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**Australian Institute of
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Northern Territory Outreach Hearing Health Program: reference material

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Northern Territory Outreach Hearing Health Program Background

Australian government funded hearing health programs in the Northern Territory

The extent of poor ear health among Indigenous children and young people in the Northern Territory was corroborated during the Child Health Check Initiative (CHCI) introduced under the Northern Territory Emergency Response (NTER). Child Health Check data showed that between July 2007 and June 2009, of the 9,373 Indigenous children who received health checks, 30% had ear disease in NTER Prescribed Areas. Of these children, 1,291 (14%) were referred to audiology services and 896 (10%) were referred to an ENT specialist at their initial health check (AIHW & DoHA 2009). The WHO Burden of Disease report (WHO 2004) indicates that where the prevalence of chronic otitis media exceeds the 4% prevalence, it is 'indicative of a massive public health problem requiring urgent attention'.

In response to the high level of need in this area, an ear and hearing health program was established as part of the NTER in mid-2007. This program continued under the Closing the Gap program (CtG) in the Northern Territory National Partnership Agreement from mid-2009 to mid-2012. These programs targeted services to children and young people in Prescribed Areas of the Northern Territory, which were remote areas that lacked specialist services. For more background information on these two initiatives, see Northern Territory Emergency Response Child Health Check Initiative—follow-up services for oral and ear health: final report 2007–2012 (AIHW 2012).

By the end of the CHCI and CtG programs—referred to as 'CHCI(CtG)'—evidence from the data collected showed that among children and young people who received ear and hearing health services, the prevalence of middle ear conditions decreased, and the majority experienced improvements in hearing (AIHW 2012). However, despite those improvements, ear disease and hearing loss remain critical health issues of concern for this population (AIHW 2014).

From July 2012 to June 2015, the ear and hearing health services were replaced and expanded by the National Partnership Agreement on Stronger Futures in the Northern Territory (SFNT). Since July 2015, these services have been continued through a new national partnership on the Northern Territory Remote Aboriginal Investment (NTRAI) Hearing Health Program. The funding from both the SFNT and the NTRAI (from here on simplified to NTRAI) was mainly used to provide audiology and CNS (formerly called Child Hearing Health Coordinator, or CHHC) services to children and young people aged under 16.

The Australian Government also provides funds to the Northern Territory Government through the Healthy Ears—Better Hearing, Better Listening program (HEBHBL). The Northern Territory Government used this funding to support audiology services and ENT teleotology services for children and young people aged 21 and under, especially in remote areas, where there is high demand and a lack of local services.

While services provided under the CHCI(CtG) were limited to prescribed communities in the Northern Territory, services provided under the SFNT and the HEBHBL are territory wide, and target—but are not limited to—remote communities. NTRAI services are implemented with a focus on remote communities due to high needs in these areas.

How services are provided

The Hearing Health Program mainly provides outreach hearing health services at community level, including interventional (treatments) services, with technical support from the ENT services in the Royal Darwin Hospital. The program functions that include scheduling, logistics, information management, assets management, and communication functions are provided by core management and administration staff. The services provided by the program include four components: health promotion and prevention, audiology services, CNS services and teleotology services. The outreach teams also dedicate time and resources to maintain medical equipment to ensure these services run smoothly. Since 2010, the number of outreach visits to remote communities across regions in the Northern Territory continues to increase as integration strategies reduce costs and improve efficiencies of service delivery.

Figure 1.1 summarises information about these services, including the scope, service providers and the specific functions of each service type.

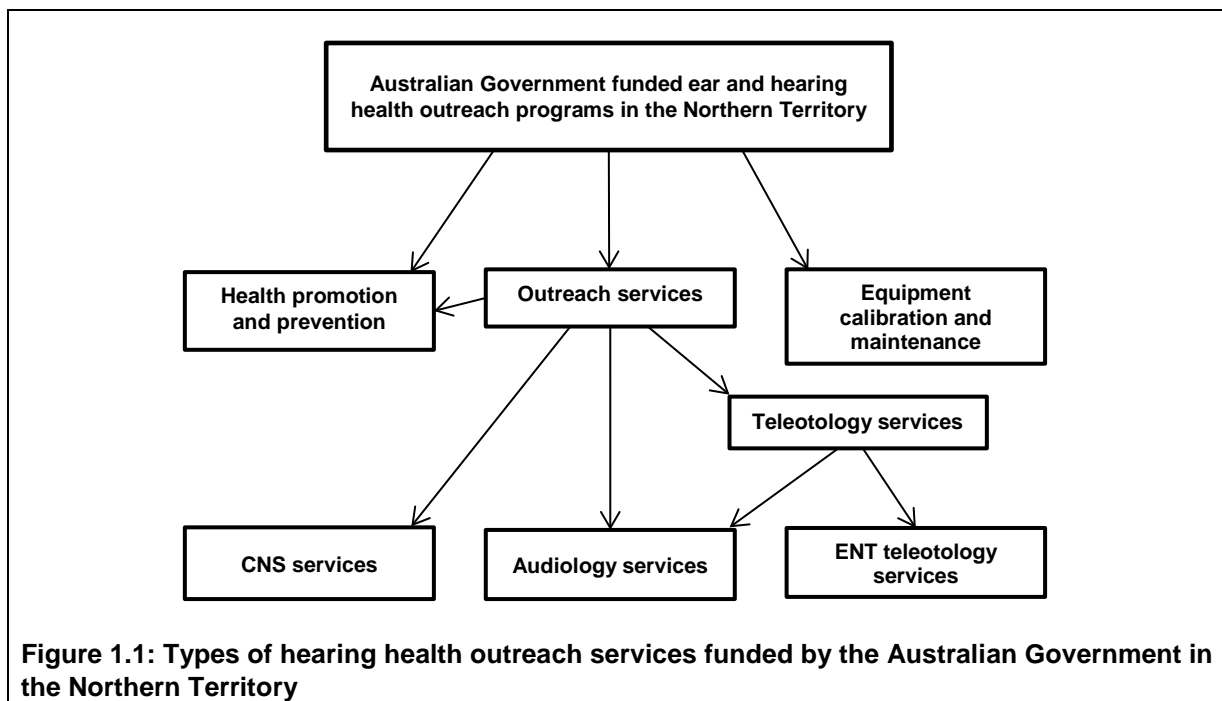
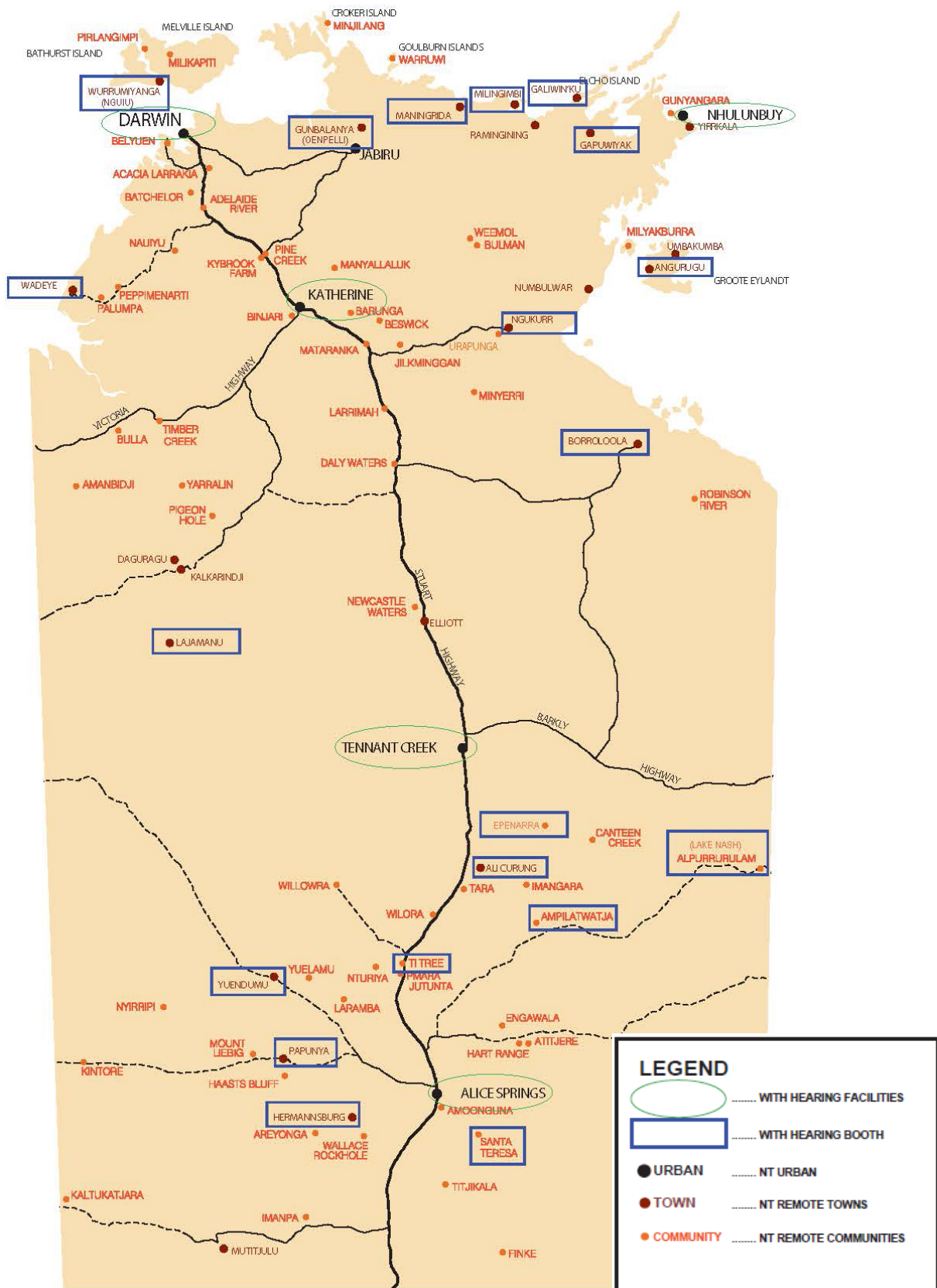


