One new RAN at a remote ACCHS has developed her own ear resources in the absence of existing ones. A focus group with AHPs highlighted the need for resources with pictures, particularly on big posters that could be put up (for example) at the local shop about what a "good" ear looks like, what causes "bad" ears and how to prevent issues. Another participant said: "we love reference materials, flash cards, knowing what is normal". The 3D ear model was identified as being useful to use with families (though these cannot be ordered anymore).

> *"I have a big pile of books which are useless – the language is too hard, too much, too little, I don't agree with lots of the information."*

Use of health hardware

Digital otoscopes were identified as being a good health promotion tool, particularly if you could see the image of the ear on a portable device, not just stand-alone on a desktop. Providing "health hardware" such as soap, toilet paper to make tissue spears – was put forward as a useful and important tool in engaging communities and promoting health messages: "You can't ask people to do something if they don't have the resources to do it". One participant said that, in the last service they worked at, every child with discharging ears was sent home with toilet paper to make tissue spears and clinic staff would encourage families to come back to the clinic if they ran out of toilet paper.

Timing of health promotion activities

Suggestions were made for the hearing health teams to deliver some community awareness activities a few weeks before they are due to visit the community, not only around ear disease and hearing loss, but also about who all the "hearing mob" are and which of those hearing mob will be visiting soon. They could also say why they are visiting and what service they will be offering when they are here. This would be particularly important to maximise the limited contact days communities have with visiting specialist ear services.

Importance of collaboration with non-clinical services

Collaboration with non-clinical services such as schools was flagged by consultation participants as being very important to support improved health outcomes, especially for health promotion. This aspect is reviewed in more detail in the next section.

Importance of holistic approaches

Participants emphasised the importance of holistic approaches in health promotion, such as engaging and enabling new mothers with an increased awareness about nutrition; environmental factors and hygiene; breast feeding; passive smoking, etc.

9 "Coordination" focus area: intersectoral action and collaboration on ear and hearing health

This section details the main issues related to coordination between the different providers and identifies some potential solutions to improve collaboration.

Key insights from this section:

- The different specialist ear services visiting NT PHC clinics are considered as useful by PHC staff.
- There are many different "ear mobs" visiting the communities, and their respective roles are not always understood by the communities, the PHC services and other local actors such as schools. All agree they would benefit from a clear understanding of "who is who" and "who does what".
- Improved communication and collaboration with the local ecosystem is identified as a priority area for specialist ear services visiting communities. Improved collaboration and communication between specialist ear services would also have positive impacts on hearing health outcomes.
- There is a gap in service provision to children who regularly move between urban and remote communities.
- The provision of specialist ear health services outside of the clinic was viewed as needed, such as at the school, while still ensuring all children are serviced and integration with clinical teams continues.
- Exploring different models of specialist ear service delivery (in collaboration with PHC services) to communities is needed.

Findings

A variety of specialist ear services visit the health services

Figure 14 details which specialist ear services visit health services managed by ACCHSs, as reported by respondents. On average 43 per cent of respondents are unsure about the visits of specialist ear services to their health service, which would suggest a lack of awareness of the services available in the communities. This percentage varies from 18 per cent for HA to 50 per cent for HAPEE.

Figure 14 | ACCHS: which of the following specialist ear services visit your health service?

