National Framework for Newborn Hearing Screening

JULY 2025

Contents

Introduction

This framework outlines the nationally agreed objectives, principles, processes and standards for newborn hearing screening programs (screening programs) across Australia. By adhering to the National Framework, jurisdictions help ensure all babies receive a comparable and equitable screening experience and pathway regardless of where they were born, in accordance with evidence-based best practice.

While each state and territory screening program operates independently with administrative and procedural differences, they all share the common goal of providing early detection, diagnosis and referral for early intervention of babies born with hearing loss. Achieving this goal helps ensure all children have the best chance of developing the communication skills they need.

Additional information about individual newborn hearing screening programs in each state and territory can be found under Further Information.

The importance of newborn hearing screening

Each year in Australia, approximately 1 to 2 in every 1000 babies are born with moderate to profound permanent childhood hearing impairment (PCHI)[1].

Without early detection, diagnosis and intervention, babies with congenital hearing loss are at risk of substantially poorer outcomes in speech, language and communication skills, social development, academic achievement, overall health and employment compared to their peers[2].

Newborn hearing screening is just the first step in supporting children with congenital hearing loss. The integrated pathway of referral into diagnostic services, early intervention through access to amplification devices, family support, speech language and development are the necessary next steps after a diagnosis of hearing loss.

Babies born with moderate to profound hearing loss that are provided with immediate and appropriate intervention within the first 6 months of life have significantly better outcomes than children whose congenital hearing loss is identified later[3].

Purpose

This framework serves as a reference for all states and territories to maintain quality evidence-based and nationally consistent screening programs in their jurisdictions. It also sets out National Performance Indicators (NPIs) to support monitoring and evaluation of screening program objectives.

The target condition

The target condition for newborn hearing screening is congenital permanent bilateral or unilateral sensory hearing loss, including neural hearing loss (e.g. Auditory Neuropathy

[1] Morton CC, Nance WE. Newborn hearing screening--a silent revolution. N Engl J Med. 2006 May; and Medical Services Advisory Committee (MSAC). Universal neonatal hearing screening: assessment report. Canberra: Commonwealth of Australia. 2007.

[2] Wrightson AS. Universal newborn hearing screening. 2007.

[3] Ching, T. Y., Dillon, H., Leigh, G., & Cupples, L. (2018). Learning from the Longitudinal Outcomes of Children with Hearing Impairment (LOCHI) study: Summary of 5-year findings and implications. International journal of audiology.

Spectrum Disorder) or permanent conductive hearing loss, of >40 decibels[4]. This represents the threshold for which the evidence shows early intervention has the greatest impact on speech, language and psychosocial development outcomes.

While screening programs will also detect cases of mild hearing loss (that will be referred for assessment as appropriate), this threshold also plays a role in optimising screening equipment sensitivity and specificity (see Risks and benefits), minimising the occurrence of false 'positive' results.

Acquired hearing loss is out of scope of newborn hearing screening. However, jurisdictions have targeted surveillance programs for children born with risk factors and therefore monitor for progressive hearing loss over time as applicable.

Objectives of newborn hearing screening

All newborn hearing screening programs in Australia aim to:

- support the early identification of children born with permanent congenital hearing impairment (PCHI)
- ensure that all Australian families are offered the opportunity to participate in—and have equitable access to, newborn hearing screening, irrespective of their location, socioeconomic or cultural background
- ensure that assessment services provided to babies requiring follow-up care and intervention as a result of screening are timely, appropriate and undertaken in accordance with professional standards
- ensure babies diagnosed with PCHI are referred and have the opportunity to engage with an early intervention service
- maximise benefit and minimise harm to the individual
- achieve nationally consistent standards of screening management, coordination, quality and safety, service delivery, monitoring and evaluation and accountability; and
- ensure newborn hearing screening is implemented in a cost-effective manner.

Defining hearing loss

The following decibel (dB) thresholds are used by Hearing Australia to define the severity of hearing loss based on hearing capability:

- < 20 dB Normal hearing
- 21 – 40 dB Mild hearing loss
- 41 – 60 dB Moderate hearing loss
- 61 – 80 dB Severe hearing loss
- 81 – 90 dB Severe to profound hearing loss
- > 91 dB Profound hearing loss

Calculation of severity of hearing loss

The calculation of the degree of hearing loss is based on three frequency average hearing loss (3FAHL). The three frequency thresholds are measured at 500 Hz, 1000 Hz and 2000 Hz.

[4] America Academy of Pediatrics (2007) Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs.

If these thresholds have not been measured, the data is manually extrapolated to the most likely threshold. For example, if 1000 Hz and 4000 Hz thresholds were reported, the middle point between these thresholds would become the estimated 2000 Hz threshold.

The newborn hearing screening process and pathway

Babies participating in newborn hearing screening undergo screening shortly after birth—ideally before or as close to discharge from hospital as practicable. While screening is typically conducted in hospital settings, it can also be conducted through outpatient and outreach services.

Screening consists of an automated auditory brainstem response (AABR) test, which measures the baby's auditory response to sounds presented to the ears.

Screening tests produce either a negative ('pass'), or positive ('refer' or 'fail') result for each ear.

Babies that achieve a negative (pass) test result for both ears on the initial screen will be discharged from the screening program. However, some babies with risk factors continue to be monitored.

For babies who attain a positive (refer) result in one or both ears, a second screen is performed to allow for potential non-PCHI causes to subside (such as a temporary blockage in the ear canal after birth).

At the second screening, if test results provide a positive result again, the baby will be referred for audiological assessment. If the baby obtains a negative result for both ears, the baby will likely be discharged from the screening program (subject to further monitoring for babies with known risk factors in some jurisdictions).

However, in some jurisdictions[5], babies that obtain a combination of screening results in Screen 1 and 2, where the results appear to swap ears (‘flip-flop’), a third screen (Screen 3) will be performed to determine whether the baby is discharged or referred for audiological assessment. Figure 1 below shows an example of when a third screen may be conducted.