Table 1.1: Scope of hearing health outreach services funded by the Australian Government in the Northern Territory^(a)

Scope of service recipients	Service provider/staff	Services provided
Ear and hearing health promotion and prevention		
Whole community, including council, school, clinic and health services, women's and family groups	Hearing health outreach team members, which can include audiologists, CNSs, Aboriginal health workers, and ENT nurses	Increasing ear and hearing health knowledge by various education activities, including dissemination of health promotion material and conducting health education sections
Audiology services		
Indigenous children and young people in the Northern Territory aged 21 and under	Outreach teams consisting of an audiologist and at least one other member of staff, such as a registered nurse, nurse audiometrist, Aboriginal health worker, or a community hearing worker	Assessment of middle ear function Diagnosis of hearing loss and middle ear conditions
Services for children and young people aged under 16 are funded through the NTRAI National Partnership Agreement	Teleotology service teams: CNS (ENT), audiologist and ENT specialist	Recommendations for clinical care and rehabilitation (for example, communication strategies, classroom amplification, hearing aids, speech therapy and education support)
Services for those aged 21 and under are funded through the HEBHBL		Outreach teams working with local families, primary health organisations, community personnel, schools and early childhood organisations
ENT Teleotology services		
Indigenous children and young people in the Northern Territory aged 21 and under	Teleotology service teams: CNS (ENT), audiologist and ENT specialist	ENT specialist advice and oversight Diagnosis and assessment of hearing loss Diagnosis and assessment of middle ear conditions Recommendations for treatment (for example, medications, surgery, hearing aids) Care coordination
CNS services		
Indigenous children who have a priority listing (that is, a diagnosed middle ear condition or documented hearing impairment)	CNS	Coordination of treatment strategies by: establishing what support communities need and promoting hearing health supporting local staff to identify priority children managing schedules of children for audiology and other specialist services engaging and connecting communities with a range of service providers training local staff helping local staff with data recording and running reports
See Chapter 5 for more information		

(a) Services presented here are only the types of hearing health services included in *Northern Territory Outreach Hearing Health Program: Ear and Hearing Health Program* report, and not an exhaustive representation of all hearing health services available in the Northern Territory.

Hearing facility locations in the Northern Territory



Technical notes

Methods of audiological assessment

During audiology services, middle ear and hearing status are investigated and examined by an audiologist. This includes:

- detailed clinical history of ear health, family history, general health, noise exposure, speech development and language development
- visual examination of the ear canal and tympanic membrane
- examination of the mobility of the ear membrane
- examination of functional hearing acuity.

Testing hearing loss: pure tone audiometry

Pure tone audiometry is the standard technique of testing hearing ability among children and young people who are old enough to cooperate with the test procedure. It records a subjective response to threshold (softest) sound stimuli presented through a headphone, bone conductor or speaker at discrete frequencies that are essential for detecting and discriminating speech. Any response deviation from the normal range, at any sound stimuli, in either ear, is described as a hearing loss, and the type of hearing loss is diagnosed.

Testing hearing loss in younger children: visual reinforced orientation audiometry

Visual reinforced orientation audiometry (VROA) is used to assess hearing in children aged between 9 months and 3 years. Results are obtained in a sound field where both ears are presented to test stimulus simultaneously through a calibrated speaker. As the results recorded are obtained in a sound field (both ears are being presented with stimuli without differentiation), diagnostic audiology results do not provide detailed information on separate ears and generally reflect the ear with the best hearing acuity.

Definitions of hearing loss and degrees of hearing impairment

Hearing loss status

- Unilateral: hearing loss in one ear
- Bilateral: hearing loss in both ears
- Tested by sound field: where children are tested using VROA, it is not possible to determine whether hearing loss is unilateral or there is no hearing loss; instead, the test indicates hearing acuity in the better ear.

Type of hearing loss

- Sensorineural: deviation of hearing threshold from the normal range attributable to problems in the inner ear or the cochlear nerve

- **Conductive:** deviation of hearing threshold from normal range associated with reduced conduction of sound through the outer ear, tympanic membrane (eardrum) or middle ear, including ossicles (middle ear bones)
- **Mixed:** deviation of hearing threshold from the normal range that has combined conductive and sensorineural components.

Degree of hearing impairment

Hearing impairment describes the degree of impairment associated with hearing loss in the 'better hearing ear', using a scale of mild, moderate, severe and profound. It is based on the degree of deviation from normal thresholds in the 'better ear', calculated as a 3-frequency average of the threshold of hearing (in decibels Hearing Level—dB HL): 500 hertz (Hz), 1000 Hz and 2000 Hz.

In the AIHW's hearing health data collections, a person's degree of hearing impairment is classified based on the categorical variable in the data collection form provided by the Northern Territory Department of Health (NT DoH) (see Data collection forms and information collected section). The NT DoH applies a conservative categorisation of hearing impairment, as it is regarded to be more suitable for children aged under 15 (Access Economics 2006). For example, this means that a child classified with moderate hearing impairment by the NT DoH might have been classified as having mild hearing impairment in the standard system (see Table 1.2 below). The system used by the NT DoH is as follows:

- **Mild:** On average, the quietest sounds that people can hear with their better ear are between 16–30 dB HL in soundproof conditions and 26–35 dB HL in non-soundproof conditions. They are able to hear and repeat words spoken in normal voice at 1 metre. Counselling and hearing aids may be needed.
- **Moderate:** On average, the quietest sounds that people can hear with their better ear are between 31–60 dB HL in soundproof conditions and 36–60 dB HL in non-soundproof conditions. They are able to hear and repeat words spoken in raised voice at 1 metre and have difficulty keeping up with conversations without using a hearing aid.
- **Severe:** On average, the quietest sounds that people can hear with their better ear are between 61–90 dB HL either in soundproof conditions or non-soundproof conditions. They are able to hear some words when shouted into the better ear. Hearing aids are needed. If no hearing aids are available, lip-reading and signing may be necessary.
- **Profound:** On average, the quietest sounds that people can hear with their better ear are 91 + dB HL either in soundproof conditions or non-soundproof conditions. They are unable to hear and understand even a shouted voice. Hearing aids may help with hearing words. Additional rehabilitation and cochlear implants, as appropriate, combined with communication skills such as lip reading and signing provide valuable support to the profoundly deaf.

Table 1.2: Comparison of standards for classifying degree of hearing impairment between the NT DoH and the WHO

Degree of hearing impairment	NT DoH standard^(a) (dB HL)	WHO standard (dB HL)
Mild	16–30	26–40
Moderate	31–60	41–60
Severe	61–90	61–80
Profound	91+	81+

(a) Standard for services analysed in the Northern Territory Outreach Hearing Health Program: Ear and Hearing Health Program report.

Note: dB HL refers to the quietest sounds that people can hear with their better ear in soundproof conditions.

