Appendices

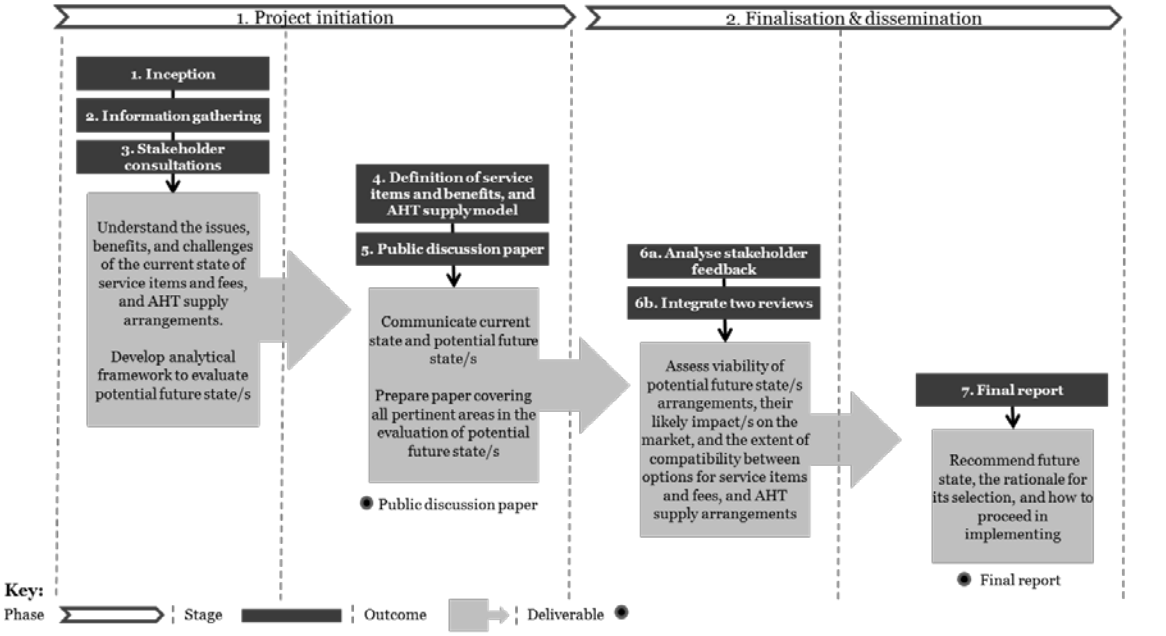
Appendix A Approach

The approach to the review of services and technology supply in the VS combined contemporary social research methods with the need to achieve the outcomes sought by the Department. As a result, the activities undertaken throughout the review were informed by the need to evaluate alternative service delivery models that could support improved client outcomes, business processes, reduce administrative burden, and provide better value for money for stakeholders.

Summary of approach

Across both reviews, two major phases were completed– each made up of multiple stages (see Figure 14).

Figure 14 Approach summary, by phase and stage



Public discussion paper:

- The paper was prepared as a conduit to receiving feedback from stakeholders on the assumptions used to underpin the potential future states of service items and fees, and supply arrangements of AHT; the validity of the proposed future states; and the likely market impact and level of support of key market and stakeholder groups relating to the proposed future state.

Final report:

- The report includes a summary of feedback on the proposed future state of service items and fees, and supply arrangements of AHT; a list of stakeholders, dates when consulted, and a summary of the feedback on the proposed future states; key findings, including analysis of feedback received on the public discussion paper, the implications of the proposed future state being adopted, and the fiscal impact on government; a recommended list of service items and fees, and supply arrangements for AHT; and conclusions on how Health can implement the recommended future states.

Key tasks were

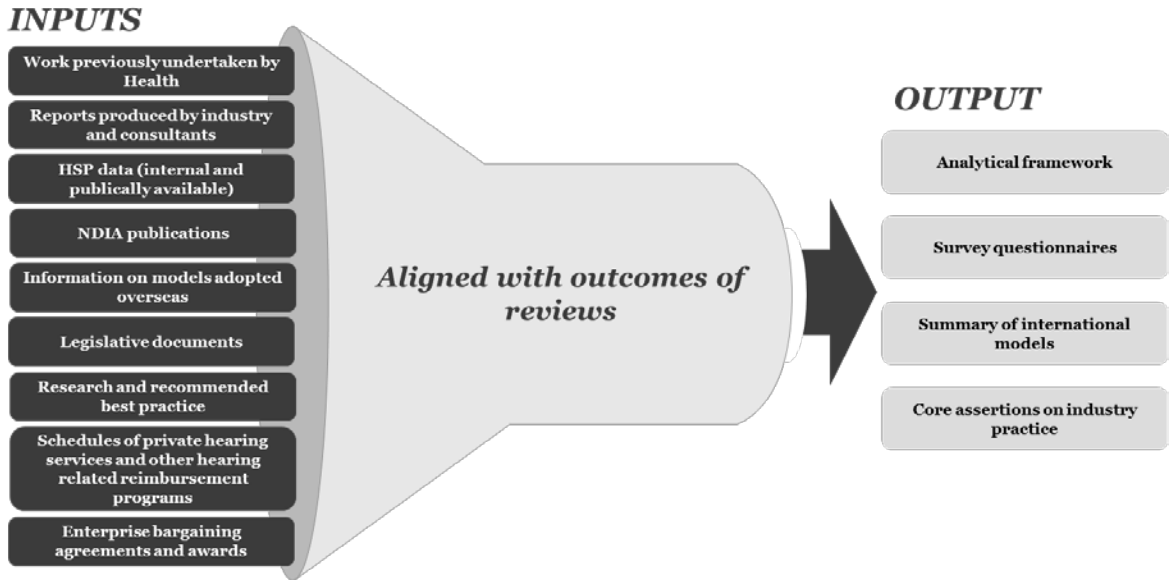
- Information gathering
- Survey questionnaires
- Stakeholder consultations
- Definition of alternative models
- Public discussion paper, and
- Modelling of alternative models.

Information gathering

This stage generated the evidence-base to support the evaluation of current and alternative service delivery models. Information gathered facilitated the development of an analytical framework, survey questionnaires, a summary of international models (see Appendix D) and a range of core assertions on industry practices. Together, these outputs were able to contribute to a more robust approach to undertaking stakeholder consultations and defining viable alternative models (including their modelling).

The process of generating such outputs has been depicted in Figure 15. It shows that information from a broad range of data sources (the inputs) were assessed for relevancy to the outcomes sought by the Department. In doing so, pertinent factors to evaluate the efficiency and effectiveness of hearing services and AHT provision were identified.

Figure 15 Information gathering process



Survey questionnaires

A survey questionnaire was developed based on information gathered in the early stages of the Review of the supply of Assistive Hearing Technology (RoAHT). As a result, the survey was applicable only to RoAHT and not the Review of Service Items and Fees (RoSIF). The survey questionnaire consisted of two instruments, one completed by DMs and the other by CSPs. The purpose of the survey was to

- inform questions and discussion points during stakeholder consultations
- identify behavioural tendencies of firms (both DMs and CSPs)
- understand factors such as average profit margin per AHT, average revenue per firm, clientele, and number of AHT (among other variables)
- determine the views of DMs and CSPs on components of the current supply arrangement, and
- verify that internal VS data is consistent with survey responses.

Responses totaled 381 across both survey questionnaires (22 for DMs, and 359 for CSPs), and informed stakeholder consultations for RoAHT, while also identifying areas for further inquiry. Questions asked in the surveys are included at Appendix G.

Stakeholder consultations

Stakeholder consultations had two primary aims

1. to facilitate the identification of contextually relevant factors to the Australian market, particularly as they relate to the VS, and
2. to canvass and consider views expressed by a range of different stakeholders.

Consultations helped to identify and understand the benefits and challenges of the current service delivery model as they affected stakeholders who interact with the VS. Additionally, stakeholder input conveyed a broader range of issues from many perspectives, which may not have been considered if the review relied solely on information expressed in research.

Consultations were delivered either through face-to-face meetings, teleconference, or visits to clinics. Stakeholders consulted included representatives from government, industry associations, consumer groups, and PPBs (including practitioners). Consultations took place in two tranches and focused first on service items and fees, and subsequently, on the supply arrangements of AHT.

Once all stakeholder consultations were completed and responses recorded, open coding methodology was used to identify key themes. 72 stakeholders were consulted, involving over 40 hours of direct contact. An overview of the stakeholders consulted during this stage can be seen at Appendix H.

Definition of alternative models

A range of possible alternative models were defined by leveraging the evidence-base of the information gathering stage, the themes found during stakeholder consultations, and the outcomes sought by the Department. This stage included consideration of possible mechanisms employed in international jurisdictions, ways to retain the benefits of the current service delivery model, and ways to address the challenges.

The alternative models deemed most viable based on research, precedence, and stakeholder feedback were included in the public discussion paper.

Public discussion paper

The public discussion paper aimed to test the findings and analysis of previous stages with hearing sector stakeholders (such as clinical practitioners, manufacturers, PPBs, and consumer interest groups).

The Web Content Accessibility Guidelines (WCAG) AA compliant paper could be accessed and read by any interested member of the public on the Department's website for a period of 8 weeks from 26th April 2017.

The paper communicated information relating to the benefits and challenges of the VS (particularly as it related to the current service delivery model), identified potential alternative models, and analysed the merits of implementing the alternative models presented. As a result, the paper was developed in a manner conducive to testing the

- assumptions underpinning potential future states of service items and fees, and supply arrangements of AHT
- validity of the proposed future states
- likely market impact, and
- level of support towards, or resistance against, proposed future states.

A total of 37 responses were received from stakeholders. The list of discussion paper questions is available at Appendix I.