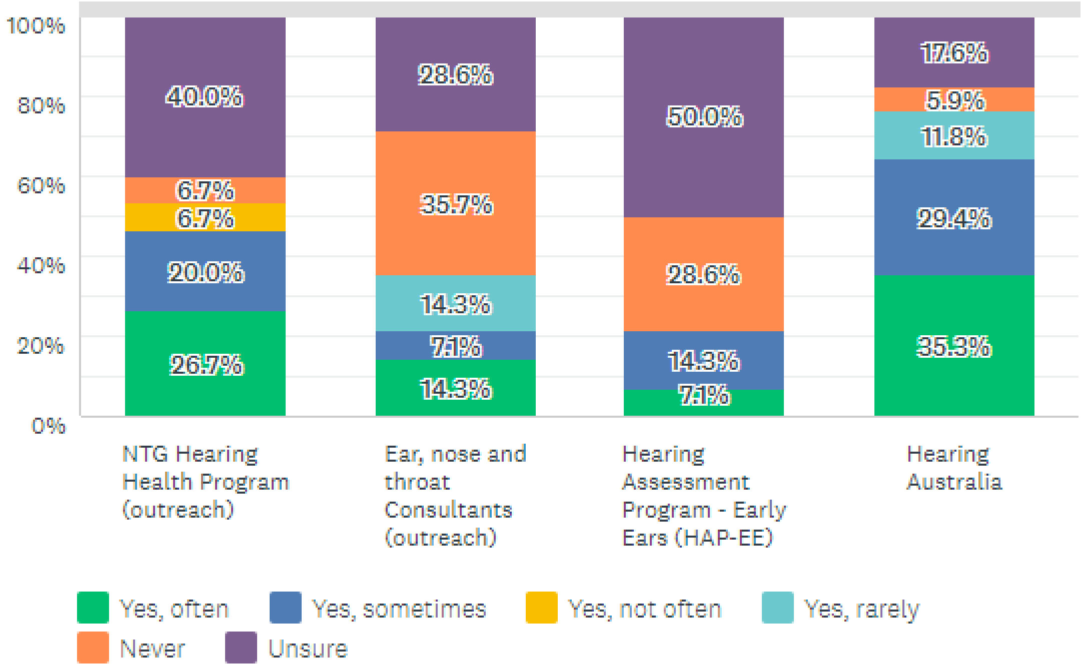
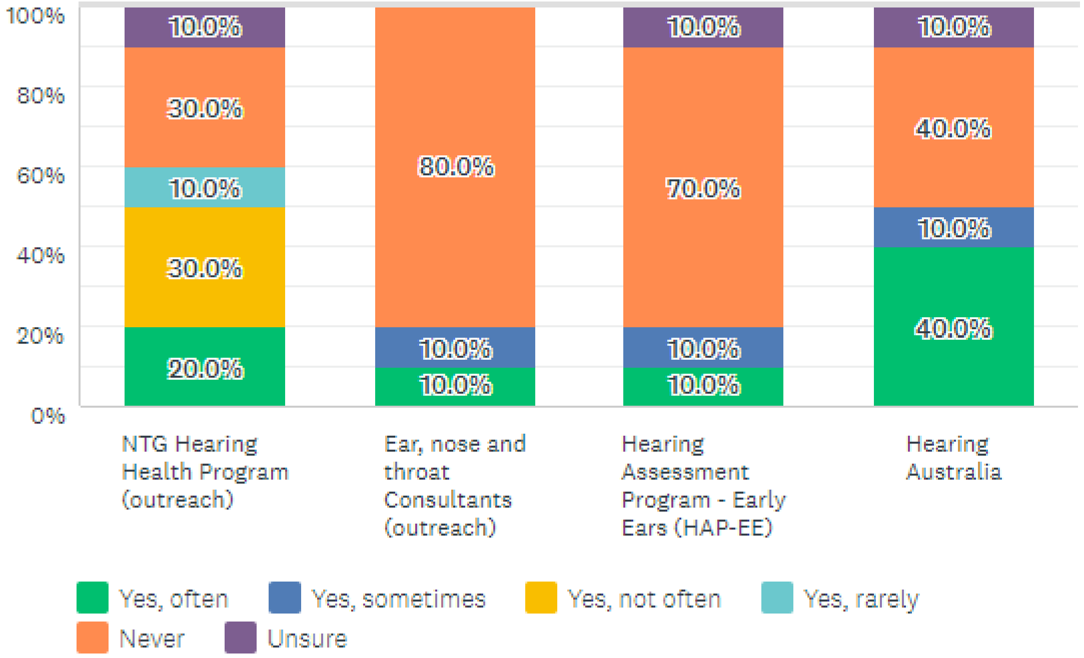


Figure 15 shows which specialist ear services visit health services managed by the NTG, as reported by respondents. The average percentage of respondents who are unsure about specialist visit is around seven per cent, which is much lower than for ACCHSs. But 55 per cent of respondents indicate they never receive any visit from specialist ear services. Similarly to ACCHSs responses, the most cited service is HA, and the least cited services are ENT consultants on outreach and HAPEE.

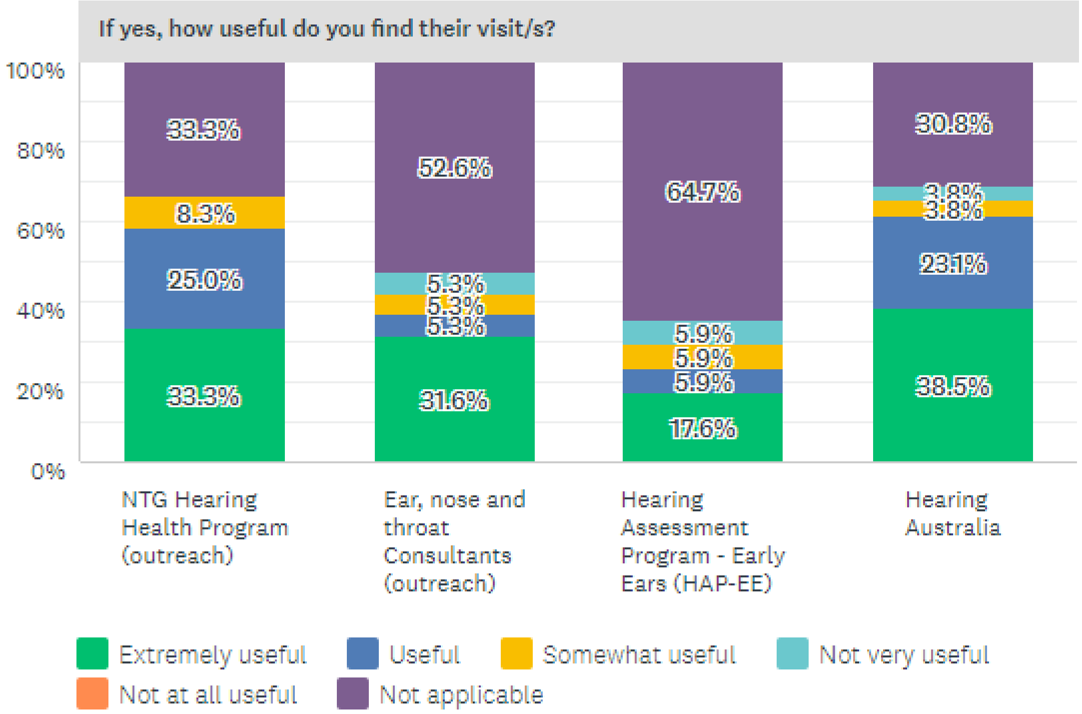
Figure 15 | NTG clinics: which of the following specialist ear services visit your health service?



