



REPORT ON COMMONWEALTH
FUNDED HEARING SERVICES TO ABORIGINAL
AND TORRES STRAIT ISLANDER PEOPLES

STRATEGIES FOR FUTURE ACTION

OCTOBER 2002

The Government's continued commitment to ear and hearing health in Aboriginal and Torres Strait Islander peoples is reflected in the release of the *Report on Commonwealth Funded Hearing Services to Aboriginal and Torres Strait Islander Peoples: Strategies for Future Action*.

The Honourable Michael Wooldridge, together with the former Minister for Aged Care, the Honourable Bronwyn Bishop, jointly commissioned a review of the *National Aboriginal and Torres Strait Islander Hearing Strategy (1995-1999)* (the National Strategy) and a stocktake of the delivery of services under the Commonwealth Hearing Services Program to Aboriginal and Torres Strait Islander peoples.

The Report brings together the major findings from this review of hearing health service delivery, key submissions to this review, and the recommendations of a group of experts in the field of ear health and hearing services. In addition, it considers the implications of an important document released in the course of the review by the Department of Health and Ageing, the *Systematic Review of Existing Evidence and Clinical Care Guidelines on the Management of Otitis Media in Aboriginal and Torres Strait Islander Populations*. The Report provides a blueprint for continued strategic action that builds on the National Strategy, which focussed on the early screening of infants and children aged 0-5 years. Access by adult Aboriginal and Torres Strait Islander peoples to hearing services is also addressed.

The review findings reaffirm that the prevalence of ear disease (otitis media) and hearing loss amongst Aboriginal and Torres Strait Islander communities is much greater than that found in the rest of the Australian population. It finds that the incidence of otitis media in Aboriginal and Torres Strait Islander children is very high and starts at a very young age and that prevention of hearing loss is of paramount importance.

The Report contains a set of policy principles and strategies proposed during the review to guide future action in the areas of service delivery, workforce, and the relationships between primary, secondary and tertiary ear health and hearing services. Strengthening collaboration and service delivery at the regional level is a central theme.

We would like to express our appreciation of the work of the members of the Review Advisory Committee, to those who furnished the reviewers with submissions, and the subsequent expert group for their advice. We also acknowledge the Aboriginal and Torres Strait Islander communities and organisations that provided information in the course of the review and beyond.

We believe the Report provides valuable information on ways of responding to this difficult problem. The Department has been asked to provide advice on implementing the strategies outlined in the Report.

Yours sincerely,



Senator Kay Patterson
Minister for Health and Ageing



Kevin Andrews
Minister for Ageing

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TORRES STRAIT ISLANDER PEOPLES
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ISBN: 0 642 82153 4

Publications Approval number: 3158

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CONTENTS

Throughout this document:

- The term Aboriginal Health Worker(s) always refers to Aboriginal and Torres Strait Islander hearing health worker(s).
- The term Ear, Nose and Throat Specialist refers to an otolaryngologist.
- The contract name 'Hearing Services Australia' is used (except in the Reference List). The trading name is 'Hearing Australia'.
- The term Recommendations for Guidelines always refers to *Recommendations for clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations*.

EXECUTIVE SUMMARY5

Background5

The key findings on the status of ear health and hearing in Aboriginal and Torres Strait Islander peoples6

Policy Principles7

Strategies for Future Action7

Models of service delivery7

Workforce8

Access to secondary and tertiary ear health and hearing services8

Research9

Intersectoral collaboration and local linkages9

Primary prevention9

1. INTRODUCTION10

Reviewing ear health and hearing services for Aboriginal and Torres Strait Islander peoples10

Hearing health of Aboriginal and Torres Strait Islander peoples11

2. DESCRIPTION OF COMMONWEALTH FUNDED HEARING HEALTH SERVICES FOR ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES12

Hearing health programs12

The National Aboriginal and Torres Strait Islander hearing strategy 1995-99 (Department of Human Services and Health 1995), the National Hearing Strategy	12
Training and equipment component.....	13
Child Health Sites component.....	13
Capital infrastructure component.....	14
Strategic research component.....	14
The Commonwealth Hearing Services Program.....	15
Australian Hearing Services: Role and Responsibilities.....	15
3. KEY FINDINGS OF THE CONSULTANTS’ REVIEW	17
The National Aboriginal and Torres Strait Islander hearing strategy 1995-99 (Department of Human Services and Health 1995), the National Hearing Strategy	17
Training and equipment component.....	17
Child Health Sites component.....	17
Specific Findings	18
Capital infrastructure component.....	19
The stocktake of the Commonwealth Hearing Services Program	19
Eligibility criteria.....	19
Remoteness.....	19
Resource constraints.....	20
The Hearing Services Voucher System.....	20
Site Selection for the Australian Hearing Services Program for Indigenous Australians Services.....	20
Hearing devices	21
4. ANALYSIS OF ISSUES	22
Government roles, responsibilities and approaches	22
Policy position and actual practice.....	22
Structural issues that impact on outcomes	23
Coordination of services	23
Planning.....	24
State/Territory and Commonwealth Governments’ roles	25
Access to audiological services under the Commonwealth Hearing Services Program	25
Funding Issues.....	25
Eligibility Criteria	26

Training and Equipment Issues	26
Ensuring a competent and sufficient workforce of health professionals	27
Aboriginal Health Workers	27
Access to specialist services	28
Community Education	29
5. THE IMPACT OF HEARING LOSS ON EDUCATION OUTCOMES	30
Education findings	30
Benefits of sound-field amplification systems	30
6. PRIMARY PREVENTION	31
7. STRATEGIES FOR FUTURE ACTION.....	32
Objectives and strategies for Aboriginal and Torres Strait Islander ear health and hearing	32
Policy Directions	33
Strategies for future action	34
Models of service delivery	34
Workforce	34
Access to secondary and tertiary ear health and hearing services	35
Research	35
Intersectoral collaboration and local linkages	35
Primary prevention	35
APPENDIX 1 TERMS OF REFERENCE FOR THE REVIEW OF HEARING HEALTH SERVICES TO ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES	36
APPENDIX 2 ADVISORY GROUP FOR THE REVIEW OF HEARING HEALTH SERVICES TO ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE	37
APPENDIX 3 EAR HEALTH AND HEARING EXPERT REFERENCE GROUP	38

**APPENDIX 4 THE OBJECTIVES AND IMPLEMENTATION OF THE NATIONAL
ABORIGINAL AND TORRES STRAIT ISLANDER HEARING STRATEGY 1995-99 39**

Objectives39
Implementation39

**APPENDIX 5 ABORIGINAL COMMUNITY CONTROLLED HEALTH SERVICES
FUNDED AS CHILD HEALTH SITES40**

New South Wales40
Queensland40
Western Australia40
South Australia40
Victoria40
Tasmania40
Northern Territory40

APPENDIX 6 STRATEGIC RESEARCH.....41

Outcomes41
Projects41
Systematic Review and Recommendations for Guidelines42

APPENDIX 7 ESTIMATED SPENDING ON EACH COMPONENT 1996 – 2000....43

GLOSSARY.....44

REFERENCES.....49

EXECUTIVE SUMMARY

Background

The Office of Hearing Services and the Office for Aboriginal and Torres Strait Islander Health are part of what is now known as the Commonwealth Department of Health and Ageing (the department). In 2000, in order to inform future policy direction, the offices commissioned a program review of Commonwealth-funded ear health and hearing services for Aboriginal and Torres Strait Islander populations. The review was designed to assess the respective contributions of the National Aboriginal and Torres Strait Islander Hearing Strategy 1995-99 (the Department of Human Services and Health 1995), the National Hearing Strategy, and the Commonwealth Hearing Services Program to meeting the ear health and hearing needs of Aboriginal and Torres Strait Islander peoples.

The department engaged Simpson Norris International to undertake the program review. Under the review's Terms of Reference, the consultants reported on the effectiveness of three of the four components of the National Hearing Strategy (Child Health Sites, training and equipment, and capital infrastructure) together with identifying examples of good practice and indicating the extent and effectiveness of linkages across relevant agencies. In addition, the consultants undertook a stocktake of services which are provided to eligible Aboriginal and Torres Strait Islander peoples by Australian Hearing Services through the Commonwealth Hearing Services Program.

During the consultants' review, the consultants had assistance from an advisory group comprising persons with knowledge and experience of Indigenous hearing health.

Following the consultants' review, the department convened an expert group with experience and expertise in ear health and hearing health service delivery to Aboriginal and Torres Strait Islander people. The expert group was to consider issues beyond the scope of the review's Terms of Reference and to provide guidance on the development of this final report.

This report seeks to synthesise and encapsulate important elements of key submissions to the consultants' review, the consultants' findings, and the comments of the expert group. It also considers the implications for future service delivery of the *Systematic review of existing evidence and clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations* (Couzos et al. 2001), the Systematic Review.

This report also provides a blueprint for continued and enhanced strategic activity. This includes new and emerging innovative regional models for ear health and hearing services, delivered through holistic approaches to child and maternal health service delivery within a primary health care model. This ongoing activity will include improving access to Ear, Nose and Throat Specialists both physically and virtually. This would involve exploring the utility of technologies and improving the evidence base for this use of technologies such as telemedicine for rural and remote areas.

Finally this report identifies that Aboriginal and Torres Strait Islander Health Workers' participation in the training provided under the National Hearing Strategy has been high. While ongoing attention to retention is needed, new opportunities exist to consolidate and strengthen workers' training and recognition in accordance with the *Aboriginal and Torres Strait Islander health workforce national strategic framework* (Standing Committee on Aboriginal and Torres Strait Islander Health 2001), the Strategic Framework.

The opportunity has also been identified to address access issues for adult Aboriginal and Torres Strait Islander peoples to hearing services under the Commonwealth Hearing Services Program.

The strategic research component of the National Hearing Strategy led to the development of the Systematic Review and the subsequent development of evidence-based and expert consensus-based *Recommendations for clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations* (Morris et al. 2001), the Recommendations for Guidelines.

Emerging from the review process, a set of policy principles and strategies has been proposed to the Department and the Government to guide future action.

The key findings on ear health and hearing in Aboriginal and Torres Strait Islander peoples

1. Implementation of the National Hearing Strategy has contributed to an enhanced understanding of the challenges in hearing health service delivery and provided a strong foundation for ongoing development of regional capacity to address ear disease. It has led to heightened awareness of ear disease and hearing loss.
2. While the point of delivery in Child Health Sites has been effective, the targeted group of 0–5 year olds has not been reached. Instead there has been a greater focus on older, school-aged children.
3. The Aboriginal Health Worker training and audiometric equipment supply program provided by Australian Hearing Services on behalf of the Office for Aboriginal and Torres Strait Islander Health has made a particularly strong contribution to the achievement of National Hearing Strategy outcomes.
4. Upskilling of local primary health care providers (Aboriginal Health Workers, nurses, and general practitioners) is most effectively ensured by their working alongside specialists (Ear, Nose and Throat Specialists and audiologists).
5. Australian Hearing Services audiologists are highly regarded although there was frustration expressed at what was seen as the restrictive nature of their 'charter', see next paragraph.
6. Access by adult Aboriginal and Torres Strait Islander peoples to services (the charter) under the Commonwealth Hearing Services Program are restricted by a range of factors. These are:
 - The eligibility criteria;
 - The wide geographic spread and isolation of communities which impacts on cost and therefore frequency of visits by audiologists, and the cost of transport for clients attending a service;
 - Lack of support in many communities for those fitted with hearing aids; and
 - The relatively complicated nature of entry to the Hearing Services Voucher System combined with a lack of mainstream providers in remote areas.
7. Significant ongoing deficiencies in ear health and hearing services relating to:
 - Lack of access to specialist services including Ear, Nose and Throat Specialists and audiologists;
 - Planning and coordination to support the continuity of ear and hearing care across the spectrum from primary to tertiary interventions;
 - Integration of ear health services within routine comprehensive primary health care services and effective detection and early intervention particularly in the 0–3 year age group; and
 - The clinical skills of the primary health workforce, which currently fall short of those required to produce real reductions in otitis media-related hearing loss.