Figure 1 - Example of a ‘flip-flop’ result leading to a 3rd screen

	Left ear	Right ear		
Screen 1	pass	refer	→	**Screen 3**
Screen 2	refer	pass		

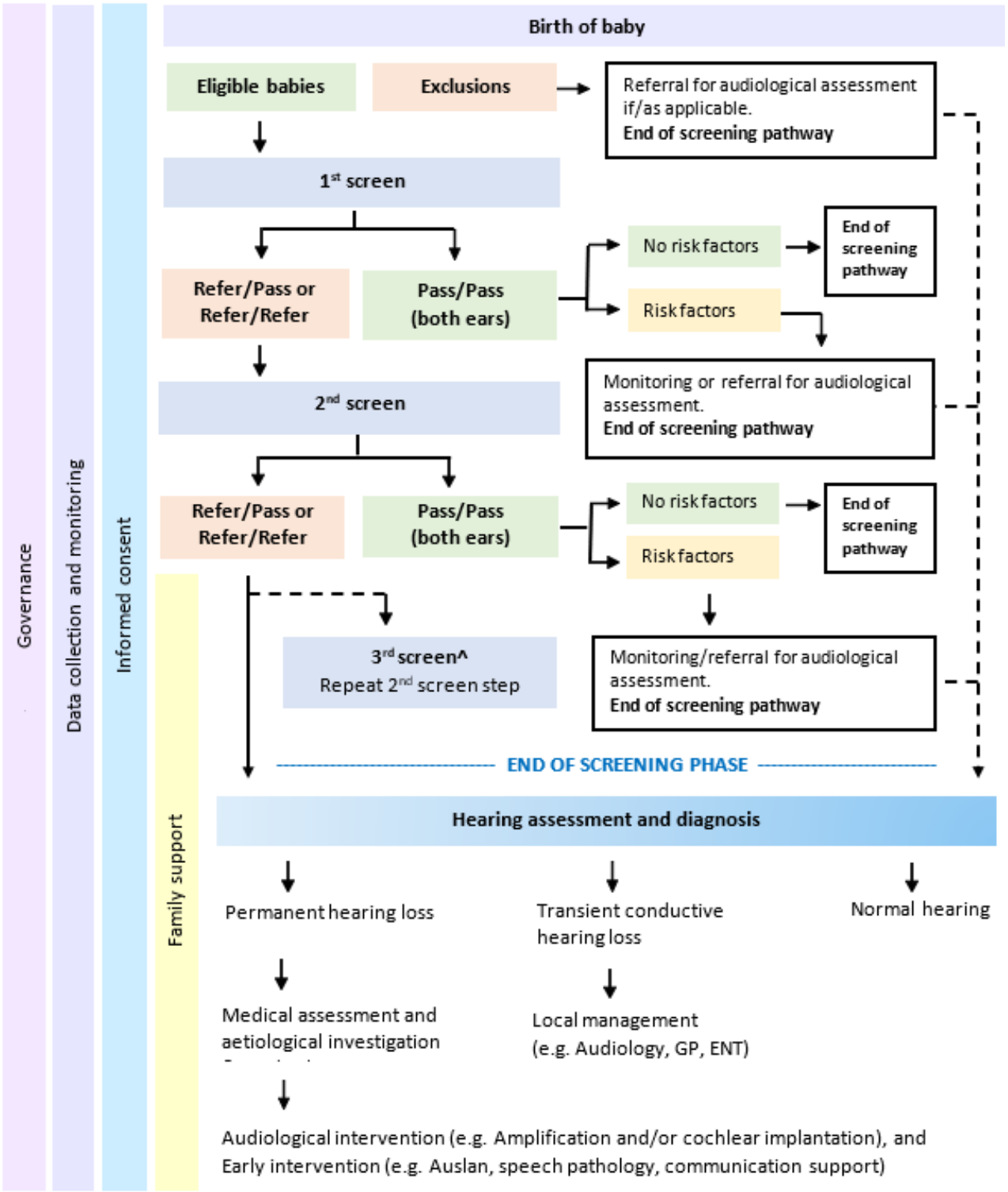
For babies identified as having a potential hearing loss, newborn hearing screening is just the first point of engagement on a pathway that involves a coordinated effort across many agencies, including (but not limited to) government health departments, public and private health services, allied health services, education and social care services.

Beyond initial screening (pending outcomes of audiological assessment), babies may be diagnosed as having PCHI or transient conductive hearing loss and further referred on for appropriate early intervention services. These may include medical management, amplification and/or implantable technology, and family centred services to develop communication and language skills.

[5] ^ Queensland, South Australia, Tasmania, Western Australia (public) and Northern Territory perform a third screen where babies obtain ‘flip-flop’ results in the first two screens.

Figure 2 illustrates the screening pathway, including potential outcomes after a baby is referred for audiological assessment and discharged from the screening program.

Figure 2 - Illustrative pathway for newborn hearing screening



^ In Queensland, South Australia, Tasmania and Northern Territory a third screen is undertaken where babies obtain a 'flip-flop' result in their first two screening tests (see Figure 1). In the Australian Capital Territory, all newborns are eligible for a 3rd screen as deemed necessary (i.e. not dependent on a 'flip-flop' result).

Governance

State and territory governments are responsible for hearing screening within their jurisdictions and have their own governance structures that oversee coordination and delivery of services (including entering into agreements with third party providers), engagement and communication with families, service monitoring and reporting.

The Australian Government provides funding to states and territories to support national health outcomes through the National Health Reform Agreement.

National oversight of this framework and the National Performance Indicators (NPIs) is provided through the cross-jurisdictional Hearing Health Working Group (HHWG), supported by the Australian Government Department of Health, Disability and Ageing.

HHWG advice regarding revisions to this framework and NPIs are informed by a nationally representative advisory panel as appropriate. The advisory panel which considers matters relating to the development, collection and reporting of nationally consistent NPI data items is chaired by the Australian Institute of Health and Welfare (AIHW).

HHWG provides advice to the Cancer and Population Screening (CAPS) Committee, the Health Chief Executive Forum and Health Ministers as appropriate.

National Standards

The principles and standards (National Standards) defined in this framework are designed to inform consistency and comparability of program design and delivery by jurisdictions and recognise shared responsibilities for program governance.

Each standard represents a defined element of the screening pathway that should be considered, followed, or achieved to ensure a best-practice approach to the design and delivery of all newborn hearing screening programs across Australia.

It should be noted that several National Standards and NPIs are beyond the scope of newborn hearing screening program administration and involve cooperation and coordination with all service providers along the screening pathway.