Changes in hearing loss and hearing impairment

- Improved hearing loss and impairment: Hearing loss and impairment was classified as ‘improved’ if a child or young person’s hearing loss status or degree of hearing impairment improved between the first and second services and the second and third services, or if there was an improvement between 2 services and no change between the other 2 services.
 - Improved hearing loss was defined as a change in hearing loss status between audiology services in the following scenarios: (1) from bilateral hearing loss to unilateral hearing loss or no hearing loss and (2) from unilateral hearing loss to no hearing loss.
 - Improved hearing impairment was defined as a movement between audiology services to a lower degree of hearing impairment (for example, from profound hearing impairment to severe, moderate or mild hearing impairment).
- Deteriorated hearing loss and impairment: Hearing loss status and degree of hearing impairment was classified as ‘deteriorated’ if a child or young person’s hearing loss status or degree of hearing impairment deteriorated between services (between the first and second services, and between the second and third services), or if there was a deterioration between only 2 services and no change between the other 2 services.
 - Deteriorated hearing loss status was defined as a change between audiology services in the following scenarios: (1) from no hearing loss to unilateral or bilateral hearing loss and (2) from unilateral hearing loss to bilateral hearing loss.
 - Deteriorated hearing impairment was defined as a movement between audiology services to a higher degree of hearing impairment (for example, from mild hearing impairment to moderate, severe or profound hearing impairment).
- Stabilised hearing loss and impairment: Hearing loss and impairment was classified as ‘stabilised’ if a service recipient’s hearing loss status or degree of hearing impairment was the same in all 3 audiology services included for analysis in this study.
- Fluctuated hearing loss and impairment: Hearing loss and impairment were classified as ‘fluctuating’ if a child or young person’s hearing loss status or degree of hearing impairment differed between services included for analysis in this study, without a clear pattern in either improvement or deterioration (that is, if hearing loss status or degree of hearing impairment improved between the first and second services and deteriorated between the second and third services, or vice versa).

Common types of surgery to manage ear disease

- Adenoidectomy: the surgical removal of adenoids.
- Examination under anaesthetic: the examination of a child's ear(s) while under anaesthetic.
- Grommet: a tiny tube that is surgically placed across the eardrum to re-establish ventilation to the middle ear. It is also called a 'ventilation tube', a 'pressure equalisation tube' or a 'tympanostomy tube'.
- Myringoplasty: the repair of a perforation of the tympanic membrane (ear drum).
- Myringotomy: a procedure in which a tiny incision is created in the eardrum to relieve pressure caused by excessive build-up of fluid, or to remove fluid from the middle ear.

Data collection and quality information

Data collection, management and reporting

The AIHW was commissioned by the Australian Government Department of Health to collect, manage and report on data from ear and hearing health outreach services in the Northern Territory. The information supports the monitoring of health services for Indigenous children and young people in an area of critical need—both geographically and health-wise—in the Northern Territory, and builds the evidence required for program monitoring and evaluation.

The data analysed in the *Northern Territory Outreach Hearing Health Program* are collected by the AIHW from the following services:

- hearing health outreach audiology data collection
- ENT teleotology data collection
- CNS services data collection.

These data are collected using paper data collection forms. Health professionals responsible for providing services complete a form with information about the child or young person's demographic characteristics, types of services provided, community where the service was provided, date of service, examination results and medical interventions and recommendations.

How much data the AIHW receives on each child or young person depends on whether the child or young person's parent or guardian provides consent to share the information. There are two scenarios for the provision of data under the consent requirements:

- If consent is given, all de-identified data are sent to the AIHW.
- If consent is not given, a limited amount of aggregate information is provided to the AIHW. This includes the number of services provided and the number of children and young people receiving a service by 5-year age group, sex, and community where the service was provided.

Therefore, apart from aggregate numbers, data used include only children and young people for whom consent was obtained from parents or guardians to share information with the AIHW.

Throughout the report, the term 'services' refers to occasions of service. A child or young person may receive a number of services and have more than 1 record in each data collection. Each record in the collection corresponds to a single service, not to a single person.

Data limitations

The audiology, CNS and ENT data collections have some limitations that should be considered when interpreting the findings presented in the report.

- Children and young people who receive audiology, ENT or CNS services are not a random sample of Indigenous children and young people in the Northern Territory because these services are targeted at children with high need. The data includes over 9,800 children and young people aged under 21, who received services between August 2007 and December 2017. Of these children and young people, around 8,800 were still eligible for hearing health outreach services in 2017. This accounts for approximately 28% of the Northern Territory Indigenous population in

this age group in 2017. Additionally, the scope of the report is limited to programs funded by the Australian Government. Services provided through other funding sources (for example, the Northern Territory Government or private sector) are not included. Thus, the results of the report do not represent ear and hearing health services in the Northern Territory as a whole, and they are not representative of the total Indigenous population aged under 21 in the Northern Territory.

- In general, the report does not include information on children and young people if their parent or guardian did not provide consent to share the data with the AIHW. The exceptions to this are for summary tables on the total number of services and service recipients, which contain aggregate non-consent data. The accuracy of analysis results for audiology and ENT services was not greatly affected as the extent of non-consent data was minimal, at around or less than 1% for audiology and ENT services between 2013 and December 2017. However, rates of non-consent were high for CNS services, but there have been improvements to non-consent rates over time for CNS services.
- When using and interpreting the data, the extent of missing and 'not tested' responses should be taken into account. Where possible, tables show the percentage of missing and not tested responses.

Data item summary for hearing health data collections

Northern Territory outreach audiology data collection

The Northern Territory outreach audiology data collection includes:

- information about the child (hospital registration number (HRN), date of birth and sex)
- information about the service (community where service was provided and date of service)
- outcomes from the audiology check, including hearing loss status, hearing loss type, degree of hearing impairment, and middle ear conditions diagnosed
- further action(s) recommended.

Northern Territory ENT teleotology data collection

The Northern Territory ENT teleotology data collection includes:

- information about the child or young person (HRN, date of birth and sex)
- information about the service (community where the service was provided and date of service)
- middle ear diagnosis
- actions recommended and follow-up required
- type of surgery recommended.


Northern Territory Clinical Nurse Specialist data collection

The Northern Territory Clinical Nurse Specialist data collection includes:

- information about the child (HRN, date of birth and sex)
- information about the service (community where the service was provided and date of service)
- hearing health priority category
- ear health of children, including diagnosis of middle ear condition
- clinical service activities provided to children
- contacts made with other service providers.

Data collection forms and information collected

Outreach audiology data collection form

 Northern Territory Government	HEARING HEALTH PROGRAM AIHW SERVICES FORM DEPARTMENT OF HEALTH
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AUDIOLOGY SERVICES FORM

1. ORGANISATION DETAILS		
Date of service: / /20 (dd/mm/yyyy)		
ID of Community or Town Camp where this service was provided:		
2. CHILD DETAILS		
HRN:	Date of Birth: / /	<input type="checkbox"/> Male <input type="checkbox"/> Female
3. SUMMARY OF AUDIOLOGY FINDINGS (select one option under each heading)		
Hearing Loss		
<input type="checkbox"/> None	Type of hearing loss	
<input type="checkbox"/> Unilateral	<input type="checkbox"/> Conductive	
<input type="checkbox"/> Bilateral	<input type="checkbox"/> Sensorineural	
<input type="checkbox"/> Sound Field	<input type="checkbox"/> Mixed (both conductive and sensorineural)	
	<input type="checkbox"/> CNT/DNT	
	<input type="checkbox"/> Indeterminate	
Degree of hearing impairment (based on better ear)		
<i>(av. HTL)</i>	<i>Sound Proof Conditions</i>	<i>Non-Sound Proof Conditions</i>
<input type="checkbox"/> Normal	(0 - 15 dbHL)	(0 - 25 dbHL)
<input type="checkbox"/> Mild	(16 - 30dbHL)	(26 - 35 dbHL)
<input type="checkbox"/> Moderate	(31 - 60 dbHL)	(36 - 60 dbHL)
<input type="checkbox"/> Severe	(61 - 90 dbHL)	(61 - 90 dbHL)
<input type="checkbox"/> Profound	(91 dbHL+)	(91 dbHL+)
Middle ear condition		
Right		Left
<input type="checkbox"/> None		<input type="checkbox"/> None
<input type="checkbox"/> Eustachian Tube Dysfunction		<input type="checkbox"/> Eustachian Tube Dysfunction
<input type="checkbox"/> Acute Otitis Media		<input type="checkbox"/> Acute Otitis Media
<input type="checkbox"/> Otitis Media with Effusion		<input type="checkbox"/> Otitis Media with Effusion
<input type="checkbox"/> Chronic Suppurative Otitis Media		<input type="checkbox"/> Chronic Suppurative Otitis Media
<input type="checkbox"/> Dry Perforation		<input type="checkbox"/> Dry Perforation
<input type="checkbox"/> Other, (please specify).....		<input type="checkbox"/> Other, (please specify).....
<input type="checkbox"/> Unsure		<input type="checkbox"/> Unsure
4. ACTION (please indicate all that apply)		
<input type="checkbox"/> No further action required <input type="checkbox"/> Case management by Primary Health Centre <input type="checkbox"/> Case management by ENT <input type="checkbox"/> Ongoing monitoring by NT Hearing Services <input type="checkbox"/> Referral to Australian Hearing (rehabilitation) <input type="checkbox"/> Referral to Department of Education Employment <input type="checkbox"/> Other, (please specify).....		