Policy Principles

1. Position ear health within a comprehensive, population-based approach to family, maternal and child health;
2. Promote skills development in the primary health care workforce in the clinical management of otitis media;
3. Facilitate increased access to, and the earlier involvement of, Ear, Nose and Throat Specialists and audiologists in the clinical management of ear disease;
4. Increase the capacity of the Commonwealth Hearing Services Program to respond to the tertiary hearing needs of Aboriginal and Torres Strait Islander peoples more adequately and flexibly;
5. Enhance and harness the role Aboriginal Health Workers play in the delivery of ear health services and health promotion in Aboriginal Community Controlled Health Services; and.
6. Intersectoral collaborative approaches to develop and implement school ear health and hearing policies that advance the use of technological systems and training.

Strategies for Future Action

Models of service delivery

1. The developing National Aboriginal and Torres Strait Islander Child and Maternal Health Policy Framework will be inclusive of ear disease and hearing health. The Office for Aboriginal and Torres Strait Islander Health's Aboriginal and Torres Strait Islander Child and Maternal Health policy will reflect the National Hearing Strategy and Commonwealth policy for the health and wellbeing of Australian children, and complement other national approaches to early childhood health and well being, such as the National Child Nutrition Program.
2. Partnership arrangements to be developed for demonstration projects for planning, coordination and delivery of ear health programs within regional planning contexts and comprehensive family, maternal and child health programs.
3. The Commonwealth to facilitate a study to assess the feasibility of video-otoscopy and transmission of imaging in the early detection of otitis media, particularly in localities where the availability of Ear, Nose and Throat Specialist services is limited.
4. The Commonwealth, States and Territories and the community controlled health sector to work collaboratively to develop health promotion strategies and material.
5. The Commonwealth to ensure that regional and local implementation of the Recommendations for Guidelines will emphasise core messages for inclusion in health promotion activities and materials, including advice to facilitate a pro-active role by parents and carers.

Workforce

6. A comprehensive, professional, competency-based development program for Aboriginal Health Workers, nurses, and general practitioners to be developed. Opportunities and incentives to be provided for students to participate in clinical training specifically focused on the identification and treatment of otitis media. This will support improvements in the clinical management of otitis media and facilitate implementation of the Recommendations for Guidelines.
7. The Department of Health and Ageing to work with the Australian National Training Authority, State and Territory training authorities and the Aboriginal community controlled health sector to develop curricula for Aboriginal Health Workers which include the clinical management of otitis media consistent with the Recommendations for Guidelines.
8. Existing training and experience of Aboriginal Health Workers in hearing health should be recognised and enhanced in the delivery of clinical services. All external training to be articulated into higher level accredited courses to provide career pathways.
9. The Commonwealth, States and Territories to consider ongoing funding of post-vocational and in-service training programs for Aboriginal Health Workers in remote areas, as articulated in strategy 18 of the Strategic Framework.

AHMAC agrees that the Commonwealth, States and Territories should consider the basis for ongoing funding of post vocational and in-service training programs for Aboriginal Health Workers.
10. The optimal role of specialists in clinical management be defined in local and regional guidelines developed by Aboriginal Community Controlled Health Services or regional planning bodies. These guidelines should be based on the Recommendations for Guidelines.
11. Processes to support and facilitate the early and sustainable involvement of specialists in the clinical management of otitis media to be negotiated with professional organisations within the context of regional planning processes.

Access to secondary and tertiary ear health and hearing services

12. The eligibility criteria for Aboriginal and Torres Strait Islander peoples to access the tertiary hearing services provided under the Commonwealth Hearing Services Program to be reviewed by the Commonwealth, with the aim of increasing access to audiological assessments and provision of hearing devices.
13. The proposed report on the range and capacity of regional agencies supplying contract medical and nursing staff to primary health care services for remote Aboriginal and Torres Strait Islander communities be expanded to including audiology services and Ear, Nose and Throat Specialist services, as set out in strategy 34 of the Strategic Framework.

The Commonwealth will commission a report on the range and capacity of regional agencies supplying contract medical and nursing staff to primary health care services for remote Aboriginal and Torres Strait Islander communities. This report would recommend strategies to ensure these services have access to the best possible staffing support, that the agencies are collaborating and that contract staff numbers are being maximised. It would also make recommendations to governments about funding for the creation of structured incentive packages for nursing and allied health personnel in remote area services.
14. Existing programs, such as the Medical Specialist Outreach Assistance Program and the Medical Benefits Scheme be maximised to improve remote access to hearing specialists, including Ear, Nose and Throat Specialists.

Research

15. In consultation with relevant expert individuals and bodies, the Department of Health and Ageing to examine the need for further strategic research in Aboriginal and Torres Strait Islander peoples' ear health and hearing and its service application.

Intersectoral collaboration and local linkages

16. Under respective State and Territory Aboriginal and Torres Strait Islander Health Agreements, the jurisdictions to develop Aboriginal and Torres Strait Islander ear health and hearing strategies which include consideration of environmental factors that impact on ear health.
17. The Department of Health and Ageing to actively work with primary, secondary and tertiary service providers to clarify roles and responsibilities in the context of regional resources and access; and to ensure effective integration and coordination of primary, secondary and tertiary service provision and case management.
18. The Commonwealth Departments of Health and Ageing and Education, Science and Training to work collaboratively to develop a comprehensive national policy for:
 - The supply of, and support for, the installation and maintenance of sound-field amplification systems in schools, where hearing loss is of high prevalence;
 - The development of training packages for teachers in working with hearing impaired students and families; and
 - Consistent and ongoing implementation of school policy with respect to ear health and hearing of Aboriginal and Torres Strait Islander students.

Primary prevention

19. The Aboriginal and Torres Strait Islander Commission to continue to monitor and report on environmental infrastructure improvements.

1. INTRODUCTION

Reviewing ear health and hearing services for Aboriginal and Torres Strait Islander peoples

In August 2000, the (then) Department of Health and Aged Care, initiated a review of hearing health services delivered to Aboriginal and Torres Strait Islander peoples by the Commonwealth. The consultants' review consisted of an evaluation of the National Aboriginal and Torres Strait Islander Hearing Strategy 1995-1999 (the Department of Human Services and Health 1995), the National Hearing Strategy, together with a stocktake of services delivered by Australian Hearing Services to eligible Aboriginal and Torres Strait Islander peoples under the Commonwealth Hearing Services Program. The Terms of Reference of the consultancy are at appendix 1.

The review consultants, Simpson Norris International, were assisted by an advisory group whose members represented key stakeholders and people with experience in delivery of hearing services to Aboriginal and Torres Strait Islander people (membership is listed at appendix 2).

The resultant report to the department by consultants Simpson Norris International, 'A review of hearing health services delivery to Aboriginal and Torres Strait Islander peoples', (Simpson Norris International 2001), included qualitative data gathered through visits to sites in several States and Territories. It also included information provided by Aboriginal Community Controlled Health Services to the Office for Aboriginal and Torres Strait Islander Health together with submissions to the review from the Aboriginal and Torres Strait Islander Commission, the Department of Education, Science, and Training (formerly the Department of Education, Training and Youth Affairs), the National Aboriginal Community Controlled Health Organisation and the Central Australian Aboriginal Congress.

A number of issues were identified by the advisory group that required additional attention in any consideration of future directions for Aboriginal and Torres Strait Islander hearing and ear health. It also became apparent that the scope of the review, and consequently the consultants' report, could not sufficiently capture these emergent issues. Following completion of the consultants' work, and in recognition of those issues, additional advice was sought from a group of experts to support the development of the policy options and recommendations outlined in this report. The expert reference group membership is at appendix 3.

Work was also done by the National Aboriginal Community Controlled Health Organisation on clinical issues and this resulted in the Office for Aboriginal and Torres Strait Islander Health commissioning the *Systematic review of existing evidence and clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations* (Couzos et al. 2001), the Systematic Review. This was complemented by the report by the Menzies School of Health Research *Recommendations for clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations* (Morris et al. 2001), the Recommendations for Guidelines. These were both released in August 2001 and were considered to be significant.

This report draws on and synthesises all of the above sources of information. It attempts to describe the major challenges and to outline strategies for improving ear health and hearing in Aboriginal and Torres Strait Islander populations.

This report includes a set of policy principles that seek to:

1. Position ear health within a comprehensive, population-based approach to family, maternal and child health;
2. Promote skills development in the primary health care workforce in the clinical management of otitis media;
3. Facilitate increased access to, and the earlier involvement of, Ear, Nose and Throat Specialists and audiologists in the clinical management of ear disease;
4. Increase the capacity of the Commonwealth Hearing Services Program to respond to the tertiary hearing needs of Aboriginal and Torres Strait Islander peoples more adequately and flexibly;
5. Enhance and harness the role Aboriginal Health Workers play in the delivery of ear health services and health promotion in Aboriginal Community Controlled Health Services; and
6. Intersectoral collaborative approaches to develop and implement school ear health and hearing policies that advance the use of technological systems and training.

Hearing health of Aboriginal and Torres Strait Islander peoples

The World Health Organisation defines rates of chronic suppurative otitis media greater than 4% as an unacceptable public health problem. These rates are consistently exceeded in Aboriginal and Torres Strait Islander populations, particularly in rural and remote populations where otitis media can affect up to 100% of babies within months or even weeks of birth. A high proportion of Aboriginal and Torres Strait Islander babies and children suffer from chronic suppurative otitis media throughout their developmental years (Couzos et al. 2001).

Surveys funded under the (then) Department of Education, Training and Youth Affairs initiatives have found that up to 80% of Indigenous students have an educationally significant hearing disability (McRae et al. 2000).

Experts have found between 6% and 80% of Aboriginal children have significant hearing loss. (The National Aboriginal Community Controlled Organisation 2001). The range is wide because this varies from community to community.

2. DESCRIPTION OF COMMONWEALTH FUNDED HEARING HEALTH SERVICES FOR ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES

Hearing health programs

This section briefly describes the two Commonwealth programs that were reviewed by Simpson Norris International. Each has a specific role in addressing ear disease and hearing loss in Aboriginal and Torres Strait Islander populations. The programs are:

- The National Aboriginal and Torres Strait Islander Hearing Strategy 1995-99 (Department of Human Services and Health 1995), the National Hearing Strategy; and
- The Commonwealth Hearing Services Program.

It should be noted that services for the clinical management of ear disease are provided and/or funded by a range of State/Territory and Commonwealth agencies through a mixture of community health and public hospital services together with Medicare-funded general practitioner and specialist services. Tertiary services to address hearing loss are similarly provided through a mix of Commonwealth and State/Territory government programs.

The National Aboriginal and Torres Strait Islander hearing strategy 1995-99 (Department of Human Services and Health 1995), the National Hearing Strategy

The need for action to address the high incidence of ear disease in Aboriginal populations was identified as a priority in the National Aboriginal Health Strategy 1989 (National Health Strategy Working Party 1989). The National Hearing Strategy, implemented in 1996, was the first systematic national response to addressing this priority.

The strategy focused on the ear health and hearing of infants and children aged 0–5 years by improving access to primary, secondary and tertiary services and improving standards of care. The objectives of the National Hearing Strategy are at appendix 4.

Steering Committees with representatives of the Office for Aboriginal and Torres Strait Islander Health, the Aboriginal and Torres Strait Islander Commission, State and Territory governments, the Aboriginal community controlled health sector and Australian Hearing Services were established in each State and Territory to plan and facilitate implementation of the strategy. Initial consultations centred on the training and equipment component, the first component implemented.

The Strategy was allocated \$5.7 million over four years in the 1995/96 Federal Budget. It was implemented in stages from late 1996 with initiatives in four complementary areas: training and equipment, Child Health Sites, capital infrastructure, and strategic research.