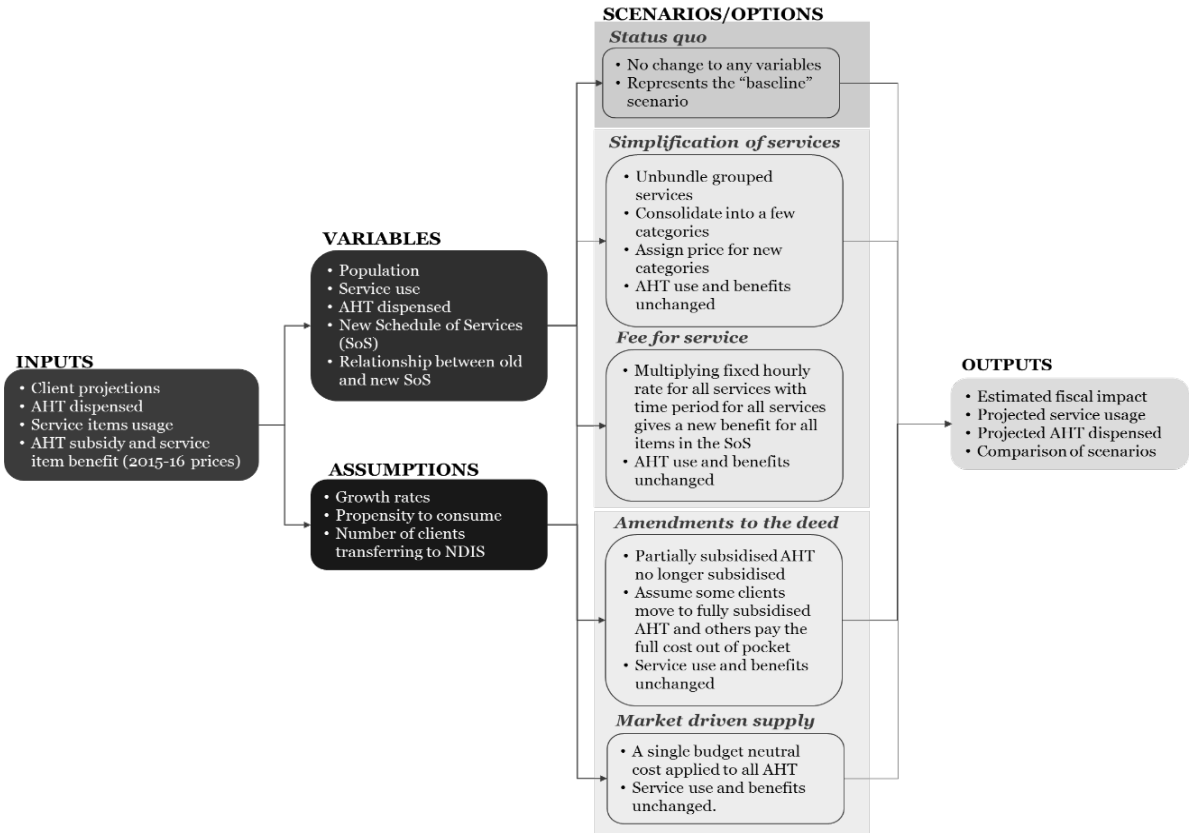
Modelling of alternative models

A model was developed to help identify the fiscal impact of a set of alternative models, the projected change in service usage, and the projected AHT dispensed. This would provide a basis on which to compare alternative models to the status quo situation. It would also allow alternative models to be integrated and their net impact determined. A model overview can be seen at Figure 16. Further details of the approach to the modelling alternative models are included in Appendix F.

The modelling process considered the following

- Population and service projections by eligibility type to 2025-26 from the Department's Population Model used as inputs, with 2015-16 set as the 'baseline' year.
- AHT projections were not in the Department's Population Model, and usage was extracted from 2015-16 HSO data provided by the Department. The usage rates for 2015-16 by eligibility type were calculated, and applied to population projections in order to project AHT dispensed in future years.
- The 2015-16 Schedule of Fees was used for the prices of AHT and service items, and all projections were kept in 2015-16 prices.
- User inputs were made available to alter the assumptions for population, service and AHT projections.
- A functionality to redesign the schedule of services was included, giving users the flexibility to change, group or separate service items if required.
- An output functionality applies any assumptions, and then summarises to calculate the total expenditure for a particular set of assumptions. It can also compare across a range of scenarios to indicate the likely impact of a particular option.
- The Efficient Price Impact (EPI) model only has projections for the VS, and does not consider the CSO program.

Figure 16 Overview of EPI Model



Constraints to application of approach

While implementing the approach described above, a range of constraints (see Table 26) were identified. The constraints relate to the reliance on external sources of information and data (some already published, and others yet to be published) as references and inputs to develop the evidence-base. Slight modifications to certain approaches assisted in mitigating the impact of these constraints on the review.

Table 26 Description of constraints to approach

Constraint	Description
Data limitations	Lack of longitudinal data, incomplete data sets, or fragmented approaches to data collection and analysis in third party material used in the information gathering process.
Biased stakeholder responses	Cognitive biases influencing the accuracy of responses provided by stakeholders during consultations, surveys, and questions in the public discussion paper.
Ongoing parliamentary inquiries	Findings, outcomes, and recommendations of the Joint Standing Committee on the National Disability Insurance Scheme and the Standing Committee on Health Aged Care and Sport yet to be finalised.

Appendix B Eligibility Criteria to HSP

Regardless of stream (i.e. VS or CSO Program), eligibility to the HSP requires the individual to be either an Australian Citizen or a Permanent Resident above a particular age. For those young adults aged 21 to 25 (inclusive), they access hearing services through the VS (if in the eligibility criteria listed below) or through the CSO.

Differences in eligibility requirements are based on the complexity, vulnerability, and risk of undesirable social and economic outcomes for those eligible.

Participants in the NDIS may be eligible for access to the HSP if they are referred for services by their NDIS planner.

Voucher Scheme (VS)

To be eligible for the VS, individuals need to be an Australian Citizen or a Permanent Resident that is 21 years or older. They also need to be

- a Pensioner Concession Card Holder
- receiving Sickness Allowance from Centrelink
- the holder of a Department of Veterans' Affairs (DVA) Gold Card for all conditions
- the holder of DVA White Card for specific conditions, including hearing loss
- a dependent of a person in one of the above categories
- a member of the Australian Defence Force, or
- part of the Australian Government funded Disability Employment Services (DES) and are referred to the VS by your DES case manager.

Community Service Obligation (CSO) Program

To be eligible for the CSO Program, Australian Citizenship or Permanent Residency is required. In addition, the individual needs to be

- a VS eligible client who has complex hearing or communications needs, or lives in a remote area/s
- an Aboriginal and/or Torres Strait Islander who is
  - 50 years or older
  - is a participant in the Community Development Programme (CDP), or
  - was a part of the Community Development Employment Projects (CDEP) program on or after 30 June 2013, ceased participating in the program, and was receiving hearing services from AH prior to ceasing participation.
- any person under 21 years of age who is
  - an Australian Citizen
  - a Permanent Resident, or
  - a young NDIS participant.

Appendix C AHT available through the NDIS

The following AHT are available through the NDIS, as indicated in the NDIA's AT and Consumables Code guide valid from 1 July 2016, released 2 December 2016.[250]

Table 27 Hearing aids

Support Item	Description
Hearing aid (one) higher needs amount in addition to HSP subsidy	Monaural hearing device for voucher clients with higher needs from HSP Top-Up Schedule (amount in addition to HSP subsidy).
Hearing aid (two) higher needs amount in addition to HSP subsidy	Binaural hearing devices for voucher clients with higher needs from HSP Top Up schedule (amount in addition to HSP subsidy).
Hearing aid battery and consumables supply	12 months battery supply, per hearing aid.
Hearing aid maintenance HSP voucher client contribution	Annual maintenance contribution fee.
Hearing aid replacement fee HSP devices - over 25yrs not DVA	Replacement fee for hearing aids through HSP for those older than 25 who are not covered by Department of Veteran Affairs.

Table 28 Implantable technology

Support Item	Description
Cochlear and other implantable processor repairs	Payable only if manufacturers invoice for repairs is retained.
Cochlear implant speech processor and coil	The external part of the cochlear implant which picks up speech and processes the sound.
External components for other implantable devices	External components for a range of implantable devices other than cochlear implants for people unable to use conventional hearing aids, including bone conduction devices and middle ear implants.

Table 29 ALD

Support Item	Description
Telephone Coupler	Small portable device that attaches to the earpiece of the telephone and amplifies sound.
Tinnitus Reduction Device	May include higher technology hearing aids with tinnitus programs or stand-alone maskers and suppressors.
TV Device for Hearing Assistance	Systems for delivering sound directly from the TV to the ear.
Vibro Tactile Devices	A device that picks up sound and transforms it into a vibrating signal that is felt by the individual.
Adapted Landline Telephone	Telephones with features including amplified sound, different ring pitch and visual alerts using wireless Bluetooth with a landline.
Baby Cry Alerting Systems for Hearing Impaired	Visual or vibrating alert for those hard of hearing.
Induction loop devices	Designed for individual use in private and public situations including reception counters, meetings and other appointments.
Loudspeakers	Device that increases the volume of a sound.
Music Devices	Portable couplers that allow individuals with hearing aids to access music via audio devices.
Personal Amplifiers / Binaural Listener	Personal sound amplifiers can be worn, systems usually consist of a small box with a microphone to pick up sound which is then amplified and sent to the ears via headphones or earbuds.

Support Item	Description
Radio frequency transmission systems for hearing	Remote microphone sound transmission systems can be used to overcome difficulties with distance, background noise and reverberation.
Remote control	A remote control that enables changes to be made to hearing aids without touching the hearing devices. It allows access to volume and program changes for people with poor or nil manual dexterity and for use by carers.
Smoke alarm adapted for hearing impaired	Visual alert or vibrating smoke alarm packages for those hard of hearing.
Streamer	Enable wireless access to accessories such as mobile phones, MP3 players and audio devices for individuals with hearing aids.

Appendix D Summary of International Models

With an understanding of the benefits and challenges of the HSP, it is important to compare the Australian model of hearing services and supply of AHT against other countries. Insights drawn from the comparison can be leveraged to develop and evaluate alternative models of service delivery under the HSP.

Figure 17 International service items and fees

US Medicaid program in the State of New York	**US Medicare program**
Reimbursement for hearing services dependent on provision of hearing aid. 45-day trial period for a hearing aid/s. Reimbursement amount differs depending on whether or not a written declaration of benefit, from use of the hearing aid, was made by the patient at the end of the trial period.	Reimbursement amount based on a calculation of a statutory formula that considers the costs associated with professional work, technical expenses and professional liability insurance. Negative Payment Adjustments are made to claims by providers who do not meet reporting requirements.
Private Providers of Audiological Services in the US	**Germany**
Unbundled model for pricing of services. Adoption of Activity-Based Costing methodology to determine pricing of service.	Publicly funded hospitals provide hearing services where the reimbursement is determined through Diagnosis-related Groups (DRG). Private practices are reimbursed through fee-for-service.
United Kingdom	**New Zealand**
The National Health Service provides hearing services to eligible clients based on clinical need rather than ability to pay. Price for providers set to a national tariff or by local CCG. Providers compete on quality not price.	The Ministry of Health has two hearing aid schemes which only fund the cost of an AHT not hearing assessment or fitting services. As of July 2016, Enable NZ took over the management of the provision of hearing services for adults and children. Life Unlimited manages rehabilitation services.[251]
Canada	**Sweden**
Hearing services benefits are closely linked to the provision of a hearing aid. Criteria for payment includes the Province/Territory of residence, the age of the recipient of services, and whether or not a hearing aid is the end-result of the services provided.	Hearing healthcare system is publicly financed and administered by local authorities. Depending on the county, the patient may be charged a co-payment for the testing and fitting of a hearing aid, or for entry to the health clinic. Private firms also provide hearing services and aids, which are not government funded.

