

Roadmap for Hearing Health

Hearing Health Sector Committee

Supporting all Australians who are deaf or hard of hearing to live well in the community

Foreword

For Australians raised in a hearing world, the act of listening seems so effortless that is not until they strain to hear that we realise how much we take it for granted, and what a barrier its absence can be. It can come as a surprise to many that an estimated 3.6 million or one in six Australians experience some form of hearing impairment. Hearing is immensely personal, and it is individuals who are the primary participants in managing their physical and mental health and communication needs. These Australians are supported by their families and communities, a professional and commercial sector, and through various public policy initiatives of the Australian Government and State and Territory governments.

Australia's world-leading hearing sector has done much to address this challenge. As noted in the 2017 Parliamentary Inquiry into the Hearing Health and Wellbeing of Australia, "universal newborn screening, the Community Service Obligations (CSO) overseen by Australian Hearing, our voucher scheme for people over 65 to access hearing aids, the determination of the Deaf community, and the incredible work of our medical researchers, health care providers and organisations working with children are world-class."

But we stand at a crossroads. The strategic challenges and opportunities remain significant. Australia has an aging population which will increase demand for hearing services, but government budgets are increasingly stretched. Globalisation and medical and technological advances will improve hearing outcomes, but ensuring equitable access will be critical. The communications revolution continues to offer new ways for the Deaf community to engage with each other and broader society, but keeping up with the speed of change is not easy. Some government-provided hearing services are soon to become part of the National Disability Insurance Scheme (NDIS), but the complexity of transition risks those people least able to navigate the system slipping through the cracks. The Parliamentary Inquiry followed a range of investigations and identified a number of concerns and opportunities to improve Australia's hearing health and wellbeing. Foremost amongst these is the enduring sense of frustration amongst those Australians experiencing hearing loss that what most other Australians take for granted is not treasured, and the support provided for people who are deaf and hard of hearing is in some cases not adequate to support their full engagement with the community. It is also widely recognised that the country has been failing in providing ear and hearing health care for Aboriginal and Torres Strait Islander children, which has substantial follow-on effects that slow closing the disadvantage gap. Additionally, auditory processing, balance disorders, and other ear health and hearing issues do not receive attention commensurate with their debilitating impacts.

This Roadmap for Hearing Health forms part of the hearing sector's response to this crossroads. The Roadmap has been developed by the Hearing Health Sector Committee, which was established by the Hon Ken Wyatt AM, MP, Minister for Senior Australians and Aged Care and Minister for Indigenous Health, in June 2018. It met four times between July 2018 and January 2019, and hosted two stakeholder forums in September 2018 and February 2019. The Committee thanks Minister Wyatt for his commitment to and vision for the hearing sector, and for the secretariat assistance provided by the Commonwealth Department of Health. The Roadmap reaches significantly beyond health. Not only are the issues and the sector diverse, but government responsibility for hearing issues is across multiple Commonwealth, state and territory agencies — for example, disability services, indigenous affairs, mental health, education, employment, innovation, criminal justice, communications, infrastructure, and social inclusion portfolios — making collaboration and co-design vital.

A roadmap is a way of managing priorities and aspirations across a diverse group of stakeholders, including governments. It aims to establish desired end states and outline reasonable steps to get there.

The span of this task is broad, but the challenge is addressed in the Roadmap through the establishment of six themes or domains. These are: enhancing awareness and inclusion; closing the gap for Aboriginal and Torres Strait Islander ear and hearing health; preventing hearing loss; identifying hearing loss; providing support; and enhancing the sector's workforce.

Within each domain, the Roadmap sets out future directions and priorities for the hearing sector that will lead to short (next two years), medium (three to five years) and long-term (five to seven years) improvements in hearing health for all people in Australia. Where appropriate, the domains reference particular life-stages, research and monitoring needs, and steps towards closing the gap for Aboriginal and Torres Strait Islander people.

Why does Australia need a Roadmap for Hearing Health? So that the diverse partners that make up our hearing sector can come together to discuss and agree on the steps to take us towards our destination — to equitably support all Australians who are deaf or hard of hearing to live well in the community, and to ensure all Australians value their hearing.

Hearing Health Sector Committee 2018–2019

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Executive Summary

The Roadmap for Hearing Health seeks to foster collaboration between stakeholders in agreeing priorities and aspirations addressing the challenges facing an estimated 3.6 million Australians who experience some form of hearing impairment.

The Roadmap is divided into six themes or 'domains'. In many instances, the domains overlap and intersect, or capture ideas that could be expressed as separate themes, such as research, monitoring and reporting, and specific sub-segment needs and outcomes. Within each domain, the Roadmap sets out actions that will lead to short, medium and long-term improvements.

The first domain — Enhancing Awareness and Inclusion — focuses on the overarching goal of the full inclusion of people who are deaf or hard of hearing into the Australian community. Inclusion occurs when people feel valued and respected, have access to opportunities and resources, and can contribute their perspectives and talents. The actions identified focus on raising awareness of all people living in Australia, including by enhancing the visibility and voice of people who are hard of hearing or deaf.

The second domain — Closing the Gap for Aboriginal and Torres Strait Islander Ear and Hearing Health addresses the catastrophic levels of ear disease amongst Aboriginal and Torres Strait Islander Australians that has been the subject of action by a variety of actors for a number of years. There have been gains, but there is much more to be done.

The third domain — Preventing Hearing Loss — is directed towards everyone, and seeks to significantly reduce avoidable hearing loss across Australia through prevention, either through increased individual action, or wider considerations towards noise-reduction.

The fourth domain — Identifying Hearing Loss — aims to enable the earliest possible identification of hearing loss. Early identification reduces the potential impact on children's development and for older people many of the effects of ageing. The actions identified aim to enhance screening and subsequent pathways towards appropriate interventions.

The fifth domain — Providing Support — focuses on the relationships between consumers and providers of hearing devices and services, and outlines ways to improve outcomes.

The sixth domain — Enhancing the Sector's Workforce — recognises that improvements to hearing rely on a growing and trusted professional and volunteer workforce, that has strong linkages to other health, research, communications and education professionals.