Training and equipment component

Under this initiative, training is offered to Aboriginal Health Workers employed within the national network of 111 eligible Aboriginal Community Controlled Health Services. This component of the strategy aims to build Aboriginal Health Workers' skills in ear health and hearing screening and program management. The training and equipment is provided by Australian Hearing Services under contract to the Office for Aboriginal and Torres Strait Islander Health, except in the Northern Territory where the Northern Territory Aboriginal Hearing Program has provided the services to date. It includes the provision of audiometric equipment (otoscope, tympanometer and audiometer) to Aboriginal community controlled health services for use by Aboriginal Health Workers.

Funding of approximately \$250,000 per annum has been allocated on a non-recurrent, annual basis to maintain this component pending the outcomes of the evaluation of the Strategy. A new contract with Australian Hearing Services has been re-negotiated for 2002/2003. This will continue the hearing health training and equipment program for Aboriginal Community Controlled Health Services.

The Australian Hearing Services agreements specify that at least two health workers from each of the participating Aboriginal Community Controlled Health Services receive training.

The training covers the development of Aboriginal Health Workers' skills in:

- Individual case management;
- Screening using the audiometric equipment provided;
- Program management; and
- Community education.

While Australian Hearing Services is also funded to provide audiometric equipment and calibration in the Northern Territory, the Northern Territory Aboriginal Hearing Program under the direction of an Indigenous Australian board of directors, had undertaken the training. Co-funded by the Northern Territory Department of Health and Community Services and the Northern Territory Department of Education, the Northern Territory Aboriginal Hearing Program had relevant community development objectives and the appropriate organisational and physical infrastructure and local networks to provide hearing health training for Aboriginal Health Workers in the Northern Territory.

Child Health Sites component

The aim of this component is:

To realise the benefits of the training and equipment initiative through enabling employment of a specialist hearing health worker to assist in the integration of a primary hearing health care program into an overall child health program.

Planning and implementation of the Child Health Sites was informed and influenced by the earlier implementation of the audiometric training and equipment component. Aboriginal Community Controlled Health Services considered that the most appropriate way to consolidate and maximise the value of Aboriginal Health Workers' hearing training and access to audiometric equipment was through supplementary funding to enable the employment of hearing health workers.

On the advice of the State and Territory Hearing Steering Committees, twenty-nine Aboriginal Community Controlled Health Services were chosen to pilot 30 Child Health Sites (the Kimberley Aboriginal Medical Services Council implemented Child Health Sites in two services). These Aboriginal Community Controlled Health Services were selected using the following criteria:

- They were to be among the larger Aboriginal Medical Services and to operate in communities with a significant Aboriginal population;
- They needed to have an existing comprehensive range of services including primary medical care, health promotion, prevention, education, mental health and counselling services; and
- As primary health care services, they were to have an existing orientation to child and maternal needs.

Each State and the Northern Territory has at least one such Child Health Site, with as many as six in the larger States and Territories. These sites act as strategic nodes for regional ear and hearing services. A list of Child Health Sites is at appendix 5.

It is important to note that following the Office for Aboriginal and Torres Strait Islander Health's Base Funding Review 1996/97, annual funding of approximately \$48,000 per Child Health Site for the Hearing Health Program was rolled into base funding grants. While securing ongoing resources to implement enhanced hearing health services, the revised arrangement did not require Child Health Sites to report against specific performance information as a condition of funding, but required recipient organisations to complete an annual service activity survey.

Capital infrastructure component.

The aim of this component was to improve access to community-based specialist services in all areas throughout Australia through the construction of sound-treated rooms. Funding was allocated for the 30 child health sites in 29 Aboriginal community controlled health services to increase access to specialist hearing services in the local community. This was to assist in the delivery of more clinically-appropriate primary health care services. The construction program involves modification of an existing room in existing services or incorporation of a sound-treated room in a planned extension or a new service.

To date, 24 sound-treated rooms have been built. The remaining sound-treated rooms will be constructed in joint capital works projects with State and Territory governments when major capital works programs are undertaken at the remaining Aboriginal Community Controlled Health Services, or they will be removed from the schedule of projects.

Strategic research component

This component of the National Hearing Strategy aimed to determine research priorities for ear health and hearing in Aboriginal and Torres Strait Islander peoples and to develop clinical protocols for the management of otitis media. It should be noted that this component was not included in the review of the National Hearing Strategy, but has been included for completeness and because of its impact on future directions for the National Hearing Strategy.

A major project funded under this component was the *Systematic review of existing evidence and clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations*, (Couzos et al. 2001), the Systematic Review, which was commissioned to strengthen the evidence base and identify research priorities.

Subsequently, three discrete projects were undertaken from 1999/2000 to 2001/2002, including:

- An evaluation of tympanoplasty in Aboriginal children in Western Australia and factors associated with successful outcomes;
- An evaluation of socioeconomic risk factors and treatment-seeking behaviour for otitis media in Aboriginal population of the Kalgoorlie-Boulder region; and
- A review of methodology to improve medical services for rural and remote Aboriginal children with chronic suppurative otitis media.

The Systematic Review also provided the evidence base for the development of *Recommendations for clinical care guidelines for the management of otitis media in Aboriginal and Torres Strait Islander populations* (Morris et al. 2001), the Recommendations for Guidelines. These were distributed nationally as part of a package in July 2001 followed by a national workshop in August 2001. They are the first evidence-based and expert consensus-based resources available to support the clinical management of otitis media in Aboriginal and Torres Strait Islander populations. The recommendations also provide a blueprint for addressing the role and development needs of other health professionals contributing to Aboriginal and Torres Strait Islander hearing health, given that effective clinical management of otitis media requires a skilled multidisciplinary team approach.

The technical challenges associated with the clinical management of otitis media were highlighted in the recommendations and a set of seven treatment algorithms based on initial diagnosis by otoscopy has resulted. Appendix 6 provides more detail.

The total expenditure on the National Hearing Strategy from 1996 to 2000 is in the order of \$7,300,000. A table of estimated spending on each of the components is at appendix 7.

The Commonwealth Hearing Services Program

The broad focus of the National Hearing Strategy was to strengthen the capacity to deal with ear disease and hearing health in the 0–5 age range within comprehensive primary health care. By contrast, the Commonwealth Hearing Services Program is essentially a targeted mainstream program for the provision of tertiary hearing rehabilitation services. This includes audiological assessment, the fitting (if appropriate) of a hearing aid, and advice on the management of hearing loss for eligible hearing-impaired individuals. The program is administered by the Office of Hearing Services within the Department of Health and Ageing. The annual budget for 2002/2003 is \$168 million, divided as follows:

- \$140 million for services provided to eligible adults under the Hearing Services Voucher System through 140 accredited providers including Australian Hearing Services, the public sector provider; and
- \$28.8 million for a range of Community Services Obligations, including hearing services to all Australians under 21 years, to eligible adult Aboriginal and Torres Strait Islander peoples, and to eligible adults living in remote areas and/or with complex needs.

Eligibility for the Commonwealth Hearing Services Program is restricted to persons who hold a Pensioner Concession Card, a Department of Veterans' Affairs Gold Repatriation Health Card, or a White Repatriation Health Card issued for a hearing disability together with dependents of these people. Also eligible are people receiving Sickness Allowance and their dependents, members of the Australian Defence Forces and people undergoing a vocational rehabilitation program with Commonwealth Rehabilitation Services Australia.

Australian Hearing Services: Role and Responsibilities

Funding from the Commonwealth Government for Community Services Obligations is allocated to Australian Hearing Services. Services to eligible Aboriginal and Torres Strait Islander clients are provided at either Australian Hearing Services' mainstream permanent and visiting Hearing Centres or as part of the Australian Hearing Services Specialist Program for Indigenous Australians. The latter is an outreach program and is available in remote, rural and urban areas. The Australian Hearing Specialist Program for Indigenous Australians was developed in recognition of the need for a more flexible and culturally sensitive model of service delivery to Aboriginal and Torres Strait Islander peoples. Australian Hearing Services allocates approximately \$650,000 annually for these outreach services, which include tertiary hearing services provision together with community education on the prevention and management of hearing loss.

Total expenditure on hearing services to Aboriginal and Torres Strait Islander peoples under the Commonwealth Hearing Services Program is estimated to be in the order of \$1.2 million.

3. KEY FINDINGS OF THE CONSULTANTS' REVIEW

The National Aboriginal and Torres Strait Islander hearing strategy 1995-99 (Department of Human Services and Health 1995), the National Hearing Strategy

Training and equipment component

The consultants concluded that although training providers encountered significant practical difficulties in coordinating Aboriginal Health Worker training sessions, this component has delivered consistent and sustained access to training and the simultaneous supply of audiometric equipment in all jurisdictions from 1996 to 2000. Since the inception of Australian Hearing Services' training and equipment program, a total of 389 Aboriginal Health Workers commenced training with 306 completing both training modules as at June 2002. Of the Health workers who completed the two stages of training, 153 remain in the sector (Australian Hearing 2002). The national consistency in the training has accommodated the mobility of the Aboriginal Health Worker workforce and led to predictable and reliable screening protocols being implemented across the sector. The equipment is maintained by Aboriginal Community Controlled Health Services and calibrated annually by Australian Hearing Services.

The training and equipment component appears to have made the most significant impact of the National Hearing Strategy's four components in improving awareness of ear disease and enabling screening within the sector. Through the exposure to Australian Hearing Services' audiologists who were conducting courses as trainers, Aboriginal Community Controlled Health Services forged linkages they may not otherwise have had. The audiologists act as mentors for Aboriginal Health Workers, providing ongoing support and a level of informal supervision when visiting the services in their capacity as tertiary service providers under the Commonwealth Hearing Services Program.

A significant challenge and concern however is the lack of professional status of Aboriginal Health Workers who complete the training provided by either Australian Hearing Services or via the Northern Territory Aboriginal Hearing Program. The Australian Hearing Services' training is not accredited, and neither course is formally linked to advanced training opportunities, for example in community audiometry. Aboriginal Health Workers reported this as a source of disappointment and frustration. They considered that the requirements that they also fulfil many generalist functions devalued their skills or contributed to a perception by others that their skills were less valuable. Australian Hearing Services is currently looking at prior recognition of learning and articulation into accredited audiometry courses.

Child Health Sites component

The consultant's report revealed that this component of the National Hearing Strategy did not fully achieve its objectives. The general patterns in the implementation across Child Health Sites were variable and may in part be the result of the selection of the sites having been made at the outset of the National Hearing Strategy.

As indicated in Chapter 2 of this report, the funding for this component was included in base funding allocations to Aboriginal Community Controlled Health Services one year into the National Hearing Strategy's implementation. The consultants found that funding for Child Health Sites was generally used as intended to employ Aboriginal Health Workers and that approximately 57% of these Aboriginal Health Workers had designated or dedicated responsibility for ear health.

Of these however, there appeared to be no correlation between the location of the Child Health Site and the number of designated hearing positions. Remote services, as a rule, had insufficient staff available to enable specialisation of their workforce. The consultants found that success in implementing hearing programs often reflected the enthusiasm and drive of individual Aboriginal Health Workers.

Only limited formal data were available to assess health outcomes of hearing services and to assist hearing program planning. The overall capacity and development of services were the major predictors of activity in this respect. Generally, there was a significant increase in the number of children screened by Aboriginal Health Workers for otitis media and hearing loss on both a systematic and opportunistic basis. However this trend was also strongly evident in non-Child Health Sites participating in the Training and Equipment Program and the general awareness of ear disease and hearing loss within communities had improved whether there was funding for a Child Health Site or not.

