Hearing the Need – Audiology and Primary Ear Health Care Reform

Federal Executive Council
Audiology Australia
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Executive Summary

Audiologists are hearing specialists who manage Australia's hearing health. Audiology Australia proposes primary ear health care reforms that will improve ear and hearing health management for Australians and their communities.

The challenges for access to primary ear health care are widespread – rural, remote and also disadvantaged urban areas. Health costs are increasing and there is a need to challenge existing systems and processes to achieve effective reform, more efficient health gains and obtain better value in health expenditure.

A particular concern is the wellbeing and health of Indigenous Australians. More specifically, we continue to struggle with chronic ear disease, ear health management and associated hearing loss within Indigenous communities**.**

The ultimate goals of primary ear health reforms are **patient-centred and deliverable** by endeavouring to:

- **improve access and health outcomes** for **primary ear health care**
- enable **primary ear health treatment and management** at **earliest opportunity**
- **avoid lost opportunities** and **unnecessary delays** for care
- **improve patient satisfaction**
- **complement current primary health** services and providers
- **improve effective and collaborative teamwork** with medical practitioners, nurses and allied health professionals – the three pillars of health
- **enable specialist Ear-Nose-Throat (ENT) management more directly** at the earliest opportunity when standard clinical care does not resolve the condition
- **maintain effective primary health** structures
- **improve communication tools**, **processes and resources**
- be more **flexible in health care delivery without compromising safety and quality**
- develop service models that acknowledge the need for **simultaneous provision of primary ear care with hearing health care**
- **provide better savings and value in health expenditure**

The facts in the context of current indigenous health care are quite clear:

- we continue to struggle with chronic ear health management
- chronic ear conditions, particularly in early childhood, are known to significantly impact speech and language acquisition, social, educational and employment outcomes
- chronic ear disease could be managed earlier and more effectively resulting in less demand for secondary and tertiary audiology and ENT services
- there is a need for more timely and direct access to ENT / specialist management when ear disease presents in recurrent, persistent or chronically deteriorating conditions and recommended standard clinical care has been unsuccessful in resolving the condition
- we need new ideas such as holistic and regionally relevant models to address indigenous health and improve health outcomes
- we need to be more flexible and have the capacity to deliver better primary ear and hearing health care

The reforms that Audiology Australia proposes and supports:

1. **A patient centred health system and smoother pathways for ear and hearing care which would result in savings in health care.**

    - Direct access to an audiologist without GP referral under the Office of Hearing Services (OHS) Program
    - Sensorineural hearing loss alone should not warrant a medical opinion on medical clearance for hearing aid rehabilitation in the OHS program
    - Audiologists should be able to refer directly to ENT specialists for specialist investigations, opinions and management

2. **Audiologists and audiological services be included in primary health care structures and organisations.**

    - Audiologists are:
        - hearing specialists who manage Australia's hearing health
        - primary hearing health practitioners for people with hearing loss and related disorders across their lifespan.
    - Planned, accessible, skilled and appropriately resourced audiological care in primary health care services is important.

3. **Development of the audiological workforce through extended and advanced scopes of practice for primary ear health care.**

    - Through credentialled training and therapeutic endorsement, audiologists would diagnose and safely manage defined primary ear health conditions and maintain restricted pharmaceutical prescribing rights.
    - Audiologists would refer for ENT specialist and medical opinion and management as required for complex and chronic ear health conditions.
    - A training framework for existing audiologists could be a *Certificate of Advanced Primary Ear Health*. Training could be integrated into future accredited university audiology programs.

4. **Flexible funding and models of primary ear health care delivery be applied to audiological services.**

    - Australia's health care system needs to acknowledge the need for and benefits of simultaneous provision of primary ear care with hearing health care. Innovative service delivery models should be developed that enable this safely and effectively.
    - The capacity of private, secondary and tertiary audiology services to simultaneously provide primary ear health care and hearing health care would be one model. This would contribute to workforce needs, more efficient pathways of care and more opportunistic and timely interventions.
    - Secondary, tertiary and private audiology services should have flexible funding sources and contribute to flexible integrated, co-ordinated and/or collaborative primary ear health frameworks.
    - Medicare Benefits Schedule rebates should apply to audiologists in consideration of defined scopes of practice determined by Audiology Australia. This would allow cost effective diagnostic audiological assessment and management of primary ear health needs.

    - Pharmaceutical Benefits Scheme subsidies should apply to pharmaceuticals prescribed from approved formularies by credentialed audiologists according to defined scopes of

practice.

- Chronic ear disease in Indigenous communities must be more effectively managed at the earliest opportunities with effective treatments and primary ear health care. Better ear health and better hearing would result in less demand for secondary and tertiary audiology services.
- Primary ear health care must include a focus on preventative care. Ear health literacy and awareness are specific areas to improve for Indigenous Australians.
- Audiologists must work collaboratively and deliver culturally-appropriate services with local Indigenous ear health workers.

5. **An integrated electronic health network and well designed systems be developed which can be accessed by audiologists in all sectors of ear and hearing health care.**

    - Audiologists should have the capacity to manage ear and hearing health care in an integrated e-health system.
    - Audiologists should be involved in the design and implementation of e-health for ear and hearing health management.
    - Existing systems should be linked to enable time sensitive integrated primary ear care and hearing health care data.
    - A single, national electronic database should exist to co-ordinate, document and manage neonatal hearing screening programs in all states and territories.
    - E-health should facilitate ear and hearing health care, clinical supervision and development of ear and hearing health practitioners over distance.

6. **Safety, quality assurance and research continue to be important cornerstones of audiological and primary ear health practice and require appropriate leadership and support**

    - Evidence-based practice and research are indicated to evaluate and improve the effectiveness of primary ear health strategies and implementation of primary ear health reforms.

Preface

"Hearing the Need – Audiology and Primary Ear Health Care Reform" proposes a strategic direction outlining a future role of audiology in a reformed primary health care system for Australia. It serves as a discussion paper proposing a broadening of audiological skills in order to address the primary health needs for defined ear conditions of an individual at the time without the need to refer onto a primary health practitioner. This would lead to better client centred ear and hearing health care, and improved efficiency in health expenditure and resources.

From this document, Audiology Australia will be able to further articulate position statements, policy submissions and media with consumers, health ministers, government, policy planners, Ear-Nose-Throat (ENT) specialists, primary health care practitioners, service providers and other stakeholders.

We believe audiologists could enhance any Australian's access to appropriate, expert and safe ear care in the right place at the right time. *"Hearing the Need – Audiology and Primary Ear Health Care Reform"* particularly highlights one area of complex need – Indigenous ear and hearing health care.

Audiologists could complement and collaborate more closely with the existing primary health workforce and alleviate some of the demands experienced through skill shortages, inadequate access and significant waiting times within Australia's health system. It would allow savings in health expenditure and enable primary health providers to focus on managing other more complex and chronic health conditions as a priority.