Figure 18 International supply arrangements

United Kingdom	Canada
Tender model The National Health Service (NHS) Supply Chain exclusively procures AHT through a formal tender arrangement with 8 AHT manufacturers. Advantages Economies of scale. Free AHT to clients. Dedicated account managers. Minimum quality of device assured. Disadvantages Significant waiting times. Lower compliance and satisfaction rates. Limited range of AHT. Restrictions on technology available.	Provincial Coverage model Provinces/Territories have jurisdiction on how to manage supply arrangements (e.g. eligibility requirements, subsidy amount, and range of AHT accessible). Advantages Diverse range of AHT available. Up to 100 per cent of the cost of AHT and accessories can be covered. Disadvantages Eligibility, subsidy, and approved AHT differ by Province/Territory. Cost to client differs based on procurement approach.
US Veterans Affairs Rehabilitation and Prosthetic Services	**US Multi-State Agreement**
Tender model The US Department of Veterans Affairs has contractual arrangements with 6 AHT manufacturers, allowing veterans to receive free AHT, repairs, and batteries. Advantages AHT and certain accessories free to client. Clients can order accessories online. Disadvantages Restriction on range of AHT. Additional administrative tasks required of client.	Contractual arrangement model A multi-state cooperative agreement between the State of Maine, Minnesota, Michigan, Wisconsin, and 10 AHT manufacturers offer significant discounts on AHT. Advantages Price to pay for AHT, by manufacturer, publically available. Reduced cost of AHT. Reduced cost available to municipalities, school districts, and other public entities. Disadvantages Restriction on range of AHT.
New Zealand	
Outsourced Intermediary model The Ministry of Health set the terms and conditions of AHT provision and outsource the management of AHT supply to an intermediary (EnableNZ).	Advantages Minimum standard of quality for AHT through approved AHT list. Information asymmetry reduced via publication of booklets. Key Performance Indicators imposed on intermediary. Up to 100 per cent of cost AHT can be covered. Disadvantages Reviewing applications creates added administrative burden. Concerns over eligibility and equity of access.

United Kingdom

The United Kingdom (UK)[252] provides hearing assessments and AHT to eligible patients under the National Health Service (NHS). Eligibility is based on clinical need rather than ability to pay. Patients are required to visit their general practitioner who will then assess whether the patients are eligible to be referred to an NHS audiology specialist. Patients can choose to access services from an NHS specialist that is registered with the Health & Care Professions Council,[253] and is listed under the Any Qualified Provider scheme). Alternatively, patients can see a qualified private audiologist or hearing aid dispenser. The price paid to the provider by the NHS is set the by Clinical Commissioning Group (CCG) for the local area or is a national tariff. Providers can compete on quality only not price and there is a minimum quality standard. Providers are not guaranteed a certain volume of patients.

The UK adopts a Tender model as its preferred supply arrangement. As part of this arrangement the national provider, the NHS, manages the procurement of AHT and associated accessories for eligible clients. [254] Currently, there are 8 AHT manufacturers or wholesalers servicing the UK market.[255]

Many of these AHT manufacturers or wholesalers also operate in other jurisdictions such as Australia, and the USA (via the Multi-state agreement – see below), allowing them to provide the large volumes of AHT that are demanded in the UK through this supply arrangement.

By being able to procure such a large number of AHT, the UK supply arrangement benefits from economies of scale – or in other words, a significant reduction in the cost of the AHT, meaning significant savings for government. As AHT and reasonable accessories are free to the client, there are also minimal out-of-pocket expenses for the client. This applies to hearing aids, ear moulds, hearing aid batteries, and cochlear implants. In 2010, it was estimated the price paid by NHS for a hearing aid averaged £300-£400 (for the AHT alone), while the retail price was £725 or more.[256]

An additional benefit includes the use of dedicated account managers allowing a day-to-day contact for a clients' queries. By having dedicated account managers, the issues of a client can be answered in an expeditious manner by someone who is familiar with the environment and factors affecting the client. It also allows an invested 3rd party to evaluate whether the client is identifying and making the most out of possible saving opportunities.

The UK supply arrangement also provides quality assurances by ensuring that the procurement processes are compliant with the European Union (EU) procurement regulations. The quality of AHT is also regulated, with any new AHT required to be on the National Framework Agreement. Any AHT on the Framework has been clinically evaluated by the Audiology Supplies Group (ASG), ensuring a minimum quality in the AHT offered.

The Tender model results in clients facing significant waiting times for access to AHT, relative to private hearing aids. At present, the demand for AHT is greater than the number of hearing specialists able to supply the demand. This is due to the bottlenecks that exist in the clinical pathway, with clients having to visit a GP to get a referral to a hearing specialist prior to receiving an AHT.[257] This issue has been identified by NHS, resulting in the NHS adopting it as a key performance metric.[258]

Research into AHT supply arrangements found that the level of compliance and satisfaction ratings for the UK supply arrangement were relatively lower than equivalent EU programs.[259]

The range of AHT and technology available has also been identified as a major disadvantage of the UK supply arrangement. As a client, choice of AHT is restricted, making it likely that clients are fitted with Behind-the-ear or Open-fit model.[260] The Tender approach results in the available stock of AHT becoming restricted, relative to those AHT available through private channels.[261] New technology is also affected as clients are only able to access AHT that were included at the time of the tender agreement, with newer models not being made available to them after this time.

Canada

Canada[262] provides free healthcare to eligible persons. With respects to hearing services, the healthcare system benefit is linked closely to the provision of a hearing aid. The criteria that determines whether or not a benefit is payable includes

The jurisdiction (i.e. the Province/Territory of residence)

The age of the recipient of services, and

Whether or not a hearing aid is the end-result of the services provided.

The Canadian AHT supply arrangement differs depending on the Province/Territory that a client resides in. Although certain financial support is available to Canadian citizens and permanent residents through social security and/or disability programs, access to AHT is determined based on geography. The Province/Territory has jurisdiction on the management and administration of the AHT supply arrangements, which includes aspects like who is eligible, how much of a subsidy is available, and the range of AHT that is made accessible. The type and price of AHT is negotiated between the Provincial government and the manufacturer or wholesaler directly in some cases, while in other cases, the AHT is procured

from a cooperative agency like the Atlantic Provinces Special Education Authority (APSEA).[263]

Given that each Province/Territory deals directly with the AHT manufacturer or wholesaler there is a more diverse and sophisticated range of available AHT – although they are not uniform across Provinces. This advantage is in part associated with the 'flat-rate' reimbursement system evident in various Provinces.

Another major advantage of the Canadian supply arrangements is that it can cover up to 100 per cent of the cost of AHT and accessories. Depending on the eligibility status of the client, and their particular circumstances, certain Provinces provide relief through complete subsidisation of the AHT. This is seen, for example, in Newfoundland and Labrador where 100 per cent of the cost of the hearing aid is covered (excluding batteries). This applies for those under 18 years of age, full-time students, and adults deemed unable to pay as per a government financial assessment.[264]

Disadvantages of the program include the lack of uniform national coverage. As the supply arrangements are based on the Providence/Territory where the client resides, eligibility, subsidy, and approved AHT are not equal for all. As a result the cost to the client differs significantly based on the procurement approach adopted.

In addition, the lack of coordination and collaboration between Provincial and government departments mean that potential synergies such as economies of scale are not fully captured.

US Medicaid program in the State of New York

The US Medicaid program in New York[265] is an output-based model that is dependent on the provision of a hearing aid. The reimbursable amount varies, depending on whether the client signs a "written confirmation of benefit of use of the hearing aid" after a trial period of 45 days. In such a situation where the aid has rendered some benefit to the patient, the provider will be reimbursed an amount[266] for the hearing aid and a dispensing fee for the services provided to the patient. Where the hearing aid is deemed to be of no benefit to the patient after a 45-day trial period, then a portion of the total dispensing fee, which represents an administrative component, will be paid. Reimbursement for hearing aids also differ according to whether they are monaural or binaural.

US Medicare program

The US Medicare program[267] - applicable to people over 65 and those with a disability – reimburses audiology services at different rates, depending on a number of factors. Not all services provided by an audiologist are covered by Medicare. The program also requires annual reporting by providers. In some cases, reporting needs to be done every time a particular type of patient visits. Given changes implemented by the *Medicare Access and CHIP Reauthorization Act* of 2015, rates associated with individual Current Procedural Terminology (CPT) codes are currently changing to reflect adjustments in the calculation of fees. If certain reporting benchmarks are not met in line with the Physician Quality Reporting System, providers will see a negative 2 per cent adjustment to their claims. The factors affecting the benefit payable includes

- The location of the services whether or not they were conducted at a hospital site, or off it (the payment for audiology services differ depending on setting, with rates for services provided at a 'facility' (e.g. at a hospital) lower than the 'non-facility' rates to factor in higher fixed costs)
- The particular CPT code applicable to the procedure
- The particular Relative Unit Value268 applicable to the procedure, and
- The statutory conversion factor that applies to the procedure.

US Veteran Affairs Rehabilitation and Prosthetic Services

For eligible US Veterans, the US Department of Veteran Affairs has adopted a Tender model as the means to supply AHT. The department established a contractual arrangement with 6 AHT manufacturers, which gives eligible veterans the right to receive free AHT, repairs, and batteries.

By negotiating directly with AHT manufacturers, and agreeing to a fixed price for particular types of AHT, the supply arrangements have enabled the provision of free to client AHT in a way that minimises the cost for the government. In addition, the supply arrangement caters to its clients by allowing them to order accessories and batteries online. This reduces the inconvenience of having to see a service provider every time they require new accessories or batteries.

As the contract limits the range of AHT to lock-in a better price for government, it may hamper clients in acquiring AHT that are relatively newer or have certain technology or features that were not common place at the time that the tender arrangement was agreed to. In addition, these supply arrangements do place certain administrative tasks back onto the client.

US Multi-State Agreement

A supply arrangement between multiple states in the US has resulted in a 'contractual arrangement' model being adopted by the states of Maine, Minnesota, Michigan, and Wisconsin, and 10 AHT manufacturers or wholesalers. This is slightly different from a Tender model in that contractual arrangements are also entered into between the procurement arms of the respective state governments. The 'Hearing Aid Procurement Program' put the procurement contracts in place to service clients involved in State programs. Although these were the primary clients catered to, the program can be used by any state agency to achieve significant discounts on a select range of AHT.[269]

This supply arrangement allows significant reductions in the cost of an AHT. This is achieved based on the volume of AHT that are procured through the program – achieving economies of scale for AHT manufacturers. This means that there is also reduced cost to government from achieving a reduced AHT cost. The range of parties that have access to the prices negotiated in the contracts is also a major advantage. As such, relevant state agencies, municipalities, school districts, and other public entities are entitled to access the reduced costs of the AHT in the program.

Information on the range of AHT and their agreed-to price are publically available. This makes sure that all parties who have a right to receive the benefits of the contract are aware of the type of AHT and their price – increasing the eligible party's consumer literacy. The contract does restrict the number of AHT available, as it is not dynamic to additions of new AHT.