Specific Findings

1. Although not formally specified in the National Hearing Strategy's objectives, it had been expected that in order to increase surveillance of otitis media in children in the targeted 0–5 year age group, screening would be incorporated into routine primary health care services. However the consultants were unable to find evidence that this had occurred. Rather, a dominant focus of screening was school-age children, with many Child Health Sites conducting screening for this age group across the immediate region in satellite health centres and schools. The 0–3 year age group, in particular, did not appear to be consistently targeted. Not only is screening in this group technically challenging, but 0–3 year olds are less likely to present at medical services. If they do, Aboriginal Health Workers stated that they were reluctant to screen very young children because of the likelihood of their crying. However, this seemed to be less of a problem among more experienced and confident Aboriginal Health Workers.
2. There has been achievement in hearing service objectives related to improved health information management and to more structured processes for Ear, Nose and Throat Specialist and audiological services. However, these achievements were more likely to be attributable to service wide and/or regional planning and capacity than the Child Health Sites initiative. While improvements in the level of hearing services management, planning and coordination did occur in some Child Health Sites, it was an inconsistent outcome.
3. Australian Hearing Services' Hearing Health Report Forms provided under the Training and Equipment Program were widely used to record patient screening information. The majority of Aboriginal Community Controlled Health Services, including Child Health Sites, maintained manual record systems for referral and follow-up purposes. As at July 2002, 82% of Child Health Sites were using the information technology-based patient management system provided by the Office for Aboriginal and Torres Strait Islander Health's Patient Information Recall Systems Program (PIRS).
4. There was no correlation between retention of hearing health-trained Aboriginal Health Workers and Child Health Site funding. For example, hearing staff retention levels in New South Wales were similar in Aboriginal Community Controlled Health Services which were with and without Child Health Sites (88% and 91%). In South Australia, retention levels were 54% and 52% respectively. This suggests that broader regional factors were at work in promoting ear health staff retention than the availability of Child Health Site funding.

Capital infrastructure component

The consultants found that there was limited evidence of the extent to which the capital infrastructure component of the National Hearing Strategy had met its aim of improving access to community-based specialist services throughout Australia. However, hearing health specialists that did visit Aboriginal Community Controlled Health Services were likely to make use of the room if it was available.

Anecdotal information elicited in the course of the consultant's visit to a range of Aboriginal Community Controlled Health Services suggests that the major user of the room is the Aboriginal Health Worker. However, it was acknowledged, both to the consultants and in other information provided to the review advisory group, that lack of space in some Aboriginal Community Controlled Health Services resulted in the room not always being available for use for hearing screening. This was because it was being used for other purposes. There was also evidence to suggest that Aboriginal Health Workers on many occasions carried out their work without a sound-treated room, in places such as pre-schools and primary schools. It was generally acknowledged, however, that this was far from ideal.

It should be noted that *The management of middle ear infection in Aboriginal and Torres Strait Islander populations: plain language summary of the systematic review on the management of otitis media in Aboriginal and Torres Strait Islander populations* (The National Aboriginal Community Controlled Health Organisation 2001) concludes that pure tone audiometry is the best test for hearing loss in children aged three years or older. Additionally, lack of suitable testing areas to eliminate background noise continues to be a problem for audiometry testing, especially in remote areas. This conclusion, coupled with the argument that there is an equity of access issue involved, makes a strong case for ensuring sound-treated rooms are available within a reasonable travelling distance for Aboriginal and Torres Strait Islander populations.

The stocktake of the Commonwealth Hearing Services Program

The consultants found that there is an unmet need for tertiary hearing services to address current levels of otitis media-related hearing loss amongst Aboriginal and Torres Strait Islander populations. They also identified several barriers to access by Aboriginal and Torres Strait Islanders to services provided by the Commonwealth Hearing Services Program, and these follow.

Eligibility criteria

Current eligibility criteria for the Commonwealth Hearing Services Program (both the Hearing Services Voucher System and Community Services Obligations) effectively exclude many adults between the ages of 21 and 64. To be eligible for services, an adult must have a Pensioner Concession Card, have a Gold Repatriation Health Card from the Department of Veterans' Affairs, have a White Repatriation Health Card if it is issued for a hearing disability, or be in receipt of Sickness Allowance. Dependents of these people are also eligible. Without access to Commonwealth Hearing Services Program services, the unemployed, those on CDEP and low-income earners are unlikely to receive tertiary rehabilitation services for their hearing impairment.

Remoteness

Remote communities in general lack regular access to hearing tests, follow-up visits, and maintenance services for hearing aids. This reflects the practical difficulties in providing services in these areas, the lack of appropriate health service infrastructure, the lack of appropriately skilled staff in these areas, and the expense of long distance travel for both clients and providers.

Resource constraints

The currently capped funding arrangements for Community Services Obligations, which are the principal means of addressing the tertiary hearing needs of many Aboriginal and Torres Strait Islander peoples, means there is a tension between the need for hearing services required by Aboriginal and Torres Strait Islander children and adults and the needs of other groups.

The Hearing Services Voucher System

Very few Aboriginal and Torres Strait Islander people use the Voucher System (around 100 per annum, although these numbers are based on self-identification). Reasons highlighted by the consultants include:

- The relatively complicated nature of entry to the Voucher System;
- The fact that it is a mainstream service and, like many mainstream services, is not seen as appropriate to the needs of Aboriginal and Torres Strait Islander peoples;
- The eligibility criteria for adults; and
- Geographic locality—there is a lack of mainstream providers in remote areas.

In order to access services it is necessary to obtain an application from the Office of Hearing Services, Centrelink, or a provider; have it signed by a doctor following a medical examination of the ears; and then forward the application to Centrelink for eligibility checking. If the applicant is eligible, they are sent a package of information in the mail, including the Voucher, which must be taken to an accredited service provider at an approved site.

Site Selection for the Australian Hearing Services Program for Indigenous Australians Services

Australian Hearing Services has internal criteria for selection of sites for the outreach services provided under the Australian Hearing Specialist Program for Indigenous Australians. They are:

- The service being provided is directed to eligible Aboriginal and Torres Strait Islanders;
- The service delivery model is appropriate for that community; and
- The delivery of services is by a clinical audiologist with the relevant training.

The existence of criteria raises the issue of whether some eligible Aboriginal and Torres Strait Islander people are missing out on services. The consultants did not specifically address this issue. However, Australian Hearing Services has advised that a judgment is made about the most appropriate sites to be set up and maintained under an Australian Hearing Specialist Program for Indigenous Australians visiting program. These are determined within the available budget, based on referral numbers and community support.

If the number of individuals at any site who require tertiary level hearing services is small and there is insufficient community support for the setting up of a visiting program by the Australian Hearing Specialist Program for Indigenous Australians, then arrangements are made for the child/children (or eligible adult/s) to travel to the nearest Hearing Centre. Any child not referred at an early age through a community medical centre, will be picked up once they begin school, as teachers will identify a child who may have a hearing problem.

There are greater difficulties for eligible Aboriginal and Torres Strait Islander adults in rural and remote areas. If an adult client in acute need of hearing services is not situated at a site selected for an outreach visit, then the onus tends to revert to the individual, their family or the local health centre to arrange transport to the nearest Australian Hearing Services Hearing Centre. This can be at considerable time and expense for those involved.

Hearing devices

The consultants suggested that there is an unmet need for hearing devices, particularly for adults. There was also some criticism in regard to the lack of effective outcomes for children who were assessed as needing amplification services.

The reasons most commonly cited for poor outcomes are rejection of the use of amplification devices by clients, particularly children, together with lack of understanding of procedural and repair processes by clients or communities. It was reported that devices are often discarded, lost or misused. Given the geographical spread of sites, follow-up is problematic unless there is a strong community education program linked closely to the National Hearing Strategy. If this is not present then considerable cost may be incurred through travel and salary costs for the audiologists for follow up, which limits the number of visits that can be undertaken.

Otitis media is a disease that affects the ear and can result in hearing loss. In the longer term, it can result in permanent hearing loss if it is not effectively managed and treated. The more common result is conductive hearing loss. Hearing aids are generally not considered an appropriate intervention for people with active otitis media. However, where episodes of ear disease appear to have ceased, and there is permanent hearing loss resulting from associated nerve damage, a hearing aid fitting may be appropriate.

There was agreement that sound-field amplification systems in schools were important given the high prevalence of conductive hearing loss in Aboriginal and Torres Strait Islander school children. Sound-field amplification systems are not funded under the Commonwealth Hearing Services Program. The current approach is ad hoc and varies significantly from one jurisdiction to another, one school to the next. It is largely driven by individuals and dependent on the goodwill and interest of the school principal or classroom teacher. When there is a change in personnel, use of the equipment often ceases.

4. ANALYSIS OF ISSUES

Government roles, responsibilities and approaches

The Commonwealth has joint responsibility with State and Territory Governments for the provision of primary health care services. The Commonwealth funds Aboriginal Community Controlled Health Services across Australia to provide primary health care services. The Primary Health Care Access Program that is being rolled out will build on the existing Commonwealth and State/Territory resources and services. The interface between primary-level, secondary-level, and tertiary-level health care has the potential to be enhanced in a well-planned and coordinated regional approach. This highlights the need for complementary programs, such as the Medical Specialists Outreach Assistance Program, particularly in rural and remote communities, where capacity and access to specialists are often limited. This is particularly relevant to hearing health where access to Ear, Nose and Throat Specialists is critical.

Whilst specific health issues, such as ear health, require dedicated attention, it is highly desirable that the content of approaches and strategies be part of the broader health service delivery context. The *National Aboriginal and Torres Strait Islander Hearing Strategy 1995-99* (Department of Human Services and Health 1995), National Hearing Strategy is largely based on screening of infants and children aged 0–5 years. However, if a package of health interventions, such as a range of screening, including hearing, were to be carried out in one encounter, this would have advantages for carers, children, and primary health care providers.

The Office for Aboriginal and Torres Strait Islander Health's Child and Maternal policy approach aims to provide a systemic approach to improving health outcomes for children. It will build upon existing activity at State and Territory and national levels and will require intersectoral approaches to enable holistic responses to health needs. Positioning hearing and ear health services for infants and children within a child and maternal context provides a more strategic approach to service delivery.

Policy position and actual practice

One of the major goals of the approach of the Office for Aboriginal and Torres Strait Islander Health to Aboriginal and Torres Strait Islander peoples' health care has been to increase access to comprehensive and sustainable primary health care. In this context, single health issues as expressed in the National Hearing Strategy, such as ear health and hearing, are short-term initiatives that complement and inform the ongoing development of comprehensive primary health care models. The long-term objective is to ensure that serious, though non-life-threatening, conditions receive the attention they deserve against competing demands on primary health care providers for acute services.

In practice, however, single health issue strategies may work against the development of more holistic approaches and the integration of primary health care. For example, the consultants found that the needs of 0–3 year olds in particular were largely unmet. This indicates a tendency for these programs to run independently of the main primary health care services. This involves less than the required or desirable level of supervision to ensure quality of screening and less than the desired level of service-wide accountability for referral or case management involving multi-disciplinary teams.

Survey information from Child Health Sites shows that just over half of them (57%) employed designated Hearing Health Workers. In smaller remote communities, staffing and skill levels are variable and the demand for services diverse. These require primary health care staff to be multi-skilled to address the full range of health and practical needs, including screening, community liaison/counselling, and transportation. Despite greater access to health workers and greater capacity to specialise, larger urban and rural services also tend to integrate hearing screening in routine child health checks and/or clinics as the preferred model.

The early aim of the National Hearing Strategy was to develop the capacity of services with an existing focus on child health and to address ear health as part of the routine management of the spectrum of child health issues. This has not been fully achieved. A renewed focus on family/maternal and child health would help to ensure a focus on 0–5 year olds and would promote the more holistic and efficient management of ear health in this age group.

Structural issues that impact on outcomes

A consistent set of structural issues impacting on the effectiveness and efficiency of ear health and hearing services was identified in the course of the consultants' review and by the expert group that was convened following the review. They were:

- Poor coordination and planning of service delivery;
- Lack of access to specialists in remote areas;
- Workforce training and accreditation; and
- Environmental factors.