CHHC audiology data collection form—used from October 2012 to June 2015





HEARING HEALTH PROGRAM CHHC SERVICE FORM

DEPARTMENT OF HEALTH

COMMUNITY:	CHHC:	VISIT DATE: / /
FIRST NAME:	OTHER NAME:	
FAMILY NAME:		HRN:
DOB: / /	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	CARER:

EAR HEALTH

OTOSCOPY						PRIORITY																			
 <p><i>Right Tympanic Membrane</i></p>		 <p><i>Left Tympanic Membrane</i></p>		<input type="checkbox"/> HP1 <input type="checkbox"/> HP2 <input type="checkbox"/> HP3 <input type="checkbox"/> HP4 See Table 2: Priority Activities																					
Pneumatic Otoscopy Mobility: <input type="checkbox"/> None <input type="checkbox"/> Slight <input type="checkbox"/> Normal <input type="checkbox"/> DNT COMMENTS:		Pneumatic Otoscopy Mobility: <input type="checkbox"/> None <input type="checkbox"/> Slight <input type="checkbox"/> Normal <input type="checkbox"/> DNT COMMENTS:		<table border="1"> <thead> <tr> <th>CLINICAL SERVICE ACTIVITIES</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>Verified Diagnosis <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Verified or Amended Treatment <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Confirmed Regular Follow Up & Care Plan <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Discussed Treatment Adherence Strategies <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Discussed Hearing Loss Strategies <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Discussed Ear Health Education <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Supported Audiological M'tment <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Supported ENT Management <input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		CLINICAL SERVICE ACTIVITIES	Comments	Verified Diagnosis <input type="checkbox"/>		Verified or Amended Treatment <input type="checkbox"/>		Confirmed Regular Follow Up & Care Plan <input type="checkbox"/>		Discussed Treatment Adherence Strategies <input type="checkbox"/>		Discussed Hearing Loss Strategies <input type="checkbox"/>		Discussed Ear Health Education <input type="checkbox"/>		Supported Audiological M'tment <input type="checkbox"/>		Supported ENT Management <input type="checkbox"/>			
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TYMPANOMETRY																									
EAR	TYPE	MEP	MEC	ECV	DNT																				
RIGHT																									
LEFT																									
DIAGNOSIS AS PER CARPA				Right	Left	CONTACT WITH OTHER PROVIDERS																			
NAD / None				<input type="checkbox"/>	<input type="checkbox"/>	Education Providers <input type="checkbox"/>																			
Eustachian Tube Dysfunction				<input type="checkbox"/>	<input type="checkbox"/>	Health Provider <input type="checkbox"/>																			
Otitis Media with effusion				<input type="checkbox"/>	<input type="checkbox"/>	Community-based Worker <input type="checkbox"/>																			
Acute Otitis Media without perforation				<input type="checkbox"/>	<input type="checkbox"/>	Australian Hearing <input type="checkbox"/>																			
Acute Otitis Media with perforation				<input type="checkbox"/>	<input type="checkbox"/>	Other <input type="checkbox"/>																			
Chronic Suppurative Otitis Media				<input type="checkbox"/>	<input type="checkbox"/>																				
Dry Perforation				<input type="checkbox"/>	<input type="checkbox"/>																				
Other.....				<input type="checkbox"/>	<input type="checkbox"/>																				
COMMENTS																									
<input type="checkbox"/> Results entered into PCIS / Communicare Clinician Name:..... Signature:.....																									

CNS data collection form—used from July 2015 to December 2017




HEARING HEALTH PROGRAM

CNS/AHP CONSULTATION FORM
DEPARTMENT OF HEALTH

COMMUNITY:		COMMUNITY ID:	VISIT DATE: / /		
PATIENT NAME:		DOB: / /	HRN:		
ABORIGINAL/TSI: <input type="checkbox"/> YES <input type="checkbox"/> NO		MALE <input type="checkbox"/> FEMALE <input type="checkbox"/>		CARER:	
TIME REVIEWED:		SCHOOL			
POST OP CHECK <input type="checkbox"/>	SURGICAL HISTORY:				
KEY EAR HEALTH HISTORY:					
RIGHT EAR		PRESENTING CONDITION			
Otoscopy Images: <input type="checkbox"/> YES <input type="checkbox"/> NO	Pain <input type="checkbox"/> No <input type="checkbox"/> Yes Duration:..... Rx:.....				
	Discharge <input type="checkbox"/> No <input type="checkbox"/> Yes Duration:..... Rx:.....				
	Hearing Loss <input type="checkbox"/> No <input type="checkbox"/> Yes		Hearing aid/s fitted: <input type="checkbox"/> No <input type="checkbox"/> Yes		
	ACTIONS BEFORE OTOSCOPY				
	<input type="checkbox"/> None <input type="checkbox"/> Wax Removed <input type="checkbox"/> Pus removed <input type="checkbox"/> Foreign body removed		Irrigation: <input type="checkbox"/> Betadine <input type="checkbox"/> Water		
TYMPANOMETRY: TYPE _____ MEP _____ MEC _____ ECV _____ DNT _____					
Pneumatic Otoscopy <input type="checkbox"/> Valsalva	Mobility: <input type="checkbox"/> Immobile <input type="checkbox"/> Hypomobile <input type="checkbox"/> Mobile <input type="checkbox"/> Hypermobile		<input type="checkbox"/> Indeterminate		
LEFT EAR		PRESENTING CONDITION			
Otoscopy Images: <input type="checkbox"/> YES <input type="checkbox"/> NO	Pain <input type="checkbox"/> No <input type="checkbox"/> Yes Duration:..... Rx:.....				
	Discharge <input type="checkbox"/> No <input type="checkbox"/> Yes Duration:..... Rx:.....				
	Hearing Loss <input type="checkbox"/> No <input type="checkbox"/> Yes		Hearing aid/s fitted: <input type="checkbox"/> No <input type="checkbox"/> Yes		
	ACTIONS BEFORE OTOSCOPY				
	<input type="checkbox"/> None <input type="checkbox"/> Wax Removed <input type="checkbox"/> Pus removed <input type="checkbox"/> Foreign body removed		Irrigation: <input type="checkbox"/> Betadine <input type="checkbox"/> Water		
TYMPANOMETRY: TYPE _____ MEP _____ MEC _____ ECV _____ DNT _____					
Pneumatic Otoscopy <input type="checkbox"/> Valsalva	Mobility: <input type="checkbox"/> Immobile <input type="checkbox"/> Hypomobile <input type="checkbox"/> Mobile <input type="checkbox"/> Hypermobile		<input type="checkbox"/> Indeterminate		
PRESUMPTIVE DIAGNOSIS		HIGH PRIORITY:			
NAD	<input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> HP1 <input type="checkbox"/> HP2 <input type="checkbox"/> HP3 <input type="checkbox"/> HP4			
NAD (Post Op)	<input type="checkbox"/> R <input type="checkbox"/> L	PREVIOUS HIGH PRIORITY RATING: <input type="checkbox"/> HP1 <input type="checkbox"/> HP2 <input type="checkbox"/> HP3 <input type="checkbox"/> HP4 DATE: / /			
Eustachian Tube Dysfunction	<input type="checkbox"/> R <input type="checkbox"/> L	Health Promotion: <input type="checkbox"/> Noseblowing <input type="checkbox"/> Hand and face hygiene <input type="checkbox"/> Nutrition <input type="checkbox"/> Smoke exposure <input type="checkbox"/> Dry ear precautions			
AOM	<input type="checkbox"/> R <input type="checkbox"/> L	TREATMENT COMMENCED AS PER CARPA			
AOM with perforation	<input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Amoxicillin Other Abx: _____ Weight: _____			
OME	<input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Cloxan <input type="checkbox"/> Kenacomb <input type="checkbox"/> R <input type="checkbox"/> L Dosage mg/drops: _____			
CSOM (active discharge)	<input type="checkbox"/> R <input type="checkbox"/> L	Frequency: _____ Duration: _____			
CSOM (inactive dry perforation)	<input type="checkbox"/> R <input type="checkbox"/> L	Other Rx:			
Foreign Body	<input type="checkbox"/> R <input type="checkbox"/> L	FOLLOW UP REQUIRED			
Other	<input type="checkbox"/> R <input type="checkbox"/> L	Primary Health: <input type="checkbox"/> PRN <input type="checkbox"/> Review ears and medication in			
Unsure	<input type="checkbox"/> R <input type="checkbox"/> L	Referred to TELEO: <input type="checkbox"/> NO <input type="checkbox"/> YES Audiology follow-up required: <input type="checkbox"/> NO <input type="checkbox"/> YES			
COMMENTS:	OTHER SERVICE PROVIDER:		CASE MANAGEMENT REQUIRED:		
	EDUCATION	<input type="checkbox"/>	Follow up care initiated by CNS/AHP	<input type="checkbox"/> YES <input type="checkbox"/> NO	
	HEALTH CENTRES	<input type="checkbox"/>	Discussed treatment adherence strategies	<input type="checkbox"/> YES <input type="checkbox"/> NO	
	FAFT	<input type="checkbox"/>	Discussed hearing loss strategies	<input type="checkbox"/> YES <input type="checkbox"/> NO	
	CHW	<input type="checkbox"/>	Discussed ear health education	<input type="checkbox"/> YES <input type="checkbox"/> NO	
	INTERPRETER PRESENT	<input type="checkbox"/>	Supported Audiological management	<input type="checkbox"/> YES <input type="checkbox"/> NO	
	OTHER	<input type="checkbox"/>	Vaccination status checked and up to date	<input type="checkbox"/> YES <input type="checkbox"/> NO	
	CHHC/AHP Name: _____				
	SIGNATURE: _____ DATE: / /				
	Consultation entered into PCIS/CCARE: <input type="checkbox"/>				