ACCHS and NTG clinic staff agree on the usefulness of visits from specialist ear services

Figure 16 summarises respondents views on how useful they find the visits from specialist ear services. When applicable, the visits are most of the time considered as useful or very useful.

Figure 16 | How useful do you find the visits of specialist ear services?



Coordination between specialist ear services and community members: the variety of specialist ear services creates confusion for community members

A key theme across conversations was that "there are too many ear mobs". This creates confusion for both clinic staff and the community. The majority of clinic staff did not know who all the "hearing mob" are, what they do, or what services they offer. Confusion surrounding the "hearing mobs" has been exacerbated by the recent entry of more "hearing mobs" without proper introduction of who they are, what they are doing, what their plans are, and how they fit into the existing "ear mob" landscape.

Whilst community members were not consulted in this baseline needs analysis, there was an indication by interviewees that community members have very little to no understanding of who the visiting "ear mobs" are, often thinking that they need to see "the ear doctor" regardless of what service visits. There was also general agreement that communities do not understand what they need to see the "ear mob" for, including why they need to go into town to see a specialist. This is reflected in the high number of clients who do not turn up for their specialist appointments in Darwin.

Increasing the understanding community members have of the roles of "hearing mobs" is likely to increase attendance at specialist appointments. As a consequence, there may be a positive impact on adherence to treatment and client outcomes.

Coordination between specialist ear services and PHC services: there is a lack of knowledge, communication and collaboration between Hearing Services and PHC services

Another key theme was the need for hearing services to actively educate and update PHC services and staff about their service, roles and what support they can provide – both during and outside of community visits.

For those with some level of understanding of the different "hearing mobs", there was overall acknowledgement that they are "doing the best they can" on their clinical visits to communities. There is also a recognition of the role they play in offering education when they can. Services saw the value of multi-day visits by hearing health teams in trying to provide care to children on waitlists.

However, all participants asserted the need for better communication and collaboration from all the specialist ear services with PHC services, both for relationship building and improved service delivery outcomes.

The impact of not communicating or collaborating with PHC services on relationships is evident in the examples in Figure 17.

Figure 17 | Examples of the impact of not communicating or collaborating with PHC services

> *Haven't even heard of them let-alone heard from some of the new hearing. services around.*

> *They did a mass screening of school kids, we had no idea. We had waiting lists of kids for audios who had already been tested at the school. We only heard about it after it happened, which was months later. We had to go to the school to ask for ear data because we didn't get anything from them. It felt like a real kick in the guts.*

> *The hearing team only saw a maximum of 4 children per day, mainly because the driver was not available to drive HHS staff around and help collect children. Given the considerable cost of remote service visits, this is a clear example of how better coordination is required to ensure best use of resources and maximise service delivery when hearing services visit communities.*

> *They [the hearing services] decide who they will see and we have no control, they come in with no consultation.*

Potential ways to improve coordination with PHC services suggested by stakeholders included:

- **An orientation package**. The development of an adaptive/interactive specialist ear services orientation package was suggested, which could be in the form of a pre-recorded video, where all hearing services introduce themselves and their roles. As an updated resource, this video could be available for PHC staff to watch at any time, also allowing individual services to embed the video into their own services' orientation package, both for new staff and as a refresher for current staff. The video could encourage PHC staff to contact the specialist ear services at any time, on-line/face-to-face as needed. It was also suggested that this pre-recorded video include general ear health information relevant to the NT context, for example, links to the RAHC's ear health modules.

- **More consistent introductions to PHC services**. Going to PHC service morning meetings to introduce themselves and their services was also viewed as important. It was put forward that, increasing PHC's staff knowledge and understanding of who the visiting "hearing mobs" are and what they do was likely to have a positive impact on the ability of PHC staff to refer appropriately.
- **Ensuring specialist ear services are easily identifiable**. These included making the different hearing teams physically distinguishable from each other whilst in community, such as wearing different coloured shirts (currently mostly blue) and to put a magnetic sign on the car they are using in community, clearly displaying their service name and logo.