Guiding Principles

The following principles have guided the development of the Roadmap:

- That the general community gains greater awareness of deafness, hearing loss, and how individuals can maximise their hearing health and access support.
- That barriers and stigma are removed.
- That, consistent with the United Nations Convention on the Rights of Persons with Disabilities, there is appropriate support for people who are deaf or hard of hearing to access language services and supports of their choice, particularly Australian Sign Language (Auslan).
- That, consistent with the United Nations Declaration of the Rights of Indigenous Peoples, self-determination is the foundation for designing and implementing culturally-appropriate services to close the gap between Aboriginal and Torres Strait Islander people and non-Aboriginal people.
- That people who are deaf or hard of hearing enjoy the same rights and access that other Australians do, with a particular focus on social inclusion.
- That services are delivered in a person- and family-centric way and ensure that individuals and their families can effectively exercise choice and control.
- That future changes and improvements are co-designed with those directly impacted, including consumers, providers, and other relevant stakeholders.
- That there is a priority focus on vulnerable individuals and communities, to ensure that people do not 'slip through the cracks'.

- That the effectiveness and efficiency of hearing services are maximised. This should be through ensuring:
 - legislative requirements are fit for purpose and streamlined;
 - consumers have the right information to support informed decisions; and
 - there is open and transparent competition within the hearing sector.
- That there are the appropriate systems and support in place to ensure Australia has a world class hearing health system. This includes continued funding for research into hearing and the maturation of systems to collect nationally relevant data.

Priorities

This Roadmap contains a comprehensive set of actions against each domain. While each is important, the Committee wishes to highlight the following key actions as high priority:

- A public awareness campaign is delivered, aimed at

 (a) Aboriginal and Torres Strait Islander communities,
 (b) the broader community,
 (c) health professionals
 and early childcare and primary school workers,
 to raise awareness of hearing health, and help prevent
 hearing loss.
- 2. An integrated national approach to ear health checks of children aged 0-6 is agreed, where every child, particularly those in Aboriginal and Torres Strait Islander communities, has regular ear health checks and the results of these checks are recorded in a national database with the objective of no child 'slipping through the cracks'.
- 3. The availability of Auslan services is increased for those who choose this as their communication method.
- 4. The quality of hearing health and care in aged care facilities is lifted across the country, with a particular focus on identification, management and workforce training.
- 5. A comprehensive audit of the workforce delivering hearing health services is undertaken to identify gaps and inform future workforce planning.
- 6. Supports in the education system are increased, including information to remove the stigma around hearing loss and support for students such as soundfield amplification and other individual supports.
- 7. There is a smooth transition for clients from the Hearing Services Program (HSP) to the NDIS, with a particular focus on vulnerable clients currently receiving services through the CSO component.
- 8. Additional support for people on low incomes is made available to access hearing health services, for those not eligible for the HSP or NDIS.

Monitoring of Progress

Finally, the Committee considers that it would be appropriate to set up a broad-based, government-supported body to steer and monitor progress in implementing the various actions contained in the Roadmap.

Enhancing Awareness and Inclusion

Despite the large number of Australians who are deaf or hard of hearing, and the capacity for the hearing of all people in Australia to be affected as they age, there is a low level of knowledge surrounding hearing health issues and the Deaf community in the general community. Hearing loss is often referred to as the 'hidden or invisible disability', as is tinnitus. Less widespread, but no less hidden, are balance disorders, which can profoundly affect daily activities.

Stigmatisation is common and results from a lack of understanding and awareness. Discrimination can be overt or subtle — mistaking the signs of hearing loss, hard of hearing and deaf people are often assumed by others as being cognitively impaired and less able, or simply ignored. People experiencing this exclusion in some quarters may deny they have a problem or choose not to seek support or treatment, and disengage further.

This lack of awareness or understanding, or even fear, in the general community results in a lack of access to social and public events and communications as there is insufficient thought given to methods of inclusion in communication, such as hearing loops, captioning and Auslan interpreting.

In particular, limitations in this area such as a national shortage of uptake of hearing loop systems and captioning, Auslan interpreters and other infrastructure and professionals seriously impacts people who are hard of hearing or deaf in obtaining and maintaining jobs, accessing education, living well in aged care facilities, using healthcare and legal services, and interacting in daily life. For children who are deaf or hard of hearing, there is a poor understanding in the community, among families and in schools and other institutions, and particularly in remote, rural and regional areas, of their communication needs. Indeed, they may not be able to express their needs. Early intervention services are essential for young children with hearing loss who are at a crucial stage for the acquisition of language (both spoken and signed) and communication. Provision of effective early intervention will enable the vast majority of children with hearing loss to achieve independence through their signed or spoken language.

Given the critical impact of education, hearing support teachers, teachers of the deaf and appropriate classroom improvements (including soundfield amplification, appropriate acoustics, etc) are vital. In remote areas where hearing loss is particularly prevalent, teachers must be well oriented in using whole class approaches to accommodating the learning and communications needs of the many students with past and current hearing loss. For adolescents who are hard of hearing or deaf, inclusion is essential during a time of rapid physical, cognitive and social change, when identity is developed. Communication and access to information are essential, especially regarding the social world and in preparing for adulthood and further study, trade training or direct entry into the workforce.

For people in the work environment, understanding and access to Auslan interpreters and technology that will assist communication are critical in enabling people to engage to their full potential in the paid workforce and in general life. It is generally accepted that the ability to communicate with others and express themselves as they choose is central to a person's health and wellbeing.

Given the increasing prevalence of hearing loss with age, older people comprise a large proportion of those who are hard of hearing. This is a particular challenge in terms of social isolation and the ability to engage, coupled with a diminishing social network as we age. Frail older people who are deaf or hard of hearing in residential care are a particularly vulnerable population given the often high level care needs and comorbidities.

Desired Outcomes

- People in Australia who are deaf, hard of hearing or have ear health and balance disorders are included as a matter of course in social and recreational environments, schools and the workplace.
- Public communications, including in educational settings, workplaces and public spaces, are delivered equitably to people who are hard of hearing and deaf.
- Behaviours and actions that support and include the people who are deaf or hard of hearing are understood and adopted by all Australians.
- Stigma associated with deafness, hearing loss and wearing and using hearing technology is eliminated.
- People who recognise that they or a family member may have a hearing problem know how to get help, and are encouraged to quickly do so.
- Auslan language use is promoted and normalised, and the number of Auslan interpreters working professionally is increased significantly.

- Public policy and community expectations, particularly with regards to employment and urban design, are informed by the needs of people who are deaf or hard of hearing.
- All schools across Australia share information about hearing health and deafness with their students and communities.