Much of the discussion is closely aligned to proposals for reform supported by Allied Health Professions Australia and the role of allied health as one of the three pillars of Australia's health system (alongside doctors and nurses)[1].

There would be implications for audiologists in implementing reforms, including the costs associated with professional regulation and professional liability. The inter-relationship between primary, secondary and tertiary audiology services needs to be critically appraised and how these levels of hearing care could contribute to more innovative and patient-centred ear and hearing health care.

The recommendations for reform require additional research, evidence and analysis (including costs and cost savings) to make a compelling case. Primary health care reform is extremely complex and would require a commitment of substantial resources to achieve progress.

The proposed reforms would require a conceptual shift that audiologists are non-medical managers of hearing loss. Audiology Australia would need to lead the discussion on reform and its benefits to gain community and stakeholder acceptance and to meet their expectations. Audiology Australia would need to lead practical action through further consolidation of accredited training courses, additional skills and knowledge competencies and the regulatory processes to credential audiologists. We need to implement expanded scopes of practice, limited prescribing rights, flexible models of service delivery and funding, and integrated electronic communication systems.

With the challenges in Australian primary health care and the complexities of Indigenous ear health, we propose substantive reforms for the benefit of Australia's ear and hearing health care.

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Context

During 2009, the Commonwealth Government identified issues and considered reports [2,3,4,5] regarding challenges in Australia's health care system, how to better manage health service delivery and a framework for health care reform.

In May 2010, the Senate Community Affairs References Committee released its report "*Hear Us: Inquiry into Hearing Health in Australia*" [6]. A range of recommendations were made with respect to

hearing health care, including access and services, education and learning, awareness and research, criminal justice, recreational hearing loss and specific issues affecting Indigenous communities.

Australian Hearing released a report in 2010, "*Binge Listening - Is exposure to leisure noise causing hearing loss in young Australians*" [7]. This discusses the perceptions of young Australians regarding the impact of leisure noise on hearing as well as to report the actual risk of hearing damage and hearing loss due to noisy leisure activities.

Health services and health care workers generally are in high demand. The maldistribution of the health workforce is a considerable issue. Population growth, an ageing population, the looming loss of an ageing health workforce (particularly nurses) through retirement, an increase in chronic health conditions and a greater focus on health promotion are leading to greater demands on the health system. Australia needs an innovative approach for the future development and management of its health workforce.

The challenges for access to primary health care (and hence primary ear health care) are widespread – rural, remote and also disadvantaged urban areas. Health costs are increasing and there is a need to challenge existing systems and processes to achieve effective reform, more efficient health gains and obtain better value in health expenditure.

A particular primary health concern is the wellbeing and health of indigenous Australians[5]. More specifically, we continue to struggle with effective management of chronic ear disease, ear health and associated hearing loss within Indigenous communities [5,6,8,9].

Audiologists are hearing specialists who manage Australia's hearing health. Primary ear health care is closely associated with hearing health care - healthy ears and healthy hearing go hand in hand. The consequences of hearing loss are well understood [6,8] and may impact on audition and sound detection, speech and language development, speech reception, education and learning capacity, mental health, social relationships, employment opportunities and economic and financial well being.

Audiology Australia has considered the Commonwealth Government health reports and their identified challenges and complex issues. In order to better address the audiological needs and the future ear and hearing health of Australia, Audiology Australia proposes reforms in the management and delivery of primary ear health care.

About Hearing Loss

"Listen Hear! The economic impact and cost of hearing loss in Australia" [8] reported the prevalence of hearing loss:

One in six Australians is affected by hearing loss. Prevalence rates for hearing loss are associated with increasing age, rising from less than 1% for people aged younger than 15 years to three in every four people aged over 70 years.
With an ageing population, hearing loss is projected to increase to 1 in every 4 Australians by 2050.

The prevalence of hearing loss is projected to increase from 21.0% (one in five) in 2005 to 31.5% of all males (nearly one in three, largely as a result of demographic ageing) in 2050.

A significant amount of hearing loss (37%) is due to excessive noise exposure. This is preventable by limiting physical injury to the auditory pathway.

Data from Australian studies show a prevalence of prelingual (0-4 years) sensorineural hearing loss of 1.2/1,000 live births and of child acquired sensorineural loss (4-14 years) as 3.2/1,000 live births.

Adult hearing loss shows a comorbidity and association with an increased risk for a variety of chronic health conditions including diabetes, stroke, elevated blood pressure, heart attack, psychiatric disorder (particularly those rating their hearing as poor) and affective mood disorders[7].

Hearing loss and deafness may coexist with other sensory and physical disabilities (including visual impairment and blindness, cerebral palsy, developmental delay) or be one feature of specific syndromes (syndromic deafness eg Usher syndrome, Branchiootorenal syndrome).

Ear disease and associated hearing loss are significant problems within indigenous Australian communities. A significant amount of hearing loss is due to chronic suppurative otitis media (persistent discharge of pus through a perforated eardrum) in Indigenous populations, and which could be more effectively prevented.

The World Health Organisation (WHO) recommends that prevalence of chronic otitis media > 4% in a population requires urgent public health measures[10]. Many remote Indigenous communities in NT, SA, QLD and WA have levels of chronic suppurative otitis media of >20%.

Otitis media in Indigenous communities is often early onset (prelingual) and present in recurrent, persistent and chronic patterns during early childhood. The associated hearing loss often fluctuates in nature. Otitis media and fluctuating hearing loss become factors in lifelong consequences for language development, learning English as second language, literacy and numeracy skills, employment opportunities and economic independence. These consequences, in addition to cultural linguistic demands, proficiency of multiple languages in remote communities and general socioeconomic disadvantage, exacerbate the health, wellbeing and educational disadvantage of Indigenous people.

Tinnitus is the perception of sound in the ear(s) or head, when there is no external sound present. Its description may include ringing, hissing, buzzing, clicking, roaring or thumping. Tinnitus is a symptom associated with conditions such as hearing loss, excessive wax, loud noise, medication side effects and the ageing process[11]. Tinnitus is experienced by approximately 20% of the general population [12]. Disturbing tinnitus may become a chronic health issue and could significantly impact on mental health well being for some individuals.

Some industries have established occupational hearing health programs underpinned by State and Territory occupational legislation and standards (for example, mining, construction and manufacturing industries). However, some sectors such as the farming and agriculture sector and self-employed trades, require improved hearing loss prevention through education and awareness [13, 14].

Similarly, the general community needs a better understanding of the risks of noise and application of safe noise dosages in recreational and leisure activities[7] (and with respect to any additional occupational noise exposure).