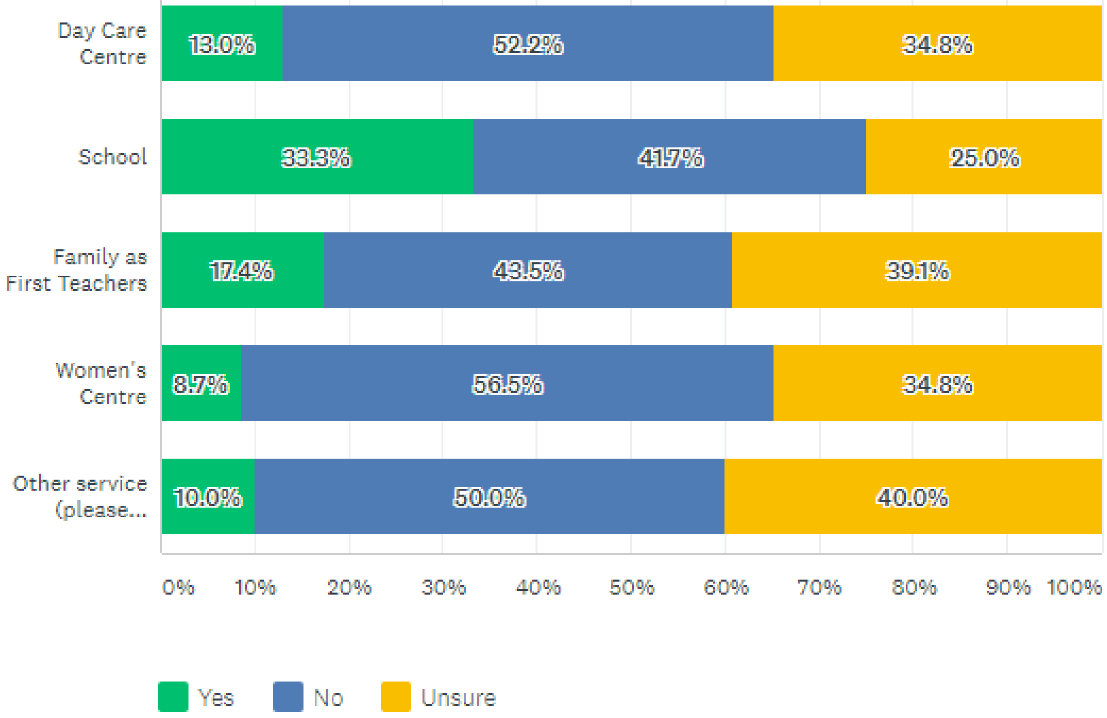
Potential benefits of improved coordination with PHC services identified by stakeholders included:

- **Improved service delivery outcomes.** Comment from clinician at an urban service "we know who [clients] is away, we know if they will come [to the hearing appointment]... If we had more control over the appointment process and being fluid [it would work better]... it's the Territory". This is in reference to trying to maximise the number of children who will be seen [on waitlists] when the specialist ear services come out.
- **Improved relationships**. Participants who were from services that had good communication with some of the specialist ear services stressed that it was because "...we approached them and took lots of time and work to build this relationship." These relationships were built with certain individuals, however, and there was concern that such relationships needed to happen at a more systemic level given the high staff turnover that occurs in the NT.
- **Easier organisation of logistics and diminished pressure on health services.** Some PHC services indicated they could support visiting specialist ear services with a car and a dedicated PHC staff member, but some also identified the need for visiting ear and hearing services to be self-sufficient and autonomous where they can.

Coordination between specialist ear services and non-clinical services: improved collaboration with non-clinical services is also a priority

Survey respondents reported very low levels of collaboration with other local services to inform or strengthen their own services' approaches to improving ear and hearing outcomes in the community. Per Figure 18, only 30 per cent of respondents had collaborated with schools; 20 per cent with FaFT, 10 per cent with day care centres and 10 per cent with women's centres. Many respondents were unsure of about collaborations with other service providers.

Figure 18 | Has your service collaborated with other services to inform and/or strengthen approaches to improving ear and hearing outcomes in their community?



This indicates a need to encourage and facilitate collaboration with non-clinical services that are at the frontline of delivering services to children and family for the purpose of ear health promotion, among other things.

Improved collaboration with schools emerged as the area with the greatest potential impact for several reasons:

- **Role of the school in gathering information.** "The school plays a very important role in helping to provide/gather evidence that may support the diagnosis of a child's medical condition, especially around hearing, behavioural issues and developmental delays. It would be good if this was acknowledged and seen as an opportunity to work with the school to improve health outcomes".
- **Importance of mutual understanding**. When hearing services do base themselves at schools, the importance of clearly communicating with the school (in advance) about who they are, what the service they are delivery is and how they will communicate outcomes to the schools was raised as being crucial.
- **Ability to translate information into practical improvements.** Sharing information between the school and visiting services and clinics would provide the opportunity to translate this into real outcomes for kids. For example, sitting a child at the front of the class and/or using an amplification device when teaching. There was acknowledgement about the red tape and sensitivities that may exist around sharing client information. Another example relates to reports: if reports are given to the school about a child, it is important that the school understands what the report means and how to interpret the results. "We believe hearing work needs to be done in the education sector (schools) not in the health sector/clinic".