Private providers of audiological services in the US

Private providers of audiology services in the US[270] are adopting an unbundled model, which itemises services provided to patients. In such a model, the price of the hearing aid is billed separately from the services provided. The way that pricing is formulated under this model is based on something similar to activity-based costing. The total cost of operating, plus a lump-sum amount for profit desired, is divided by the total number of hours worked, which provides the cost of service on an hourly basis. The costs of non-clinical staff, overheads, and equipment maintenance expenses are included in the total cost of operating.

New Zealand

As of July 2016, Enable NZ took over the management of the provision of hearing services for adults and children.[271] Life Unlimited manages rehabilitation services.

Enable NZ administers two hearing services schemes

- Hearing aid subsidy scheme, and
- Hearing aid funding scheme.

Both are AHT focused and do not cover the costs of hearing assessments, fittings or maintenance in private practice but patients can receive hearing services at minimal cost in public hospitals. District Health Boards offer hearing assessments through a hearing therapist at no cost and patients eligible for Government funded services can be referred to a private audiologist.

The NZ Ministry of Health also funds Accessable and Life Unlimited. Accessable is able to fund the provision of hearing aids, equipment, and housing alterations for people with a disability.[272] Life Unlimited delivers free hearing therapy services, rehabilitation, and independent advice on using hearing aids and/or other AHT and communication strategies. Life Unlimited does not sell or fit hearing aids.

The NZ government adopts an 'outsourced intermediary' model to supply AHT to eligible clients. As part of this national model, the Ministry of Health sets the terms and conditions of AHT provision, while the day-to-day administration and management of AHT supply is outsourced to EnableNZ (a private enterprise).[273] Duties of EnableNZ include

- setting requirements for service providers to be able to claim for payment
- deliver services, including rules for provision of AHT
- manage and monitor services and AHT provided, and
- management of contracts with 10 AHT manufacturers and wholesalers.

For AHT to be available in NZ, AHT manufacturers have to provide compliance and testing information to the School of Population at the University of Auckland. As hearing aids are defined as a medical device in NZ, the AHT submitted for inclusion must have first passed the therapeutic device standards for entry into NZ – a service conducted by the New Zealand Medicines and Medical Devices Safety Authority (MEDSAFE).[274] These two screening processes allow for a minimum standard of AHT quality in NZ, while allowing specialists to ensure that eligible clients are given quality AHT that can meet their hearing needs.

As part of the NZ supply arrangements, AHT are available through the

- Hearing Aid Subsidy Scheme (which offers a fixed rebate of $511.11 including GST per hearing aid to eligible clients),275 and
- Hearing Aid Funding Scheme (which covers only the cost of the hearing aid and accessories essential for the clients hearing needs).276

Cochlear implants are treated separately from hearing aids in NZ. The Ministry of Health provides funding for cochlear implant to clients who meet all eligibility criteria. A total of NZ$8 million is funded for implants and associated support each year.[277]

The NZ supply arrangements also provide significant publically available information to clients and other interested stakeholders. Access to information is available through multiple websites including those of the Ministry of Health and EnableNZ. Together, the information is provided in a clear way with minimal overlap in content. In addition, a booklet is produced for each scheme to inform clients on their rights. Information asymmetry is reduced by providing overviews on the difference between types of hearing aids and the price expected to be paid for them.

Given that the NZ supply arrangements are managed and administrated by a private-entity, key performance indicators are imposed on the intermediary. This allows the Ministry to push for improvements in the provision of AHT. Failure to do so might entail a loss of contract when it is up for renewal. Another advantage of the program is that vulnerable clients may have up to 100 per cent of costs of AHT covered.

Germany

Germany[278] adopts a contribution-based social insurance model. This means that all citizens must have either public health insurance or private health insurance.[279] Hearing services are provided in public hospitals for those under public health insurance. Diagnostic-related Groups (DRGs) were adopted in public funded hospitals to determine the reimbursable amount for the provision of a hearing service (see Chap.VIII, Block. H90-95 in the ICD-10 International Classifications for specific DRGs related to diseases of the ear and mastoid process).[280] Adoption of a DRG-based model means that similar medical procedures are grouped together. These DRGs are then given a code for recording purposes, their values recorded, and an average price of the service determined using available data (which is updated on a yearly basis). This average price is what will be reimbursable for the provision of the hearing services. Those citizens who are covered by public health insurance will also have access to hearing aids, if they are required for medical reasons. A maximum outlay is in place, so if the cost of the hearing aid exceeds the outlay, then the individual will have to pay the difference. Private providers of health services are remunerated based on fee-for-service, and not on a lump-sum arrangement. This contrasts the reimbursement of publically funded hospitals, primarily due to private practices not adopting a DRG-based model. For those covered under private health insurance, the same maximum outlay exists for hearing aids.

Sweden

The hearing healthcare system in Sweden[281] is public financed and administered by local authorities. The extent of the public funding differs according to county. While some counties cover the cost of hearing services, with a fixed limit of subsidies per hearing aid, other counties charge the client an additional fee for the testing and fitting of hearing aids. Furthermore, certain counties also charge a small fee to the client, whenever the client visits the health clinic. Private firms also provide hearing services on a fee-for-service arrangement, and with hearing aids subject to market rates.

Appendix E Aspects under the simplification and unbundling of services

The following information relates to the proposed claiming rules, service pathway costing, and differential benefit falling under the simplification and unbundling of services option.

Claiming principles

Table 30 below describes the claiming principles that should guide the creation of new claiming rules under the simplification and unbundling of services. It highlights the need to allow CSPs an increased degree of flexibility and professional judgement, while also ensuring that the Department is able to determine and define how claiming will be administered.

Table 30 Proposed claiming principles

Service item related to	Description
All	All claims must include the date of service. Right to access services ceases 3 years after an assessment is claimed. Services must be provided by a hearing services practitioner, as defined by the Department. Department to determine optimal intervals between claiming items and maximum allowable claims per item based on clinical best practice. After the first year of services, the client has the option to undergo either maintenance or rehabilitation in the second and third year respectively.
Assessment	Practitioner must undertake a clinical assessment of the client's hearing loss, define the client's hearing goals and make a determination on whether the client would benefit from an AHT given their motivation, willingness, and ability to use the AHT.
Rehabilitation	Practitioner must undertake one of the following activities Hearing Rehabilitation Counselling program. Discussion of mechanisms to achieve desired hearing outcomes. Reassessment or follow up of client's progress against their desired hearing outcomes and adjustment of mechanisms accordingly.
Fitting	Practitioner must fit the client with an AHT from Department approved schedule.
Maintenance	Can only be claimed after 12 months from the date of fitting (i.e. in years 2 and 3). If under AHT warranty period, per service for minor repairs and maintenance. That is repairs not covered by warranty and maintenance as defined by the Department. Outside of AHT warranty period, per service for major repairs, that is those previously covered by the warranty, and minor repairs and maintenance as defined by Department.

Service pathway

The following section presents a comparison between the status quo and the simplification and unbundling of services over a voucher cycle.

It is critical to note that providing a true like-for-like comparison at a CSP level is not possible due to the unbundling of services and the complexity around sequencing all 48 items in the current schedule over a voucher cycle. Hence, the impact of the new schedule and its associated fees on a specific CSP will differ depending on their current practices and client mix.

However, a simplified like-for-like comparison is possible at a scheme-level. Aggregate data sourced from the Department's Population Model (prototype, updated 5 June 2017) can be used to compare the differences in fiscal impact and average cost per client over a voucher cycle.

This scheme-level comparison is possible by mapping the old schedule of services to the new, simplified and unbundled schedule of services. Such an approach aligns with the modelling undertaken to identify estimates on fiscal impacts and service usage (see Appendix F for details).

To enable a scheme-level like-for-like comparison, two possible scenarios were costed under the simplification and unbundling of services

1. Projected impact – represents the estimated fiscal impact associated with a simple service pathway. Here, the pathway assumes a broadly consistent approach to the way CSPs provide hearing services. In this regard, it reflects the process of unbundling the current schedule and matching it to the new simplified schedule and its associated prices. Relative to the status quo, FY15-16 spend increases by $37.6m and average cost per client increases by $54, from $348.87 to $403.23.
2. Upper boundary – represents the estimated fiscal impact associated with the same service pathway as in the projected impact scenario. However, it factors in flexibility for claiming additional rehabilitation and support at different parts of the pathway. It also reflects the outcome of all CSPs seeking to maximise the allowance for each voucher. As a result, the upper boundary increases the funding envelope, relative to the projected impact scenario, by 43.7%. Relative to the status quo, it increases FY15-16 spend by $159.3m and average cost per client by $230, from $348.87 to $579.25.

Table 31 demonstrates the estimated fiscal impact and average cost per client compared to the status quo, for the projected impact and upper boundary scenarios.

Table 31 Estimated VS spend and average cost per client associated with the simplification and unbundling of services (FY2015-16)

Scenario	FY15-16 spend	FY15-16 Avg. cost per client [a]
Status quo	$241.3m	$348.87
Projected impact - simplification and unbundling of services [b]	$278.9m	$403.23
Upper boundary - simplification and unbundling of services [c]	$400.6m	$579.25

Source

Department of Health and PwC Analysis.

Notes

FY15-16 spend represents the administrative expenditure associated with the provision of hearing services and AHT. It does not include departmental costs to administer the VS.
a) FY15-16 average cost per client is the average cost over the voucher cycle. It is calculated by dividing the FY15-16 spend under each scenario by the number of financially active clients in FY15-16. As indicated in Table 7, the number of financially active clients in FY15-16 was 691,666. This approach to calculating average cost per client is consistent with that applied in the Department's Population Model (prototype, updated 5 June 2017). Figure rounded to 2 decimal place.

Across all scenarios the following set of assumptions were applied

- The voucher cycle has been assumed to be 3 years in length, as has been the case in the VS since 2012.[282]
- Those who are not ready for an AHT are to receive rehabilitation and support as the next service. This is provided after an assessment.
- Not all clients receive an assessment in Year 1 of the voucher cycle. This reflects that clients may be at a different stage in the cycle (i.e. in Year 2 or Year 3 of the cycle).