People with hearing loss experience greater impacts on mental health and overall quality of life than the general population. This includes increased incidence of depression, anxiety, isolation and loneliness, increased stress and fatigue. The negative effect on mental health may arise through the impact of hearing loss on interpersonal communication, which is central to a person's health and well-being, and through increased social isolation [6, 15,16,17,18].

About Audiologists

Audiologists have postgraduate university qualifications in hearing science and specialise in assessment, prevention, management and rehabilitation of hearing loss and related conditions, including tinnitus and balance disorders.

Audiologists master skills and knowledge from their university study and clinical application of:

- acoustics,
- acoustic phonetics,
- psychoacoustics,
- anatomy and physiology of auditory and vestibular systems,
- speech and language development,
- communication and auditory behaviours over the lifespan,
- hearing loss prevention and screening,
- diagnostic assessment,
- early intervention,
- auditory re/habilitation,
- audiological service delivery and
- other aspects of professional practice.

Using their specialist skills and knowledge, audiologists primarily assess how people of all ages hear. With the application of technology, re/habilitation and therapy, audiologists help people with hearing loss and related disorders. This extends to tinnitus and balance disorders.

Audiologists provide services through hospitals, community health clinics, government funded agencies, hearing aid clinics, cochlear implant clinics, private practice, university clinics, medical practices, ear nose and throat (ENT) specialist and otology clinics, occupational hearing conservation programs, programs for compensation of occupational noise injury, community awareness and consumer advocacy.

Scientific research and the employment of evidence based practice are important cornerstones of audiology.

About Audiology Australia

Audiology Australia is the national body that represents and self-regulates audiologists in professional and clinical practice, research and university teaching. Approximately 97% of audiologists practising in Australia are members of Audiology Australia.

Audiology Australia awards the Certificate of Clinical Practice (CCP) to audiologists who have attained full membership of the association, completed a clinical internship and participate in its Continuing Professional Development program**.**

MAudSA(CCP) Audiologists are hearing practitioners who are:

- Qualified and trained in specialist aspects of hearing assessment and care
- Committed to an ongoing program of continuing education and certification for their professional membership. MAudSA(CCP) Audiologists demonstrate their professional education attainments every two years
- Dedicated to maintaining high level professional skills and knowledge, so that they can provide the best possible hearing health care
- University trained in both technical and interpersonal aspects of high quality hearing care, advice and service provision
- Bound by a Professional Code of Ethics and Standards of Practice

Workforce Data

In Australia, the majority of practising audiologists are employed in clinical diagnostic and/or clinical rehabilitative activities. Many audiology providers and agencies supplement the workforce needs in regional, rural and remote areas by deploying audiologists on a visiting or outreach basis to manage short-term staff needs or to provide a regular service.

Workforce projections for the next decade [19] confirm a continued growth in absolute numbers of audiologists in the period 2006-2020, with total numbers of available audiologists more than doubling from 1205 to 2630. This increase is also apparent in the relative numbers of audiologists available to the Australian population - an increase from 6.12 audiologists per 100,000 persons in 2006 to 10.7 audiologists per 100,000 persons in 2020. This increase is also seen in the fulltime equivalent audiologists rising from 5.29 FTE in 2006 to 9.71 in 2020.

This growth was seen relative to the total Australian population and to the hearing-impaired population. Whether this growth will provide adequate numbers of audiologists for the Australian community or result in an oversupply is still unclear. Further workforce research and planning is required – note, the Commonwealth Department of Human Services and the Department of Health and Ageing commissioned a workforce study in June 2010 and which is in progress.

Recent Audiology Australia membership demographics and profile at August 2010 (*CCP refers to Certificate of Clinical Practice):

Member Category	**ACT**	**NSW**	**NT**	**QLD**	**SA**	**TAS**	**VIC**	**WA**	**OS**	**TOTAL AUG 2010**
Hon Fellow							1			**1**
Life Member		2					1			**3**
Fellow/CCP*		1		1	1		5			**8**
Fellow		1								**1**
Full/CCP*	19	392	12	305	98	20	431	120	53	**1450**
Full	5	48	3	51	9	8	61	20	29	**234**
Student		15		43	10		35	2		**105**
Affiliate		2		2				1		**5**
Emeritus		6		4			4	1		**15**
Membership Total	**24**	**467**	**15**	**406**	**118**	**28**	**538**	**144**	**82**	**1822**

Employment Type (Reported in Membership Renewals)	**ACT**	**NSW**	**NT**	**QLD**	**SA**	**TAS**	**VIC**	**WA**	**OS**	**TOTAL AUG 2010**
Hospital, Community Health	2	38	2	46	10	1	72	14	15	**200**
University		17		11	5		29	1	17	**80**
Private	9	219	3	146	64	8	221	90	31	**791**

State Government		11	4	16	6		7	2	1	**47**
Commonwealth Government	9	129	3	114	19	14	138	25	6	**457**
Manufacturer		17		11	4		16	2	6	**56**

Work Areas (Reported in Membership Renewals)	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	OS	TOTAL AUG 2010
Academic Teaching		14		7	5		29	6	18	**79**
Academic Research		28		12	5		27	2	15	**89**
Assessment Adults	20	291	11	203	73	14	348	98	47	**1105**
Assessment Children	11	185	11	158	35	8	228	70	47	**753**
Community Education	2	20	7	17	6	1	28	8	6	**95**
Hearing Aids	17	276	6	197	78	20	302	91	38	**1025**
Industrial		27	2	8	9	2	22	16	1	**87**
Rehabilitation	16	247	6	218	64	17	238	86	47	**939**
Management	2	53	4	49	12	4	67	16	4	**211**
Product Sales		15		11	0		12	2	5	**45**
Training	1	49	2	40	5	2	39	11	10	**159**

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	OS	TOTAL AUG 2010
Full time	12	268	8	208	68	14	274	76	60	**988**
Part Time	8	134	3	101	31	9	158	46	7	**497**

Males	418
Females	1404

Age Bracket	**21-30**	**31-40**	**41-50**	**51-60**	**61+**
(Incomplete Information)	475	543	161	79	15

Perspectives of Audiology in Health Care

Australian Primary Health Care Research Institute (APHCRI) defines primary health care [20]:

> *Socially appropriate, universally accessible, scientifically sound first level care provided by a suitably trained workforce supported by integrated referral systems and in a way that gives priority to those most in need, maximises community and individual self-reliance and participation and involves collaboration with other sectors. It includes the following:*
>
> - *health promotion*
> - *illness prevention*
> - *care of the sick*
> - *advocacy*
> - *community development*

More simply, primary health care is that provided in the home or community setting and the first point of contact with the health care system.

Secondary health care [21] typically refers to services particularly provided by hospitals. Primary care is an important bridge in accessing and utilising secondary care services.

Tertiary health care [21] refers to specialist services mostly provided through medical specialists and allied health professionals. Tertiary medical health services where available in rural and remote areas are mostly provided through private clinics or within hospitals or state and territory health departments by visiting specialists. Each of these experience demands which lead to waiting lists or excessive time intervals between appointments.