Coordination between urban and rural services: connecting urban and remote services will improve the care delivered to clients

Another key theme in discussions is the existence of a gap in how children who move around remote communities and between urban/remote services are managed by the hearing health services. Examples given include:

- when urban clients who have moved out/back to remote communities have already been referred to the urban service, rather than to the remote hearing service
- where a hearing/ENT appointment letter is sent to an old urban address because a new address was not collected or provided.

This can have a significant impact on an individual's care/progression on the ear pathway particularly when, in the urban hearing setting, a client is immediately discharged if they do not attend their appointment: "one strike and you're out". This means that, if they are to be seen again by the Hearing Services/ENT, this client would need to be formally referred again, making the time between ear disease/referral and management even longer than it often already is.

> ***"I don't think they realise [if they take them off the urban list] it could be years until we see them again. I did six referrals for children to NT Hearing who had been removed from the remote lists because they have moved to town, but remote kids who travel all over the place, will get an appointment and do not attend. I need to come up with a system very quickly or I will lose them. To be honest it is because hearing health is so good you feel sad when this happens as they will keep children on their lists forever".***

Stakeholders highlighted the need for better engagement in several areas:

- **Better engagement of Hearing Services with urban ACCHS.** The need for better engagement of Hearing Services with urban ACCHS was raised in order to improve access of urban clients to the appropriate hearing services (especially as many are referred but don't get there/attend) and perhaps a more formal process around discharging client might be needed.
- **Better communication between Hearing Services, urban and remote.** The need for better communication and approach to managing children who transient frequently between remote and urban communities was similarly raised. A GP who worked with an urban ACCHS was not aware of the outreach hearing service at all. This was despite the fact they had been with the service for five years and were responsible for child health.
- **Follow-up after stay in detention centres**. The issue of urban detention centres was also raised in discussions with concerns expressed regarding the ability to trace where these young people go (urban or remote) after leaving detention, particularly as their current details on discharge are in the Department of Justice's system rather than in the Department of Health system. Thus, there is concern these young people with hearing issues are easily lost after being released from detention, some of which may have already been on the specialists lists for several years.

Coordination among specialist ear services: there is a lack of coordination among specialist ear services

In addition to not understanding who all the different "hearing mob" are, many participants suggested that there was a clear lack of coordination between the hearing mobs themselves, demonstrated in examples given:

- frequent back-to-back visits by hearing services to the same community (one week after the other)
- hearing services being in community at the same time without knowing this would be the case.

This creates "hearing service fatigue" in the community and confusion for clinic staff and community members. It also increases demands on the health services, with one participant noting that this was "very annoying" for them as it created a logistical burden to the clinic as the hearing mobs used local resources such as clinic staff/driver and/or consult rooms.

Improving coordination between the ear and hearing services, ensuring they do not work in silos has the potential to:

- **Reduce overlaps**. This is particularly to prevent any overlap of ear and hearing services being delivered, for example, unnecessary screening of children who are already identified as having ear disease.
- **Fill gaps.** Improved coordination would enable ear and hearing services to complement each other's work and/or fill any service delivery gaps. For example, questions were raised about why the hearing services could not occasionally work outside of their formal roles if it meant they could provide services to the community as they were needed. An example given by an AHP is when someone's hearing aid is broken and they go to the clinic to see the "hearing mob" to get it fixed; they often get told that they have to wait until the "right" hearing mob comes to get the hearing aid fixed. "What this means is they will just forget about using their hearing aid and not come back since most people don't really want to use hearing aids anyway". A similar example was raised by a clinician who said, in relation to hearing aids often just requiring new batteries, it "makes sense to provide immediate support rather than turn families away and direct them to wait for the 'right' hearing mob to visit, which could be quite a while later."
- **Identify gaps.** As well as filling gaps, improved coordination would encourage the identification of new and existing gaps across specialist service delivery and collaborative approaches to address them. One clinician for example felt that, despite an improvement in ear disease among children, one major gap not being adequately addressed is hearing loss in "older kids" (in their 20s).

Several solutions were suggested by respondents and should be explored

One-stop-shop

The idea of having a "one-stop-shop" model was suggested to try to minimise the confusion discussed above: where the "ear mobs" plan to go to each community at the same time so that any ear issues can be dealt with on the spot, rather than children having to be referred and/or told to come back when the "other hearing mob" are in town. AHPs who had been working at the clinic for 25 years said: "It would be good to just have the hearing mobs at the clinic on the same day so it's easier to collect kids who need to be seen for their ears only. It would also be good to have one day just for the doctor". Those who talked about this model acknowledged the logistical challenges of trying to coordinate different services to come together in one community at the same time. However, from their end, clinics said they would work to ensure the "hearing one-stop-shop" had adequate space, accommodation and access to clinic staff/drivers to support them while they were there, even with four to five visiting services.