The National Standards are not designed to replace or perform the function of dedicated screening program policies, protocols, procedures or clinical guidelines in each jurisdiction but rather to iterate what must be considered and/or in place. Any service, agency or authority involved in newborn hearing screening should use these standards for self-audit, review and service improvement.

Services, agencies and authorities may use the National Standards as a basis for key performance indicators for service monitoring, audit and quality improvement work within their jurisdiction.

Risks and benefits

Newborn hearing screening involves the performance of tests on healthy babies and so consideration and assurance of its safety, efficacy, and acceptability is paramount to ensure the benefits outweigh any risks.

While the benefits of screening programs have been clearly articulated (see Objectives), risks include not detecting permanent hearing loss in a timely manner or causing undue anxiety to families owing to unreliable screening accuracy thresholds. To this end, all screening programs involve a balance between sensitivity and specificity. Sensitivity is the ability of the screen to correctly detect all babies with target conditions for hearing loss and thus minimise false negatives (i.e., avoiding missing cases and the opportunity for early intervention). Specificity is

the ability of the screen to correctly identify babies without hearing loss and thus minimise false positives (i.e., referring babies for audiological assessment that do not have hearing loss).

Sensitivity and specificity are influenced by the screening equipment, testing methods, workforce skills, testing and pathway protocols. Adherence to the National Standards helps maintain an appropriate balance in minimising and managing risks and maximising benefits from screening and assessment processes.

1. Participation

All efforts are made to maximise participation in newborn hearing screening in Australia, taking into consideration infant medical suitability and parental consent to undertake screening activities.

1.1 Eligibility

1.1.1 All babies of at least 34 weeks gestation and up to 6 months of age are eligible for newborn hearing screening, except for those that are unsuitable for screening (see 'Exclusions' below).

1.1.2 Newborn hearing screening should be offered to all eligible babies. Babies over 6 months are out of scope for newborn hearing screening due to equipment limitations. **[National Performance Indicator 1]**

Exclusions

1.1.3 Some babies may be deemed unsuitable for screening and therefore excluded from newborn hearing screening. These include babies that:

- have microtia or atresia
- are medically unwell
- are stillborn or have died.

1.1.4 Some eligible babies may be identified with a genetic condition known to be associated with hearing loss (e.g. Usher Syndrome, Pendred Syndrome, etc). In such instances, consideration of whether referral for medical bypass rather than screening is a more appropriate response.

1.1.5 The reason/s for why infants are excluded from newborn hearing screening will be recorded as applicable in accordance with jurisdiction procedures.

1.2 Non-participation

1.2.1 Non-participation and attrition should be monitored and addressed where possible to maximise the proportion of eligible babies participating in newborn hearing screening.

1.2.2 Families of eligible babies that missed the opportunity to participate in newborn hearing screening should be contacted to maximise participation and improve services.

1.2.3 Screening programs should consider issues around early discharge from maternity care to ensure babies do not miss their first screen.

1.2.4 Screening programs should regularly identify and review babies who have not had a hearing screen by 6 months of age.

1.2.5 Families may decline or fail to attend a screening appointment. Instances of non-consent should be documented, and any missed appointments followed up as appropriate.

1.2.6 Jurisdictions and service providers will use best endeavours to work together to maximise participation and minimise attrition.

1.2.7 Screening programs should implement processes regarding responsibility for screening and follow-up for babies who move during the screening pathway between:

- hospital provider organisations
- jurisdictions
- the public and private system.

1.3 Timing

To maximise test efficacy, the initial screen should ideally be performed as close to full-term (corrected age) and prior to hospital discharge as possible. Where a baby requires a second screening following a refer in one or both ears on the first screen, this should be completed within 30 days (corrected age). However, there are a range of factors that may prevent—or render impractical, screening within this timeframe. For example, when a baby is medically unwell (e.g., receiving phototherapy, taking ototoxic medications, recovering from recent major surgery).

The internationally recognised '1-3-6 benchmark' for newborn hearing screening aims for screening to be completed by one month (30 days); audiologic diagnosis by 3 months, and enrolment in early intervention by 6 months. This model was recommended in the 2007 Joint Committee on Infant Hearing (JCIH) position statement: Principles and guidelines for early hearing detection and intervention programs and is used as the benchmark in this framework.

However, the 2019 JCIH position statement recommends that jurisdictions already meeting the '1-3-6' benchmark should be striving for the more ambitious '1-2-3 benchmark' target for babies who have moderate or greater hearing loss in both ears. That is, where screening is completed within one month (30 days), audiologic diagnosis is completed by 2 months, and early intervention is initiated by 3 months.

1.3.1 Where possible, eligible babies should have completed screening by 30 days of age (corrected).
[National Performance Indicator 2]

1.3.2 Reasons for screening being completed after 30 days (corrected age) should be recorded consistent with jurisdiction protocols.

1.4 Access

1.4.1 Screening services should be equally accessible and free to all eligible babies. Special considerations should be made for specific sub-groups to ensure equitable access, engagement, and participation. Considerations may include:

- Objectives and actions identified under the National Agreement on Closing the Gap
- Modified protocols where standard procedures may not address equitability and accessibility needs
- Communication and engagement strategies
- Needs for collaboration with other services.

1.4.2 Screening program policies and procedures should specifically consider the needs of:

- Babies born pre-term
- Babies requiring intensive care
- Babies born at home
- Babies born in both public and private hospitals
- Babies born palliative/incompatible with life.

1.4.3 Where possible, services along the screening pathway should consider the needs of:

- Babies born to families identifying as Aboriginal or Torres Strait Islander
- Babies born to families living in remote and rural communities
- Babies born to families in lower socio-economic groups
- Babies born to families of cultural or linguistic diversity
- Babies born to families who identify themselves as Deaf
- Babies born under the care of the government (e.g., Department of Child Protection).

1.4.4 Where possible, screening participation rates of babies from identifiable sub-groups above should be monitored, with strategies in place to address low participation rates as appropriate.

1.5 Engagement with families

Appropriate communication and engagement are essential to the effective delivery of newborn hearing screening and ensuring a positive experience for families.

1.5.1 Screening programs should have a communication and engagement plan that is regularly reviewed and updated as necessary.

1.5.2 Families should receive information before birth where possible (e.g. through antenatal classes, pamphlets, online resources, etc) or postnatally, describing the newborn hearing screening process, its importance, risks and benefits.