Clinical audiological services in Australia evolved [22] from the origins of research. There was a need to investigate acquired hearing loss affecting war service personnel during World War II and separately neonatal hearing loss arising from rubella epidemics in the 1940s. Clinical audiology services were provided as a result. Innovative cochlear implant research in the 1980s similarly led to applications in clinical audiology.

Current ear and hearing service delivery in Australia may be broadly, though perhaps simplistically, outlined according to primary/secondary/tertiary social constructs of our health system. This outline may be with regard to service setting, funding source, prime purpose of service or an individual's point of entry into the continuum of ear and hearing health care:

- preventative/screening programs – primary hearing health service (eg universal neonatal hearing screening, 'Healthy Kids' check, school hearing screening programs, occupational hearing conservation programs, ear health programs such as otitis media surveillance, ear and hearing education programs, noise education and awareness programs)
- primary clinical care and management – primary ear health service (eg medical practitioner treatment of otitis media or otitis externa; management of wax or mopping of ear discharge by appropriately trained practitioner - medical, nursing, audiological or health worker)
- diagnostic audiological assessment services – primary/secondary ear and hearing health service (eg diagnostic audiology department in a hospital, remote health department, community setting or private practice; referral for more complex diagnostic assessment such as balance disorders or evoked auditory potentials; tinnitus assessment; auditory processing disorder assessment)
- re/habilitative services – secondary/tertiary hearing health care (eg Commonwealth government Office of Hearing Services program; cochlear implant clinics; bone anchored hearing aid clinics; workers' compensation rehabilitation; tinnitus management; auditory processing disorder management; private audiology clinics)
- surgical or chronic complex ear disease management – integrated primary/secondary/tertiary ear and hearing health care (eg chronic ear disease management including ENT; cochlear implant clinic)

Given the myriad of pathways to and funding sources for the continuum of ear and hearing health care, this outline is not impervious. Clinical presentations of ear health do not always fit distinctly within any single one of the above levels or phases of care.

Cohesive, accessible, effective and patient-centred services for simultaneous provision of primary ear care with hearing health care should be available to Australians when the need arises. There are fundamental flaws in our current systems of care when this simultaneous need is not efficiently managed for an individual, funding sources present a barrier to service delivery or service models are conflicted according to purpose. These flaws then necessitate an individual to follow an additional pathway and consequently less efficient care.

Below are some scenarios that are poor examples of effective patient-centred care, service efficiency or value for health expenditure.

- An individual adult originally assessed through a community health centre (primary funded service) is referred to the Commonwealth Office of Hearing Services (OHS) program (a tertiary funded program) and is then obliged to have a repeated diagnostic hearing assessment as required by OHS expected protocols and funding processes. Although regarded as an initial assessment under the OHS program, this is a duplication of the primary hearing health service and unnecessary health expenditure.
- An individual receives tertiary level hearing services (eg hearing aid rehabilitation) as the prime objective. However, primary ear health needs are then recognised by virtue of their often transient or recurring nature – for example otitis media, otitis externa or wax occlusion. Currently, the individual needs to be referred back to a suitable primary health service, an additional inconvenience of time and expenditure rather than the primary health need being managed while at that tertiary service. (Note – some audiologists have now received training in safe wax management and able to offer this service as the need arises.)
- A remote Indigenous child has hearing assessed at school by a visiting audiologist or hearing health worker (primary, secondary or tertiary level service) and identified with persistent otitis media with effusion, or 'glue ear'. The child is referred back to the local primary health centre with a recommendation for ENT referral. Due to incompatible data and communication systems or manual processes, the report may not come to appropriate district medical officer's attention for up to a week or more. The district medical officer may only visit occasionally and other priorities present of other individuals with higher priority acute or chronic disease health needs. The ENT referral is eventually made after significant delay or overlooked altogether until another opportunity presents.

This document endeavours to conceptualise more flexible and cohesive ear and hearing health care pathways. The inter-relationship and limitations of current pathways are important to understand in reforming our health care system. This discussion highlights:

- Primary ear health care needs are those identified at first opportunity and may occur simultaneously with hearing health care at any level (ie primary, secondary or tertiary services) due to their transient or recurring nature.
- Under current scopes of practice and service models, audiologists refer individuals with identified primary ear health needs for primary care management as required. Anyone identified for ENT management is currently referred back to a primary health practitioner for an appropriate referral to an ENT.
- Barriers within our health care system create inefficient and fractured patient-centred care. The incapacity of audiologists to promptly manage an individual's primary ear health needs or to directly refer to ENT specialist care whilst simultaneously managing hearing health needs leads to delays or breakdown in timely, effective and opportunistic care.
- The barriers in pathways of effective ear and hearing health care become apparent as fundamental flaws when the needs for simultaneous and/or immediate access to ear and hearing care arise but cannot be effectively met.
- These fundamental flaws are due to conflicting purposes of different service structures, rigid funding models, inefficient ear health care pathways or lack of immediate access to effective safe and expert care at any level.
- Audiologists are the health professionals for primary hearing health care. Audiologists should have a presence in primary health service models to enable effective collaborative ear and hearing care.
- In addition, audiologists have the capacity to complement existing primary ear health care management through appropriate training, flexible models and funding of service delivery, and access to efficient, integrated electronic ear and hearing health information systems.

Current Scopes of Practice

The health workforce that currently manages ear and hearing health in Australia includes audiologists, audiometrists, nurse audiometrists, indigenous health workers, indigenous ear health workers, ear-nose-throat (ENT) specialists, medically trained doctors, ENT surgical care co-ordinators (nurses) and hearing health care co-ordinators (nurses or Aboriginal Health Workers).

Scopes of Practice - Audiologists

Audiologists provide full diagnostic hearing assessment and determine the individual's need for medical and/or rehabilitative intervention. Audiologists are university trained with considerable knowledge and expertise to:

- identify medical indicators from client self-reports or test results,
- ascertain and manage the likely effectiveness of hearing rehabilitation,
- make independent decisions about whether to proceed with medical referral and/or hearing rehabilitation,
- select, prescribe, fit and maintain appropriate technology to aid in hearing rehabilitation. This includes hearing aids, cochlear implants and other implantable technology, FM and blue tooth audio systems and other assistive listening equipment.
- provide hearing health care promotion,
- train other health and education workers in primary ear and hearing health care,
- provide acoustic measurements and environmental acoustic advice in public and educational facilities.

Audiologists are responsible for the full diagnosis of hearing loss, management of patients requiring hearing re/habilitation (from neonates to the elderly) and tinnitus and balance management. Audiologists also work in secondary and tertiary diagnostic and rehabilitative services where they may identify primary ear health needs and refer back to a primary health care provider for appropriate management.