ENT teleology data collection form



Northern Territory Government

HEARING HEALTH PROGRAM

TELEOTOLOGY ENT SPECIALIST CONSULTATION


DEPARTMENT OF HEALTH

COMMUNITY:	ENT SPECIALIST:	VISIT DATE: / /
COMMUNITY ID:	DOB: / /	HRN:
PATIENT NAME:		MEDICARE:
		<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
CAREER:		


Post-Op Check

THE FOLLOWING CLINICAL DIAGNOSIS AND RECOMMENDATIONS BY THE ENT SPECIALIST ARE BASED ON CASE HISTORY, AUDIOLOGY AND OTOSCOPY INFORMATION COLLECTED THROUGH TELEOTOLOGY PROTOCOL WITH NO DIRECT EXAMINATION OF THE PATIENT BY THE ENT SPECIALIST.

Right Tympanic Membrane



Left Tympanic Membrane



Comment:

RIGHT EAR			
<input type="checkbox"/> Intact TM	<input type="checkbox"/> Normal	<input type="checkbox"/> Healed	<input type="checkbox"/> Other:
<input type="checkbox"/> Perforation	<input type="checkbox"/> Central	<input type="checkbox"/> Marginal	<input type="checkbox"/> Attic
	<input type="checkbox"/> WET	<input type="checkbox"/> Purulent	<input type="checkbox"/> DRY
	<input type="checkbox"/> Moist (serous)	<input type="checkbox"/> Squamous	<input type="checkbox"/> Mucosal
<input type="checkbox"/> Grommet	<input type="checkbox"/> Insitu	<input type="checkbox"/> Patent	<input type="checkbox"/> Blocked
	<input type="checkbox"/> Extruded	<input type="checkbox"/> TM Intact	<input type="checkbox"/> Residual perforation
LEFT EAR			
<input type="checkbox"/> Intact TM	<input type="checkbox"/> Normal	<input type="checkbox"/> Healed	<input type="checkbox"/> Other:
<input type="checkbox"/> Perforation	<input type="checkbox"/> Central	<input type="checkbox"/> Marginal	<input type="checkbox"/> Attic
	<input type="checkbox"/> WET	<input type="checkbox"/> Purulent	<input type="checkbox"/> DRY
	<input type="checkbox"/> Moist (serous)	<input type="checkbox"/> Squamous	<input type="checkbox"/> Mucosal
<input type="checkbox"/> Grommet	<input type="checkbox"/> Insitu	<input type="checkbox"/> Patent	<input type="checkbox"/> Blocked
	<input type="checkbox"/> Extruded	<input type="checkbox"/> TM Intact	<input type="checkbox"/> Residual perforation

PRESUMPTIVE DIAGNOSIS	R	L
NAD		
AOM		
AOM with Perforation		
CSOM (active discharge)		
CSOM (inactive dry perforation)		
OME		
Foreign Body		
Other		

ACTIONS RECOMMENDED	INSTRUCTIONS	R	L
Medication:	<input type="checkbox"/> Amoxyl <input type="checkbox"/> Cloxan <input type="checkbox"/> Kenacomb <input type="checkbox"/> Other	<input type="checkbox"/> as per CARPA	
Other:	<input type="checkbox"/> Foreign body removal <input type="checkbox"/> Aural Toilet <input type="checkbox"/> Other	Specific Instructions:	
FOLLOW-UP REQUIRED			
PRIMARY HEALTH:	<input type="checkbox"/> Not Required <input type="checkbox"/> Review progress after medication <input type="checkbox"/> Dry ear precautions <input type="checkbox"/> Monitor-Rx as required <input type="checkbox"/> 1 week <input type="checkbox"/> 2 week <input type="checkbox"/> 1month <input type="checkbox"/> 6 months <input type="checkbox"/> PRN Comment:		
Audiology:	<input type="checkbox"/> Not Required <input type="checkbox"/> 3 months <input type="checkbox"/> 6 months <input type="checkbox"/> 1 year <input type="checkbox"/> PRN		
Australian Hearing:	Hearing aid: Medical clearance given to fit <input type="checkbox"/> Bone conductor aid <input type="checkbox"/> Hearing aid/s with mold <input type="checkbox"/> Has hearing aid/s Review required		
ENT Review:	<input type="checkbox"/> Not Required <input type="checkbox"/> 3 months <input type="checkbox"/> 6 months <input type="checkbox"/> 1 year <input type="checkbox"/> PRN <input type="checkbox"/> Needs F2F ENT		
SURGERY RECOMMENDATIONS		R	L
<input type="checkbox"/> Decide ear at operation		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> TWAIT completed		<input type="checkbox"/> Too young for surgery	
Comment:		Myringoplasty (Tympanoplasty Type 1)	
		Myringotomy	
		Adenoidectomy	
		Grommets	
		EUA	
		Exploration of middle ear/mastoid	
		Removal of tubes	
Other procedure			

Signature: _____

Date: ____/____/____

Data quality statements

Northern Territory Remote Aboriginal Investment audiology data collection, 2017

Description

The Northern Territory outreach audiology data collection contains data from outreach audiology services provided in the Northern Territory, funded by two Australian Government programs: the National Partnership Agreement on Stronger Futures in the Northern Territory (SFNT) (which was replaced by the Northern Territory Remote Aboriginal Investment (NTRAI) on 1 July 2015) and the Healthy Ears—Better Hearing Better Listening programme (HEBHBL).

The SFNT began in July 2012 and continues to provide funding through the NTRAI from 2015–16 to 2021–22. The hearing health component of this agreement replaced and expanded services implemented under the Northern Territory Emergency Response Child Health Check Initiative and the Closing the Gap in the Northern Territory National Partnership Agreement (NTER CHCI(CtG)). The funding was mainly used to provide outreach audiology services to children aged under 16.

The HEBHBL was used to support outreach audiology services for people aged 16–20 who are not eligible under the SFNT/NTRAI. In addition, the HEBHBL funded additional audiology services to children aged 0–15. Although all Indigenous children and young people aged 0–21 in the Northern Territory are eligible to receive these services, the AIHW currently has data for people aged up to 20 only. In the Northern Territory, the Healthy Ears services have mainly been delivered by outreach service teams to children and young people in remote areas because there are insufficient local services to meet the high demand in these areas.