1.5.3 The information provided should explain the role of each service along the pathway and any post-screening costs (if not funded by Medicare or private health insurance) as appropriate. This information should be:

- provided verbally and in writing
- culturally and linguistically appropriate
- clear and accurate.

1.5.4 Families that choose not to participate in newborn hearing screening should be provided the same information given to families at point of screening discharge as outlined at National Standard 2.4.5 at the time of declining newborn hearing screening.

1.5.5 Services should work with families to ensure that they understand the information they receive, can make informed decisions and are encouraged to remain engaged in the screening pathway.

1.5.6 Provisions should be available for families requiring additional support to assist with decision-making, emotional and adjustment needs, and/or services.

1.5.7 Any changes to the screening process or pathway that may affect families should include consultation with a parent representative group to inform program redesign and change management processes.

1.5.8 Screening programs should have a consumer feedback and complaints procedure for families to inform service improvement.

1.6 Informed consent

Informed consent from families should be obtained before delivering screening services and again when receiving audiological assessment if/as applicable.

1.6.1 Families should be provided with sufficient information to allow informed decision-making in consenting to or declining services.

1.6.2 Protocols should be in place regarding:

- the collection, recording and retrieval of informed consent
- the collection, recording and use of patient information (including personal identifying information and clinical information).

1.6.3 Participation in newborn hearing screening is voluntary; babies whose carer/s do not give consent will not be screened.

1.6.4 Exclusion from screening due to non-consent should be recorded as applicable.

2. Screening

Newborn hearing screening programs aim for the timely, safe and effective detection of babies with hearing loss.

2.1 Screening process

2.1.1 Healthcare workers who deliver screening should be suitably trained, supervised, and deemed competent. Each jurisdiction should have appropriate oversight and processes in place to ensure relevant workforce capability and support.

2.1.2 Screening services should use a two-stage minimum screening protocol using automated auditory brainstem response (AABR) technology.

2.1.3 Babies receiving a refer (positive) screening result in either or both ears on the first screen should be tested on a second occasion at least 12-24 hours after the initial screen (preferably the next day).

2.1.4 Where screening cannot be completed before discharge from hospital, services should arrange outpatient appointments to complete screening.

2.1.5 Any abandoned screens (e.g. when screening is interrupted or stopped for clinical or equipment reasons) should be recorded in accordance with jurisdiction protocols.

2.1.6 To minimise over-screening, protocols should guide the number of repeat screening attempts permitted and the circumstances under which these are permitted.

2.1.7 Where maximum screens are recorded without results, a refer result should be assumed, and the baby should be referred for audiological assessment.

Unusual Circumstances Requiring an additional screen or direct referral to Audiology

2.1.8 Babies that have completed hearing screening prior to a clinical presentation of risk factor may be offered re-screening following completion of treatment for risk factor or referred for audiological assessment as appropriate.

2.2 Screening results

Screening should result in referral to audiological assessment or discharge from the screening program.

2.2.1 Babies receiving a 'pass' (negative) result in both ears on the first screen (and without identified risk factors for PCHI) should be discharged from the screening program.

2.2.2 Babies receiving a 'pass' (negative) result in both ears on the second screen (and without identified risk factors for PCHI) should be discharged from the screening program.

2.2.3 Babies receiving a 'refer' (positive) screening result in either or both ears on the second screen (or third screen, as applicable to jurisdictional practice) should be referred for audiological assessment.

2.2.4 See National Standard 2.1.8 for unusual circumstances requiring an additional screen.

2.2.5 Screening programs will monitor screening results and investigate if positivity rates are substantially higher (or lower) than 2% of total screens conducted.
[National Performance Indicator 3]

Note: The positivity or referral rate of the screening test is an important indication of how well the screening test is performing. A positivity rate of less than 2% is expected using AABR technology; a higher rate could indicate that the screening test is yielding too many false positive results or indicate an increase in the prevalence of hearing loss worthy of further investigation. A notably low positivity rate could indicate testing is yielding too many false negative results.

2.2.6 Babies with known risk factors for hearing loss receiving a pass (negative) result should be referred to audiology for targeted follow-up before 12 months. The audiology follow-up schedule is determined by the risk factor and based on jurisdiction protocols.

2.2.7 Families of children with known risk factors for hearing loss should be provided with information regarding those risk factors.

2.2.8 Families should receive a detailed explanation of screening and/or assessment results to understand the importance of follow-up when indicated.

2.2.9 Screening and assessment results should be communicated effectively and sensitively, recognising the potential for anxiety.

2.3 Calculation of corrected age

2.3.1 Gestational age is a key factor for calculation of corrected age. The nationally agreed definition of pre-term, term and postnatal categories for gestation[6] are:

- Pre-term: less than 37 completed weeks (<258 days) of gestation
- Term: from 37 completed weeks to less than 42 completed weeks (259 to 293 days) of gestation
- Post-term: 42 completed weeks (294 days) or more of gestation.

2.3.2 Corrections are applied for babies who are born <37 completed weeks gestation. For example, a baby born at 36 + 0 weeks has 7 days (1 week) + 30 days to complete hearing screening to meet the target for National Performance Indicator 2.

2.4 Referral to assessment and discharge

2.4.1 Referral to audiological assessment or discharge from the screening program should be timely and appropriate.

2.4.2 Families should be provided with information explaining the result of their baby's hearing screen.

2.4.3 Referrals to audiological assessment should be made within 3 business days of completing screening.
[National Performance Indicator 4]

[6] AIHW 2018. METEOR, Product of conception—gestational age, total completed weeks N[N]
https://meteor.aihw.gov.au/content/695332

2.4.4 Families referred to audiological assessment should be provided with information concerning access to support services at the time of referral if/as appropriate to encourage them to remain engaged with services and manage any potential anxiety.

2.4.5 Families of babies discharged from the screening program after screening should be provided with information about:

- hearing, signs of hearing loss and developmental milestones for communication and behaviour
- potential causes and ways to reduce the risks of acquiring preventable hearing loss, including due to noise injury and conditions such as otitis media.
- The importance of getting children's hearing checked again if/as any concerns arise.

3. Assessment and diagnosis

Audiological assessment establishes a baby's hearing status. It may result in either the diagnosis of hearing loss, ongoing audiology monitoring as required or discharge from the assessment phase.