Key Actions

Short Term (next two years)

- 1. Use World Hearing Day (3 March) and the International Day of Sign Languages (23 September) as calendar points to increasingly promote awareness of hearing health and sign language.
- 2. Identify and publish the level of public information needed to enable Australians to understand and manage hearing loss.
- 3. Develop and implement a public awareness strategy, that is accessible across multiple formats, adaptable to multiple settings (e.g. schools) and includes Aboriginal and Torres Strait Islander communities, aimed at:
 - raising awareness of the access limitations faced by the Deaf and hard of hearing.
 - encouraging inclusion of the deaf and hard of hearing in the workplace and social environments to reduce the stigma associated with assistive devices and communication needs such as Auslan and other options.
 - promoting early detection and treatment of hearing loss by encouraging people experiencing hearing loss to quickly seek treatment.
 - raising awareness and levels of the supports and services that are available to the Deaf, hard of hearing, and people with balance disorders, hyperacusis and tinnitus.
- 4. Develop and implement a campaign for various community service providers to increase knowledge and awareness of the access and health needs of people who are hard of hearing or deaf, and people living with a balance disorders, and the services and supports that are available.
- 5. Increase the availability of Auslan services for those who choose this as their communication method.
- Lift the quality of hearing health and care in aged care across the country, with a particular focus on identification, management and workforce training.
- Increase the supports in the education system including information to remove the stigma around hearing loss and support for students such as soundfield amplification and other individual supports.

- 8. Develop a national regulatory and reporting framework to establish, implement and monitor minimum access requirements for people who are deaf or hard of hearing.
- 9. Foster increased training for interpreters and teachers for the deaf, and for people who are deaf or hard of hearing to become teachers, via supported places and scholarships.
- 10. Review the scope, consistency and coordination of support provided to Aboriginal and Torres Strait Islanders to learn Auslan and access interpreters.
- 11. Ensure Commonwealth, State, Territory and local governments model inclusive behaviour by committing to adopt hearing loop and captioning services within their parliaments and chambers, and providing Auslan interpreting and captioning services at key public communications and events, such as emergency services announcements and Australian citizenship ceremonies.
- 12. Compile, publish and maintain a list of organisations and businesses that can provide goods and services via Auslan.

Medium Term (three to five years)

- 1. Foster the inclusion of positive representations of people who are deaf or hard of hearing in the Australian media, and of supportive behaviours all Australians can adopt.
- 2. Enhance Auslan as a language subject option in the Australian primary, secondary and tertiary education sectors.
- 3. Establish national reporting requirements for educational outcomes for deaf and hard of hearing students, with associated targets consistent with mainstream education.
- 4. Extend captioning to all television programs broadcast in Australia.
- 5. Measure and report on the levels of awareness exhibited by Australians and of inclusion experienced by people who are deaf or hard of hearing.
- 6. Advance research on linguistic acquisition for children who are hard of hearing or deaf.

- 1. Raise awareness of and adopt universal deaf and hard of hearing-friendly-design principles in the design of buildings, particularly childcare centres, schools, workplaces, residential aged care facilities, and public places.
- 2. Provide full communication access to assist people who are deaf or hard of hearing to participate in school, study and work, and community and social events.

Closing the Gap for Aboriginal and Torres Strait Islander Ear and Hearing Health

Aboriginal and Torres Strait Islander people have significantly higher rates of hearing loss and ear disease than non-Indigenous Australians. On average, one in three Aboriginal children experience chronic ear disease. In some remote parts of Australia up to 90 per cent of children experience some form of ear disease at any time. Aboriginal children are four times more likely to receive ear surgery and are three times more likely to suffer permanent hearing loss compared to non-Indigenous children. Three to five Australian children die each year from the complications of middle ear disease — these deaths are more likely to occur among Aboriginal and Torres Strait Islander children. Cholesteatoma, which is a skin cyst associated with long term chronic otitis media with effusion and chronic suppurative otitis media, occurs in between 10-20 per cent of cases. It can cause serious complications such as mastoiditis, facial nerve paralysis, meningitis and brain abscesses.

Otitis media is the main contributing factor to hearing loss among Aboriginal and Torres Strait Islander children, and it is treatable and preventable. These children experience otitis media and the resulting hearing loss much earlier, more persistently and more severely than the rest of the population. This profoundly affects their trajectory through childhood and into adulthood. It has life-long impacts on educational participation and outcomes and psycho-social development (including speech development) that bring greater risk of a range of adult social problems including un/underemployment and involvement with the criminal justice system.

The socio-political (housing, food systems, education and employment, income and poverty, access to health care) and behavioural (including exposure to tobacco smoke, diet, and exercise) determinants of health are especially significant for Aboriginal and Torres Strait Islander people. In its broadest sense, poverty limits education and awareness of hearing health, and the capacity of families and communities to maintain healthy and hygienic environments that prevent ear disease. Social determinants like poor nutrition, lack of running water, hygiene issues and, exposure to tobacco smoke, are all significant contributing factors to ear disease. Health and housing agencies can work together to ensure that homes support healthy living, through increased housing stock, reliable access to functioning health hardware (eg toilets, showers, taps, kitchen cupboards and benches, stoves, ovens and fridges) and raising awareness of hygiene practices that support ear health. Health services also need to increase their focus on early identification, appropriate medical intervention in primary care and ongoing allied health support. In communities where there is a high risk of otitis media and conductive hearing loss it should be standard practice to check the ear and hearing health of all young children whenever they present at clinics.

In the education sector, early years centres and kindergartens in those high-risk communities can help identify hearing problems through surveillance, and can provide additional support to children with a hearing impairment. Schools can play a similar role, orienting all teachers in accommodating the learning and communication needs of students with past and current hearing loss, providing specialist teaching support where necessary, and better listening environments through sound-field amplification systems and classroom acoustics.

Improved hearing health for Aboriginal and Torres Strait Islander people is intrinsically linked to broader improvements in health, education, and social and economic outcomes. The complex interaction of multiple risk factors means that action is needed across multiple sectors. This should be led by Aboriginal and Torres Strait Islander people themselves.

Aboriginal and Torres Strait Islander people are significantly more likely to seek services from culturally safe health services. This in turn has implications for leadership, governance and workforce development.