Key issues:

- This data collection included over 6,400 children and young people who were aged under 21 and received Northern Territory outreach audiology services. Children and young people who receive outreach audiology services are not a random sample of Indigenous children in the Northern Territory. Although outreach audiology services are available to all children and young people aged 21 and under, not all eligible children access these services.
- The data are collected as part of the hearing health programs are a by-product of a clinical process. That is, health professionals providing services document the results on standard data collection forms which are then forwarded to the AIHW.
- In 2017, for about 9% of service participants who were able to complete audiology assessments, their hearing loss status were missing in the data. Users should be aware of the extent of missing data when using and interpreting hearing health data. Where possible, tables published by the AIHW show the percentage of missing data.

Institutional environment

This section provides information about the origin of the data collection and the arrangements under which the collection is governed and administered.

The Australian Institute of Health and Welfare (AIHW) is a major national agency set up by the Australian Government under the *Australian Institute of Health and Welfare Act 1987 (Cth)* to provide reliable, regular and relevant information and statistics on Australia's health and welfare. It is an independent corporate Commonwealth entity established in 1987, governed

by a management Board, and accountable to the Australian Parliament through the Health portfolio.

The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure, hospitals, disease and injury, and mental health, to ageing, homelessness, disability and child protection.

The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with governments and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.

One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national data sets based on data from each jurisdiction, to analyse these data sets and disseminate information and statistics.

The *Australian Institute of Health and Welfare Act 1987* (Cth), in conjunction with compliance to the *Privacy Act 1988* (Cth), ensures that the data collections managed by the AIHW are kept securely and under the strictest conditions with respect to privacy and confidentiality.

For further information see the [AIHW website](#).

The AIHW is responsible for undertaking the data management, analysis and reporting of information collected from the Northern Territory outreach ear and hearing health services funded by the Australian Government Department of Health.

Data collection forms are completed by clinical service providers and forwarded to the AIHW via the Northern Territory Department of Health (NT DoH). The NT DoH is responsible for delivering health and family services related to the ministerial responsibilities of Health and Senior Territorians. For further information see the [NT DoH website](#).

Timeliness

This section specifies the timeliness of the supply of data for this collection, in terms of the time taken for the AIHW to receive and process data from service providers, as well as the time taken for the AIHW to publish data after the end of a reporting period.

The first report on the SFNT audiology data collection was published in January 2014, with a reference period of July 2012 to June 2013. The scope of this report was only the SFNT program (that is, children and young people aged under 16). The scope of subsequent reports was extended to contain both the SFNT and HEBHBL programs (children and young people aged 0–21). Each annual report builds on the previous years' data to produce time trends, and track children and young people as they move through the program.

The second annual report, published in February 2015, has a reference period of July 2012 to June 2014. The third annual report, published in November 2015, has a reference period of July 2012 to June 2015. The fourth annual report was published in March 2017, with a reference period of July 2012 to June 2016. The fifth annual report was published in November 2017, with a reference period of July 2012 to December 2016. The latest report was published in December 2018, with a reference period of July 2012 to December 2017. It is expected that future reports will be published on an annual basis.

Due to the nature of the collection process, there is a lag between the date when the service was provided and the date of data receipt by the AIHW. This means that at any point in time, there may be services provided that have not yet been captured in the data collection. However, the extent of under-reporting of the number of services and children and young

people who received services is minimal. From July 2012 to December 2017, the median lag between services being provided and records being received by the AIHW was 2 weeks for outreach audiology services. As reports are produced 6–12 months after the end of the reporting period for that year, the number of services not captured is minimal. Any services not captured in the reporting period are included in the following year's data supply for future reports.

Accessibility

This section outlines the capacity of data users to identify the availability of relevant information, and to then access it in a convenient and suitable manner.

Reports are published on the AIHW website. They can be downloaded free of charge.

Permission to obtain unpublished data must be sought from the NT DoH and the Department of Health via the AIHW. In addition, approvals from relevant ethics committees of the Northern Territory could be required.

Interpretability

This section includes information on the availability of information to help provide insight into the data, to assist with interpretation and usability.

To help stakeholders interpret information about the outreach hearing health programs, reports contain basic information about the programs, relevant definitions, and information about the data contained in the analyses presented. This includes providing information about caveats or aspects that readers should be aware of when interpreting the data.

A copy of the National Partnership Agreement on the SFNT/NTRAI is available on the website of the Standing Council on [Federal Financial Relations](#).

Relevance

This section includes information about how well the data meet the agreed purpose of the data collection in terms of concepts measured and the population represented.

The Northern Territory outreach audiology data collection captures data on children and young people who receive outreach audiology services funded through the SFNT/NTRAI and HEBHBL programs. The data include information on the amount of services provided, demographic information of service recipients, and the ear health status of service recipients; the data also allowed children's ear health status to be compared over the time period. These services are more commonly accessed by children and young people in remote areas and the services targeted at children and young people most in need. In 2013, the NT DoH implemented the use of priority listing categories, so children and young people with poorer ear and hearing health are more likely to receive outreach audiology services.

Although outreach audiology services are available to all Indigenous children and young people aged 21 and under the SFNT/NTRAI and HEBHBL programs, not all eligible children and young people access these services. Therefore, children and young people who receive outreach audiology services are not a random sample of Indigenous children in the Northern Territory. Furthermore, outreach audiology data cannot be generalised beyond the programs contained in the data collection; neither can they be used to determine the prevalence of health conditions among all Indigenous children and young people in the Northern Territory.

Services are targeted at children and young people in most need. In January 2013, the NT DoH implemented the use of priority listing categories, so children and young people with poorer ear and hearing health are more likely to receive outreach audiology services.

Accuracy

This section provides information about the degree to which the data correctly describe the phenomena they were designed to measure.

In 2017, hearing loss status was missing from the data for about 9% of service participants where they were able to complete audiology assessments. Users should be aware of the extent of missing data when using and interpreting hearing health data. Where possible, tables published by the AIHW show the percentage of missing data.

Parents or guardians of service recipients must provide their consent to share information with the AIHW. If consent is given, all de-identified data about the service recipient and the services they received is sent to the AIHW. When a child's parent or guardian does *not* provide consent to share information, only a limited amount of aggregate information is provided to AIHW. This includes the number of services provided and the number of children and young people receiving a service by 5-year age group, sex and community where the service was provided. The proportion of non-consent data varied over time; however, decreased from 2.6% from July to December 2012 to 0% in 2017 for children who received outreach audiology services.

In order to protect privacy, personal information is not provided to the AIHW (for example, the child's name). Children can be counted only by using an HRN. A very small percentage of children could not be counted accurately due to missing or incorrect HRNs.

Coherence

This section provides information about the internal consistency of a statistical collection, product or release, as well as its comparability with other sources of information, within a broad analytical framework and over time.

The scope of the first annual report on SFNT hearing health services to Indigenous children and young people in the Northern Territory—published by the AIHW in January 2014 (for 2012–13)—contained services provided under the SFNT (that is, for children aged under 16). Following this, annual reports were published by the AIHW in February and November 2015, with data to June 2014 and June 2015, respectively, in March 2017 with data to June 2016 and in November 2017 (with data to December 2016). These reports were wider in scope than the first annual report, containing data from SFNT services as well as from services provided under the HEBHBL to children and young people aged 0–20.

Due to differences in the scope of the programs, care should be taken when comparing analyses from the first annual report containing only SFNT program data (for children aged under 16) with analyses in subsequent annual reports (for children and young people aged 0–20). Total counts of services and service recipients will not be comparable due to the difference in age groups captured in the programs.

Additionally, the latest two reports should not be compared with previous ones because the latest publication reports the data in terms of calendar year, whereas previous publications report using financial year. The latest report allows for comparison of years from the second half of 2012 (July–December) and for each whole calendar year from 2013 to 2017. The current report was published in December 2018 (with data to December 2017).

Additionally, SFNT outreach audiology services were developed and extended from the outreach audiology services originally funded through the CHCI(CtG), which ran from August 2007 to June 2012. However, data from the CHCI(CtG) should not be compared with data from the SFNT/NTRAI program. The CHCI(CtG) services were provided to Indigenous children in Prescribed Areas of the Northern Territory, and targeted at children who had a referral from their initial Child Health Check. The outreach audiology services provided

through the SFNT/NTRAI are available to all Indigenous children in the Northern Territory aged under 16. The final report from the CHCI(CtG) program, *Northern Territory Emergency Response Child Health Check Initiative—follow-up services for oral and ear health: final report 2007–2012* (AIHW 2012) is available from the AIHW website.

Northern Territory Remote Aboriginal Investment Clinical Nurse Specialist data collection, 2017

Description

The Clinical Nurse Specialist (CNS) data collection (formerly Child Hearing Health Coordinator (CHHC) data collection) contains data from CHHC/CNS services provided in the Northern Territory, funded by the Australian Government through the National Partnership Agreement on Stronger Futures in the Northern Territory (SFNT) (which was replaced by the Northern Territory Remote Aboriginal Investment (NTRAI) on 1 July 2015).