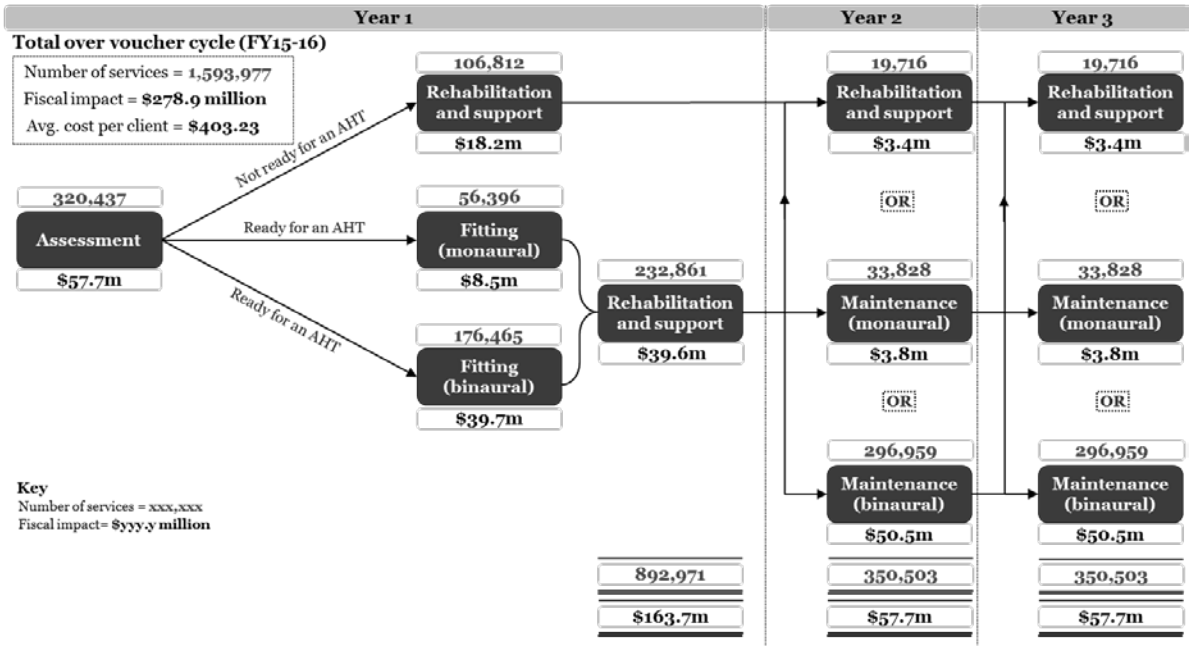
- Number of hearing services under all scenarios are a function of FY15-16 hearing services reported by the Department in their Population Model (prototype, updated 5 June 2017) after mapping to the new simplified and unbundled structure (see Appendix F). This is taken to represent the total number of services over a voucher cycle at a point in time.

The MHLT has not been adjusted.

The following set of assumptions apply to the core estimate scenario, which has been visualised in Figure 19 below.

- Service usage is capped to the number of services resulting from unbundling the current schedule of services (see Appendix F, for their mapping).
- Those who are not ready for an AHT will only be able to access rehabilitation and support services over the entire voucher cycle.

Figure 19 Service pathway costing under the projected impact scenario



Source

Department of Health and PwC Analysis.

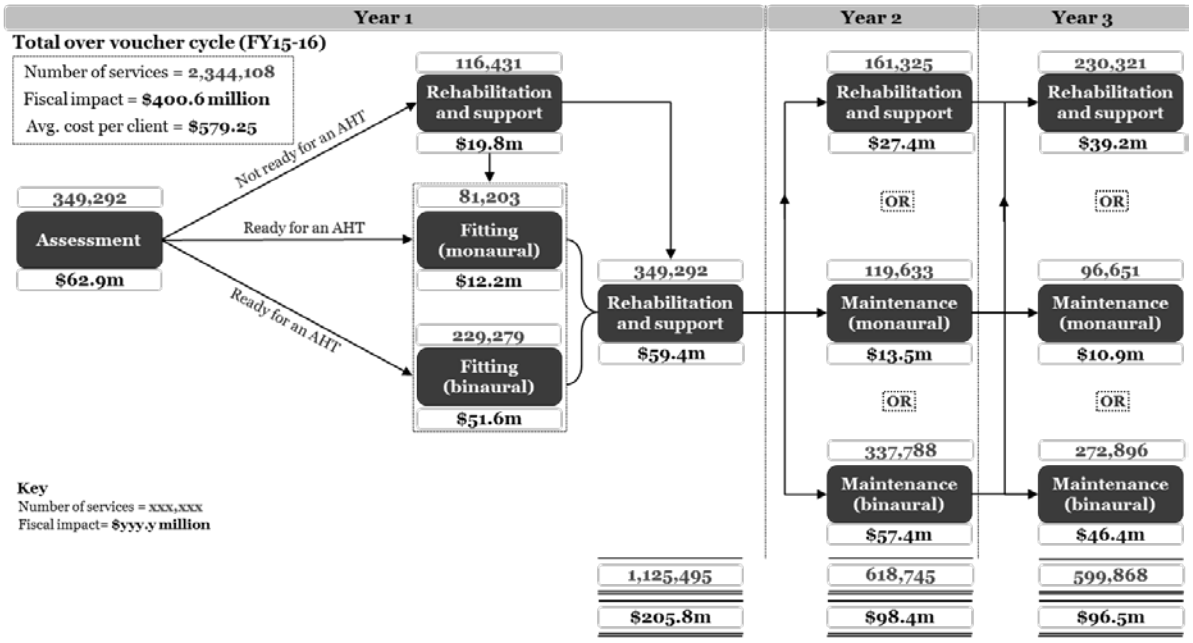
Notes

Number of services and fiscal impact per service item may not sum to their total due to rounding.

The following set of assumptions apply to the upper boundary scenario, which has been visualised in Figure 20..

- Assessments are derived by dividing the number of fittings in the projected impact scenario with the percentage of individuals who are not psychologically ready for an AHT when first treated (67% of assessments[283]). This means that the fittings in FY15-16 are assumed to be clinically appropriate and not solely a profit-maximising activity.
- Clients who receive an initial rehabilitation and support service, and are determined as being psychologically ready for an AHT (67% of initial rehabilitation and support services[284]), are fitted for an AHT. These clients will also be eligible to receive a second rehabilitation and support service after being fitted.
- Clients who are not ready for an AHT after their initial rehabilitation and support service (33%), are eligible to receive a second rehabilitation and support service.
- Those clients who receive a fitting, regardless of whether they received an initial rehabilitation and support service, are able to receive a second rehabilitation and support service.

Figure 20 Service pathway costing under upper boundary scenario



Source

Department of Health and PwC Analysis.

Notes

Number of services and fiscal impact per service item may not sum to their total due to rounding.

Differential benefits

The recommended prices have been mapped to the current schedule of services and compared to the total benefit claimable in FY15-16. This has been depicted in Table 32 below.

Table 32 Differential benefit under the simplification and unbundling of services

Item number	Service description	Total benefit (incl. GST, FY15-16)	Equivalent benefit under recommended price (incl. GST, FY15-16)[a]	Differential benefit (incl. GST, FY15-16)[b]	Fiscal impact of differential benefit (FY15-16)
3	Dispensing Fee	$25.60	$215.00	$188.94	$1,511
6	Miscellaneous	$160.24	$142.00	-$18.74	-$3,411
600	First Assessment	$134.35	$180.00	$45.65	$4,689,305
610	Audiological case management	$42.65	$180.00	$137.35	$1,483,929
630	Initial fitting, rehabilitation and maintenance- Monaural	$429.39	$433.00	$3.61	$33,068
631	First H/Aid Fitting with a Non Follow up appointment-Monaural	$214.99	$150.00	-$64.99	-$7,734
635	Initial fitting, rehabilitation and maintenance- NAD	$193.85	$499.00	$305.15	$62,556
636	Initial Fitting NAD with a Non Follow up appointment	$97.35	$188.00	$90.15	$1,623
640	Initial fitting, rehabilitation and maintenance- Binaural	$538.32	$565.00	$26.68	$1,553,923

Item number	Service description	Total benefit (incl. GST, FY15-16)	Equivalent benefit under recommended price (incl. GST, FY15-16)[a]	Differential benefit (incl. GST, FY15-16)[b]	Fiscal impact of differential benefit (FY15-16)
641	First H/Aid Fitting with a Non Follow up appointment-Binaural	$270.07	$225.00	-$45.07	-$34,839
650	Initial fitting and rehabilitation - Monaural	$417.00	$320.00	-$97.00	-$16,490
651	First H/Aid Fitting without maintenance. with a Non follow up appointment-Monaural	$208.50	$150.00	-$58.50	-$6,260
655	Initial fitting and rehabilitation - NAD	$175.95	$358.00	$181.55	$241,098
656	Initial Fitting NAD without maintenance with a no follow-up appointment	$88.00	$188.00	$99.50	$9,751
660	Initial fitting and rehabilitation - Binaural	$500.20	$395.00	-$105.20	-$83,529
661	First H/Aid Fitting without maintenance. with a Non follow up appointment-Binaural	$250.10	$225.00	-$25.10	-$15,738
670	Rehabilitation Service	$194.20	$170.00	-$24.20	-$5,251
680	Rehabilitation Plus	$137.55	$170.00	$32.45	$26,998
681	Rehabilitation Plus	$68.30	$170.00	$101.70	$421,038
700	Maintenance and battery supply - Monaural	$72.77	$113.00	$40.23	$1,933,212
710	Maintenance and battery supply - Binaural	$192.68	$170.00	-$22.68	-$10,558,130
711	Relocated maintenance and battery supply - Monaural	$116.08	$113.00	-$3.08	-$3,166
722	Relocated maintenance and battery supply - Binaural	$235.99	$170.00	-$65.99	-$853,977
760	Subsequent initial fitting, rehabilitation and maintenance	$111.34	$547.00	$435.24	$2,367,292
761	Fitting of second Hearing Aid with a Non Follow up appointment	$56.44	$215.00	$158.10	$5,850
770	Subsequent initial fitting and rehabilitation	$79.00	$385.00	$305.54	$135,964
771	Fitting of second H/Aid without maintenance and Non follow up appointment	$39.50	$215.00	$175.04	$8,927
790	Maintenance and battery supply - Monaural (Private)	$72.77	$113.00	$40.23	$5,672
791	Maintenance and battery supply - Binaural (Private)	$192.68	$170.00	-$22.68	-$21,954
800	Reassessment	$134.35	$180.00	$45.65	$8,961,415

Item number	Service description	Total benefit (incl. GST, FY15-16)	Equivalent benefit under recommended price (incl. GST, FY15-16)[a]	Differential benefit (incl. GST, FY15-16)[b]	Fiscal impact of differential benefit (FY15-16)
810	Audiological case management	$42.65	$180.00	$137.35	$1,456,322
820	Refitting and rehabilitation - Monaural	$358.40	$320.00	-$38.40	-$596,275
821	Refit with a Non Follow up appointment - Monaural	$179.20	$150.00	-$29.20	-$8,964
825	Refitting and rehabilitation - NAD	$123.70	$358.00	$233.80	$130,227
826	Refit NAD with a Non follow up appointment	$61.85	$188.00	$125.65	$7,665
830	Refitting and rehabilitation - Binaural	$356.20	$395.00	$38.80	$3,395,582
831	Refit with a Non Follow up appointment - Binaural	$178.10	$225.00	$46.90	$58,203
900	Minor Repairs - Monaural	$55.11	$113	$57.89	$3,184
910	Minor Repairs - Binaural	$106.81	$170	$63.19	$24,139
930	Client Review - Monaural (previously known as Aid Adjustment))	$75.75	$170	$94.25	$1,492,920
940	Client Review - Binaural (previously known as Aid Adjustment)	$117.35	$170	$52.65	$9,408,134
				Total (excl misc items)	$25,703,790
				Misc. items	$11,901,486
				TOTAL	$37,605,276

Notes

All figures expressed in FY2015-16 prices. Excludes service items 1, 2, 4, 5, 555, 777, 840, 850, 888, 960. Together these service items represent a fiscal impact differential (FY15-16) of $11,901,486.

a. Represents a counter-factual figure, which is a benefit that would have otherwise been applicable if the recommended prices under the simplification and unbundling of services were applied to the current schedule of service items and fees – in effect bundling what would otherwise be unbundled. The benefit was calculated by using the mapping described in Appendix F under “Allocation of services”, multiplying each allocated service by its recommended cost.

b. Fiscal impact associated with the differential benefit, including excluded service items, is $37.6 million. It reflects the difference between actual FY15-16 spend, and the projected impact under the simplification and unbundling of services. See Table 15.