Desired Outcomes

- There is a sustained and trending reduction in the prevalence of otitis media and hearing loss among Aboriginal and Torres Strait Islander people, particularly children 0-7 years old.
- State and Territory health and education policy relating to hearing services to sub-populations experiencing early, chronic otitis media and significant hearing loss is reviewed and updated to reflect current evidence on the early developmental long term impacts on language and communication outcomes.
- Aboriginal and Torres Strait Islander families have high expectations and understand the importance of ear and hearing health, know the signs of ear disease and hearing loss, request ear checks, know what they can do to prevent ear disease, and minimise the impact of hearing loss when it does occur. Awareness programs should focus on children reaching their full potential as well as on the disease process.
- Aboriginal and Torres Strait Islander families have functional health hardware in their homes that enables them to keep themselves and their living environment clean, and are not required to live in overcrowded conditions due to a poor supply of appropriate housing.
- Health services collect and report on agreed data points to enable assessment of Aboriginal and Torres Strait Islander ear and hearing health at local, national and jurisdictional levels, schools provide attendance and performance records for data linkage with ear and hearing health, and allied health and cross-jurisdiction (housing, education and justice) data sharing agreements are established.
- Primary health care services are well resourced and able to provide regular scheduled and opportunistic ear and hearing health checks and provide ongoing care to children with ear and hearing conditions in partnership with audiology, speech therapy and Ear, Nose and Throat (ENT) services as needed.
- Speech pathology, audiology and ENT services are accessible within appropriate wait times, particularly for people living in regional and remote locations and in low-socioeconomic urban areas.
- Early childhood centres, schools, health and youth detention services understand the impacts of poor hearing health on the children and young people they service and its relevance to their missions, are proactive in early identification and referral of children who may have hearing loss, and support those with hearing loss, including through the use of soundfield amplification in schools in high risk areas.
- Aboriginal and Torres Strait Islander adults and children with significant hearing loss have equity of access to and choices regarding the supports they need to live well in the community.
- The hearing health workforce delivers patient-centred care that responds to the social and cultural needs of those receiving care.

- At local, jurisdictional and national levels, services work together within and across sectors (including health, education, housing and justice) to reduce prevalence of ear disease and hearing loss, to identify ear disease and hearing loss earlier, to treat and remediate more effectively so that the impacts of ear disease throughout the life course are mitigated or avoided all together.
 - Community-led, strategically planned and coordinated research into effective strategies for promotion, prevention, identification, treatment, remediation and mitigation of the impacts of early onset, chronic ear disease and associated hearing loss in Aboriginal and Torres Strait Islander children is appropriately and consistently funded, managed and evaluated.

Key Actions

Short Term (next two years)

- 1. Develop a national set of key performance indicators for Aboriginal and Torres Strait Islander ear and hearing health, with:
 - incentives to promote and encourage best-practice service delivery and data gathering by health service providers.
 - standardised reporting mechanisms across jurisdictions, enabling collection of prevalence data.
- 2. Develop an integrated national approach to undertaking ear health checks of children aged 0-6, where every Aboriginal and Torres Strait Islander child has regular ear health checks at scheduled intervals to identify otitis media early and prevent the onset of chronic ear disease and long term hearing loss. This is supported through personal health records and annual child health check processes, with the results of checks recorded in a national database with the objective of no child 'slipping through the cracks'.
- 3. Promote and support changes in primary care health record systems to enable effective data capture related to Aboriginal and Torres Strait Islander ear and hearing health.
- 4. Develop and implement a community-focussed, flexible, strengths- and evidence-based ear and hearing health promotion program focussing on both primary care clinicians and families. The program should include promotion of breast feeding, hygiene practices and health literacy around cross-infection, and highlight the relationship between risk factors, including passive smoking, and ear problems in children.
- 5. Review State and Territory health and education (including maternal and early childhood) policies and the Otitis Media Guidelines using an evidence base of the impacts on child development of early, chronic ear disease.

- 6. Map gaps and waiting times for publicly-funded State and Territory health services speech pathology, audiology and ENT services targeting ear health issues in regional and remote areas and in low-socioeconomic urban locations. Review wait time benchmarks to ensure they reflect current evidence of the impacts of early onset, chronic otitis media on hearing, language and communication outcomes.
- 7. Map which allied health and ENT clinicians are willing to engage in Outreach ENT work and identify barriers to engagement in Outreach work to maximise opportunities to expand the existing workforce.
- Expand the use of telehealth (including tele-otology), using both cold case and live consultation, to improve access, momentum and quality of services, and ensure Aboriginal and Torres Strait Islander engagement is considered.
- Review hearing health programs in all jurisdictions and services to ensure that they incorporate actions to strengthen ear health knowledge and skills among primary health providers.
- Resource and incentivise primary health care services to continuously improve their competence and confidence in preventing, identifying and managing hearing health problems.
- 11. Promote and fund the use of new hearing screening technology in educational settings to enable educators to screen children's hearing.
- 12. Develop funding incentives to increase the capacity of early childhood centres to identify and support the hearing and communication needs of Aboriginal and Torres Strait Islander children.
- 13. Complete an audit of existing professional development materials that orient early childhood workers and teachers in communities with high prevalence of ear disease in inclusive, whole-class communication and teaching strategies.
- 14. Monitor the impact of the NDIS and other reforms that mediate access to speech and hearing services and work with agencies to ensure gaps are closing.
- 15. Strengthen the Aboriginal and Torres Strait Islander workforce at all levels, from hearing health workers to ENT surgeons, using scholarships, mentoring programs, and funding to support new positions.
- 16. Services look for opportunities to work together and design, implement, evaluate and share their activities.
- 17. Develop and appropriately fund an Aboriginal and Torres Strait Islander Hearing Health Research Roadmap to identify priorities and coordinate across existing research programs.

- 18. Health and housing agencies collaborate to develop jointly-funded 'healthy housing' programs based on evidence from successful initiatives implemented in Australia and overseas, which incorporate activities that raise hygiene awareness and practice and prevent cross-infection. This may include the establishment of better linkages between local housing bodies and environmental health officers and local primary health providers that support the health of families in homes with inadequate health hardware.
- 19. Sectoral professional development materials and internal communications contain strong messaging around the benefits of cross-sector collaboration.