Discussion about the scope of action required to achieve more comprehensive and integrated services follows.

Coordination of services

One of the principal objectives of the National Hearing Strategy was to support the development of more reliable planning, case management and monitoring. Significant progress to this end was achieved in some jurisdictions, notably Victoria, New South Wales, and Queensland, where regional strategies have been implemented to coordinate ear health programs. However, there are many medical professionals and allied health professionals involved in the management of otitis media and co-morbidities in addition to many funding bodies and arrangements. Coordination of ear health and hearing services therefore requires substantial high-level regional support and the full engagement of management bodies within the Aboriginal Community Controlled Health Services.

The need for increased intersectoral cooperation and improved coordination and integration of services was a dominant theme of the consultants' review. It was universally identified by stakeholders as one of the keys to reduce the incidence and consequences of otitis media in Aboriginal and Torres Strait Islander populations.

The Central Australian Aboriginal Congress submission (Central Australian Aboriginal Congress Inc 2000) to the consultants' review outlined how the failure of communication and planning between agencies often compromises outcomes for Aboriginal people. By way of example, it notes

... At [Australian Hearing Services] you can consult with an audiologist but cannot access medical intervention if required. At Northern Territory Hearing Services you can receive a diagnostic hearing assessment and education, but cannot receive medical consultation and treatment, nor can you receive amplification. If you receive education services from AHP (the Northern Territory Aboriginal Hearing Program) you can not have your hearing assessed or receive any medical opinion and treatment. This means that the hearing test and ear pathology is considered in isolation, rather than being treated with full medical history and holistic health intervention and decision making.

Lack of integration and cooperation between agencies was also the major issue of concern in a needs assessment of allied health services conducted in the Pilbara region of Western Australia in December 2000 (Combined Universities Centre for Rural Health 2000). Typical comments from health professionals and service managers interviewed for the study include:

There doesn't seem to be much consultation as to what is happening...it all appears very much ad hoc. A new model must be developed, so that when some allied worker is visiting remote areas everybody knows about it... we must all contact one another and maintain constant communication... things would then be much more effective and efficient.

...The problem is that nurses can refer to doctors and doctors can refer to specialists, but [some] specialists will not see patients without them first being referred to an audiologist.

A range of factors explains such dysfunction. Historical demarcation in the roles, responsibilities and culture of the various provider groups in addition to their differing statutory responsibilities and accountability requirements are significant factors. One of the most significant structural deterrents to greater flexibility in service provision is the possibility of cost shifting risks between government agencies. For example, savings achieved through rationalising state-funded health services are often experienced as an increase in demand for Commonwealth-funded services either through Medicare fee-for-service arrangements or under special programs such as the Commonwealth Hearing Services Program. The closure of regional public hospitals, for example, may reduce access to state-funded audiologists, which in turn may result in increased demand for Commonwealth Hearing Program services.

Planning

Significant progress has been made in three main areas to support a more advanced level of planning since the implementation of the National Hearing Strategy in 1996.

- Firstly, and most significantly, a commitment to regional planning has been negotiated, articulated and implemented in all jurisdictions. This has involved the Office for Aboriginal and Torres Strait Islander Health, State/Territory governments, the Aboriginal and Torres Strait Islander Commission, the National Aboriginal Community Controlled Health Organisation and its affiliates through the Aboriginal and Torres Strait Islander Health Framework Agreements and regional planning forums. The forums now provide a powerful means of advancing intersectoral cooperation in the planning and management of complex health issues;
- Secondly, the Patient Information Recall System (PIRS) is a health information management system which is specifically tailored to the requirements of Aboriginal Community Controlled Health Services. It holds significant potential to improve patient referral and monitoring and to support data collection for regional planning and funding purposes.
- Thirdly, the *Recommendations for clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations* (Morris et al. 2001, the Recommendations for Guidelines, are based on the best available evidence and expert consensus. They clearly map the range of clinical services required for the effective clinical management of otitis media. This resource provides a blueprint to rationalise, plan and cost service requirements.

State/Territory and Commonwealth Governments' roles

There is considerable value in rationalising the roles and responsibilities of States and Territories and the Commonwealth as the basis for the more effective coordination of services. Currently, role differentiation is designed to accommodate legislative requirements, such as that imposed by the *Australian Hearing Services Act 1991*. However, rather than pursuing better health outcomes, this can result in duplication and lost opportunities. For example, in remote communities, where the need is great and providers few, it is necessary to maximise opportunities presented by visiting professionals and allow them to work to address problems flexibly as the need dictates. Enhancing the role for Australian Hearing Services in addressing conductive hearing loss in Aboriginal and Torres Strait Islander children could be considered on this basis.

Access to audiological services under the Commonwealth Hearing Services Program

It is difficult to assess the number and distribution of hearing services that are required by Aboriginal and Torres Strait Islander children and adults through the Commonwealth Hearing Services Program. Several factors must be considered: eligible population distribution data, historical service delivery patterns (these reflect the take-up rate of past programs) and, most importantly, the referral rates from primary or secondary health care providers. Community Services Obligations referrals come mainly from doctors (including Ear, Nose and Throat Specialists and Paediatricians), the Aboriginal community controlled health sector, State and Territory health and education staff and organisations, and parents/carers.

Regarding potential services to Aboriginal and Torres Strait Islander adults, the Australian Bureau of Statistics data from the 1996 Census indicates that Australia wide there are only approximately 16,000 people identifying as Aboriginal and Torres Strait Islander that are over 60 years of age. The number of Aboriginal and Torres Strait Islander adults potentially eligible under the Commonwealth Hearing Services Program is possibly up to 15,000 nationally. If it is assumed that 60% of these people were hearing impaired (based on a combination of age and past ear disease history), this equates to approximately 9,000 Indigenous Australian adults nationally who may wish (and be able) to take up hearing services through the Program.

Funding Issues

While issues relating to funding of service provision under the Commonwealth Hearing Services Program were not included in the scope of the review undertaken by the consultants, the inadequacy of the current level of services to meet the very high burden of ear disease and hearing loss among Aboriginal and Torres Strait Islander peoples was a theme of their findings (Simpson Norris International 2001).

In particular, review advisory group members and other key stakeholders argued strongly that Aboriginal and Torres Strait Islander peoples are not receiving an equitable share of the funds provided under the program, given the demonstrated level of unmet need.

These claims are supported by the stocktake of service delivery by Australian Hearing Services (Simpson Norris International 2001) that showed:

- The Hearing Services Voucher System was largely inaccessible to the majority of Aboriginal and Torres Strait Islander Australians for a range of cultural, geographic and administrative reasons. In 2000, only 100 Indigenous Australians (figure based on self-identification) applied for voucher services in comparison to 130,000 non-Indigenous Australians; and
- Expenditure on services to eligible Aboriginal and Torres Strait Islander peoples was approximately \$1.2 million per annum in total.

There was a strong call by the National Aboriginal Community Controlled Health Organisation in particular for a greater share of Commonwealth Hearing Services Program resources for Aboriginal and Torres Strait Islander peoples and the redevelopment of the approach to service delivery to ensure greater responsiveness to their hearing health needs. Australian Hearing Services was recognised as the specialist provider of hearing services providing services which are highly valued by those receiving them within the Aboriginal and Torres Strait Islander Health sector. However, it is seen as failing to deliver sufficient services to address the real level of need.

The situation, however, is more complicated than such comments indicate. In Aboriginal and Torres Strait Islander populations, conductive hearing loss associated with ear disease is highly prevalent (as it is in many indigenous populations worldwide).

The Commonwealth Hearing Services Program is focused on rehabilitation of sensori-neural loss, which is the predominant form of hearing loss experienced in non-Indigenous populations. The majority of Aboriginal and Torres Strait Islander children suffer from fluctuating conductive hearing loss, for which the fitting of hearing aids is not an optimal rehabilitation strategy. This raises the question as to whether the current model (emphasising use of hearing aids) is appropriate for addressing the high level of conductive hearing loss in the Aboriginal and Torres Strait Islander populations.

Permanent sensori-neural hearing loss is often congenital or caused by damage to the inner ear or the auditory nerve. In contrast, conductive hearing loss is caused by lesions in the middle ear. The most common cause of conductive hearing loss is otitis media, particularly chronic suppurative otitis media. Typically, conductive hearing loss fluctuates (often changing in severity from one day to the next) and is intermittent, meaning that it is not always assisted by fitting a hearing aid. However, in the absence of universally effective clinical management of otitis media, nerve damage and permanent hearing loss can occur and require hearing amplification.

Eligibility Criteria

As already discussed (see Chapter 3, the stocktake of the Commonwealth Services Program, Eligibility criteria), the other issue impacting on access to hearing services highlighted in the consultants' review is the eligibility criteria for access to the Commonwealth Hearing Services Program. The current eligibility criteria for Commonwealth funded hearing services exclude the unemployed and low-income earners, including those Aboriginal and Torres Strait Islander peoples employed on Community Development Employment Programs.

Training and Equipment Issues

The training and equipment component provided by Australian Hearing Services under contract to the Office for Aboriginal and Torres Strait Islander Health has an audiological focus. The program, originally developed and proposed by Australian Hearing Services, was developed from its expertise and experience in tertiary service provision in the sector.

In parallel with the implementation of the training and equipment program, and under the strategic research component of the National Hearing Strategy, the Office for Aboriginal and Torres Strait Islander Health commissioned the development of the Recommendations for Guidelines. This resource articulates, for the first time, clinical strategies for the management of otitis media based on the best available evidence and expert consensus. It highlights that the current training and equipment program may require enhancements in the future.

In particular, consideration should be given to the appropriateness of the existing audiometric equipment in light of the following:

- The Recommendations for Guidelines which identify and recommend otoscopy as the primary screening and diagnostic tool. Each of the seven algorithms are based on initial otoscopic assessment of the condition;
- That audiometry is not suitable for screening children 0–3 years, the target group in which the greatest gains can be achieved; and
- That video-otoscopy is proving a popular and effective tool for
 - Screening and diagnosis;
 - Educating Primary Health Care providers on the presenting conditions of otitis media; and
 - Engaging Ear, Nose and Throat Specialists earlier and more systematically in diagnosis and management, through telemedicine.

These issues highlighted the need for further investigation such as a feasibility study into the use of video otoscopy.

Ensuring a competent and sufficient workforce of health professionals

The aim of the Aboriginal and Torres Strait Islander health workforce national strategic framework (Standing Committee on Aboriginal and Torres Strait Islander Health 2002), the Strategic Framework, is:

to transform and consolidate the workforce in Aboriginal and Torres Strait Islander Health to achieve a competent health workforce with appropriate clinical, management, community development and cultural skills to address the health needs of Aboriginal and Torres Strait Islander peoples supported by appropriate training, supply, recruitment and retention strategies.

The Strategic Framework identifies the need to develop national competency standards to ensure a consistent competency framework between Government and community sectors, portability, and 'safety to practice' in Aboriginal and Torres Strait Islander primary health care across a number of levels of qualification within the Australian Quality Training Framework.

Aboriginal Health Workers

The National Hearing Strategy, through both the Child Health Sites initiative and the training and equipment component, focuses heavily on resourcing, skilling and equipping Aboriginal Health Workers to establish and implement hearing programs. This initiative reflects their central role in the development of sustainable, community controlled services.

In contrast to the Child Health Sites' initiative, the more modestly-funded training and equipment component of the National Hearing Strategy appears to have made a greater contribution to raising awareness of hearing issues and building the capacity of Aboriginal Community Controlled Health Services to undertake hearing screening and case management. This provides strong grounds for ongoing support for professional development activities targeting Aboriginal Health Workers.

As stated before, Aboriginal Health Workers' participation in the training and equipment component has been high. Virtually all Aboriginal Community Controlled Health Services now have hearing health-trained Aboriginal Health Worker staff. However, the retention of trained staff requires ongoing monitoring.