Appendix F The Efficient Price Impact Model

This appendix has been removed as it contains proprietary PwC information

Appendix G Questions asked in survey questionnaires

Questionnaire for Device Manufacturers

1. Question 1 was the introduction to the survey, and was not actually a question.
2. How many OHS service providers does your organisation supply (please provide an estimate of the number of separate businesses, rather than locations)?
3. Are all OHS service providers able to purchase your organisation's products, if they wish to do so?
4. If no, how does your organisation select appropriate service providers to offer your products (select all that apply. Possible responses to choose from included quality of services they provide to the client, other brands they stock, likely volume of sales, exclusivity arrangements, commercial arrangement, my organisation's service providers are part of or affiliated to my organisation, not applicable all OHS service providers are able to purchase from my organisation)?
5. Please select the top three reasons for OHS service providers ordering your organisation's assistive hearing technology items (possible responses to choose from included customer demand, quality of the product, availability of supply, greater margins on the product, discounts on products offered to OHS service providers, range of products offered, quality of supporting services like warranty and repairs, part of the same business, exclusivity arrangement, other).
6. If you selected 'Other' above, please specify.
7. Is your organisation operating / planning to operate a vertically integrated supply chain, e.g. by owning or having a financial interest in an OHS service provider?
8. What proprietary information do you share with OHS service providers (select all that apply. Possible responses to choose from included financial performance, de-identified aggregated client data, marketing and business plans, process information, research and development information, contractual arrangements with other OHS service providers, ownership details, none, other)?
9. If you selected 'Other' above, please specify.
10. Inventory that relates to a OHS service provider is mostly managed through (Possible responses to choose from included your organisation (i.e. no physical stock on the premises), credit terms (i.e. OHS service provider stocks inventory that has been acquired through credit), outright purchasing (i.e. the OHS service provider pays you in-full for the inventory they stock).
11. If you selected 'Other' above, please specify.
12. In the 2015-16 financial year what was the total revenue of your organisation?
13. In the 2015-16 financial year what was the volume of assistive hearing technology items your organisation sold?
14. What is the current number of employees in your organisation?
15. Does your organisation incorporate the costs associated with the servicing or maintenance of assistive hearing technology items into the price paid by OHS service providers?
16. What percentage of your organisation's assistive hearing technology items are sold to customers through the Program?
17. What percentage of your organisation's assistive hearing technology items sold are 'top-up devices'?
18. What is your organisation's average profit margin on assistive hearing technology items sold by OHS service providers (as a percentage of the price paid by the OHS service provider)?

19. What incentives has your organisation offered to OHS service providers in their procurement of assistive hearing technology items (select all that apply. Possible responses to choose from included discounts on items sold to OHS service providers, loans or other financing options, credit for assistive hearing technology ordered, purchase assistive hearing technology for the OHS service provider, assistive hearing technologies available on a return for credit basis, training or professional development opportunities, none, other)?
20. If you selected 'Other' above, please specify.
21. What is the average discount your organisation gives to OHS service providers for assistive hearing technology items (as a percentage of the standard undiscounted price)?
22. Has your organisation ever offered an exclusivity arrangement to an OHS service provider (i.e. where possible, they only offer your organisation's assistive hearing technology items)?
23. Does your organisation currently operate any exclusivity arrangements with OHS service providers?
24. Is your organisation generally satisfied with the current supply arrangements of the Program?
25. If any changes are made to the supply arrangements of assistive hearing technology, what is the timeframe in which you would prefer change to occur?

Questionnaire for contracted service providers

1. Question 1 was the introduction to the survey, and was not actually a question.
2. Are you a practitioner or an OHS service provider owner / director / signatory to a service provider agreement with OHS?
3. In the 2015-16 financial year what was the volume of assistive hearing technology items your organisation sold?
4. In the 2015-16 financial year what was the total revenue of your organisation?
5. What percentage of your organisation's revenue comes from the sale of assistive hearing technology items compared with providing services (e.g hearing assessments) to clients?
6. What percentage of your organisation's revenue comes from the sale of assistive hearing technology other than hearing aids?
7. What percentage of your organisation's revenue comes from the Program?
8. What proprietary information does your organisation share with assistive hearing technology manufacturers (select all that apply. Possible responses to choose from included financial performance, de-identified aggregated client data, marketing and business plans, process information, condition of equipment held, ownership details, none, other)?
9. If you selected 'Other' above, please specify.
10. What is the current number of employees in your organisation?
11. In the 2015-16 financial year what was the volume of assistive hearing technology items your organisation sold?
12. In the 2015-16 financial year what was the total revenue of your organisation?
13. What percentage of your organisation's revenue comes from the sale of assistive hearing technology items compared with providing services (e.g hearing assessments) to clients?
14. What percentage of your organisation's revenue comes from the sale of assistive hearing technology other than hearing aids?
15. What percentage of your organisation's revenue comes from the Program?

16. What proprietary information does your organisation share with assistive hearing technology manufacturers (select all that apply. Possible responses to choose from included financial performance, de-identified aggregated client data, marketing and business plans, process information, condition of equipment held, ownership details, none, other)?
17. If you selected 'Other' above, please specify.
18. What is the current number of employees in your organisation?
19. Is your organisation a vertically integrated OHS contracted service provider, which an assistive hearing technology manufacturer has a financial interest in or owns?
20. How many brands of assistive hearing technology items does your organisation usually stock?
21. Please select the top three reasons for procuring an assistive hearing technology from a specific device supplier (Possible responses to choose from included customer demand, quality of the product, greatest margins the products, commission paid on products/discounts given to your organisation, range of products offered, quality of supporting services, part of the manufacturers company, exclusivity arrangements with a particular assistive hearing technology manufacturer, other)?
22. If you selected 'Other' above, please specify.
23. What percentage of assistive hearing technology items that you supply to clients are 'top-up devices'?
24. What is your organisation’s average commission paid to practitioners for each assistive hearing technology item sold (as a percentage of the price paid by the client)?
25. What is your organisation's average profit margin on assistive hearing technology items (as a percentage of the price paid by the client)?
26. Have any of the following ever been offered to you by an assistive hearing technology manufacturer as an incentive to stock and sell their products? Please select those that have been offered (possible responses to choose from commissions, volume discounts, purchase assistive hearing technology items on credit, loan or other financial options, manufacturer to purchase assistive hearing technology items for you, assistive hearing technology items available on a return for credit basis, training or professional development opportunities, none, other
27. If you selected 'Other' above, please specify.
28. Has an assistive hearing technology manufacturer ever offered you an exclusivity arrangement (i.e. where you only stock their product)?
29. When ordering an assistive hearing technology item from a manufacturer, inventory is mostly managed through. (Possible responses to choose from included your organisation (i.e. no physical stock on the premises), credit terms (i.e. OHS service provider stocks inventory that has been acquired through credit), outright purchasing (i.e. the OHS service provider pays you in-full for the inventory they stock).
30. If you selected 'Other' above, please specify.
31. Is your organisation generally satisfied with the current supply arrangements of the Program?
32. If any changes are made to the supply arrangements of assistive hearing technology, what is the timeframe in which you would prefer change to occur?

Appendix H Stakeholders consulted

Stakeholder Name	Organisation	RoSIF 1	RoAHT 1	RoAHT 2
Lisa-Jane Moody	National Disability Insurance Agency	19 Aug 16	13 Jan 17	
Jake Winter	Department Of Human Services	19 Jul 16		
Simon Heath	Department Of Human Services	19 Jul 16		
Simone Pensko	Department Of Human Services	19 Jul 16		
Joy Russon	Department Of Veterans' Affairs	22 Jul 16		
Letitia Hope	Department Of Veterans' Affairs	22 Jul 16	3 Feb 17	
Veronica Hancock	Department Of Veterans' Affairs	22 Jul 16		
Anthony Hogan	Australian Society Of Rehabilitation Councillors	1 Aug 16		
Dr Lloyd Walker	National Disability Insurance Agency	19 Aug 16	13 Jan 17	
Greg Leigh	Royal Institute For Deaf And Blind Children	1 Aug 16		
Leonie Jackson	The Deaf Society	1 Aug 16		
Margaret Dewberry	Deafness Forum	1 Aug 16	10 Feb 17	
Steve Williamson	Deafness Forum	1 Aug 16	10 Feb 17	
Lindsay Simons	Hearsoft	2 Aug 16	24 Jan 17	
Fleur Henderson	Parents Of Deaf Children	2 Aug 16	10 Feb 17	
Sarah Love	Royal Institute Of Deaf And Blind Children		24 Jan 17	
Dr Louise Collingridge	Independent Audiologists Australia	1 Aug 16	27 Jan 17	
Narelle Akers	Royal South Australian Deaf Society	2 Aug 16		
Neala Mc Gregor	Huon Hearing	2 Aug 16		
Peta Monley	First Voice	2 Aug 16		
Tony Khairy	Hearing Aid Audiometrist Society		7 Feb 17	
Bill Davidson	Australian Hearing	3 Aug 16	6 Feb 17	
Gina Mavrias	Australian Hearing	3 Aug 16	6 Feb 17	9 Mar 17
Melinda Burgess	Southern Ent	3 Aug 16		
Michelle Barry	Better Hearing	3 Aug 16		
Nicole Bowden	Victorian Hearing	3 Aug 16		
Prof Robert Cowan	Hearing CRC	3 Aug 16		
Shaani Graves	Monash Medical Centre	3 Aug 16		
Ashley Wilson	Hearing Care Industry Association	9 Aug 16	6 Feb 17	
Donna Staunton	Hearing Care Industry	9 Aug 16	6 Feb 17	