Medium Term (three to five years)

- Update relevant State and Territory health and education (including maternal and early childhood) policies to address the developmental impacts and other impacts identified in the evidence base as needed, align practice documents with policy, and fund and deliver appropriate services.
- 2. Continue to implement and improve the ear and hearing health education program and gather data to evaluate its impact on both awareness and on behavioural responses.
- 3. Address the need for more localised ear and hearing health promotion activities.
- Review national and state-level programs using epidemiological and service activity data to ensure that:
 funding and service delivery is targeted to the areas
 - of greatest need.
 - service delivery is aligned with best practice national Otitis Media guidelines.
- 5. Continue implementation by jurisdictions of healthy housing programs, prioritising communities where the health and housing needs are highest.
- 6. Ensure jurisdictions report data to the Australian Institute of Health and Welfare (AIHW).
- 7. Publish an AIHW report that provides early analysis of incidence and prevalence of hearing health problems, including the consistency of reporting and the reliability of data.
- 8. Monitor and report on the impact that the national KPI implementation and reporting requirements have on best practice service delivery in primary care.
- Ensure primary health services are able to access appropriate hearing health training and equipment, and a system is developed to facilitate access to supervisors for staff enrolling in hearing health skills training and audiometry.
- 10. Ensure primary health surveillance (including child health check) follows treatment guidelines which are up-to-date and reflect recommendations in the national Otitis Media Guidelines.

- 11. Respond to gaps and deficiencies in primary health care surveillance and treatment through education, incentivising funding mechanisms and increased resources if required.
- 12. Provide needs-based funding at whole-of-health service level in communities with high prevalence of conductive hearing loss, referencing revised policy and local prevalence data,
- 13. Continue to monitor the impact of NDIS and other reforms that mediate access to speech and hearing services and work with agencies to ensure gaps are closing, not widening.
- 14. Ensure justice and employment sector agencies have in place strategies that result in children and adults with hearing loss being identified early, being supported to get equitable access to appropriate services, and having their communication needs met.
- 15. Review state school funding policies across jurisdictions to ensure that needs-based funding is provided at whole-of-school level in communities with high prevalence of conductive hearing loss, including soundfield amplification systems and hearing-friendly classroom acoustic environments.
- 16. Develop and implement mandatory national or jurisdiction-specific professional development materials for early childhood workers and teachers that orient to inclusive, whole-class communication and teaching strategies.
- 17. All schools report data on Aboriginal and Torres Strait Islander student hearing health and related educational attainment.
- 18. Work with jurisdictions to expand programs that demonstrate effective and collaborative ways of working, and that develop skills and knowledge in health, early childhood and education services in communities.
- 19. Design and implement a plan to ensure State and Territory health services publicly-funded town based, outreach or teleoutreach speech pathology, audiology and ENT services are available within benchmarked wait times of referral.
- 20. Showcase good news stories that detail strategy, process and outcomes of evaluation, including at National Otitis Media Australia (OMOZ) conferences.
- 21. At five years, evaluate the Research Roadmap progress, including funding.

- Regularly update the national Otitis Media Guidelines and OM Guideline App (i.e., both the evidence and innovative technologies) according to the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) approach, evaluate uptake in policy and practice, and use is promoted through Colleges and primary health networks.
- 2. Continue to evaluate and identify gaps in evidence through the quality research programs.
- 3. Support the National Otitis Media Australia (OMOZ) conference to inform key stakeholders of current evidence and best practice.
- 4. Review potential for continuation or further refinement of the nationwide ear and hearing health education program.
- 5. Provide more localised responses in high priority communities, in partnership with those communities.
- 6. Continue implementation and evaluation by jurisdictions of healthy housing programs, prioritising communities where the health and housing needs are highest.
- 7. Continue education for justice and employment sector agencies to ensure they have in place strategies that result in young people with hearing loss being identified early, and being supported to get equitable access to appropriate services, and having their communication needs met.
- 8. Evaluate and adjust the workforce program as needed.
- 9. Review data gathering, reporting systems and provider incentives to assess potential for refinement.
- 10. Use epidemiological and service activity data to review national and state-level programs to ensure that:
 - funding and service delivery is targeted to the areas of greatest need.
 - service delivery is aligned with best practice guidelines.
- 11. Ensure there is parity of access to audiological and ENT surgical services.
- 12. At ten years, evaluate the Research Roadmap progress, including funding.

Preventing Hearing Loss

Prevention is the most effective way to reduce hearing loss and tinnitus. Unnecessary exposure to noise, whether prolonged or of short duration, is a major cause of approximately one third of adult onset hearing loss. Hearing loss can also result from a range of preventable diseases, injury, solvents, and certain medications. Many of the impacts of hearing loss and ear health can also be prevented and mitigated.

Occupational hearing loss represents a very significant social and economic burden for Australia. Nationally, an estimated 1 million employees in Australia may be potentially exposed to hazardous levels of noise at work. Noise exposure is the commonest preventable cause of occupational hearing loss. Noise-induced hearing loss occurs in a wide range of industries, particularly mining, manufacturing and construction, farming, recreation, hospitality and the Defence Force. Programs of work are underway to help reduce work related noise induced hearing loss in Australia, with various jurisdictions undertaking or planning a significant amount of work in inspections and auditing, targeting highest risk sectors.

The risks of hearing loss and ear health challenges extend to patrons visiting nightclubs, bars, cinemas, restaurants, gyms and sporting and concert venues. This recreational exposure also occurs through the increasingly widespread use of personal audio devices, in both noisy and quiet environments. Noise exposure can also be from environmental noise from airports, traffic, and gardening and DIY equipment. Other than causing hearing loss, loud noise is also associated with high blood pressure, coronary artery disease and stroke.

For children, the major causes of severe hearing loss are diseases such as measles, mumps, and meningitis, the majority of which can be prevented by vaccination. Other diseases and pathogens such as cytomegalovirus can also have serious impacts on children's hearing. Middle ear infections are common in children and can cause some degree of hearing loss. Most infections are not covered by vaccination. Chronic ear infections during early childhood can cause developmental delay which in turn increases vulnerability on entering school, leading to poor education outcomes and contributing to high unemployment. This is particularly true for Aboriginal and Torres Strait Islander children, and more so for those living in remote regions. Strategies for prevention of ear disease and conductive hearing loss in children include immunisation, personal hygiene to prevent spread of infection, breast feeding, restrict pacifier use, avoidance of smoke exposure, and a healthy diet.