Scopes of Practice - Others

- Audiometrists screen for hearing loss, perform audiometric tests (often under the direction of audiologists or medical practitioners) and fit hearing aids. They are trained to apply technical skills and follow a standard protocol for each client.
  Two new qualifications have replaced the Certificate IV in Audiometry since 2008: Certificate IV in Audiometric Assessment and Diploma of Hearing Device Prescription and Evaluation. These require completion of modules, supervised clinical practicum in the workplace, attendance at classroom sessions, assignments and assessments.
  Those who complete the Certificate IV in Audiometric Assessment may perform hearing screenings and assessments to identify hearing impairment. They may refer for further audiological or medical assessment and manage hearing loss prevention programs.
  Audiometrists who complete the Diploma of Hearing Device Prescription and Evaluation may also prescribe or dispense hearing aids.

- Nurse audiometrists are registered nurses with a post graduate qualification in audiometry nursing. They may undertake otoscopy, tympanometry and audiometry with roles in hearing screening programs, hearing health promotion and a link between primary hearing screening and audiologists.

- Ear, nose and throat (ENT) specialists and otologists specialise in the medical diagnosis, treatment and management of ear diseases, and related disorders. They rely on audiological diagnostic tests to make diagnosis and refer for rehabilitative audiological management of hearing loss when medical treatment options are not possible.

- Medically trained doctors are able to identify, treat and manage primary ear health needs. They may rely on diagnostic audiological assessments to formulate a medical care management plan and to decide upon the need to refer to ENTs and otologists for further investigation, diagnosis and management. Paradoxically, ENT specialists and medical

practitioners are entitled to claim audiological tests from the Medical Benefit Schedule of fees with minimal training to perform such procedures.

- Nationally there is a range of accredited certificate, diploma, associate degree and degree courses available for Indigenous Health Workers at tertiary and non-tertiary educational settings. Courses and training programs have been designed to address specific health issues. Aboriginal Health Workers practising in the Northern Territory (NT) must be registered with the Aboriginal Health Workers Board of the NT; in other States and the Australian Capital Territory they must have been awarded a Certificate Level III in Aboriginal and Torres Strait Islander Health (or an equivalent or higher qualification).

- In NT, remote area nurses and Aboriginal health workers treat and manage otitis media in Indigenous populations as outlined in the CARPA (Central Australian Rural Practitioners Association) Reference Manual

- Indigenous ear healthworkers are trained through the primary health care qualifications framework at certificate or diploma level. They are able to screen hearing and identify and (in some locations) treat and manage limited primary ear health needs under clear guidelines of practice.
  Special arrangements exist for the supply of pharmaceutical benefits to clients of eligible remote area Aboriginal Health Services (AHS). Under these arrangements clients of approved remote area AHS can receive prescription medicine free of charge directly from the AHS at the time of the medical consultation without the need for a prescription.

- ENT surgical care co-ordinators (typically nurses) support clients through the surgical pathway for ear disease. This includes pre-surgical work up, communication between stakeholders and the post-surgical care

- Hearing health care co-ordinators (typically health workers or nurses) support the development of skills and competencies in primary health practitioners (doctors, nurses and Aboriginal Health Workers) to provide evidence based clinical care for otitis media and coordinate the recommendations of specialist ENT and audiological services for the client care pathway

Challenges in Primary Ear Health Care

The challenges confronting Australian health care [2,3,4,5] are well documented - the workforce shortage of trained clinical practitioners, the distribution of the expertise of this workforce and timely and equitable access to primary healthcare.

Otitis media, commonly referred to as middle ear infection, remains a major health problem in early childhood and in indigenous Australia. The importance of improving the ear health of indigenous Australians is particularly paramount [5, 6,9,23]. The incidence and severity of otitis media and its complications for indigenous Australians are unacceptable. Overcrowding, poor living conditions, exposure to cigarette smoke, and lack of access to clinical care are all major risk factors for otitis media. Estimates of the number of cases of otitis media in 2008[9] vary between 992,000 and 2,430,000 Australians, with a total estimated cost of $100 – $400 million.

Australia needs more innovative approaches to health care and this extends to Indigenous primary ear health care. Interventions and initiatives to improve Indigenous ear health outcomes are required and considerable effort has been made in recent years in different localities[5, 6]. We need to build on both the small and more significant achievements where evidence demonstrates improvement.

There are three life-stages where consistent and sustainable programs need investment that also have flexibility to be adapted for local community needs:

- Early identification and treatment of early onset otitis media in infants in order to minimise the effects of associated hearing loss and outcomes for speech and language development.
- Identification, treatment and rehabilitation of children and teenagers with established chronic ear disease and ongoing hearing loss. This is important for educational, communicative and personal needs.
- Identification, treatment and rehabilitation of adults with established chronic ear disease and ongoing hearing loss. This would help increase employment and training opportunities and address both personal needs and generational hearing loss in Indigenous populations.

For children at high risk of otitis media [9], primary health care services need to focus on accurate diagnosis, appropriate treatment and planned review of affected children. Long term investments and support in education, health literacy, hygiene practices, and living conditions are likely to reduce the incidence and severity of otitis media and the negative consequences of the associated hearing loss.

For Indigenous communities, the partnership in ear and hearing health care can be developed through the pivotal role of local Indigenous health workers and community workers. Their role is fundamental to ensure effective outcomes by supporting elements such as communication, follow-up and management of recommended treatment [24]. Quite often, however, hearing loss, low literacy and English as second language (ESL) are specific issues that need to be addressed in the recruitment, retention and development of this Indigenous workforce.

Access to and use of interpreters is another issue to be addressed in relation to the burden of hearing loss in Indigenous communities, its impact on learning English as an additional language and the effective provision of ear and hearing health services.

Audiologists like other health professionals, endeavour to work collaboratively and in interprofessional teams to manage the health needs of individuals and communities.

Clinical anecdotes and experiences from audiologists highlight the breakdowns and delays in primary ear health care from the time an immediate need is identified by an audiologist. Delays and lost opportunities to access treatment from available local primary ear health services (and if indicated, further ENT specialist management) at the earliest instance may arise from:

- workload pressure on available primary health services resulting in waiting times or delays
- poor access to local primary health services and expertise due to unfilled vacancies, workforce shortages, staff turnover and minimal or no service
- audiological services being provided outside the primary health facility eg at a school
- lack of audiological service delivery partnerships with communities, local health services and community ear and hearing health care programs
- inefficiencies with communication and management of onward specialist referral
- unsuccessful effort or lack of resources to follow-up family for treatment or review
- travel and logistical barriers impeding initial contact and subsequent follow-up at the nearest available health service
- inadequate local management
- inefficient communication between agencies
- inadequate self-responsibility if client/family do not pro-actively follow up on own needs
- inadequate awareness and/or training amongst short-term, relief or fly-in cross-border clinicians regarding existing jurisdictional ear and hearing health systems which differ between states and territories.