Accurate and timely diagnosis is vital to ensure the best outcomes for babies with permanent childhood hearing loss.

3.1 Assessment process

3.1.1 Assessment methods and protocols should be timely and standardised across the screening program.

3.1.2 Confirmation of a baby's hearing status requires a range of audiological tests to:

- assess the integrity of the auditory system in each ear
- estimate hearing thresholds across the speech frequency range
- determine the type of hearing loss
- establish a baseline for further monitoring
- provide information for fitting an amplification device.

3.1.3 Audiological assessment of babies referred from screening should be performed by a paediatric audiologist trained in electrophysical audiological assessment.

3.1.4 Audiological assessment should always be performed on both ears.

3.1.5 Audiological assessment should involve a comprehensive range of diagnostic electrophysiological and behavioural assessments, as considered appropriate and in accordance with best practice.

3.1.6 Audiological assessment of babies referred from newborn screening should commence within 20 business days from date of referral.

3.2 Assessment diagnosis

3.2.1 Assessment results for babies with hearing loss should define the degree, configuration and type of hearing loss in each ear to inform the fitting of hearing devices.

3.2.2 Families should be provided with information about the results of their baby's hearing assessment. Services should ensure these are adequately explained to the family.

3.2.3 Where possible, babies referred for audiological assessment should have an audiological diagnosis completed by 3 months of age (corrected).
[National Performance Indicator 5]

3.2.4 Families of babies diagnosed with hearing loss should be provided with information regarding possible interventions, and their risks and benefits to maximise engagement with intervention services.

3.2.5 Babies without risk factors found to have normal hearing should be discharged from the assessment phase.

3.3 Post audiological diagnosis referrals

3.3.1 Babies diagnosed with any permanent hearing loss should be referred to Hearing Australia for audiological evaluation and intervention services for amplification (and referral for implant service candidacy evaluation as appropriate) within 5 business days of diagnosis[7].

3.3.2 Babies diagnosed with transient conductive hearing loss should have a monitoring and/or treatment pathway developed in consultation with appropriate medical professionals.

3.3.3 Any referral to medical services should be timely and appropriate.

3.3.4 Families should be made aware of their entitlement to seek aetiological investigation to determine potential cause/s of diagnosed hearing loss.

Note: Services should refer to the Consensus guidelines on investigation and clinical management of childhood hearing loss[8] developed by the Childhood Hearing Australasian Medical Professionals network ('CHAMP Guidelines') to inform family decision-making re seeking aetiological investigation. The three most common forms of aetiological investigation include Magnetic Resonance Imaging (MRI), testing for viral infection, and genetic testing.

3.3.5 Families of babies diagnosed with hearing loss should be offered guidance to assist with applying to the National Disability Insurance Scheme (NDIS), early childhood intervention services and family support services as appropriate.

3.4 Diagnostic detection rate

The detection rate of hearing loss is an important measure of program performance and understanding the prevalence of hearing loss in Australian newborns.

3.4.1 The diagnostic detection rate of babies with hearing loss should be recorded and monitored.

3.4.2 The diagnostic detection rate of permanent bilateral moderate to profound hearing loss should be appropriate for the population and in line with international standards, currently accepted as around 0.1% or 1 to 2 per 1,000 babies screened[9].
[National Performance Indicator 6]

[7] Hearing Australia is funded to provide support through the Australian Government Hearing Services Program to all eligible Australians and permanent residents under 26 years of age, including babies referred from newborn hearing screening programs. Hearing Australia works with the National Disability Insurance Agency to link parents with the National Disability Insurance Scheme (NDIS) for other early intervention supports as necessary.
[8] Sung, V. et al. (2019). Childhood Hearing Australasian Medical Professionals network: Consensus guidelines on investigation and clinical management of childhood hearing loss; Journal of Paediatrics and Child Health.
[9] Ching T, Oong R, van Wanrooy E. (2006). The ages of intervention in regions with and without universal newborn hearing screening and prevalence of childhood hearing impairment in Australia.

3.4.3 Services should monitor diagnostic detection rates and investigate diagnostic procedures and accuracy where the rate falls outside a reasonable range of the expected rate.

4. Early intervention

Services involved in the screening pathway work to maximise the initial engagement of families with early childhood intervention services after the diagnosis of hearing loss. Early intervention services involve a range of professionals with appropriate expertise and qualifications in assessing language skills, cognitive skills, auditory skills, speech, vocabulary, and social-emotional development of babies and children with hearing loss.

Newborns with diagnosed hearing loss will have different early intervention pathways depending on individual needs.

4.1 Audiological amplification

The timely implementation of audiological interventions is a vital contribution to the normal speech and language development of babies with hearing loss.

4.1.1 Babies referred to Hearing Australia should be offered an appointment within 2 weeks of referral.
[National Performance Indicator 7]

4.1.2 Babies with bilateral permanent moderate to profound hearing loss recommended for hearing aids should have their hearing aid fitted by 6 months of age. Where this timeframe is not met, reasons for delay (e.g. medical reasons, parental choice, etc) should be recorded.
[National Performance Indicator 8]

4.1.3 Babies who are referred to a hearing implant service for candidacy evaluation should be offered an appointment within 2 weeks of referral.

4.1.4 Babies that meet criteria for implantable hearing devices should receive intervention by 12 months of age. Where this timeframe is not met, reasons for delay (e.g. medical reasons, parental choice) should be recorded.
[National Performance Indicator 9]

4.1.5 Services provided to babies fitted with cochlear implants should be consistent with nationally endorsed guidance materials on paediatric cochlear implant care as applicable.

4.2 Other early intervention

Babies diagnosed with PCHI may be eligible for National Disability Insurance Scheme (NDIS) support.

Note: A streamlined NDIS pathway has been implemented so children younger than 7 who are newly diagnosed with a permanent hearing loss can access timely early childhood intervention supports. Hearing Australia sends relevant information as part of a priority referral to the National Disability Insurance Agency (NDIA). If the child meets access requirements for the NDIS, the information provided by Hearing Australia will be taken into account when developing the child's first NDIS plan. Once the child's NDIS plan has been approved, the NDIA will provide information to the family/carers about how to implement the plan, including accessing early childhood intervention supports.