Teenagers and young people are widely recognised as vulnerable to hearing loss and tinnitus due to overuse of earphones, and working at or attending music concerts and venues that play loud music. The resulting impact on hearing can translate to educational, social and psychological impacts, and future employment and career choices can also be affected.

Hearing loss, balance disorders, and tinnitus can result from ototoxic medications, such as aminoglycoside antibiotics, salicylates, platinum-based anti-cancer therapeutics, and the anti-malarial drug quinine. Many of these are necessary to treat severe chronic conditions or aggressive diseases. As such, baseline hearing testing and monitoring can either enable changes to the medications provided to prevent or reduce hearing loss, or can enable early audiologic intervention.

Industrial solvents, such as tolulene, styrene and carbon disulfide can be ototoxic, and the ototoxic effects of solvents can continue beyond the time of exposure. Yet ototoxic monitoring for workers exposed to these chemicals is limited.

Desired Outcomes

- Preventable hearing loss is significantly reduced.
- Australians' understanding, motivation and ability to prevent loss of their own and others' hearing is substantially increased.
- Primary health care services are able to provide regular ear and hearing health checks that respond to the social and cultural needs of those receiving care.
- The process of implementing effective noise control and hearing loss prevention in Australian workplaces is completed.
- Strategies preventing hearing loss and its disabling effects are incorporated in urban design.
- Strategies to prevent hearing loss are included in wider public policy.
- Prevention activities specifically consider the needs and circumstances of vulnerable populations, particularly Aboriginal and Torres Strait Islander people, and are monitored and resourced accordingly.

Key Actions

Short Term (next two years)

- Develop and implement a prevention focused campaign, using effective evidence-based strategies, that provide education on the importance of hearing health, including the potential impact of recreational and occupational noise, and knowledge of the potential impact of unaddressed ear infections, that is both broad-ranging and targeted at vulnerable populations using various formats.
- 2. Align codes of practice across States and Territories and develop a national mechanism to monitor hearing loss prevention.
- 3. Undertake research to determine the key barriers and enablers to the effective control of hazardous occupational noise exposure.
- 4. Encourage innovative solutions to the control of hazardous occupational noise in addition to the use of personal protective equipment, and the reduction of environmental noise in public places.
- 5. Continue to promote the Immunise Australia Program and ensure that information about the risks of hearing loss is incorporated into antenatal care and immunisation guidelines.

Medium Term (three to five years)

- 1. Include hearing health as part of general health and screening programs.
- 2. Incorporate noise reduction and control in urban planning
- 3. Develop and implement safe listening mechanisms to reduce harm from personal audio devices and establish world's best practice, including through engagement with international standards and organisations.
- 4. Develop campaigns for workplaces and public venues to raise level of awareness of the need to protect the hearing of employees and customers. Specific segments include agricultural environments and the music industry.
- 5. Ensure workplaces focus on both the use of personal protective equipment and reducing the noise in the environment.
- 6. Develop campaigns directed at parents to promote prevention of middle ear infections.
- 7. Develop campaigns to promote the safe use of personal audio devices.
- 8. Develop a national regulatory framework to regulate the safe level of noise in public recreational venues, and enforce it.
- 9. Develop a national regulatory framework to regulate requirements of employers of employees in high-risk noise environments to provide regular hearing checks, hearing protection and "noise breaks".
- 10. Establish and promote ototoxicity monitoring protocols and guidelines, following international best practice.

Long Term (five to seven years)

1. Implement ototoxicity monitoring programs in hospitals and "at risk" workplaces that use ototoxic solvents.

Identifying Hearing Loss

Detection, diagnosis and discussion of response options are important to ensure the impact of hearing loss on individuals is minimised. There are significant costs associated with the impacts of unaddressed hearing loss, including costs to health, education and employment sectors and lost productivity.

Unaddressed hearing loss has been linked to cognitive decline and evidence suggests that it can contribute to social isolation, loss of autonomy, depression and dementia, particularly in older adults. Ear disease and hearing loss can impact on development, ability to communicate, education, social wellbeing and economic independence. Children with hearing loss and children who are deaf need access to early interventions to ensure the development of language and communication skills.

Early identification followed by prompt and appropriate management can effectively reduce the impact of hearing loss on the life of an individual and begin the path to equitable communication. Neonatal and infant hearing screening programs are an effective strategy for early intervention in cases of congenital and early onset hearing loss.

A lack of recognition and effective management of hearing loss and balance disorders in aged care services is a concern. There is a need to foster the independence and well-being of deaf and hard of hearing older Australians.

Desired Outcomes

- Australians who may have hearing impairment or a balance disorder are recognised promptly by their primary health care, early childhood, education or aged care services, and referred appropriately.
- Universal Newborn Hearing Screening (UNHS) and linked diagnostic and habilitative services continue, and the feasibility of a national, life-long hearing database and reporting is evaluated.
- Australian children, particularly those post-newborn to under four years, in regional, remote and low-socioeconomic urban areas, are able to access a state-funded diagnostic audiology service within one month of referral.
- A single, independent, national point of referral for children post early-identification of hearing challenges is maintained.
- Child and adult screening programs are undertaken in a high quality and consistent manner, with data collated in a timely manner and made available to the participants and for wider research.

- Screening programs and government-funded diagnostic hearing services specifically consider the needs and circumstances of vulnerable populations, and are monitored and resourced accordingly.
- Prisoners with unremediated hearing loss or ear disease are identified and are connected with the ear health and hearing services necessary for participation and rehabilitation.
- Hearing health requirements are considered holistically and included in other relevant measures such as public health and other regulatory frameworks.

Key Actions

Short Term (next two years)

- 1. Determine the responsibility, feasibility and funding for standardised national reporting of hearing loss, and establish a national database.
- Implement a consistent and standard pathway for paediatric referral and services, including a single, national point of referral for children post early-identification of hearing challenges.
- 3. Undertake a pilot program of screening tests for school aged children, especially at-risk children, and evaluate the resulting data to determine long term value.
- 4. Continue audit of current newborn screening services and monitor and report compliance with national standards.
- 5. State and Territory prison health services undertake an audit of existing services and funding relating to the hearing health of prisoners, including hearing screening, access to diagnostic and rehabilitative hearing services and to specialist ENT services.
- 6. Ensure aged care assessment processes, including on entry to residential care, appropriately identify hearing loss and balance disorders.
- 7. Include testing for hearing loss and balance disorders in the Health Life Checks process.
- 8. Responsible work health and safety regulators to put in place requirements to ensure hearing screening is increased in high risk workplace environments.