Stakeholder Name	Organisation	RoSIF 1	RoAHT 1	RoAHT 2
	Association			
Erin Blum	Hearing Care Industry Association	9 Aug 16		
Janet Muir	Hearing Care Industry Association	9 Aug 16		
Lauren Mcnee	Hearing Care Industry Association	9 Aug 16		
Mike Smith	Hearing Care Industry Association	9 Aug 16		
Nina Quinn	Hearing Care Industry Association	9 Aug 16	6 Feb 17	
Dawn Rollings	Audioclinic	19 Aug 16		
Karen Bergensen	Audioclinic	19 Aug 16		
Department of Health Staff	Office Of Hearing Services	6 Jul 16	30 Jan 17	
Agnieszka Kosidlo	Better Hearing		10 Feb 17	
Allister Daly	GN ReSound Pty Ltd		2 Feb 17	
Amanda Quirk	Blamey Saunders Hearing Pty Ltd		3 Feb 17	
Andrew Willis	Word Of Mouth Technology Pty Ltd		30 Jan 17	
Brad Carlisle	Phoenix Hearing Instruments		6 Feb 17	
Colleen Psarros	Royal Institute For Deaf And Blind Children		28 Mar 17	
Dr Elaine Saunders	Blamey Saunders Hearing Pty Ltd		3 Feb 17	
Dr Harvey Dillon	National Acoustics Laboratories		2 Feb 17	
Joseph Segal	Evertone Pty Ltd		30 Jan 17	6 Feb 17
Erika Kayibi	Med-El		10 Feb 17	
Glenn Broad	Sennheiser Australia Pty Ltd		03 Feb 17	
Grant Ewer	Sonova Australia Pty Ltd		06 Feb 17	
HAMADAA	HAMADAA		06 Feb 17	
James Battersby	Audmet Australia Pty Ltd		06 Feb 17	
James Vansen	Sivantos Pty Ltd		03 Feb 17	
Justin Gow	Widex Australia Pty Ltd		30 Jan 17	
Joy Russo	Department Of Veterans' Affairs		03 Feb 17	
Kumar Yogeswaran	Bhm Australia Pty Ltd		30 Jan 17	
Simon Mcmillan	Starkey Laboratories Australia Pty Ltd		30 Jan 17	6 Feb 17
KC Lim	Gm Bernafon		6 Feb 17	
Kevin Mcdonnell	Oricom International Pty Ltd		3 Feb 17	
Dr Tony Coles	Audiology Australia	2 Aug 16	31 Jan 17	

Stakeholder Name	Organisation	RoSIF 1	RoAHT 1	RoAHT 2
Lisa Mustukas	Silent Party Pty Ltd		3 Feb 17	
Nick Wilson	Department of Finance		28 Feb 17	
Paul Guthrie	Sivantos Pty Ltd		3 Feb 17	
Peter McKinnon	Sivantos Pty Ltd		3 Feb 17	
Rachel Figuraski	Department of Finance		28 Feb 17	
Robyn Shakes	Med-El		10 Feb 17	
Ian Mawby	Australian College Of Audiology	2 Aug 16	31 Jan 17	
Shaun Hand	Cochlear Ltd.		10 Feb 17	
Jason Ridgway	Audiology Australia Limited		31 Jan 17	
Wendy Pearce	Australian Hearing		9 Mar 17	
Jay Krishnaswarmy	Telethon Speech & Hearing		24 Jan 17	
Werner Schwendener	Sonic Innovations		6 Feb 17	

Appendix I Response template

Benefits of the Hearing Services Program

- Are there any clinically appropriate services or Assistive Hearing Technology that are not covered under the Hearing Services Program?
- How do we know if the wide range of services and Assistive Hearing Technology are working to improve outcomes for clients?
- How could the Voucher Scheme be streamlined further?
- How could changing the schedule of services improve a client's experience in the Voucher Scheme?
- Are minimum technical specifications needed to ensure the quality of Assistive Hearing Technology in the Hearing Services Program? Why or why not?
- Who should be responsible for setting minimum technical specifications?
- How long should Assistive Hearing Technology remain listed in the Hearing Services Program and what should be the process for their removal?
- What can be done to improve the information for clients on Assistive Hearing Technology available in the Hearing Services Program?
- What changes could the Hearing Services Program make now to ensure it can manage future technological advancements in the hearing sector?

Challenges of the Hearing Services Program

- If you are a client of the Hearing Services Program what are some of the main outcomes you have experienced personally?
- What measures could government adopt to foster an outcomes based approach to delivering hearing services?
- What role should client outcomes play in the Hearing Services Program?
- What are the drivers of growth for Assistive Hearing Technology in the Voucher Scheme?
- To what extent does cross-subsidisation between hearing services and the provision of Assistive Hearing Technology distort clinical and client outcomes?
- What changes to service items and Assistive Hearing Technology schedules would remove cross-subsidisation to ensure all aspects of a patient's pathway reflect the value they deliver?
- What role should rehabilitation and psychosocial supports have in the Hearing Services Program, and how should this role be reflected in the service schedule?
- Does the trend in provision of partially subsidised Assistive Hearing Technology reflect current clinical expectations or population trends? What are the other factors are potentially influencing this trend?
- What factors explain the range in the proportion of partially subsidised Assistive Hearing Technology supplied by Contracted Service Providers in the Voucher Scheme?
- What has driven an increase in the supply of higher-priced partially subsidised Assistive Hearing Technology?
- What do you consider to be the advantages or disadvantages of a partially subsidised schedule?
- What are the implementation issues associated with removal of the partially subsidised Assistive Hearing Technology schedule?
- How should the Hearing Services Program respond to the growth in easily accessible Assistive Hearing Technology and clients wishing to privately purchase their own Assistive Hearing Technology?
- Are Assistive Listening Devices appropriately supported by the Hearing Services Program? Why or why not?
- What mechanisms could be examined to ensure clients receive independent advice?
- How could consumer literacy on hearing loss and Assistive Hearing Technology be improved in the Hearing Services Program?

- Should the government introduce measures that define the role of audiologists and audiometrists to address concerns raised in the Australian Competition and Consumer Commission report? If so, what could these measures be?
- Is the current schedule of services too complex? If so, what can be done to simplify the schedule?
- How can the claiming rules better reflect the cost of personnel required to service clients using tele-audiology?
- How can government ensure equitable access to hearing services for 'at risk' client groups not covered under the Community Service Obligation?

International comparisons

- What aspects of the international comparisons outlined above could be adopted in the Hearing Services Program and why?

Viability assessment of alternative models

- Do you agree with the viability assessment of the alternative models? Why or why not?

Analysis of alternatives to service items and fees

- Are you broadly satisfied with the current Voucher Scheme and would prefer if it remained unchanged? Why or why not?
- Does the current mix of fee for service and bundled services provide sufficient flexibility to provide customised services to clients? Why or why not?
- Can the fee for service (hourly rate) model support the ongoing sustainability of contracted service providers in the industry?
- How do contracted service providers currently manage the additional costs of delivering services for regional and remote clients?
- Should fees be standardised based on the service provided? Or, is it appropriate for the fee to be based on qualification levels attained?
- What types of services are essential in a simplified schedule of services?
- Can a single efficient price be determined for a broad service category, given there are likely to be variations in the services delivered within that category?
- Why would unbundling enable providers to deliver a more customised and beneficial service to clients?
- What are the different types of rehabilitation services and when in the client journey should they be delivered to maximise client benefit? For example, do clients actually want to receive rehabilitation services after their Assistive Hearing Technology has been fitted?

Analysis of alternative Assistive Hearing Technology supply arrangements

- Do you think this supply arrangement is sustainable? Why or why not?
- What role should the Department of Health have in the supply arrangements of Assistive Hearing Technology?
- Do you think the Deed of Standing Offer is vital in regulating the Assistive Hearing Technology supply arrangement? Why or why not?
- How can the Department of Health ensure that Assistive Hearing Technology quality standards are met without relying on the Deed of Standing Offer?
- Do you think a market driven supply option would affect client access to Assistive Hearing Technology? Why or why not?
- What aspects of a market-driven supply arrangement are most important to you?
- How could a tender model provide a sustainable alternative to the current supply arrangements?
- What aspect of the tender model is most important to you?

Integration of options

- Complete the table below, by deleting the cross (×) in the box where you think the alternative models would integrate well or deleting the tick (✓) in the box where you think the alternative models would not integrate well.

- Which combination of options would best support client outcomes and how could this be implemented?
- What is your preferred combination of options and why?

Service item options

AHT supply options	Maintain status-quo	Fee for service (hourly rate)	Simplification of services with alignment of prices	Simplification of services with separation of service items
Maintain status-quo	✓ / ×	✓ / ×	✓ / ×	✓ / ×
Amendments to the deed arrangements	✓ / ×	✓ / ×	✓ / ×	✓ / ×
Market-driven supply	✓ / ×	✓ / ×	✓ / ×	✓ / ×
Competitive tender	✓ / ×	✓ / ×	✓ / ×	✓ / ×

Glossary

Assistive Hearing Technology (AHT) Assistive Hearing Technology includes hearing aids, assistive listening devices, and cochlear and other implant technology.

Assistive Listening Device (ALD) A sub-category of Assistive Hearing Technology that can be used as a stand-alone device or in combination with a hearing aid. Assistive Listening Devices help the user to hear in a range of listening situations. This includes over the telephone, over distance, and in hearing a television.

Australian Hearing (AH) Australian Hearing is a statutory authority constituted under the *Australian Hearing Services Act 1991*. It is the sole provider of hearing services to the Community Service Obligation Program, although it is still able to service clients in the Voucher Scheme. Australian Hearing also undertakes research into hearing loss and related topics through the National Acoustic Laboratories.

Community Service Obligation (CSO) One component of the Hearing Services Program. The Community Service Obligation Program focuses on funding hearing services and AHT for children and young adults under the age of 26, adults with complex hearing needs, and eligible Aboriginal persons and/or Torres Strait Islander people over 50 years of age.

Contracted Service Provider (CSP) A Contracted Service Provider, or 'provider' is an entity that has signed a contract with the Department of Health to provide hearing service to eligible clients under the Hearing Services Program. A Contracted Service Provider goes through an accreditation process prior to being offered a contract under the Program. Contracted Service Providers must adhere to all clauses in the contract and the associated standards.

Deed of Standing Offer (the 'Deed') A Deed entered between the Australian Government and Device Manufacturers. It details the list of approved AHT, the maximum price paid for approved AHT, the conditions of AHT supply, and minimum specifications.

Device Manufacturers (DM) Also known as Device Suppliers, manufacturers provide AHT to eligible clients of the Hearing Services Program through the provision of AHT to Contracted Service Providers. Device Suppliers agree to a Deed with the Australian Government and must also seek approval of their AHT. Device Suppliers are also to be registered with the Department of Health.

Diagnosis-related Groups (DRG) A statistical system of classifying diagnoses into groups for the purpose of reimbursement.