Outreach: Work outside the clinic

Another theme consistently raised was around where hearing services go to/base themselves when they come out to communities. Many participants felt that it made more sense for hearing services to work outside of the clinic and instead base themselves at the school and FaFT for several reasons:

- Viewed as the best way to access children for screening/ear reviews and provision of follow-up services
- Less disruptive: no need to take children out of school to see visiting hearing team/s at the clinic
- Addresses the issue of parental consent (school can gain this if given two-week notice of hearing service visit) - though ensuring parents are present at any specialist ear visits, whether done at the school or clinic, remains essential.
- Safe space: children and parents can find the clinic a bit "scary". Bringing the clinic AHP to the school can help bridge this gap with the clinic in the safe space of the school: "they [families] find it safer than coming to the clinic, we are so rushed, they come here for everything... painful procedures all in the one room. Mum's come to see me for ears and see me going to FaFT and they will follow me over to be seen there".
- Can use Indigenous Teachers Aid to support engaging kids/parents, for example, sit with kids when they're having their ears looked at; could team up with clinic AHP/RAN (mobile) and strengthen the link so that the clinic is viewed as less of a scary place.
- Being based at the school provides a good opportunity for the hearing services to provide ear education to the kids as well as to the parents (invite them to come in for an information session). This can roll onto providing ear health promotion activities at the school, for example, at the school's yearly fete where services often hold stalls.

It is important to note that many marginalised and disadvantaged children may not go to school and may not engage with FaFT. Only providing specialist ear services to these service locations may mean these children miss out on much needed ear health support and management. In addition, regardless of where services may base themselves, integration with clinical teams and the appropriate entry of data into the required systems would still be needed.

10 There is clear improvement potential in the areas of recalls, follow-up and referrals

This section outlines some identified issues and solutions in the following elements of the client journey: follow-up, recalls and referrals.

Key insights from this section:

- There are long waitlists for children referred and recalled to specialist ear services, some children waiting for many years.
- Concerns were raised that specialist referral lists do not match actual referrals made by PHC services to specialist ear services.
- The current ear and hearing referral system is cumbersome and complicated, leading to non-referrals or inappropriate referrals and follow-up of children who require ear disease management.
- More responsibility and coordination around ensuring the (timely) follow-up of children with identified ear disease or on a specialist referral waitlist is needed, as too many children are lost in the process or sit on referral lists for multiple years.

Findings

Follow-up

Definition and importance

Follow-up[21] refers to tracking tests and results that are expected but not yet received. Follow-up can also refer to identifying clients who did not attend a recommended test or referral or did not attend an appointment to receive test results or reports.

Follow-up of clients was raised as a key factor in managing ear disease among children, including:

- ensuring adherence to and success of treatment
- ensuring children referred to specialist ear services are actually seen and in a reasonable timeframe
- ensuring clients know about their ENT appointment or scheduled surgery in Darwin and understand why they need to go into town.

Identified issues and ideas for improvement

Several problems were identified by respondents during this needs analysis:

- **Delays.** There are often delays in presentations back to the clinic, especially if parents are no longer concerned with the disappearance of symptoms such as pus or sore ears.
- **Responsibility.** Whilst there may be many referrals made to specialist ear services, it is not always clear who has responsibility for ensuring the actual follow-up of these children.

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[21] Royal Australian College of General Practitioners' Standards for General Practice, 4th edition. Standard 1.5.3 System for follow up of tests and results

Some ideas also emerged around avenues to address these issues:

- **Increasing the use of telehealth to inform clients** about their upcoming visit to the ENT specialist, rather than a letter which may not reach them (change of address, transient, etc.).
- **PHC services need support and coordination** to improve the follow up of clients that may be identified when specialist ear services visit, conduct an audit, etc. (many participants highlighted experiences of being left to follow-up paperwork and clients after ear specialist visits, despite their limited resources).
- **Giving ample time from initial contact with clinics to the visit** gives the PHC services the possibility to prepare an agreed list of clients, locate them and inform them of upcoming visits.
- **Using colourful advertising** to place around the community advising of visits.

Local recalls at PHC level

Definition and importance

Recall[22] refers to a mechanism that is designed to facilitate clients receiving further medical advice in relation to matters of clinical significance.

The majority of respondents identified that their service's recall system is the main way children with ear disease are managed and followed-up at the clinic level.

Identified issues and ideas for improvement

Whilst a few respondents felt their recall systems were working well, there was overall acknowledgement of consistency and systems issues impacting on the success of this system:

- **Consistency.** Effective recalls are very dependent on how well staff know the system and how consistently they use it, which is often a challenge with high staff turnover.
- **Systems.** Some PHC clinicians believe that by putting a child on the local recall list in Communicare or PCIS, these children will be reviewed by the Hearing Services audiologists when they visit their clinic. However, children only reach the Hearing Services recall list if they have been formally referred to the Hearing Services audiologist in Communicare or PCIS.