In addition, Aboriginal Community Controlled Health Services with Aboriginal Health Workers with generalist responsibilities have also participated in training and have implemented hearing screening in their services. These are Aboriginal Health Workers in Aboriginal Community Controlled Health Services which are not designated as a Child Health Site. In this way the upskilling of Aboriginal Health Workers has proved the most effective means of facilitating the focus on hearing health while also delivering primary health care.

However, the technical challenges inherent in the clinical management of otitis media indicate the need for more comprehensive professional development within the primary health care sector as a whole. For example, there is no evidence as to whether screening alone has any impact on health outcomes.

One of the most effective ways of ensuring the upskilling of local primary health care providers (that is, Aboriginal Health Workers, nurses and General Practitioners) is for them to work alongside Ear, Nose and Throat Specialists and audiologists. This was one of the main objectives of the Far North Queensland Ear, Nose and Throat Specialist Outreach Program. This program aimed to develop local capacity both through structured theoretical training and on-the-job training provided alongside Ear, Nose and Throat Specialists and audiologists. The evaluation of this program showed that the most reliable predictor of effective specialist interventions was the availability and involvement of skilled local primary health care staff (Comino et al. 2001).

The interaction between Australian Hearing Services' audiologists and Aboriginal Health Workers included both technical training and on-the-job professional mentoring. This was an unintended by-product, but is highly effective in nurturing the development of the Aboriginal Health Worker workforce with respect to hearing health issues.

Access to specialist services

The consultants found good evidence of a large increase in the number of children being screened under the National Hearing Strategy but there was little or no evidence available on the outcomes and quality of screening. Anecdotal evidence suggests that referral processes have been unreliable, as has access to treatment and specialist services.

This represents a significant weakness in the National Hearing Strategy. If otitis media is not appropriately and aggressively managed at initial diagnosis then severe long-term damage can result. Good management requires careful expert assessment and treatment and vigilant follow-up to ensure compliance with antibiotic regimes.

Significant concerns have been expressed by medical experts about the capacity of generalist primary health care professionals to provide care at this level and about the poor access many Aboriginal and Torres Strait Islander people have to Ear, Nose and Throat Specialists and audiological services. The early involvement of specialists is essential both to achieving real reductions in the negative consequences of otitis media and to building the capacity of the primary health care workforce. (Simpson Norris International 2001).

Factors affecting access to Ear, Nose and Throat Specialist services include:

- The overall shortage of specialists willing and able to provide services in rural and remote areas;
- The expense associated with ensuring reliable access to allied and specialist outreach services, particular in rural and remote areas, and the lack of resources;
- The complicated logistics involved in coordinating surgical outreach teams (anaesthetists, nurses, and audiologists), enabling the attendance of patients and ensuring the availability of appropriate facilities; and
- The availability of competent after care to minimise the risk of infection following surgery.

Factors that affect access to audiologists are:

- An overall shortage of audiologists in rural and remote areas;
- The cost of providing services in rural and remote areas;
- The cost to individuals of accessing services (visits to an audiologist are not eligible for assistance under the Patient Assisted Travel Scheme, managed by State and Territory Health Departments); and
- In the case of the Commonwealth Hearing Services Program, the current eligibility criteria.

Given the current shortage of health professionals willing and able to take on the challenges of working in remote areas, targeted incentives are needed to encourage professional providers and students to become involved in the sector, particularly in the more remote areas.

Community Education

One of the main objectives of the National Hearing Strategy was to increase community awareness of the major risk factors for ear disease in order to encourage and motivate parents and family groups to take action where possible to minimise the risk of initial and recurrent middle ear infection.

However, feedback to the consultants and to the Office for Aboriginal and Torres Strait Islander Health indicated that Aboriginal Community Controlled Health Services do not have the time and/or resources to mount effective ear health promotion activities. This is a widespread cause of frustration amongst Aboriginal Health Workers.

The consultants reported on the quality and content of ear health promotion activity in services, commenting that it appeared to be highly variable. Most of the health promotional materials used, such as models of the ear, posters and (in WA only) an ear health interactive CD, were developed and supplied by State/Territory health or education departments.

Improved regional planning and coordination will enable the more systematic and strategic implementation and evaluation of a range of community development, family support and health promotion activities to support improved ear health and hearing goals.

5. THE IMPACT OF HEARING LOSS ON EDUCATION OUTCOMES

Education findings

Katu Kalpa – Report on the inquiry into the effectiveness of education and training programs for Indigenous Australians was released in March 2000 (The Senate Employment, Workplace Relations, Small Business and Education References Committee 2000). It identified poor nutritional status and ear disease, with the resultant conductive hearing loss, as among the most significant barriers to educational attainment among Aboriginal and Torres Strait Islander students.

Similar conclusions were drawn in a number of major reports issued over the last two years (Collins 1999; Standing Committee on Family and Community Affairs 2000; Human Rights and Equal Opportunity Commission 2000). These reports all stressed the need for close collaboration between sectors and government agencies to minimise health problems affecting educational achievement among Aboriginal and Torres Strait Islander students.

The Federal and State/Territory education sectors are currently directly pursuing this objective through the National Indigenous English Literacy and Numeracy Strategy. This initiative announced in March 2000 provides \$27 million over four years to support a range of actions to improve the educational attainment of Aboriginal and Torres Strait Islander students. A significant proportion of the funding is being directed to address hearing health needs. For example, the Strategy is supporting:

- Clinical research on otitis media (the National Aboriginal Community Controlled Health Organisation's Runny Ear Trial);
- The purchase of sound-field amplification systems for classrooms;
- Relevant teacher education;
- Hearing screening programs in schools; and
- The provision of top-up funding for health initiatives such as the NSW Otitis Media Strategy.

Benefits of sound-field amplification systems

Children with a fluctuating conductive hearing loss associated with otitis media are not usually successfully assisted by the fitting of a hearing aid. However, it has been demonstrated that an enhanced listening environment created by sound-field amplification had the effect of increasing the communicative interactions occurring in the classroom, and produced changes in the dynamics of classroom communication (Massie et al. 1999). In particular, the use of verbal communication between the child, teacher and peers increased.

The study concluded that this increased the students' attentiveness to verbal cues giving them less difficulty learning through listening to the teacher talk. It also increased their ability to utilise the verbal teacher-oriented learning behaviours which are associated with success.

6. PRIMARY PREVENTION

While health programs are essential to minimising and controlling the impact of ear disease among Aboriginal and Torres Strait Islander peoples, there is strong evidence and broad consensus that the most effective, if not the only, way of preventing otitis media is through effective, well-resourced environmental health programs.

This fundamental issue was highlighted in the Aboriginal and Torres Strait Islander Commission submission (Aboriginal and Torres Strait Islander Commission Policy Office November 2000) to the consultants' review:

Many remote Indigenous communities lack an adequate supply of clean water for washing children and clothes. Houses can fail to provide basic shelter from the elements, and in many communities, dust is ever-present, a result of a lack of proper roads and landscaping.

In addition to environmental factors, poor nutrition can render Aboriginal children more susceptible to disease. This poor nutrition is not just a result of a lack of understanding of the principles of good eating. It is contributed to by a lack of health hardware – without clean and readily available water and adequate food preparation and storage areas, including refrigeration, it is difficult to prepare nutritious meals. There are also many problems relating to transport and supply of fresh food, particularly fruit and vegetables, to remote communities.

The *Systematic review of existing evidence and primary care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations* (Couzos et al. 2001), the Systematic Review, noted an Israeli study that showed an association between a higher crowding index in housing and chronic suppurative otitis media. Children from larger families and with more siblings were more likely to develop chronic suppurative otitis media. Other findings noted by the Systematic Review were that the risk of ear infection in an individual child was significantly increased (nearly three times) if another member of the family had acute otitis media. Attendance in a child care centre also significantly increased the risk of acute otitis media.

The Systematic Review concluded that these observations relating to childcare, family size and sibling infection relate to housing factors and overcrowding which in turn influence infectious disease transmission. In *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2001*, Edwards et al (2001) cited an analysis of 1996 Census data which concluded that 10% of Indigenous family and group households in major urban areas were overcrowded. Similarly, 15% in other urban areas were overcrowded and 27% in rural areas. These figures were far higher than those for the non-Indigenous population.

The correlation between improved ear health outcomes and improved environmental conditions is illustrated in the following comment from Australian Hearing Services provided in the course of the consultants' review:

[At Coomealla, Dareton NSW] 20% of the children [the Aboriginal Health Worker] saw had discharging ears, compared to about 70% several years ago. [They] started to notice improvements when the housing was upgraded and the Aboriginal Health Worker said that further changes have occurred since the water supply changed last year. Also, sealing the roads and planting the bare areas has made a big difference in the amount of dust in the environment.

While not a controlled study, this account gives some credence to the notion that environmental influences play an important part in the aetiology of ear disease. This suggests that a strategy to reduce the incidence and consequence of ear disease should include advocacy for sustained investment and coordinated regional and local effort to improve environmental conditions.

7. STRATEGIES FOR FUTURE ACTION

Objectives and strategies for Aboriginal and Torres Strait Islander ear health and hearing

In summary, the most effective means of reducing the burden and complications of ear disease is through a comprehensive and intersectoral approach that specifically targets prevention and increases early intervention. The environmental causes of otitis media should also continue to be dealt with through the development of intersectoral action on environmental health, health promotion, education, and social networks.

The consultants' review found that the focus on 0–5 year olds had not been maintained in the implementation of the *National Aboriginal and Torres Strait Islander Hearing Strategy 1995-99* (Department of Human Services and Health 1995), the National Hearing Strategy. Nevertheless, this does not mean that national and regional strategies to address ear disease in 0–5 year olds should not continue. Typically, screening occurred on demand, with school-aged children being the most accessible and consistently-screened population. However, because Aboriginal Health Workers are often required to meet the demand for screening of older children and adults, they have limited capacity to target 0–5 year olds or to undertake hearing health promotion activities in the community.

While the hearing health needs of older children and adults need to be addressed, the greatest long-term benefits are to be derived from effectively targeting 0–5 year olds in order to minimise otitis media related hearing loss and the resultant impact on the pre-lingual and language development periods. This can be achieved by positioning ear disease and hearing health within a comprehensive population-based approach to family, maternal and child health.

A strategy that could be considered is the development of regional child and maternal health programs including:

- Targeted parent/family education and support;
- Ante-natal and post-natal health monitoring and education;
- Development milestone monitoring;
- Targeted detection, early intervention and monitoring of developmentally significant health issues such as
 - Poor nutrition;
 - Ear disease and hearing loss; and
 - Trachoma and refractive error.

The consultants' review also found that both the Commonwealth Hearing Services Program and the National Hearing Strategy had made significant contributions to addressing ear health and hearing in Aboriginal and Torres Strait Islander populations. There is a high burden of ear disease, with complicated aetiology and intractability to treatment. Therefore, intensified and more strategic investment is required to reduce hearing loss in the next generations and to address the current legacy of hearing loss in present generations of Aboriginal and Torres Strait Islander populations.

While Ear, Nose and Throat Specialists, audiologists, general practitioners and nurses need to be involved at key points, 90% of the work involves follow-up to these interventions. This role of Aboriginal Health Workers needs to be recognised and properly resourced, including ongoing training and support that will lead into higher-level training and careers.

It is also important that the most strategic use is made of available resources. It is more beneficial to invest in the development of effective services in one area, rather than spreading resources too thinly so that effort is diluted.