4.2.1 Babies eligible for the NDIS should have access to NDIS support by 6 months of age.
[National Performance Indicator 10]

4.2.2 Families of babies diagnosed with hearing loss that are not eligible for the NDIS should be provided with information and support to access other early intervention services to support communication skills, social and emotional development as appropriate.

5. Data and reporting

A consistent approach to data collection, management and reporting is vital for monitoring the quality, performance, and outcomes of newborn hearing screening in Australia.

5.1 Systems and security

Effective data systems should underpin the activity of the screening program throughout the screening pathway.

5.1.1 Screening programs should use dedicated client administration systems for program delivery and data collection.

5.1.2 Client administration systems should be capable of collecting all required data elements within the National Framework.

5.1.3 Screening programs should have data storage, security, back-up and recovery protocols, in line with national, jurisdictional and host organisation policies, as applicable.

5.2 Data collection and documentation

Effective data collection throughout the screening pathway, locally and nationally, is required to monitor participation, performance and outcomes of the screening program.

5.2.1 Screening programs should have operating procedures for defining the data elements, mechanisms, frequency and timescales for data collection to enable reporting against the National Performance Indicators.

5.2.2 Services along the screening pathway should be capable of and committed to providing data to screening programs to monitor and track babies through the pathway, from screening enrolment into early intervention. (See also National Standard 6.1.3).

5.2.3 Results of screening and assessment services should be included in the child's personal health record or system, as applicable in each jurisdiction.

5.2.4 All newborn hearing screening programs should collect specified data in accordance with the parameters of the jurisdictional newborn hearing screening program and stored in accordance with state and Commonwealth privacy legislation.

5.3 Data quality

Maintaining high standards in data collection contributes to the reliability and validity of program monitoring and evaluation.

5.3.1 Screening programs should have protocols and quality assurance processes in place to facilitate performance monitoring and clinical coordination.

5.3.2 Data should be regularly audited for completeness and accuracy.

5.4 Confidentiality, access, and research

The collection, storage and disclosure of data by screening programs should be carefully controlled to ensure consumer confidence.

5.4.1 The collection and storage of data relating to babies and their families should adhere to national, jurisdictional and host organisation information governance legislation and policies, as applicable.

5.4.2 Data sharing agreements should govern the transfer of service data between jurisdictions and/or any separate legal entity, in line with any national, jurisdictional and host organisation policies, as applicable.

5.4.3 Screening programs should have protocols in place regarding personal data access by families participating in the screening program.

5.4.4 Screening programs should have protocols in place regarding access to screening program data for internal and external research purposes.

5.5 Monitoring and reporting

Monitoring and reporting activity throughout the screening pathway is essential to jurisdictions providing a quality service and allows evaluation of newborn hearing screening programs.

5.5.1 Services along the screening pathway (from screening to early intervention) should have a well-defined set of indicators (including all applicable National Performance Indicators) for routine program monitoring, audit and quality improvement.

5.5.2 Screening programs should be capable of and committed to collecting and providing data for, and in accordance with, requirements of the National Performance Indicators.

5.5.3 Services along the screening pathway (from screening to early intervention) should report annually on performance against applicable National Performance Indicators and be made available in the public domain.

6. Program management and governance

Effective management and governance supports accountability and the equitable delivery of safe, high-quality newborn hearing screening across Australia.

6.1 Program governance

6.1.1 Screening programs should have clear governance structures in place outlining clear lines of authority, accountability and responsibility between jurisdiction agencies, program coordinators and health service providers.

6.1.2 Screening programs should have service-level agreements, memoranda of understanding and/or other contractual arrangements in place with other service provider organisations as needed to deliver the screening program.

6.1.3 Agreements with third parties involved in delivering services along the newborn hearing screening pathway should include appropriate provisions for reporting data to facilitate monitoring of outcomes and targets as defined by the National Performance Indicators.

6.1.4 Screening programs should participate in a culture of shared best practice to support the delivery of quality outcomes for newborn hearing screening within their state/territory and nationally, which includes a quality and safety escalation process.

6.2 Workforce

6.2.1 Screening programs should have processes in place to enable oversight of a baby's journey along the entire newborn hearing screening pathway (screening, diagnostic audiology, medical, rehabilitation, early intervention).

6.2.2 Screening programs should have a program manager or coordinator with overall responsibility for day-to-day management of the program throughout the screening pathway.

6.2.3 Screening teams should have an identified delegate to provide strategic leadership for local activity.

6.2.4 Screening programs should ensure adequate service capacity is maintained to deliver services, in line with National Standards.

6.3 Training and professional development

A trained and competent workforce is essential to the safe and effective delivery of the screening program.

6.3.1 Services along the screening pathway should be conducted by trained and qualified professionals.

6.3.2 Screening programs should outline the minimum training standards and competencies for screening and audiology staff involved in delivering services.

6.3.3 All professionals working in the screening pathway should have training in hearing loss awareness.

6.3.4 Screening services should have protocols in place specifying ongoing learning requirements for professionals conducting screening.

6.3.5 Audiology services should use audiologists specifically trained and experienced in paediatric audiological assessment, including electrophysiological assessment.

6.3.6 Services along the screening pathway should consider professional development and ongoing learning opportunities for staff.

6.4 Protocols and procedures

Documented protocols and procedures for all services along the screening pathway are vital to ensure safe and consistent delivery of services.

6.4.1 Services along the screening pathway should have detailed documented operational and clinical protocols and procedures in place guiding the delivery of the service.

6.4.2 Operational and clinical protocols and procedures should always be evidence-based and align with any nationally endorsed guidance materials on newborn hearing screening as applicable.

6.4.3 Services along the screening pathway should have infection control protocols in place, consistent with jurisdictional and medical safety standards. (e.g. Occupational Exposure to cytomegalovirus (CMV) in Pregnancy protocol.)

6.4.4 Protocols and procedures should form an essential part of staff induction, ongoing training and competency assessment.

6.5 Equipment

6.5.1 Equipment selected for screening and audiological assessment should be based on best available evidence.

6.5.2 Equipment used for screening and audiological assessment should have Therapeutic Goods Administration (TGA) approval with documented evidence of sensitivity and specificity for the identification of moderate to profound hearing loss.

6.5.3 All equipment used in screening and assessment should be maintained and calibrated in line with manufacturer specifications.