Respondents and IDI and FGD participants suggested ways to address these identified issues:

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[22] Royal Australian College of General Practitioners' Standards for General Practice, 4th edition. Standard 1.5.3 System for follow up of tests and results

CROSS CHECKING	COMMUNICARE	SMALLER CLINICS	FAMILIES
One remote ACCHS has set up a system where automatic recall lists are sent through to the Hearing Services team every six months to be cross-checked, reviewing whether referrals made by the PHC service have been appropriately done. Driven by key people over a number of years, the lists are centrally managed within this remote ACCHS to ensure referrals are appropriately put in place and followed-up when the Hearing Services team comes out.	Whilst some PHC services have the automatic recall reviews that pop-up in their system, triggered in Communicare to flag the required follow-up of a child, the fact that there are so many outstanding recalls in Communicare (across all health issues), means that adequate follow-up of clients is the real/main issue. The suggestion then was that clinic running lists and follow-ups could be better overall.	A participant from a smaller clinic said that, being a small community with not too many children needing referrals, they did not formally refer clients to Hearing Services but just put them down as a recall, and would then compare (and update) their recall list with the Hearing Services' recall/referral list when they visited.	There was recognition that the recall system also relies heavily on families presenting for review. Thus, educating and working with families to address this is crucial.

Referrals

Identified issues and ideas for improvement

Referral Lists (Hearing Services)

As well as concerns of misplaced or incorrect "referrals" being made by PHC staff to the hearing health service, participants also raised concerns that the lists of children referred to Hearing Services by PHC services are not reflected in the HS audiology/teleotolgy recall lists: "We sat with the Hearing Health Service and said this is not working, you need to come more often. Our lists looked nothing alike. For example, we had 100 children on our recall list, they had 10... we had different ideas about what the wait list looked like and we were unsure what was happening to our referrals". Another service said: "NTG Hearing Services (urban service) and HA have totally different lists and, rather than systems being in place, people invariably refer to the wrong place... [so] we have worked to ensure that, in our system, referrals in Communicare are clearly separated out to NT Hearing and HA".

Referral Systems and Pathways: Current

The conversations above naturally led to discussions regarding referral systems and pathways to specialist ear services, which across all participants, was viewed as "too complicated".

> *Often [when clinicians make a referral to ENT specialist].. don't know if the referral has actually been received… an issue when there is such a long wait time for patients.*

> *Multiple referrals have to be made to eventually refer to the right place.*

> *It is hard to get patients into the hospital when you don't even hear about what is happening to their referral.*

> *I automatically refer anyone under 21 in need of a hearing assessment to the Hearing Services and anyone over 21 to Hearing Australia, believing that - whilst not ideal – it will help reduce the overlap of referrals.*

> *The ear referral pathways are complicated and ridiculous. There are different ages and eligibility for each. There should be a move to an integrated hearing health program so teams can see anyone who needs to be seen in remote communities and have / provide a "one stop shop" for initial assessments - with referrals then able to be made onto the teleotology and hearing health team.*

Concern was also expressed around trying to train indigenous workers to understand and navigate the current complicated referral system and pathway.

Referral Systems and Pathways: Improved and Simplified

Rather than viewing training as the solution to addressing this confusion around referral systems and pathways, participants stressed the need to simplify the current ear referral systems and pathways, as well as ensuring any referrals made by PHC clinicians are acknowledged and regularly updated. A number of "ideal scenarios" were put forward by participants:

1. Decrease the number of referral options from six[23] to two options.

OPTION 1

Referral of a client directly to the ENT specialist/Outpatients Department

OPTION 2

Referral of client to Hearing Australia

Across participants, simplifying the current referral system and pathway was viewed as important in addressing PHC staff confusion regarding how and who to refer to and the incorrect/misplaced referral of clients to the various ear and hearing services.

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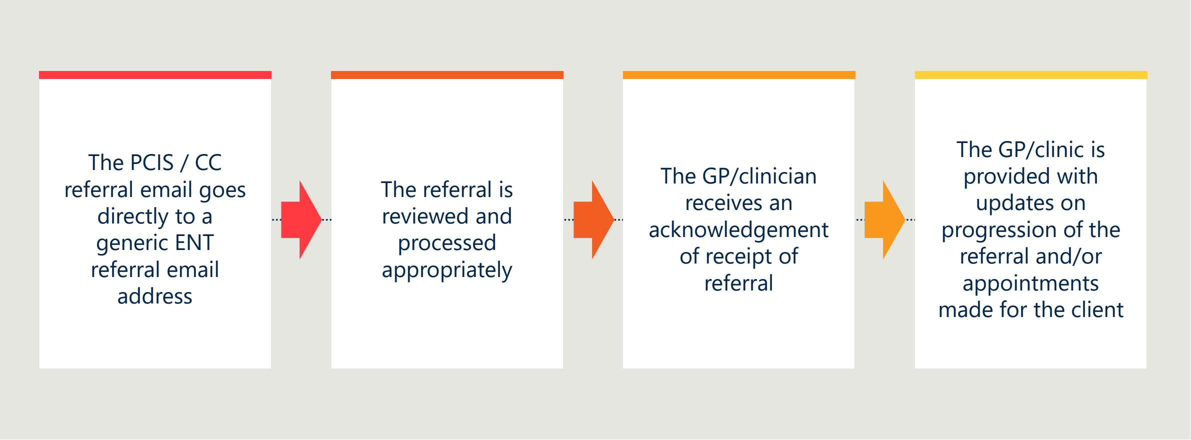
[23] up to 10 if referral from NT prisons is included

2. Allow remote GP/clinicians to refer directly to the ENT specialist via a PCIS / Communicare (CC) inbox referral that already has their provider number and automatically has the relevant Medicare item number.