- 9. Undertake modelling to determine the best way to ensure hearing testing is affordable and accessible for all Australians, including consideration of a Medicare item against which consumers can claim via bulk-billing for a diagnostic test battery administered by an audiologist without the need for a general practitioner referral.
- 10. Undertake research on the incidence of balance loss in the Australian community.

Medium Term (three to five years)

- 1. Implement reporting against the UNHS standards across Australia's jurisdictions.
- 2. Design new content for inclusion in training and professional development curricula for primary health, early childhood, education and aged care workers that recognise the signs of hearing loss and pathways to hearing services.
- 3. State and Territory health departments identify locations where state-funded diagnostic Audiology services need to be re-established or strengthened in order to meet the needs of populations, and a consistent approach to travel subsidies for diagnostic hearing appointments for Australian children is agreed upon, as needed. Teleaudiology approaches are considered as part of the response.
- Invest in research to determine best practice for population-based screening and identification of response options.
- State and Territory prison health services design and pilot an appropriate approach to identifying people with significant, unremediated hearing loss or ear disease and to connecting them with appropriate hearing and ENT services, including through teleservice approaches.

- 1. Subject to outcomes from the pilot program, enable national testing of all children in the first year of schooling linked to awareness and prevention messaging.
- 2. Develop and implement a screening and intervention program for aged care.
- 3. New training and professional development content implemented for primary health, early childhood, education and aged care workers.
- 4. State-funded diagnostic audiology services, including capacity to diagnose hearing loss in children aged under 4 years, are providing appropriate services in agreed locations.
- 5. Enhance national data collection from the UNHS program and departments of education for longitudinal tracking and analysis.
- 6. State and Territory prison health services implement routine hearing screening of at least high-risk people, including Aboriginal and Torres Strait Islander prisoners, and referral to further services as appropriate to their hearing health needs and period of incarceration.

Providing Support

Once hearing loss has been detected and diagnosed, many Australians seek technological aids and rehabilitative services and support from the hearing health sector, related service providers, and consumer and parent support organisations.

These services are provided through a number of different programs and supports including the HSP, the NDIS, private health insurance, Medicare items and privately provided services. There are also a range of supports provided outside the health portfolio, including in early childhood, disability services, education, employment, social services and the justice system.

Early intervention services are critical for young children at key stages of language acquisition, both spoken and signed. These need to be supported through the NDIS, particularly to ensure that parents are supported to enable the best outcomes for their children.

The availability of up-to-date and affordable hearing technology is important to ensure that all people who require hearing devices are able to obtain them. Equally important is the availability of post-fitting support. Hearing outcomes are maximised over time which requires an initially intensive program of encouragement, counselling, and device adjustment and may also include longer-term speech and group therapy, social supports and school and return to work programs.

Not only do devices and other supports such as through training, therapy, medication, counselling and mentoring, need to be available and affordable, but people need to know what they can access, how they can access, and be assured of receiving quality and outcomes-focused information and support. User choice is critical — consumers need comprehensive, balanced information and price transparency to help them make informed choices.

Government is a key player in this market as a regulator and funder that seeks to ensure vulnerable Australians can access the hearing technology and support needed. While the NDIS will be a positive step forward for Australia, there will be transition challenges, particularly around service gaps, effective assessment, and inequity between programs.

However, the NDIS only accepts applications from people under the age of 65. In addition, NDIS participants may be funded for a greater range of supports than HSP clients (for example, cochlear implant speech processors for adults over 26). While the NDIS may offer a greater range of funded supports, an adult applicant must have a high level of hearing loss to become a participant in the scheme. This may create a gap in coverage for low income people with mild to moderate hearing loss who are not eligible for either the NDIS or HSP. Australian research, development, manufacture and service delivery are highly regarded internationally. Innovation and rapid technological change has and can continue to drive both improvements and significant disruption in this domain.

People with hearing loss and balance disorders encounter practical and social problems beyond those experienced by people who have their hearing and balance. This may increase the risk of people with hearing loss developing mental health problems. They may give up interests and activities and this can impact on psychological wellbeing. Hearing loss can have an impact on quality of life and can lead to isolation, anxiety and depression.

The social determinants of hearing health are significant, particularly for Aboriginal and Torres Strait Islander people. It is important that deaf and hard of hearing people have affordable access to health services, including appropriate mental health services.

Care education and information must be balanced, clear and provided in an accessible format for deaf and hard of hearing consumers and parents of deaf children.

Desired Outcomes

Australians most in need will be supported by government through the NDIS, the HSP, and aged care arrangements to access the hearing technology and supports required.

Australians not eligible for government support will benefit from a competitive and transparent hearing services market that is outcomes-focused and responsive to consumer needs and rapid technological change.

Research and development for new products and approaches to hearing are needs-driven and widely supported, via both funding support and dynamic approaches to adoption.

People with hearing health issues and balance disorders can easily access independent information on supports and services, allowing them to be empowered to make safe and informed choices about their options, and consumers understand the value of pre- and post-fitting care as well as ways to discriminate between devices.

Key Actions

Short Term (next two years)

- 1. Ensure there is a smooth transition for clients from the HSP to the NDIS, with a particular focus on vulnerable clients currently receiving services through the CSO component.
- 2. Develop and publish through a single, trusted access point key information needed to enable consumers to make informed choices about pathways for gaining support for hearing loss.
- 3. Establish clear expectations for what consumers should receive from service providers, and provide for consumer questions, concerns and redress.
- 4. Communicate this information particularly to parents of deaf children, Aboriginal and Torres Strait Islander children, and vulnerable consumers, their significant others and carers.
- Establish mental health supports as a routine consideration for people who are deaf and hard of hearing by developing a national online register of mental health service providers with specialised training to work with the deaf and hearing impaired.
- 6. Provide additional support for people on low incomes to access hearing health services, for those not eligible for the HSP or the NDIS.
- 7. Extend coverage of the HSP to include cochlear implant speech processors, including addressing the gap in support for people over 26 and particularly those over 65.
- 8. Ensure hearing rehabilitation beyond technology is available for Australian adults who do not currently qualify for either the NDIS or the HSP.
- 9. Make balance assessments and diagnostic hearing assessments by appropriately qualified clinicians more readily available.
- 10. Ensure that technology support, such as hearing loops, for people who are deaf or hard of hearing people is available at critical places such as emergency departments and hospitals more generally.
- 11. Ensure there is access to Auslan interpreting services to enable full participation for people who may not be eligible for the NDIS or other programs such as the Employment Assistance Fund.
- 12. Schools, Universities and TAFEs to develop national benchmark supports for deaf and hard of hearing students.
- 13. Develop a business case for work-related tax deductions for individuals with hearing devices and associated consumables.
- 14. Maintain the CSO of the HSP beyond the mid-2020 transition date for the NDIS.