These issues may create another level of complexity and barrier in the context of Indigenous health care. Unfortunately, it may also lead to a perception by health services and communities of a diminished value of visiting audiological services and their disconnection.

For many, the frustration is frequently evident when primary ear health needs are clearly recognised but not managed timely or effectively. Whatever the constraints, these challenges present a case for reform to strengthen primary ear health care and improve health outcomes.

Primary Ear Health Care Reforms

The contribution that professional clinical audiologists could make to improve health outcomes and complement existing primary health services is a small but not insignificant step in the reform of Australia's health care system. The capacity of audiologists to help improve the ear and hearing health care to indigenous Australians and communities is achievable, realistic and timely.

1. **A Patient Centred Health System**

- "The right person, in the right place, at the right time". A patient has the right to easy and equitable access to primary health care which is affordable and cost-effective
- Primary ear health care needs to occur in a timely manner to avoid medical complications and minimise the associated impact on hearing, health, communication, and well being
- Smoother pathways for care. Audiologists have the clinical knowledge and expertise to decide when an individual requires medical management, specialist ENT investigation and intervention.

One area for contention in the Commonwealth Government funded Office of Hearing Services program is seeking a medical opinion of any contraindications for hearing aid use. Audiologists are trained at a post graduate level to recognise when a medical opinion is relevant prior to the fitting of hearing aids and when specialist ENT opinion and investigation may be required.

For example, a medical opinion may be indicated to:

- better understand the aetiology of neonatal and childhood deafness,
- investigate deterioration or fluctuation in hearing loss,
- investigate retrocochlear pathology,
- investigate comorbid symptoms such as tinnitus or balance disorders, or
- consider middle and external ear conditions that impact on the fitting of hearing aids.

For the majority of adults with an acquired hearing loss through presbyacusis, occupational or recreational noise exposure, a medical opinion or clearance is an unnecessary requirement.

The importance of communication with a central primary health care provider is accepted but the mandatory insertion of medical opinion into an audiological rehabilitation programme is an unnecessary expense and delay in the rehabilitative process. It should not be a required step that a patient consults their primary care provider before commencing or continuing ear and hearing rehabilitation under an expert in that particular field.

Sudden hearing loss is a medical emergency which audiologists are able to identify and should have the capacity to refer to appropriate treatment by ENT specialists. Delays within the current system whereby only a medical practitioner is allowed to refer to ENT specialists mean that patients whose hearing could have been recovered by immediate treatment may be left with permanent hearing impairment.

Smoother client-centred pathways for ear and hearing care would contribute to savings in health expenditure:

- Direct access to an audiologist without GP referral. A simple innovation now would be removal of the current GP gatekeeper as a mandatory requirement for new adult clients to the Commonwealth Government's Office of Hearing Services (OHS) voucher program.
- Audiologists have the expertise to recognise when medical opinion and management is indicated and would refer on as required. Sensorineural hearing loss alone should not warrant a medical opinion on medical clearance for hearing aid rehabilitation in the OHS program.
- Audiologists should be able to refer directly to ENT specialists for specialist investigations, opinions and management. This would bypass an unnecessary and cost-and-time inefficient step of the need to refer back to a primary health doctor in order to generate a referral.

2. Primary Health Care Structures and Organisations

Hearing loss and ear conditions may occur at any age and across any demographic. Audiology must be accessible in primary health care organisations with appropriate resources, skilled workforce and appropriate planning for local service needs.

Prompt audiological assessment must be achieved for all neonates identified by hearing screening[25], and timely, effective intervention must follow for those in whom the impairment is confirmed.

The full and effective implementation of universal neonatal hearing screening to detect children with hearing loss at the earliest possible age has varied across states and territories. At this point, universal neonatal hearing screening has not been fully implemented across Australia. There are efforts to remedy this in some locations.

Effective universal neonatal hearing screening will not replace the need for vigilance and for continued surveillance of hearing behaviour and language development. Hearing impairment in children may develop with an acquired sensorineural (permanent) hearing loss. Intermittent, fluctuating and chronic conductive hearing loss associated with childhood otitis media may affect speech and language development, educational progress and learning, behaviour and social well-being.

Otitis media with effusion may be difficult to diagnose in the primary health clinic based on otoscopy alone, given absence of other acute symptoms and lack of audiological diagnostic equipment. Through appropriate diagnostic assessment, audiologists make a differential diagnosis and refer for appropriate medical management.

Auditory processing disorders may become apparent in which children do not have any problem with hearing sensitivity, but compared to normal age group may not be able to process sound and speech which is more complex or expected to be processed in more adverse listening environments.

Adult hearing loss[7] shows a comorbidity and association with an increased risk for a variety of chronic health conditions including diabetes, stroke, elevated blood pressure and heart attack.

Poor hearing health and/or significant tinnitus may impact on mental health. Mental health treatment may not be as effective if the hearing loss and/or tinnitus is not appropriately managed.

The prevention of tinnitus and hearing loss caused by excessive occupational and/or recreational noise exposure is possible. The prevention of the negative consequences of poor ear health is possible. Effective education and awareness programs based on evidence-based practice for hearing conservation, noise management and ear health are important preventative ear and hearing health needs in the primary care setting.

The incidence of hearing loss increases more significantly for aged Australians and those living in aged care facilities [8]. Aged care facilities need access to primary hearing care services to help manage the individual needs of residents as well as an overall facility plan addressing communication and hearing needs.

Adults who develop or experience ear health symptoms, hearing loss, tinnitus or balance disorders need access to appropriate audiological expertise in the primary care sector. Based on diagnostic assessments, audiologists determine whether patients require medical intervention, and/or secondary or tertiary audiological management such as hearing rehabilitation or tinnitus management services.

Audiologists are hearing specialists who manage Australia's hearing health.

Audiologists are the only non-medical hearing health practitioners who provide services across the lifespan, from newborn babies to the elderly. Audiologists are already the primary health practitioners for people with hearing loss and related disorders.

Audiologists have an important role as the professional leaders in hearing health care. Prevention and education of ear disease, hearing loss and tinnitus are core elements of preventative primary ear and hearing health care. Through a team approach and in liaison with other health and educational professionals, audiologists meet the hearing needs of individuals and the community.

Planned, accessible, skilled and appropriately resourced audiological care in primary health care services is essential.