The SFNT began in July 2012 and continues to provide funding through the NTRAI from 2015–16 to 2021–22. The hearing health component of this agreement replaced and expanded services implemented under the Northern Territory Emergency Response Child Health Check Initiative and the Closing the Gap in the Northern Territory National Partnership Agreement (NTER CHCI(CtG)). The funding was mainly used to provide outreach audiology services to children aged under 16.

Key issues:

- The data collection includes over 3,400 children and young people who were aged under 21 and received CNS services (formerly known as CHHC services). However, they are not a random sample of Indigenous children in the Northern Territory. The CHHC/CNS program is available only to Indigenous children who have a referral from a health professional.
- The data are collected as part of the outreach hearing health programs are a by-product of a clinical process. That is, health professionals providing services document the results on standard data collection forms, which are then forwarded to the AIHW.
- Rates of non-consent were high over the course of the CHHC/CNS program between July 2012 and December 2016 (28% of services and 35% of children). However, there have been improvements to non-consent rates over time, decreasing from 65% of children in July 2013 to 36% in 2014, then to 21% in 2015, to 7% in 2016 and to 3% in 2017. Users should be aware of the extent of non-consent rates and missing data when using and interpreting CHHC/CNS data. Where possible, tables published by the AIHW show the percentage of missing data.

Institutional environment

This section provides information about the origin of the data collection and the arrangements under which the collection is governed and administered.

The Australian Institute of Health and Welfare (AIHW) is a major national agency set up by the Australian Government under the *Australian Institute of Health and Welfare Act 1987* (Cth) to provide reliable, regular and relevant information and statistics on Australia's health and welfare. It is an independent corporate Commonwealth entity established in 1987, governed by a management Board, and accountable to the Australian Parliament through the Health portfolio.

The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure, hospitals, disease and injury, and mental health, to ageing, homelessness, disability and child protection.

The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with governments and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.

One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national data sets based on data from each jurisdiction, to analyse these data sets and disseminate information and statistics.

The *Australian Institute of Health and Welfare Act 1987*, in conjunction with compliance to the *Privacy Act 1988* (Cth), ensures that the data collections managed by the AIHW are kept securely and under the strictest conditions with respect to privacy and confidentiality.

For further information see the [AIHW website](#).

The AIHW is responsible for undertaking the data management, analysis and reporting of information collected from the Northern Territory outreach ear and hearing health services funded by the Australian Government Department of Health.

Data collection forms are completed by clinical service providers and forwarded to the AIHW via the Northern Territory Department of Health (NT DoH). The NT DoH is responsible for delivering health and family services related to the ministerial responsibilities of Health and Senior Territorians. For further information see the [NT DoH website](#).

Timeliness

This section specifies the timeliness of the supply of data for this collection, in terms of the time taken for the AIHW to receive and process data from service providers, as well as the time taken for the AIHW to publish data after the end of a reporting period.

The first annual report on the SFNT audiology data collection was published in January 2014, with a reference period of July 2012 to June 2013. The scope of this report was only the SFNT program (that is, children and young people aged under 16). The scope of subsequent reports was extended to contain both the SFNT program and the Healthy Ears—Better Hearing, Better Listening programme (HEBHBL) (children and young people aged 0–21). Each annual report builds on the previous years' data to produce time trends, and track children and young people as they move through the program.

The second annual report, published in February 2015, has a reference period of July 2012 to June 2014. The third annual report, published in November 2015, has a reference period of July 2012 to June 2015. The fourth report was published in March 2017, with a reference period of July 2012 to June 2016. The fifth annual report was published in November 2017, with a reference period of July 2012 to December 2016. The latest report was published in December 2018, with a reference period of July 2012 to December 2017. It is expected that future reports will be published on an annual basis.

Due to the nature of the collection process, there is a lag between the date when the service was provided and the date of data receipt by the AIHW. This means that at any point in time, there may be services provided that have not yet been captured in the data collection. However, the extent of under-reporting of the number of services and children and young people who received services is minimal. From July 2012 to December 2017, the median lag between services being provided and records being entered into AIHW's database was just

over 6 weeks for CHHC/CNS services. As reports are produced 6–12 months after the end of the reporting period for that year, the number of services not captured is minimal. Any services not captured in the reporting period are included in the following year's data supply for future reports.

Accessibility

This section outlines the capacity of data users to identify the availability of relevant information, and then to access it in a convenient and suitable manner.

Reports are published on the AIHW website. They can be downloaded free of charge.

Permission to obtain unpublished data must be sought from the NT DoH and the Department of Health via the AIHW. As well, approvals from relevant ethics committees of the Northern Territory could be required.

Interpretability

This section includes information on the availability of information to help provide insight into the data, to assist with interpretation and usability.

To help stakeholders interpret information about the outreach hearing health programs, reports contain basic information about the programs, relevant definitions, and information about the data contained in the analyses presented. This includes providing information about caveats or aspects that readers should be aware of when interpreting the data.

A copy of the National Partnership Agreement on the SFNT/NTRAI is available on the website of the Standing Council on [Federal Financial Relations](#).

Relevance

This section includes information about how well the data meet the agreed purpose of the data collection in terms of concepts measured and the population represented.

This data collection captures data on children and young people who receive outreach CHHC/CNS services, funded through the SFNT/NTRAI program. The data include information on the amount of services provided, demographic information of service recipients and ear health status of service recipients; the data also allowed children's ear health status to be compared over the time period. These services are more commonly accessed by children and young people in remote areas. The children who participated in the CHHC/CNS program are referred to this program if they have an identified middle ear condition or hearing impairment. The services are targeted at children and young people most in need through a priority listing categories schedule.

Health providers use standard forms to record information from the CHHC/CNS services. The forms were developed by the NT DoH in consultation with the Australian Government Department of Health and the AIHW. The CHHC/CNS program is available only to Indigenous children who have a referral from a health professional. Therefore, it is important to note that children and young people who receive CHHC/CNS services are not a random sample of Indigenous children in the Northern Territory. Furthermore, CHHC/CNS data cannot be generalised beyond the programs outlined in the data collection; neither can they be used to determine the prevalence of health conditions among all Indigenous children and young people in the Northern Territory.

Accuracy

This section provides information about the degree to which the data correctly describe the phenomena they were designed to measure.

Parents or guardians of service recipients must provide their consent to share information with the AIHW. If consent is given, all de-identified data about the service recipient and the services they received is sent to the AIHW. When a child's parent or guardian does *not* provide consent to share information, only a limited amount of aggregate information is provided to AIHW. This includes the number of services provided and the number of children and young people receiving a service by 5-year age group, sex and community where the service was provided. Rates of non-consent were high over the course of the CHHC/CNS program between July 2012 and December 2016 (28% of services and 35% of children). However, there have been improvements to non-consent rates over time, decreasing from 65% of children in July 2013 to 36% in 2014, then to 21% in 2015, to 7% in 2016 and to 3% in 2017. Users should be aware of the extent of missing data when using and interpreting hearing health data. Where possible, tables published by the AIHW show the percentage of missing data.

In order to protect privacy, personal information is not provided to the AIHW (for example, the child's name). Children can be counted only by using an HRN. A very small percentage of children could not be counted accurately due to missing or incorrect HRNs.

Coherence

This section provides information about the internal consistency of a statistical collection, product or release, as well as its comparability with other sources of information, within a broad analytical framework and over time.

Following its publication of *Stronger Futures in the Northern Territory: hearing health services 2012–13* (AIHW 2014) in January 2014, the AIHW received additional data on CHHC services provided in 2012–13—in particular, information about a high number of services for which consent to share data with the AIHW was not obtained. Hence, the total number of CHHC services and service recipients reported for 2012–13 is much higher in the updated reports published in February 2015 and November 2015 than in the report *Stronger Futures in the Northern Territory: hearing health services 2012–13* (AIHW 2014). Due to differences in the CHHC/CNS data analysed, comparisons should not be made between these reports on CHHC/CNS services and service recipients. It should be noted that there have been improvements to non-consent rates over time, decreasing from 65% of children in July 2013 to 36% in 2014, then to 21% in 2015, to 7% in 2016 and to 3% in 2017.

The latest report allows for comparison of years from the second half of 2012 (July–December) and for each whole calendar year from 2013 to 2017. The current report was published in December 2018 (with data to December 2017).