Policy Directions

A number of policy directions have been proposed for consideration, arising from the issues canvassed in this Report. They are:

1. The very high prevalence of ear disease and associated hearing loss in Aboriginal and Torres Strait Islander people (up to 70%) justifies positioning ear health within a comprehensive, population-based approach to family, maternal and child health, enabling a focus on early intervention.
2. The unique technical challenges in the clinical management of otitis media necessitate greater emphasis on a multi-disciplinary team approach. The Recommendations for clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander Populations (Morris et al. 2001), the Recommendations for Guidelines, provide a blueprint for the training of nurses, and general practitioners to broaden the knowledge base on hearing loss prevention, detection and treatment.
3. The lack of specialist services in rural and remote areas requires the development of agreements to formalise and promote more predictable access to specialist and allied health service providers and a move towards effective joint regional planning and service delivery models that take account of geographical spread and workforce supply.
4. The Recommendations for Guidelines provide a blueprint for the identification of ear disease and hearing health service and support requirements, and the basis for sound funding proposals to address gaps.
5. Existing capacity to address ear disease and the promotion of effective models of comprehensive, regionally based services should be further developed.
6. Increased access to, and the earlier involvement of, Ear, Nose and Throat Specialists and audiologists should be facilitated with services ideally being delivered in primary health care settings and/or regional tertiary care settings.
7. The lower life expectancy of Aboriginal and Torres Strait Islander people (up to 20 years less than non-Indigenous Australians) and the higher rates and earlier onset of ear disease necessitate a review of the eligibility criteria for services under the Commonwealth Hearing Services Program.
8. Family and community health promotion, education and support are essential in order to ensure effective ongoing care and support for children and adults suffering ear disease and hearing loss.
9. The social and economic costs, both to the individual and the broader community, of children with hearing loss and poor language skills development needs to be acknowledged and strategies developed for closer collaboration between health, education and other relevant agencies and service providers at Commonwealth and State/Territory levels.

Strategies for future action

There needs to be better links between Commonwealth programs and the primary role of State and Territory governments in hearing service delivery. The Commonwealth proposes in this report the following strategies for future action, based on the lessons learned to date, in order to build on previous achievements to improve the ear health and hearing of the Aboriginal and Torres Strait Islander population.

Models of service delivery

1. The developing National Aboriginal and Torres Strait Islander Child and Maternal Policy Framework will be inclusive of ear disease and hearing health. The Office for Aboriginal and Torres Strait Islander Health's Aboriginal and Torres Strait Islander Child and Maternal Health policy will reflect the National Hearing Strategy and Commonwealth policy for the health and wellbeing of Australian children, and complement other national approaches to early childhood health and well being, such as the National Child Nutrition Program.
2. Partnership arrangements to be developed for demonstration projects for planning, coordination and delivery of ear health programs within regional planning contexts and comprehensive family, maternal and child health programs.
3. The Commonwealth to facilitate a study to assess the feasibility of video-otoscopy and transmission of imaging in the early detection of otitis media, particularly in localities where the availability of Ear, Nose and Throat Specialist services is limited.
4. The Commonwealth, States and Territories and the community controlled health sector to work collaboratively to develop health promotion strategies and material.
5. The Commonwealth to ensure that regional and local implementation of the Recommendations for Guidelines will emphasise core messages for inclusion in health promotion activities and materials, including advice to facilitate a pro-active role by parents and carers.

Workforce

6. A comprehensive, professional, competency-based development program for Aboriginal Health Workers, nurses, and general practitioners to be developed. Opportunities and incentives to be provided for students to participate in the clinical training specifically focused on the identification and treatment of otitis media. This will support improvements in the clinical management of otitis media and facilitate implementation of the Recommendations for Guidelines.
7. The Department of Health and Ageing to work with the Australian National Training Authority, State and Territory training authorities and the Aboriginal community controlled health sector to develop curricula for Aboriginal Health Workers which include the clinical management of otitis media consistent with the Recommendations for Guidelines.
8. Existing training and experience of Aboriginal Health Workers in hearing health should be recognised and enhanced in the delivery of clinical services. All external training to be articulated into higher level accredited courses to provide career pathways.
9. The Commonwealth, States and Territories to consider ongoing funding of post-vocational and in-service training programs for Aboriginal Health Workers in remote areas, as articulated in strategy 18 of the Aboriginal and Torres Strait Islander Health workforce national strategic framework (Standing Committee on Aboriginal and Torres Strait Islander Health 2002), the Strategic Framework.

AHMAC agrees that the Commonwealth, States and Territories should consider the basis for ongoing funding of post vocational and in-service training programs for Aboriginal Health Workers.
10. The optimal role of specialists in clinical management be defined in local and regional guidelines developed by Aboriginal Community Controlled Health Services or regional planning bodies. These guidelines should be based on the Recommendations for Guidelines.

11. Processes to support and facilitate the early and sustainable involvement of specialists in the clinical management of otitis media to be negotiated with professional organisations within the context of regional planning processes.

Access to secondary and tertiary ear health and hearing services

12. The eligibility criteria for Aboriginal and Torres Strait Islander peoples to access the tertiary hearing services provided under the Commonwealth Hearing Services Program to be reviewed by the Commonwealth, with the aim of increasing access to audiological assessments and provision of hearing devices.
13. The proposed report on the range and capacity of regional agencies supplying contract medical and nursing staff to primary health care services for remote Aboriginal and Torres Strait Islander communities be expanded to including audiology services and Ear, Nose and Throat Specialist services, as articulated in strategy 34 of the Strategic Framework.

The Commonwealth will commission a report on the range and capacity of regional agencies supplying contract medical and nursing staff to primary health care services for remote Aboriginal and Torres Strait Islander communities. This report would recommend strategies to ensure these services have access to the best possible staffing support, that the agencies are collaborating and that contract staff numbers are being maximised. It would also make recommendations to governments about funding for the creation of structured incentive packages for nursing and allied health personnel in remote area services.

14. Existing programs, such as the Medical Specialist Outreach Assistance Program and the Medical Benefits Scheme be maximised to improve remote access to hearing specialists, including Ear, Nose and Throat Specialists.

Research

15. In consultation with relevant expert individuals and bodies, the Department of Health and Ageing to examine the need for further strategic research in Aboriginal and Torres Strait Islander peoples' ear health and hearing and its service application.

Intersectoral collaboration and local linkages

16. Under respective State and Territory Aboriginal and Torres Strait Islander Health Agreements, the jurisdictions to develop Aboriginal and Torres Strait Islander ear health and hearing strategies which include consideration of environmental factors that impact on ear health.
17. The Department of Health and Ageing to actively work with primary, secondary and tertiary service providers to clarify roles and responsibilities in the context of regional resources and access; and to ensure effective integration and coordination of primary, secondary and tertiary service provision and case management.
18. The Commonwealth Departments of Health and Ageing and Education, Science and Training to work collaboratively to develop a comprehensive national policy for:
 - The supply of, and support for, the installation and maintenance of sound-field amplification systems in schools, where hearing loss is of high prevalence;
 - The development of training packages for teachers in working with hearing impaired students and families; and
 - Consistent and ongoing implementation of school policy with respect to ear health and hearing of Aboriginal and Torres Strait Islander students.

Primary prevention

19. The Aboriginal and Torres Strait Islander Commission to continue to monitor and report on environmental infrastructure improvements.

APPENDIX 1 TERMS OF REFERENCE FOR THE REVIEW OF HEARING HEALTH SERVICES TO ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES

1. (a) To evaluate and report on the effectiveness of the Child Health Sites, audiometric equipment and training, and capital infrastructure components of the National Aboriginal and Torres Strait Islander Hearing Strategy 1995-1999, against the stated program objectives, and

(b) Identify examples of effective practice and the key contributors to successful outcomes for the Strategy.
2. To conduct a stocktake of the services delivered under the Commonwealth Hearing Services Program to eligible Aboriginal and Torres Strait Islander people by the Commonwealth's provider, Australian Hearing Services, including:
 - the delivery of hearing services to children of preschool and school age;
 - community education provided by Australian Hearing Services; and
 - barriers to access to Commonwealth funded hearing services.
3. To report on the extent and effectiveness of linkages between all agencies involved in the supply of hearing health services to Aboriginal and Torres Strait Islander people, including:
 - Commonwealth agencies;
 - State/Territory Governments;
 - Community Health Services;
 - Aboriginal community controlled health organisations; and
 - Other organisations.
4. To provide conclusions to inform future strategies for improving the hearing health status of Aboriginal and Torres Strait Islander people.

APPENDIX 2 ADVISORY GROUP FOR THE REVIEW OF HEARING HEALTH SERVICES TO ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

MEMBER	ORGANISATION REPRESENTED
Mr Peter DeGraaff, (Chair)	National Manager, Office of Hearing Services, Department of Health and Aged Care, now known as the Department of Health and Ageing.
Ms Dianne Botcher	Audiologist, Office of Hearing Services, Department of Health and Aged Care, now known as the Department of Health and Ageing.
Ms Margaret Norington	Assistant Secretary, Health and Community Strategies Branch, Office for Aboriginal and Torres Strait Islander Health, Department of Health and Aged Care, now known as the Department of Health and Ageing.
Ms Sharon Page	Manager of Indigenous Services, Australian Hearing
Dr Sophie Couzos	Public Health Officer, the National Aboriginal Community Controlled Health Organisation
Ms Jenny Muir	Health Worker, Ballarat Hospital, representing Heads of Aboriginal Health Units now known as the Standing committee on Aboriginal and Torres Strait Islander Health
Mr Noel Baxendell	Policy Adviser, Aboriginal and Torres Strait Islander Commission
Mr Peter Buckskin/Ms Pat McDermott	Assistant Secretary, Indigenous Education Branch, Department of Education, Training and Youth Affairs, now known as the Department of Education, Science and Training.
Dr Richard Heazlewood	Rural Doctors Association of Australia
Ms Irene Nannup	Aboriginal Health Worker, Derbarl Yerrigan health services, Western Australia
Mr Daniel McAullay	Institute for child health research, Western Australia
Ms Gloria Khan	Aboriginal Health Worker, the National Aboriginal Community Controlled Health Organisation
Mr Joseph Daby	Aboriginal Health Worker, Northern Territory Aboriginal Hearing Program
Associate Professor Paul Torzillo	Medical practitioner, Prince Albert Hospital NSW and Medical Director, Nganampa health council

APPENDIX 3 EAR HEALTH AND HEARING EXPERT REFERENCE GROUP

MEMBER	DESIGNATION
Dr Trish Fagan	Senior Medical Adviser, Office for Aboriginal and Torres Strait Islander Health
Ms Kathy Bethune	Audiologist, Central Australian Aboriginal Congress, Alice Springs
Dr Harvey Coates	Ear, Nose and Throat Specialist. Chair, Australian Society of Otolaryngology Head and Neck Surgeons Indigenous Sub-Group
Mr Condi Canuto	Epidemiologist, Indigenous Health Program, University of Queensland
Dr Sophie Couzos	Public Health Officer, the National Aboriginal Community Controlled Health Organisation; co-author Systematic review of existing evidence and primary care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations (Couzos et al. 2001) and member, Otitis Media Technical Advisory Group
Ms Samantha Harkus	Audiologist, Australian Hearing
Dr Peter Morris	Paediatrician. Current Head, Ear Health and education Unit, Menzies School of Health Research and leader, Darwin Otitis Media Guidelines Group.
Ms Sharon Page	Audiologist. Manager, Indigenous Services, Australian Hearing
Dr Paul Torzillo	Medical Director, Nganampa Health Council and Chair Otitis Media Technical Advisory Group
Dr Susan Vlack	Clinical Lecturer Indigenous Health Program, University of Queensland

APPENDIX 4 THE OBJECTIVES AND IMPLEMENTATION OF THE NATIONAL ABORIGINAL AND TORRES STRAIT ISLANDER HEARING STRATEGY 1995-99

Objectives

These were set out in the strategy (Department of Health and Family Services 1995) as:

- To improve access to primary hearing health care Programs for Aboriginal and Torres Strait Islander children, including:
 - increased hearing health promotion activities in Aboriginal and Torres Strait Islander communities; and
 - increased access to detection, treatment and management services for ear disease;
- To prevent the development of hearing problems as a consequence of ear disease;
- To improve access to secondary and tertiary services; and
- To improve standards of care in Aboriginal and Torres Strait Islander hearing health for infants and children of 0–5 years.