6.6 Safety and risk management

Safe working practices and services should minimise risks to participants and program personnel.

6.6.1 Screening programs should conduct or facilitate regular operational and clinical audits of screening and audiological equipment and services.

6.6.2 Screening programs should have risk management and incident reporting systems in place.

6.7 Quality

Systems of procedures, checks, audits, and related actions ensure screening programs are of high quality.

6.7.1 Jurisdictional screening programs should conduct regular evaluations and audits of services to identify and assess reasons for missed screens, missed referrals, incomplete data, and possible missed diagnoses to inform service improvement.

6.7.2 All screening programs should maintain a quality improvement plan to embed a culture of continuous learning.

6.8 Business continuity

Continued delivery of screening programs is important to maintain equitable access to services for all babies and families.

6.8.1 Screening programs should have a business continuity plan in place to consider, address and mitigate against potential impacts on screening program activity. This includes equipment end-of-life planning, to ensure the continuity of services in line with National Standards.

National Performance Indicators

National monitoring and evaluation provides a measure to gauge how well universal newborn hearing screening in Australia is meeting its objectives. National Performance Indicators (NPIs) provide robust metrics to support ongoing monitoring.

The NPIs outlined in Table 1 below are based on the objectives and standards outlined in this framework and will help identify opportunities for further improvement.

Data specifications have been developed to enable nationally consistent reporting of NPIs 1 – 4, which monitor outcomes that sit wholly within screening program responsibilities. Once nationally consistent data is available, jurisdictions will commence publicly reporting against these NPIs subject to, and in accordance with, agreement from relevant Health Ministers or their delegates.

NPIs 5 – 10 require further work to enable nationally consistent reporting but provide jurisdictions with a basis to internally monitor performance until national reporting capability is developed.

Table 1 National Performance Indicators

No	National Performance Indicator	Service area
1	Proportion of eligible babies that complete newborn hearing screening.	Screening
2	Proportion of eligible babies that have completed screening by 30 days of age.	Screening
3	Proportion of babies receiving a refer (positive) result following screening.	Screening
4	Proportion of babies that require referral to audiological assessment are referred within 3 business days of screening.	Screening
5	Proportion of referred babies that have audiological diagnosis completed by 3 months of age.	Audiology
6	Proportion of screened babies that receive a diagnosis of permanent bilateral moderate to profound hearing loss.	Audiology
7	Proportion of babies referred to Hearing Australia offered an appointment within 2 weeks of referral.	Amplification
8	Proportion of babies with bilateral permanent moderate to profound hearing loss recommended for hearing aid that have their hearing aid fitted by 6 months of age.	Amplification
9	Proportion of babies that meet criteria for cochlear implantation that receive the implant by 12 months of age.	Implantation
10	Proportion of eligible babies that have access to NDIS support by 6 months of age.	Early Intervention

NPIs 2, 5, 8 and 10 are those which illustrate performance against the internationally recognised ‘1-3-6’ benchmark regarding timeframes (in months) for completion of hearing screening, diagnosis and commencement of early intervention respectively. See National Standard 1.3 for more information.

Data specifications for National Performance Indicators

The tables below provide data specifications for NPIs 1-4.
Data specifications to support national reporting of NPIs 5-10 are yet to be developed.

Indicator 1	Proportion of eligible babies that complete newborn hearing screening
Formula	$\frac{Number\ of\ eligible\ babies\ born\ in\ a\ reference\ period\ who\ complete\ a\ newborn\ hearing\ screen}{Number\ of\ eligible\ babies\ born\ in\ a\ reference\ period} * 100$
Numerator	Number of eligible babies born in a reference period who complete a hearing screen. Relevant data items: • Date of screening completion (not null) • Overall outcome of screening (values 1–4): 1. Complete, discharged from screening 2. Complete, referred for targeted follow-up 3. Complete, referred for audiological assessment 4. Bypass, non-screening pathway Of these, babies ineligible for newborn hearing screening will be excluded.
Denominator	Number of eligible babies born in a reference period. Relevant data items: • Total number of unique baby IDs with a valid date of birth. (*Note*: Comparison to the number of babies collected in the National Perinatal Data Collection (NPDC) may be undertaken.) Of these, babies ineligible for newborn hearing screening will be excluded.
Disaggregation	Subject on data quality and availability, the data could be disaggregated by: • State or territory of birth • State or territory of screen • Age (chronological and corrected) at completed screen • Sex • Indigenous status • Remoteness and SEIFA (usual residence of the mother) • Number of completed screens • Screen outcome • Reason not screened
Guideline Target	99%

Indicator 2	Proportion of eligible babies that have completed screening by 30 days of age
Formula	$\frac{\textit{Number of eligible babies born in a reference period who complete a hearing screen within 30 days of age (corrected)}}{\textit{Number of eligible babies born in a reference period}} * 100$
Numerator	Number of eligible babies born in a reference period who complete a hearing screen by 30 days of age (corrected)*. Relevant data items: • Date of screening completion (not null and within 30 days of age or corrected age) • Overall outcome of screening (values 1–4): 1. Complete, discharged from screening 2. Complete, referred for targeted follow-up 3. Complete, referred for audiological assessment 4. Bypass, non-screening pathway • Baby's date of birth • Gestational age (to calculate corrected age) • Corrected age (derived): to be used for babies that are born prior to 37 weeks' gestation Babies ineligible for newborn hearing screening will be excluded. * See National Standard 2.3 Calculation of corrected age.
Denominator	Number of eligible babies born in a reference period. Babies ineligible for newborn hearing screening will be excluded. Relevant data items: • Total number of unique baby IDs with a valid date of birth. (*Note*: Comparison to the number of babies collected in the National Perinatal Data Collection (NPDC) may be undertaken.) Of these, babies ineligible for newborn hearing screening will be excluded.
Disaggregation	Subject on data quality and availability, the data could be disaggregated by: • State or territory of birth • State or territory of screen • Age (chronological and corrected) at completed screen • Sex • Indigenous status • Remoteness and SEIFA (usual residence of the mother) • Number of completed screens • Screen outcome • Reason not screened
Guideline target	97%