Medium Term (three to five years)

- 1. Update digital and electronic methods that support consumer choice as appropriate.
- 2. Introduce additional measures to foster research and development into hearing technology and support.
- 3. Continue to monitor the impact of the NDIS and other reforms that affect access to hearing services.
- 4. Encourage innovation in the hearing sector, including start-ups focusing on communication access and other opportunities to better support those who are deaf or hard of hearing.

Long Term (five to seven years)

1. Review the provision of hearing devices to ensure transparency, competitiveness and appropriate levels of consumer protection.

Enhancing the Sector's Workforce

Central to Australia's achievements in hearing health and communications equity, and to the future delivery of the Roadmap for Hearing Health, is the availability of an appropriately recognised, trained and qualified professional and volunteer workforce that will meet the demand for quality hearing services and support.

Shortages of regional, rural and remotely-based clinicians, Aboriginal and Torres Strait Islander hearing health professionals, teachers of the deaf, audiometry nurses, and Auslan interpreters are presently known or forecast. A large and often overlooked volunteer workforce make a significant contribution, ranging from individuals caring for family members to volunteers working in aged care or supporting people in regional and remote areas, through to consumer and community groups of all shapes and sizes.

The high level of government engagement in the sector necessitates high quality evidence through wide-ranging data capture and analysis, and high levels of accountability.

Audiologists and audiometrists are key primary health care professionals working in prevention, assessment and non-medical treatment and rehabilitation of hearing and balance disorders, while ENT specialists diagnose and treat diseases of the ear, and carry out medical and surgical treatments for certain types of hearing loss.

Audiologists and audiometrists are not presently required to be registered with the Australian Health Practitioner Regulation Agency framework as their professions are deemed to be of low risk to public safety. However, as audiologists and audiometrists are the front line of primary hearing healthcare, professional and ethical standards of practice and codes of conduct need to be of a high standard, with professional bodies supported to maintain those standards under a self-regulatory framework.

It is not only the audiological-specific workface that requires attention. The audiometry nursing and the wider primary care workforce in many parts of remote, rural and regional Australia suffers from high staff turnover, lack of appropriate training, and failures to adhere to best practice management.

There is a national shortage of Auslan interpreters but despite increased pressure caused by the introduction of the NDIS, there is no strategy to accommodate the increased demand. There is also a poor understanding in the community, among families and in schools and other institutions, of the communication needs of deaf children and those with hearing loss, who often have difficulty expressing their needs.

Desired Outcomes

- Australia has a highly trained and qualified professional workforce recognising technical skills and knowledge that can meet the demand for a range of hearing health services and the education needs of people who are deaf and hard of hearing.
- The number of Auslan interpreters receiving professional training is significantly increased.
- There are increased numbers of appropriately qualified captioners.
- The numbers of audiometry nurses and Aboriginal and Torres Strait Islander hearing health workers is significantly increased.
- Hearing health best practice is embedded in primary health care, particularly in rural and remote Australia, and effectively interfaces with other health professions, to provide health services to the deaf and hard of hearing and assist them in accessing services and supports.

Key Actions

Short Term (next two years)

- Undertake a wide-ranging national workforce, training and skills audit and identify gaps and strategies to address these gaps, including future demand and the kind of workforce that will be needed.
- 2. Determine the future demand for Auslan services and consider possible options, such as incentives, to encourage people to undertake Auslan training.
- 3. Foster a self-regulatory environment with high quality standards and codes of conduct for audiologists and audiometrists. This includes clear information for consumers on any specific expertise an audiologist or audiometrist may have.
- 4. Incentivise hearing health professionals servicing rural and remote areas, particularly Aboriginal and Torres Strait Islander communities.
- 5. Telehealth is made more accessible for hearing healthcare practitioners to provide services to consumers, particularly those living in rural and remote communities.

- 6. Strengthen the Aboriginal and Torres Strait Islander workforce to deliver hearing health services. This would include support for Aboriginal Health Workers to develop skills in hearing health.
- 7. Ensure that there are sufficient other hearing health professionals to meet demand, particularly teachers of the deaf and nurse audiometrists.
- Develop options to address the shortage of ENT clinicians, particularly in rural and remote regions.
- 9. Publicly recognise the skills and expertise of the workforce.
- 10. Publicly recognise the contribution made by the volunteer workforce, and increase financial assistance provided to community and consumer groups.
- 11. Develop a suite of workforce metrics to inform research and monitoring.

Medium Term (three to five years)

- 1. Develop and deliver hearing awareness training:
 - for aged care staff, from registered nurses to direct carers and the teams of Quality Surveyors employed by the Aged Care Quality and Safety Commission to monitor aged care facilities.
 - for child care workers, pre-school and school teachers, particularly in regions with a high proportion of Aboriginal and Torres Strait Islander children.
 - for primary health care staff, particularly Aboriginal and Torres Strait Islander health workers and other health professionals in rural and remote areas.
 - for justice and education sector agencies to ensure they have in place strategies that support people with hearing loss being identified early and supported to gain equitable access to appropriate services.
- 2. Improve support to deaf and hard of hearing people with mental health issues by training:
 - mental health professionals about hearing loss and deafness.
 - Auslan interpreters on medical terminology associated with mental health services.
- 3. Enable more tertiary education and training places and encourage measures to promote the hearing and education professions to enhance the workforce pipeline and undertake continuing professional education.

- 1. Enhance the workforce regulatory framework to ensure consistent high professional and ethical standards are applied across the hearing professions.
- 2. Foster mandatory accreditation of hearing services through a quality and assurance agency that includes workforce in its remit.



Roadmap for Hearing Health

Hearing Health Sector Committee Supporting all Australians who are deaf or hard of hearing to live well in the community