Hearing Services Online (HSO) An online portal that supports the administration of the Hearing Services Program. The Hearing Services Online portal was implemented to transition the Hearing Services Program from paper-based processes to primarily electronic processes.

Hearing Services Program (HSP) Refers to the Australian Government Hearing Services Program, which was created to reduce the impact of hearing loss by providing eligible clients with access to hearing services and AHT. The Hearing Services Program is managed by the Department of Health.

Vertically Integrated Refers to the ownership or control by a firm of different stages of the production process.[285] Vertical integration can also refer to 'non-standard' contractual arrangements or 'hybrid forms'. This can include long term contracts, franchise contracts, non-linear pricing arrangements, resale price maintenance agreements, requirements contracts, joint ventures, dual sourcing, among others.[286]

Voucher Scheme (VS) One component of the Hearing Services Program. The Voucher Scheme (VS) issues electronically recorded vouchers to eligible clients, allowing them to access a range of specified services and AHT.

Endnotes

[1] The Voucher Program provides eligible clients with an electronically recorded voucher, which provides access to a range of specific hearing services over a 3-year period. Most clients are aged pension concession card holders.

[2] Australian Hearing is the sole entity responsible for servicing the Community Service Obligation Program, which provides a more flexible range of services. These services are offered mainly to children and young adults to 26 years, adults with more complex hearing needs, and eligible Aboriginal persons and/or Torres Strait Islander people over 50 years of age.

[3] Deloitte Access Economics reported that the total costs of hearing loss in 2017 was estimated as $33.3 billion. See Deloitte Access Economics, *The Social and Economic Cost of Hearing Loss in Australia,* 2017. <http//www.hcia.com.au/hcia-wp/wp-content/uploads/2015/05/Social-and-Economic-Cost-of-Hearing-Health-in-Australia_June-2017.pdf>

[4] KPMG, *Australian Hearing Report prepared for the Department of Human Services,* 2012. <https//www.humanservices.gov.au/sites/default/files/documents/2012-11-23-australian-hearing-kpmg-report.pdf>

[5] The review of services and technology supply in the HSP represent the culmination of two separate reviews that were undertaken concurrently. This includes the Review of Service Items and Fees (RoSIF), and Review of the Supply of Assistive Hearing Technology (RoAHT).

[6] Australian Medical Association*, Measuring Clinical Outcomes in General Practice – 2016*, 2016. <https//ama.com.au/position-statement/measuring-clinical-outcomes-general-practice-2016>. Weinstein, B.E, *Outcome Measurement in Audiology A Call to Action*, Hearing Journal, 68 (7), 2017, p.24-26 <http//journals.lww.com/thehearingjournal/Fulltext/2015/07000/Outcome_Measurement_in_Audiology___A_Call_to.3.aspx>. Stowell, C. and Akerman, C., *Better Value in Health Care Requires Focusing on Outcomes*, 2015. <https//hbr.org/2015/09/better-value-in-health-care-requires-focusing-on-outcomes>. Department of Health*, Better Outcomes for People with Chronic and Complex Health Conditions – Report of the Primary Health Care Advisory Group*, 2015. <https//www.health.gov.au/internet/main/publishing.nsf/Content/76B2BDC12AE54540CA257F72001102B9/$File/Primary-Health-Care-Advisory-Group_Final-Report.pdf>

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[8] The measurement of outcomes in the hospital setting is more mature than the hearing services setting as evidenced by a range of documents that attest to the identification, collection, and reporting of outcomes. See a) Australian Commission on Safety and Quality in Health Care, *Core, Hospital-based Outcome indicators,* 2017. <https//www.safetyandquality.gov.au/our-work/information-strategy/indicators/core-hospital-based-outcome-indicators/> b) Bureau of Health Information, *Exploring clinical variation in mortality – mortality following hospitalisation, seven clinical conditions, NSW, July 2012-2015*, 2017. <http//www.bhi.nsw.gov.au/__data/assets/pdf_file/0003/356529/report-insights_exploring-clinical-variation-in-mortality-2017.pdf> and c) Australian Institute of Health and Welfare, *Australian hospital statistic 2012-13,* 2013. <http//www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129547089>

[9] Department of Health, *Minimum Hearing Loss Threshold (MHLT)*, 2012. <http//www.hearingservices.gov.au/wps/wcm/connect/9d72901f-f144-44a0-a326-1d89723366e6/MHLT_Guidelines.pdf?MOD=AJPERES>

[10] Communio, *Review of the Rehabilitation Plus Program – Final Report for the Australian Government Department of Health and Ageing*, 2011. <http//www.hearingservices.gov.au/wps/wcm/connect/048aca79-85cf-4ff5-b1a3-504317391b2b/Rehabilitation+Plus+Program+Review+Final+Report+v1.0.pdf?MOD=AJPERES&Review%20of%20Rehab%20Plus%20Final%20Report>

[11] Granberg, S., Functioning and Disability in Adults with Hearing Loss – Preparatory studies in the ICF Core Sets of Hearing Loss project, The Swedish Institute for Disability Research, 2015. Hogan, A. et al, Higher social distress and lower psycho-social wellbeing examining the coping capacity and health of people with hearing impairment, Disability and Rehabilitation, 37(22), 2015, p. 2070-2075.

[12] Communio, *Review of the Rehabilitation Plus Program – Final Report for the Australian Government Department of Health and Ageing*, 2011. <http//www.hearingservices.gov.au/wps/wcm/connect/048aca79-85cf-4ff5-b1a3-504317391b2b/Rehabilitation+Plus+Program+Review+Final+Report+v1.0.pdf?MOD=AJPERES&Review%20of%20Rehab%20Plus%20Final%20Report>

[xiii] The review of services and technology supply in the HSP represent the culmination of two separate reviews that were undertaken concurrently. This includes the Review of Service Items and Fees (RoSIF), and Review of the Supply of Assistive Hearing Technology (RoAHT).

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[xvi] Australian Hearing, *Is Australia Listening? Attitudes to hearing loss, 2008.* <https//www.hearing.com.au/wp-content/uploads/2013/09/Is-Australia-Listening.pdf>

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[xviii] Deloitte Access Economics, *The Social and Economic Cost of Hearing Loss in Australia,* 2017. <http//www.hcia.com.au/hcia-wp/wp-content/uploads/2015/05/Social-and-Economic-Cost-of-Hearing-Health-in-Australia_June-2017.pdf>

[xix] Ibid.

[xx] Ibid

[xxi] The actual figure is likely to be smaller, given that estimates around the global hearing aid market do not consider the revenue associated with the provision of hearing services. Based on the estimated size of the global hearing aid market in 2016 of USD$8.9 billion as indicated by Global Markets Insights. This was converted into Australian dollars by using the average daily exchange rate in FY2015-16 as reported by the Reserve Bank of Australia, resulting in a value of AUD$11.5 billion. Alternative estimates have been provided by William Demant Holdings, which indicate that the market value of Australia is about 3% of the global market. See a) Global Markets Insights, *Audiology Devices Market Size by Product*, 2016. <https//www.gminsights.com/industry-analysis/audiology-devices-market-report?utm_source=globenewswire.com&utm_medium=referral&utm_campaign=Paid_Globnewswire> and b) Reserve Bank of Australia, *Historical Data – Exchange Rates – Daily – 2014 to Current*, 2017. <http//www.rba.gov.au/statistics/historical-data.html#exchange-rates> and c) William Demant Holdings, *Hearing Devices*, 2016. <https//www.demant.com/~/media/demant/main/media%20documents/investor%20relations/cmd%202016%20hearing%20devices.pdf>

[xxii] KPMG, *Australian Hearing Report prepared for the Department of Human Services,* 2012. <https//www.humanservices.gov.au/sites/default/files/documents/2012-11-23-australian-hearing-kpmg-report.pdf>

[xxiii] As at 30 June 2017. See Department of Health, *Annual Program Statistics 2016-2017*, 2017. <http//www.hearingservices.gov.au/wps/portal/hso/site/about/program_stats/annual-program-stats/!ut/p/a1/rVJNT4NAEP0reuhxs1NgWziSfiDU0hirAheyLJ9adikspv33LqYXE0WbOLd5mXnzZt7gCAc44vS9KqisBKeHIY9m8eaBzKYuaBvzebcG2_af7r21ocEO8AuOcMS4bGSJw7ITN0xwmXE5gaZPDhWbQCnqbAI0Ef0AtqJoaR13kspOoZz39IAuKPpEB8KGVSkO89QiLJszRGaUIINkFFlALaTnCdNJxliqJ0phqBTCD2HDnxYYKQFyKRgZESoN81gzl_adZUzd3cpdgb1w9p5jupqzJPjxyqXGCfdwNaH32xnUGbV2u9gWipbKElU8Fzj4YhcOvrVLdVavx2Nkqz8YvD9JHPzPIzR1bepn9Jb7PqKJeT6R8PYD2Pyf_A!!/dl5/d5/L2dBISEvZ0FBIS9nQSEh/>

[xxiv] KPMG, *Australian Hearing Report prepared for the Department of Human Services,* 2012. <https//www.humanservices.gov.au/sites/default/files/documents/2012-11-23-australian-hearing-kpmg-report.pdf>

[xxv] Australian Hearing, *About Australian Hearing*, 2013. <https//www.hearing.com.au/australian-hearing/>

[xxvi] KPMG, *Australian Hearing Report prepared for the Department of Human Services,* 2012. <https//www.humanservices.gov.au/sites/default/files/documents/2012-11-23-australian-hearing-kpmg-report.pdf>

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[xxx] Jacobsen, N. et al, *Trends and directions in the hearing healthcare market*, William Demant Holdings. <http//files.shareholder.com/downloads/ABEA-4C7PH1/2941212182x0x671887/cb72e485-ebc6-4c72-b4c7-428388a8ee13/CMD_2013_Trends_and_directions_in_the_hearing_healthcare_market.pdf>

[xxxi] Ibid

[xxxii] William Demant Holdings*, Hearing Devices*, 2016. <https//www.demant.com/~/media/demant/main/media%20documents/investor%20relations/cmd%202016%20hearing%20devices.pdf>

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[xxxviii] Department of Health, *2015-16 Annual Report*, 2016. <http//www.health.gov.au/internet/main/publishing.nsf/Content/annual-report2015-16-cnt1/$File/department-of-health-annual-report-2015-16.pdf>

[xxxix] Department of Health, *Types of hearing devices,* 2015. <http//hearingservices.gov.au/wps/wcm/connect/hso/b861e55a-539e-4f04-ab9e-c534e4fb93fb/Types+of+hearing+devices+factsheet.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=b861e55a-539e-4f04-ab9e-c534e4fb93fb>

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[xli] Also known as German measles, congenital rubella syndrome can result in permanent hearing loss for children, which can manifest itself either at the time of birth or during the first 6 to 12 months of their life. Forrest, J.M et al, *Gregg's congenital rubella patients 60 years later,* The Medical Journal of Australia, 2002, 177 (11) p. 664-667.

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