The PCIS / CC referral email goes directly to a generic ENT referral email address

The referral is reviewed and processed appropriately

The GP/clinician receives an acknowledgement of receipt of referral

The GP/clinic is provided with updates on progression of the referral and/or appointments made for the client

A clinician queried whether a child could be referred straight to an ENT specialist without having to go through a GP, as many people decide not to go to the GP after seeing a different clinician/audiologist/ teleotologist.

Simplifying the referral system was also viewed as helping to decrease the "hearing fatigue" experienced by people in communities who see one hearing service after another before getting a needed referral to an ENT specialist.

11 Appendices

A.1 List of figures

A.2 Summary document for online survey respondents

Improving ear and hearing health outcomes in the NT

AMSANT's Ear and Hearing Health Program aims to work with ACCHS and NTG PHC clinics, ear and hearing health services, and other relevant stakeholders to reduce the impact of ear disease among Aboriginal and Torres Strait Islander children in the NT and facilitate best practice care through:

- improving collaboration between ear health providers and PHC
- improving prevention, screening, diagnosis and management of ear disease within PHC.

One of our activities is to undertake a needs analysis to understand the needs and key issues that exist for the PHC sector in terms of ear and hearing health. Areas that will be explored in this needs analysis will include (but not limited to): clinical knowledge; training; capacity to support health promotion; resources; use of relevant data; and collaboration between existing services.

HOW YOU CAN CONTRIBUTE

To get a clearer picture of the key needs and issues that exist for the PHC sector in terms of ear and hearing health, the Ear Program is providing PHC staff with the opportunity to contribute their insights and experiences through a number of forums. All PHC clinical staff will be asked to participate in the online survey but not necessarily in the other two forums listed below:

1. ON-LINE SURVEY

- An opportunity for all PHC clinicians to contribute.
- Someone from your service will send a web-link, which you click on to access the survey.
- Questions can be answered at any time online.
- Will take around 10 minutes to complete.

2. IN-DEPTH INTERVIEWS

- One-on-one discussions with PHC staff who are in roles that involve looking at systems as well as on-the-ground work, such as clinic managers, child health coordinators, etc.
- Face-to-face where possible; otherwise via phone/zoom.
- Will take around 15-30 minutes.

3. FOCUS GROUP DISCUSSIONS

- Groups of up to eight to 10 people with similar roles (e.g. RANs, AHPs, AHWs, CHNs, etc.).
- Face-to-face where possible; otherwise via phone/zoom.
- Allow up to one hour.

All information gathered in these forums will be used to inform what the key needs are for PHC in relation to ear and hearing health in the NT and the direction the project will take in terms of its activities.

When writing up the information gathered, no individual staff member or service can be identified or linked to any specific comment or concern expressed.

A.3 In-depth Interview Questions Guide

Demographics

1. Length worked in Aboriginal Primary Health Care in the Northern Territory?

Monitoring and follow-up of those at risk of developing otitis media and related hearing loss.

2. Looking at access, management, monitoring and follow-up, what does your service have in place that works well, could be improved?
3. What are the key challenges in your service to improving ear disease thinking about access, management, monitoring and follow-up.
    a) How do you think these issues could be addressed?
4. Can you talk about any ear and hearing services that you engage and/or who come to your service?
5. How can collaboration with these ear and hearing services be improved for better ear and hearing outcomes among children?
6. If your staff were to attend ear and hearing training, what support would you want for them post-training?

Strengthen capacity for evaluation of relevant clinical data in primary health care clinics.

7. How does your service use clinical data to inform your health care delivery relating to ear and hearing health?
    a) How could your service be supported to do this? e.g. training, etc.
8. How does your service ensure that all clinicians (including visiting specialists and services) are using Communicare/PCIS effectively to ensure accurate recording of data?
9. Do you think the NT key performance indicators (NT KPIs) relating to ear and hearing health are useful?
    a) Ear discharge at any examination?
    b) Ear discharge at last examination?
    c) Ear discharge test recorded?
10. Are there any other KPIs you think would be useful in regards to ear and hearing health?

Health Promotion

11. Has your service run any ear and hearing health promotion programs/activities?
    a) How effective was the Program?
    b) Was the Program documented and evaluated?
12. What else could be done to improve ear and hearing outcomes in your community?

A.4 Focus Group Discussion Questions Guide

Introductions

- Name and clinic
- Role and length of time in current role

Thinking about how ear disease is currently managed in your clinic and/or community:

- Can you give some examples of what works well/ensures good follow-up and management of children with identified ear disease?
- Can you give some examples of what does not work well and why?
- What are the likely barriers to tackling the problem?
- Do you have any suggestions for overcoming these?
- What additional services or programs would help people address the problems?
- What do you think is important in prevention of ear disease?
- What training and or support (if any) would help you/your clinic to adequately manage children with ear disease?
- Where/how do you get your information?
- Of all the things we have discussed, what to you is the most important?
- If you had a magic wand, what is one thing you would do and/or change to improve how ear disease is managed in your community?
- Have we missed anything – is there anything else you would like to talk about?