3. Developing the Workforce - Extended and Advanced Scopes of Practice

- To make more effective use of the health workforce and improve health outcomes, the expertise of audiologists could help deliver an improved primary ear health service. This would be underpinned by additional appropriate training in advanced primary ear health with mandatory relevant continuing learning and development. Qualifications would be credentialed by accreditation of a training program by Audiology Australia. Audiologists meeting requirements would be therapeutically endorsed for advanced primary ear health practice by Audiology Australia.
- A possible model to consider for therapeutically endorsed qualification could be a *Certificate of Advanced Primary Ear Health* to which audiology is one point of entry. Training could be managed by distance education with practical supervision in a primary health setting and should include a mandatory remote Australia placement.
- Extended scopes of practice may include:
    - advanced otoscopy – pneumatic otoscopy, differential diagnosis of abnormal outer and middle ear conditions
    - diagnosis of primary ear health conditions
    - evidence based and safe cerumen (wax) and foreign body management techniques
    - limited or delegated prescribing rights using evidence-based practice to treat and manage ear conditions such as otitis media, otitis externa, pressure sores from

incorrectly inserted or poorly fitted hearing aids, vestibular dysfunction and any future effective tinnitus medications
    - inter-professional communication
    - ear health clinical leadership skills
- Future credentialing of university audiology training programs may then include appropriate incorporation of competencies related to advanced primary ear health.

Through appropriate credentialing of qualifications, ongoing learning and development and application of evidence-based practice and research, audiologists could be further trained in defined advanced and extended scopes of practice for primary ear health.

Audiologists be therapeutically endorsed for advanced primary ear health to diagnose and safely manage primary ear health conditions and maintain pharmaceutical prescribing rights.

Audiologists currently recognise when ENT specialist and medical opinion and management is required. This would equally apply for complex and chronic ear health conditions seen by any practising primary ear health audiologist.

A possible training framework for existing audiologists could be a *Certificate of Advanced Primary Ear Health*. This training could be integrated into future accreditation of university audiology training programs.

4. Flexible Funding and Models of Health Care Delivery

- Medicare Benefits Schedule rebates should apply in consideration of defined scopes of practice determined by a recognised professional body such as Audiology Australia;
- In many instances, audiological services are diagnostic tests, which like pathology and some optometry services would therefore sit appropriately under Medicare
- The Medicare Benefits Schedule should entitle audiologists to receive direct referrals and to independently claim for audiological item numbers from 11300 to 11339. This would allow a faster, more cost effective diagnostic process and consequent management of ear disorders.
- Secondary and tertiary audiology services also need to be adequately funded by inclusion in the Medical Benefit Schedule of fees. For example, tinnitus assessment, counselling and management, cochlear implant and other implantable hearing devices assessment, fitting and maintenance.
- Secondary and tertiary audiology services and agencies as well as private audiology practices should have flexible funding sources and be able to contribute to flexible integrated, co-ordinated and/or collaborative primary ear health frameworks. Through effective integration and communication with local primary health organisations, more effective and co-ordinated primary ear health care would result.
- Pharmaceutical Benefits Scheme subsidies (or, where more appropriate, support for access to subsidised pharmaceuticals under section 100 of the National Health Act 1953) should apply to pharmaceuticals prescribed from approved formularies by audiologists according to defined scopes of practice*;*
- Chronic ear disease in indigenous communities must be more effectively prevented and better managed at the earliest opportunities with effective treatments. The longer term benefits would be better ear health and better hearing. This would result in less demand for secondary and tertiary audiology services.
  Primary ear health providers have a central role in an increased focus towards preventative healthcare. Ear health literacy and awareness are specific areas to improve.
  Preventative ear and hearing healthcare for noise management, hearing conservation and chronic otitis media programs must be appropriately funded and resourced.

- Secondary, tertiary and private audiology providers should provide opportunistic primary ear health management with appropriate training, resources, communication and flexible funding and models of service delivery according to local needs.
- Interprofessional and collaborative health teams are important. Audiologists understand the important role of local indigenous healthworkers and community workers to ensure effective, culturally appropriate management and follow-up of recommended treatment at the local level [24]. The integrity of their role must be supported and maintained for effective outcomes. Innovative support and training pathways for more Indigenous audiologists is required.
- OHS funding for Indigenous communities should be more flexible and inclusive of a larger audiological workforce with greater choice and capacity for individual and group/population rehabilitation options.

Flexibility in funding models and frameworks of service delivery are required for accessible, effective and efficient primary ear health care.

Medicare Benefits Schedule rebates should apply to audiologists in consideration of defined scopes of practice determined by a recognised professional body such as Audiology Australia.

The Medicare Benefits Schedule should apply for audiologists to allow a faster, more cost effective diagnostic process and subsequent management of ear disorders. Primary ear and hearing health care practice should be incorporated into existing Medicare items.

Pharmaceutical Benefits Scheme subsidies should apply to pharmaceuticals prescribed from approved formularies by credentialed audiologists according to defined scopes of practice.

Secondary, tertiary and private audiology services should have flexible funding sources and be able to contribute to flexible integrated, co-ordinated and/or collaborative primary ear health frameworks.

Private audiology practices offering services funded through Medicare would help reduce the current demands in public hospitals and publicly funded services.

The capacity and flexibility of private, secondary and tertiary audiology services to collaborate with primary ear health audiologists and services would contribute to workforce needs, more efficient pathways of care and more opportunistic and timely interventions. This requires flexibility in funding to support innovative pathways and models of care.

Secondary and tertiary audiology services need to be adequately funded. For example, tinnitus assessment and management, cochlear implant and other implantable hearing devices assessment, fitting and maintenance for all age groups do not currently receive adequate funding.

Chronic ear disease in indigenous communities must be more effectively managed at the earliest opportunities with effective treatments. Better ear health and better hearing would result in less demand for secondary and tertiary audiology services.

Primary ear health providers have a central role in an increased focus towards preventative healthcare. Ear health literacy and awareness are specific areas to improve.

The primary ear health of indigenous Australians requires flexible and collaborative approaches in culturally-appropriate service delivery. Local Indigenous ear health and community workers have a pivotal role in collaborative and effective teams.

Skilled primary health practitioners with competencies in otitis media identification, management and referral pathways are fundamental in primary health care.

Innovative support and training pathways for more Indigenous audiologists is encouraged.

Audiological service providers should subcontract services to address chronic workforce shortages where they exist.

OHS rehabilitative services for remote communities should improve opportunistic access to rehabilitation devices and be more flexible through subcontracted or a larger network of providers.

Flexibility in service models should include the ability of key jurisdictional primary care stakeholders to identify requirements and advocate for their populations. Stakeholders should expect transparency of funding allocation and reporting of local outcomes.

5. Electronic Health Networks and Systems

- The needs for an improved, integrated electronic health system (e-health) and processes to overcome gaps in communication flow and duplication of effort are well recognised. E-health must receive significant investment for effective ear and hearing health management.
- E-health records and the capacity to read, transmit, receive and process health files and reports must be made available to audiologists as well as all other health professionals. This should include not only primary health providers but also secondary and tertiary health service providers and private practice.
- The utilisation of other electronic media and videoconferencing to facilitate electronic ear and hearing health care and clinical supervision over distance should be invested and supported
- A single electronic database should exist to co-ordinate, document and manage neonatal hearing screening programs in all states and territories

Audiologists in all sectors of ear and hearing health care – primary, secondary, tertiary and private audiology services – should have the capacity to manage ear and hearing health care in a single e-health system.