Northern Territory Remote Aboriginal Investment ENT teleotology data collection, 2017

Description

Ear, Nose and Throat (ENT) teleotology services are funded through the Healthy Ears—Better Hearing Better Listening programme (HEBHBL). They were previously funded through the Child Health Check Initiative and Closing the Gap programs (CHCI(CtG)), and this funding arrangement ended in December 2010.

All Indigenous children and young people in the Northern Territory aged 21 and under are eligible for ENT teleotology services. Although all Indigenous children and young people aged 0–21 in Northern Territory are eligible (under national program provisions) to receive these services, the AIHW currently has data only for people aged up to 20. The data collection includes demographic information of service recipients, middle ear conditions diagnosed (if any), actions recommended, whether follow-up is required, and the type of surgery recommended (if any). Services are most commonly accessed by children and young people in remote areas, where the high demand for ENT face-to-face consultations is difficult to meet due to a lack of resources.

Key issues:

- This data collection included over 3,100 children and young people who were aged under 21 and received Ear, Nose and Throat (ENT) teleotology services. Children and young people who receive ENT teleotology services are not a random sample of Indigenous children and young people in the Northern Territory. Although these services are available to all Indigenous people aged 0–20 in the Northern Territory, not all eligible people access these services. Additionally, these services are more commonly accessed by those in remote areas. Therefore, the results of analyses may not be able to be generalised to all Indigenous children and young people in the Northern Territory.
- The methods of assessment used at ENT teleotology services differ from those for face-to-face consultations. Results of tests and subsequent diagnoses from teleotology services may be affected by the method of service delivery.
- The data that have been collected are a by-product of a clinical process. That is, health professionals who provide services document the results on standard data collection forms, which are then forwarded to the AIHW.

Institutional environment

This section provides information about the origin of the data collection and the arrangements under which the collection is governed and administered.

The Australian Institute of Health and Welfare (AIHW) is a major national agency set up by the Australian Government under the *Australian Institute of Health and Welfare Act 1987 (Cth)* to provide reliable, regular and relevant information and statistics on Australia's health and welfare. It is an independent corporate Commonwealth entity established in 1987, governed by a management Board, and accountable to the Australian Parliament through the Health portfolio.

The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure, hospitals, disease and injury, and mental health, to ageing, homelessness, disability and child protection.

The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with governments and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.

One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national data sets based on data from each jurisdiction, to analyse these data sets and disseminate information and statistics.

The *Australian Institute of Health and Welfare Act 1987* (Cth) in conjunction with compliance to the *Privacy Act 1988* (Cth), ensures that the data collections managed by the AIHW are kept securely and under the strictest conditions with respect to privacy and confidentiality.

For further information see the [AIHW website](#).

The AIHW is responsible for undertaking the data management, analysis and reporting of information collected from the Northern Territory outreach ear and hearing health services funded by the Australian Government Department of Health.

Data collection forms are completed by clinical service providers and forwarded to the AIHW via the Northern Territory Department of Health (NT DoH). The NT DoH is responsible for delivering health and family services related to the ministerial responsibilities of Health and Senior Territorians. For further information see the [NT DoH website](#).

Timeliness

This section specifies the timeliness of the supply of data for this collection, in terms of the time taken for the AIHW to receive and process data from service providers, as well as the time taken for the AIHW to publish data after the end of a reporting period.

The first AIHW report containing ENT service data was published in 2011, with a reference period of July 2009 to May 2011. It covered ENT services funded by the CHCI(CtG) as well as by the Project Agreement on Improving Ear Health Services for Indigenous Australian Children. A report was also published in 2012, with a reference period of July 2009 to December 2010, which covered ENT services funded by the CHCI(CtG) only. The first annual report, which includes ENT data from services funded by the HEBHBL from July 2012 to June 2014, was published in February 2015. The second annual report containing ENT data from services funded by the HEBHBL was published in November 2015; it covers data from July 2012 to June 2015. The third report was published in March 2017, covering data from July 2012 to June 2016. The fourth report was published in November 2017, covering data from July 2012 to December 2016. The latest report was published in December 2018, with a reference period of July 2012 to December 2017. Each annual report builds on the previous years' data to produce time trends, and track children and young people as they move through the program. It is expected that future reports will be published on an annual basis.

Due to the nature of the collection process, there is a lag between the date when the service was provided and the date of data receipt by the AIHW. This means that at any point in time, there could be services provided that have not yet been captured in the ENT teleotology data collection. From July 2012 to December 2017, the median lag between ENT teleotology services being provided and records being entered into AIHW's database was about 11 weeks. As reports are produced 6–12 months after the end of the reporting period for that year, the number of services not captured is minimal. Any services not captured in the reporting period are included in the following year's data supply for future reports.

Accessibility

This section outlines the capacity of data users to identify the availability of relevant information, and then to access it in a convenient and suitable manner.

Hearing health reports containing ENT teleotology data are published on the AIHW website. They can be downloaded free of charge.

Permission to obtain unpublished data must be sought from the NT DoH and the Department of Health via the AIHW. As well, approvals from relevant ethics committees of the Northern Territory could be required.

Interpretability

This section includes information on the availability of information to help provide insight into the data, to assist with interpretation and usability.

To help stakeholders interpret information about the ENT teleotology services, the AIHW's hearing health reports contain basic information about ENT teleotology services, relevant definitions, and information about the data contained in the analyses presented. This includes providing information about caveats or aspects that readers should be aware of when interpreting the data.

Relevance

This section includes information about how well the data meet the agreed purpose of the data collection in terms of concepts measured and the population represented.

The ENT teleotology collection captures data on children and young people who receive ENT teleotology services funded through the HEBHBL. The data include information on the amount of services provided, demographic information of service recipients and the ear health status of service recipients; the data also allowed children's ear health status to be compared over the time period. These services are more commonly accessed by children and young people in remote areas and the services targeted at children and young people most in need. In 2013, the NT DoH implemented the use of priority listing categories, so children and young people with poorer ear and hearing health are more likely to receive ENT teleotology services.

This data collection included over 3,100 children and young people who were aged under 21 and received ENT teleotology services. They account for about 8% of the Northern Territory population of this age group, however, they are not a random sample of Indigenous children and young people in the Northern Territory. Although these services are available to all Indigenous people aged 0–20 in the Northern Territory, not all eligible people access them. As well, these services are more commonly accessed by those in remote areas. Therefore, results of analyses cannot be generalised to all Indigenous children and young people in the Northern Territory.

Accuracy

This section provides information about the degree to which the data correctly describe the phenomena they were designed to measure.

The methods of assessment used in ENT teleotology services differ from those used for face-to-face consultations. Therefore, the results of tests and subsequent diagnoses from teleotology services may be affected by the method of service delivery.

Parents or guardians of service recipients must provide their consent to share information with the AIHW. If consent is given, all de-identified data about the service recipient and the services they received is sent to the AIHW. When a child's parent or guardian does *not* provide consent to share information, only a limited amount of aggregate information is provided to AIHW. This includes the number of services provided and the number of children and young people receiving a service by 5-year age group, sex and community where the service was provided. The proportion of non-consented data varies over time; however, has decreased from 2.6% from July to December 2012 to 0% in 2017 for children and young people who received ENT teleotology services.

In order to protect privacy, personal information is not provided to the AIHW (for example, the child's name). Children can be counted only by using an HRN. A very small percentage of children could not be counted accurately due to missing or incorrect HRNs.

Coherence

This section provides information about the internal consistency of a statistical collection, product or release, as well as its comparability with other sources of information, within a broad analytical framework and over time.

ENT teleology services were originally funded through the CHCI(CtG), which ran from August 2007 to June 2012. Data from the CHCI(CtG) should not be compared with data from July 2012 onwards. The CHCI(CtG) services were provided to Indigenous children and young people aged under 16 in Prescribed Areas of the Northern Territory and targeted at children and young people who had a referral from their initial NTER Child Health Check. The ENT services provided through the HEBHBL are available to all Indigenous children and young people in the Northern Territory aged 0–21. Additionally, the latest two reports should not be compared with previous ones because the latest publications report the data in terms of calendar year, whereas previous publications report using financial year. The latest report allows for comparison of years from the second half of 2012 (July–December) and for each whole calendar year from 2013 to 2017. The current report was published in December 2018 (with data to December 2017).

In 2013, priority listing was implemented, so those in most need of ENT services are more likely to receive them before other children and young people. The final report from the CHCI(CtG), *Northern Territory Emergency Response Child Health Check Initiative—follow-up services for oral and ear health: final report 2007–2012* (AIHW 2012) is available on the [AIHW website](#).

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