Indicator 3	Proportion of babies receiving a refer (positive) result following screening
Formula	$\frac{\textit{Number of eligible babies born in a reference period who receive a refer (positive) result following screening}}{\textit{Number of babies screened in a reference period}}$ *100
Numerator	Number of babies born in a reference period who returned a refer (positive) newborn hearing screen. Relevant data items: • Total number of unique baby IDs with a valid date of birth. • Outcome of the final completed screen (unilateral refer or bilateral refer). • Date of hearing screening completion (not null) Babies ineligible for newborn hearing screening will be excluded.
Denominator	Number of babies born in a reference period who completed a newborn hearing screen (excluding screening bypass babies). Relevant data items: • Total number of unique baby IDs with a valid date of birth • Date of screening completion (not null) • Overall outcome of screening (values 1-3): 1. Complete, discharged from screening 2. Complete, referred for targeted follow-up 3. Complete, referred for audiological assessment
Disaggregation	Subject on data quality and availability, the data could be disaggregated by: • State or territory of birth • State or territory of screen • Age (chronological and corrected) at completed screen • Sex • Indigenous status • Remoteness and SEIFA (usual residence of the mother) • Number of completed screens • Screen outcome • Refer status (unilateral or bilateral)
Guideline target	2%

Indicator 4	Proportion of babies that require referral to audiological assessment are referred within 3 business days of screening
Formula	$\frac{\textit{Number of babies born in a reference period who were referred to audiological assessment within 3 business days following screening completion}}{\textit{Number of babies born in a reference period who required a referral to audiological assessment}} * 100$
Numerator	Number of babies born in a reference period who were referred to audiological assessment within 3 business days of screening completion. Relevant data items: • Total number of unique baby IDs with a valid date of birth • Date of screening completion (not null) • Screen outcome (values 2-3): 2. Complete referred for targeted follow-up 3. Complete, referred for audiological assessment • Referral outcome (values 1–3): 1. Referral following positive screen 2. Referral following negative screen 3. Referral without screening • Referral date (not null, ≤3 business days from date of screening completion)
Denominator	Number of babies born in a reference period who required a referral to audiological assessment. Relevant data items: • Total number of unique baby IDs with a valid date of birth • Date of screening completion (not null) • Screen outcome (values 2-3): 2. Complete referred for targeted follow-up 3. Complete, referred for audiological assessment • Referral outcome (values 1–3): 1. Referral following positive screen 2. Referral following negative screen 3. Referral without screening
Disaggregation	Subject on data quality and availability, the data could be disaggregated by: • State or territory of birth • State or territory of screen • Age (chronological and corrected) at completed screen • Sex • Indigenous status • Remoteness and SEIFA (usual residence of the mother) • Number of completed screens • Screen outcome • Referral outcome • Referral type (audiological assessment, audiologist, targeted follow-up or 'other')
Guideline target	90%

Further information

Further information about newborn hearing screening programs in each state and territory can be found at:

NSW	Statewide Infant Screening - Hearing (SWISH) Program – NSW Health (Url: www.health.nsw.gov.au and search for 'hearing services')
Victoria	Infant Hearing - VIHSP - Newborn hearing screening in Victoria (or www.rch.org.au/vihsp)
Queensland	Newborn hearing screening - Children's Health Queensland (Url: www.childrens.health.qld.gov.au/service-healthy-hearing-program-newborn-screening)
WA	Newborn Hearing Screening Program – WA Health (Url: www.pch.health.wa.gov.au/our-services/newborn-hearing-screening-program)
SA	Newborn Hearing Assessment - Child and Family Health Service SA (Url: www.cafhs.sa.gov.au/services/newborn-hearing-assessment)
NT	Get a hearing assessment | NT Governmnet (Url: www.nt.gov.au/wellbeing/allied-health/ears)
ACT	Newborn Hearing Screening Program - Canberra Health Services (Url: www.canberrahealthservices.act.gov.au/services-and-clinics/services/newborn-hearing-screening-program)
Tasmania	Newborn hearing tests - Tasmanian Department of Health (Url: www.health.tas.gov.au/health-topics/hearing-audiology/about-hearing/newborn-hearing-tests)

Resources

For clinicians and medical professionals

1. The Joint Committee on Infant Hearing (JCIH): Year 2019 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs
   Publication: Journal of Early Hearing Detection and Intervention: Volume 9 Issue 1
   Url: https://digitalcommons.usu.edu/jehdi/vol4/iss2/1

2. *Coalition for Global Hearing Health Hearing Care Pathways Working Group:* Guidelines for clinical guidance for readiness and development of evidence-based early hearing detection and intervention programs *Url: www.researchers.mq.edu.au/en/publications/coalition-for-global-hearing-health-hearing-care-pathways-working*

3. Australasian Newborn Hearing Screening Committee: Childhood Hearing Australasian Medical Professionals (CHAMP) network Url: www.newbornhearingscreening.com.au/champ-network

4. Family-Centered Early Intervention Deaf - Hard of Hearing (8 articles)
   Publication: Journal of Deaf Studies and Deaf Education, Volume 29, Issue SI, February 2024 *Url:* https://academic.oup.com/jdsde/issue/29/SI

5. *The* Queensland Minimum Standards of Practice: Early intervention for children who are deaf or hard of hearing and their families *Url: www.childrens.health.qld.gov.au*

For families

6. Australasian Newborn Hearing Screening Committee: Resources for Parents includes information about tests that can identify potential causes of congenital hearing loss. Url: www.newbornhearingscreening.com.au/parents

7. Hearing Australia: Choices is a resource developed for families of children who are newly diagnosed with hearing loss from birth to 12 years of age. Url: https://www.hearing.com.au/children-young-adult-services/choices-resource

8. National Disability Insurance Scheme (NDIS): What if my child has just been diagnosed with a hearing loss? provides information on accessing the NDIS and other support guides Url: www.ndis.gov.au/understanding/families-and-carers/early-childhood-approach-children-younger-9/what-if-my-child-has-just-been-diagnosed-hearing-loss

9. National Acoustic Laboratories: Key Findings - Lochi provides insights from the Longitudinal Outcomes of Children with Hearing Loss (LOCHI) study. Url: www.outcomes.nal.gov.au

Change register

The Change Register table below shows any substantive revisions made to published versions of the National Framework for Newborn Hearing Screening.

Version	Date Published	Substantive changes made this version
1.0	July 2025	Replaces former National Framework for Neonatal Hearing Screening (2013) TRIM ref: D24-4217112