Audiologists should be involved in the design and implementation of e-health as it pertains to ear and hearing health management.

A single, national electronic database should exist to co-ordinate, document and manage neonatal hearing screening programs in all states and territories.

E-health should be funded and developed to facilitate ear and hearing health care over distance but also to support clinical supervision and development of ear and hearing health practitioners.

6. Safety, Quality Assurance and Research

- Patient safety is paramount so the appropriate training and credentialing of audiologists to engage in primary ear health activities is important.
- Audiology Australia certification requires participation in a Continuing Professional Development program. A clinically certified member who would practice any proposed extended scope of practice in the area of primary ear health must maintain currency of this clinical knowledge. They should demonstrate ongoing development and knowledge in this area of expertise.
- Targeted research to continue to monitor and evaluate new initiatives is important to add to an evidence-based health care system.
- Current evidence-based practice is important to support interventions to improve ear and hearing health outcomes. Further research to improve the effectiveness of interventions and

strategies in education, health literacy, hygiene practices and environmental and housing conditions is needed [23].

Evidence-based practice, research, patient safety and quality service provision are important cornerstones of audiological practice. This would equally apply for primary ear health audiologists and services.

Further and ongoing research to evaluate and improve the effectiveness of primary ear health strategies and implementation of primary ear health reforms are indicated.

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Appendix 1

Developments in Other Health Professions and Recent Funding Initiatives

(References[2])

Traditionally, the Medicare scheme has provided public health insurance for the cost of medical and hospital treatment, which is clearly demarcated from non-medical, allied health services. Exceptions exist however, in the access of dentists and optometrists to the scheme.

Optometrists have provided services via Medicare Benefits Schedule (MBS) since 1975 and in accordance with their training are able to perform the same refractive tests and bill for identical items to those used by ophthalmologists. Allowing audiologists to bill Medicare for diagnostic testing in the manner that ENTs bill for these items would be consistent with this precedent. The items concerning audiological assessments within the Medicare schedule are not considered part of the allied health / rehabilitation but are described as 'diagnostic'.

Another precedent in current Medicare arrangements is the provision that oral surgeons may undertake similar (prescribed) procedures to medical practitioners for the same rebate. Without this proviso, a potential anomaly in the system would otherwise be that particular procedures performed by a physician would be covered by Medicare but the same procedures would not be covered when performed by a dentist. This anomaly currently exists in the access of ENTs but not audiologists to otological diagnostic items.

These two exceptions in the existing scheme allow for inter-profession equity in access to Medicare for appropriately qualified practitioner groups performing diagnostic items. This leads to the conclusion that while the 1975 inclusion of audiological assessments in Medicare is deliberate, the omission of audiologists from Medicare was an oversight. This oversight is unsurprising given that the Audiological Society of Australia was not formed until 1968 with the first professional conference not held until 1974 and as late as 1980 there were only two audiologists in private practice in Australia.

The optometry profession also has direct access to the Pharmaceutical Benefits Schedule (PBS) and is able to refer directly to medical specialists in ophthalmology. Optometrists are able to prescribe drugs subsidised through PBS including several drugs to manage glaucoma. Optometrists must not administer, supply or prescribe registered restricted drugs unless they are endorsed by a state optometry board to do so. A register of Therapeutically Endorsed Optometrists is maintained by the relevant board. Optometrists seeking therapeutic endorsement are suitably and appropriately qualified and must demonstrate how their knowledge of ocular therapeutic issues remains current. Approved training courses permit endorsed optometrists to:

- possess, use or prescribe but not sell topical ocular registered restricted drugs as required for the practice of optometry;
- use those drugs appropriately for the treatment of ocular allergy, ocular infection, ocular inflammation, and toxic and traumatic conditions of the anterior eye.

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The Enhanced Primary Care (EPC) MBS items were introduced in 1999-2000 to improve the health and quality of life of older Australians, people with chronic conditions and those with multi-disciplinary care needs. The EPC items provided a Medicare rebate for GPs to undertake or participate in health assessments for older people, and care planning and case-conferencing services for patients with chronic conditions and complex needs. Since that time additional health assessment items have been implemented incrementally to cover additional targeted populations including Indigenous people, aged care residents, refugees, people with intellectual disabilities and 45 year olds at risk of developing chronic disease.

In 2004 MBS items were introduced for a limited range of services provided by practice nurses when acting for, and on behalf of, a GP.

Chronic Disease Management (CDM) items were introduced in 2005 to replace the existing EPC care planning items. The CDM items were developed to better enable GPs to manage the health care of patients with chronic medical conditions, including patients who need multi-disciplinary care. The capacity for referral to MBS eligible allied health services was maintained under these items.

In 2006 MBS items for GP mental health plans and associated psychological therapy items were introduced as part of the Better Access to Psychiatrists, Psychologists and GPs program through the MBS to improve consumers' access to high quality primary mental health care.

In Indigenous health, Aboriginal Community Controlled Health Organisations (ACCHOs) have played a significant role in the delivery of primary health care. ACCHOs are primary health care services initiated and operated by the local Aboriginal community to deliver holistic, comprehensive and culturally appropriate health care to the community through a locally elected Board of Management.

Special arrangements exist for the supply of pharmaceutical benefits to clients of eligible remote area Aboriginal Health Services (AHS). Under these arrangements clients of approved remote area AHS can receive prescription medicine free of charge directly from the AHS at the time of the medical consultation without the need for a prescription.

Two new Medicare Benefits Schedule (MBS) items were introduced for immunisation and wound management services provided by registered Aboriginal Health Workers in the Northern Territory on behalf of a GP.

Services to rural and remote areas are provided through the Regional Health Services (RHS) and MAHS programs. In addition, the 2009-10 Budget announced that, from January 2010, a new Rural Primary Health Services Program (RPHS) would be established to consolidate a range of existing programs and introduce greater flexibility into primary health care service provision in rural and remote communities.

Commonwealth Government announced a budget decision in May 2009 to provide access to the MBS and PBS to nurse practitioners working in primary health care, and advanced midwives providing care from November 2010

For many years podiatrists have employed a range of S2 and S3 pharmacological agents in clinical management. From the 1st July 2007, podiatrists have been endorsed by the Podiatrists Registration Board (Victoria) to prescribe an approved list of restricted drugs for the treatment of podiatric conditions. The legislation allows for the use of S2, 3 & 4 pharmacological agents as a therapeutic modality to allow the management of podiatric pathology. In 2009, podiatrists in Victoria were granted greater prescribing rights.