Implementation

Commonwealth Hearing Services Program funding commenced in January 1997. Initial *pro rata* funding for a hearing health position was provided under a funding agreement between the Office for Aboriginal and Torres Strait Islander Health and selected Aboriginal Community Controlled Health Services. The agreements specified that financial reports be provided annually and performance reports, twice yearly. Performance information sought related to

- the employment of additional health workers;
- details on the implementation of the Child Health Program, emphasising the progress of the hearing health Programs;
- number of children 0–5 years screened for otitis media;
- number of children 0–5 years diagnosed with a hearing impairment or disease;
- number of children 0–5 years with re-occurring ear disease;
- progress towards establishing formal agreements with secondary and tertiary medical service providers for those diagnosed with ear disease;
- the number of Aboriginal and Torres Strait Islander children 0–5 years being referred to secondary and tertiary medical services for treatment of ear disease.

APPENDIX 5 ABORIGINAL COMMUNITY CONTROLLED HEALTH SERVICES FUNDED AS CHILD HEALTH SITES

NEW SOUTH WALES

NSW Armidale Districts Service Corporation	Armidale
Coomealla Health Aboriginal Corporation	Dareton
Durri Aboriginal Corporation Medical Service	Kempsey
Daruk Aboriginal Medical Service	Mount Drutt
Walgett Aboriginal Medical Service Co-Op Ltd	Walgett

QUEENSLAND

Wuchopperen Medical Service	Cairns
Mackay Aboriginal Medical Service	Mackay
Goondir Aboriginal and Islander Community Health Service	Dalby
Mulungu Aboriginal and Islander Community Health Service	Mareeba
Ipswich Aboriginal Medical Service	Ipswich
Injilinjji Aboriginal Medical Service	Mount Isa

WESTERN AUSTRALIA

Geraldton Regional Aboriginal Medical Service	Rangeway.
Kimberley Aboriginal Medical Services Council	Broome (2 sites)
Mawarnkarra Health Service	Roebourne
Carnavon Aboriginal Medical Service	Carnarvon
Derbarl Yerrigan Health Service Inc.	Perth

SOUTH AUSTRALIA

Pika Wiya Health Service	Port Augusta
Nganampa Health Council	via Alice Springs
Ceduna Konibba Aboriginal Medical Service	Ceduna

VICTORIA

Ramahyuck & District Aboriginal Corporation	Sale
Rumbalara Aboriginal Co-Op Ltd	Mooroopna
Murray Valley Aboriginal Corporation	Robinvale

TASMANIA

Tasmanian Aboriginal Centre	Hobart
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NORTHERN TERRITORY

Danila Dilba	Darwin
Wurli Wurlinjang Health Service	Tennant Creek
Anyinginyi Congress Aboriginal Medical Service	Katherine
Central Australian Aboriginal Congress Inc	Alice Springs
Urapuntja Aboriginal Medical Service	Utopia
Mutijulu Aboriginal Medical Service	Uluru National Park

APPENDIX 6 STRATEGIC RESEARCH

The strategic research component of the *National Aboriginal and Torres Strait Islander Strategy 1995-99* (Department of Human Services and Health, 1995), the National Hearing Strategy, had the dual aims of:

- Establishing agreed best practice protocols for the clinical management of otitis media; and
- Developing a more strategic approach to hearing health research.

The Office for Aboriginal and Torres Strait Islander Health implemented this component in collaboration with the National Health and Medical Research Council and the Aboriginal community controlled health sector.

The Systematic review of existing evidence and clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations (Couzos et al. 2001), the Systematic Review, was commissioned to inform the development of research priorities. The Systematic Review was undertaken by the National Aboriginal Community Controlled Health Organisation with the assistance of an expert steering committee chaired (sequentially) by Dr Aileen Plant and Dr Ian Anderson. An expert stakeholder seminar was conducted in Darwin in December 1998 to determine research priorities arising from the Systematic Review.

Outcomes

Projects

Approximately \$602,000 was subsequently awarded for three projects over three years from 1999/2000 to 2001/2002:

- Evaluation of tympanoplasty in Aboriginal children in WA and factors associated with successful outcome (\$178,840). This two-year project by the Kimberley Public Health Unit aimed to evaluate the outcome of operations done to repair eardrums in Aboriginal children and identify factors associated with successful outcomes. The project's findings will allow doctors to make better-informed choices about when, and on whom, to operate and also inform policy regarding ear health.
- Investigation of socioeconomic risk factors and treatment-seeking behaviour for otitis media in the aboriginal population of Kalgoorlie-Boulder region (\$153,458). This two-year study by the TVW Telethon Institute for Child Health Research investigated socioeconomic factors predisposing children to ear infections and the effect of these factors on compliance with treatment in Kalgoorlie-Boulder Indigenous populations. With information from parents about the treatment they seek when their children have ear infections and through discussions with community members, the investigators gathered information needed to find ways of preventing ear disease and the serious consequences of hearing loss.
- Improving Medical Services for rural and remote Aboriginal children with chronic suppurative otitis media (\$270,400). This 2½ year project by the Menzies School of Health Research aimed to describe the progression or resolution of chronic suppurative otitis media in affected children. This project was conducted in combination with current best medical practice, training for local ear health workers, and a series of randomised control trials. The trials evaluated the effectiveness of topical ciprofloxacin antibiotic therapy and the role of topical antibiotics at the onset of disease and in children who have failed to respond to previous treatment regimes.

Systematic Review and Recommendations for Guidelines

The Systematic Review also provided the evidence base for the development of the Recommendations for clinical care guidelines for the management of otitis media in Aboriginal and Torres Strait Islander populations (Morris et al. 2001), the Recommendations for Guidelines. These were prepared by a multi-disciplinary team based at the Menzies School of Health Research in Darwin. Because of the paucity of clinical research data, an expert advisory group was convened to support the Menzies team, chaired by Associate Professor Paul Torzillo (Medical Director, Nganampa Health Council).

The Recommendations for Guidelines and a supporting package of information, which included the Systematic Review, were distributed nationally in July 2001. A national seminar was conducted in August 2001 to familiarise key expert opinion leaders with the resources and win their support for their implementation at the services' level.

The Recommendations for Guidelines are the first evidence-based and expert consensus-based resources available to support the clinical management of otitis media for Aboriginal and Torres Strait Islander peoples. They have drawn attention to the significant technical challenges involved in the clinical management of otitis media and provided a set of seven treatment algorithms based on initial diagnosis by otoscopy.

There has been a strong demand for the resources from stakeholders in all jurisdictions.

If effectively implemented, the Recommendation for Guidelines have significant potential to improve clinical management of otitis media in Aboriginal and Torres Strait Islander populations.

APPENDIX 7 ESTIMATED SPENDING ON EACH COMPONENT 1996 – 2000

COMPONENT	1995/1999	1999/2000	TOTAL
Child Health Sites	\$3,366,097	\$1,356,115*	\$4,722,212
Australian Hearing Services Training and Equipment Program	\$1,234,003	\$289,549 [#]	\$1,523,552
NT Training Program	\$59,146	\$44,379 [#]	\$103,525
Capital Infrastructure	\$226,524	\$35,067	\$261,591
Strategic Research			\$700,000
Total	\$4,885,770	\$1,725,110	\$7,310,880

*recurrent #allocated annually

GLOSSARY

Most of the items in this glossary are derived from Appendix 1 in *The national strategic framework for Aboriginal and Torres Strait Islander Health Context (The National Aboriginal and Torres Strait Islander Health Council, 2002)*.

ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH FRAMEWORK AGREEMENT FORUM

Refers to groups convened under the Agreements on Aboriginal and Torres Strait Islander Health (Health Agreements) in each jurisdiction representing the four partners (signatories) collaborating to advance Aboriginal and Torres Strait Islander health.

ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH FRAMEWORK AGREEMENTS (HEALTH AGREEMENT)

The main purpose of the Framework Agreements is to have a common commitment in each jurisdiction to regional planning, data collection, increased resources and increased access to the mainstream health sector. Framework Agreements are in place in every state and territory and in the Torres Strait. Under the Agreements, partnership forums have been established to undertake regional planning and to provide a mechanism for the community sector to be involved in policy development and planning. There are four signatories to each Agreement on Aboriginal and Torres Strait Islander Health, which operate in every state and territory and the Torres Strait. They are:

- The Commonwealth Government;
- The State or Territory Government;
- The State or Territory affiliate of the National Aboriginal Community Controlled Health Organisation; and
- The Aboriginal and Torres Strait Islander Commission (or the Torres Strait Regional Authority in the Torres Strait Framework Agreement).

ABORIGINAL AND TORRES STRAIT ISLANDER PERSON

An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives.

ACUTE OTITIS MEDIA

Presence of fluid behind the eardrum plus at least one of the following: bulging ear drum, red eardrum, recent discharge of pus, fever, ear pain or irritability. Bulging eardrum, recent discharge of pus, and ear pain are the most reliable indicators of acute otitis media.

AMPLIFICATION DEVICES

Any device that amplifies sound. For example, hearing aids or classroom systems.

AUDIOMETER

An audiometer is the machine that is used to measure hearing. The audiometer produces sounds of a measured frequency (Hz) and intensity (dB).

AUDIOMETRY

Audiometry is the measurement of hearing using calibrated, electronic instruments.

COMMUNITY CONTROL

The 1989 National Aboriginal Health Strategy (National Health Strategy Working Party 1989) describes community control as being:

the community having control of issues that directly affect their community... [where] ... Aboriginal people must determine and control the pace, shape and manner of change and decision making at local, regional, state and national levels.

A number of different models for increasing community control and participation have been developed by Aboriginal and Torres Strait Islander Health Services and mainstream health services around Australia. The most comprehensive model of Aboriginal community control is that advocated by the National Aboriginal Community Controlled Health Organisation. In this model, an Aboriginal and Torres Strait Islander community controlled health service means a health and substance misuse service which is operated and controlled by organisation/s that are incorporated and controlled by Aboriginal and Torres Strait Islander peoples. In particular, they must have provision for annual general meetings open to all members of the community they serve and election to a management committee from the general membership. These organisations provide direct, comprehensive primary care services, acting as employers of the health professionals who work in them.

COMMUNITY SERVICE OBLIGATIONS

The Community Service Obligations arrangements represent a safety net approach by the Government to ensure that those entering the Commonwealth Hearing Services Program with special needs will receive appropriate service.

COMPREHENSIVE PRIMARY HEALTH CARE

Comprehensive primary health care services provide a range of services to the community, including clinical services, policy and program management, substance misuse, sexual health, mental health, community development and population health programs, all with a focus on nutrition and lifestyle factors.

CHRONIC SUPPURATIVE OTITIS MEDIA

Persistent discharge of pus through a perforation (hole) in the eardrum for at least six weeks despite appropriate treatment for acute otitis media with perforation.

EAR, NOSE AND THROAT SPECIALIST

Medical specialist specialising in medical conditions of the Ear, Nose and Throat.

EARLY INTERVENTION

An early intervention is an action taken as soon as possible to stop the harm that the problem is causing or will cause.

ELIGIBILITY

A person is eligible under the Commonwealth Hearing Services Program if they are an Australian Citizen or permanent resident 21 years or older and are:

- A pension Concession Card Holder;
- Receiving Sickness Allowance from Centrelink;
- The holder of a Gold Repatriation Health Card (which covers all conditions including hearing loss);
- The holder of a White Repatriation Health Card if it is issued for a hearing disability;
- A dependent of a person in one of the above categories;
- A member of the Australian Defence Force; or
- Undergoing a vocational rehabilitation program with the Commonwealth Rehabilitation Service (CRS) Australia and are referred by their case manager.

HEALTH SECTOR

The health sector consists of organised public and private health services, the policies and activities of health departments, health-related non-government and community organisations and professional associations.

HEARING DEVICE

A range of devices that assist people with hearing, including a range of hearing aids (behind the ear aids, in-the-ear aids, in the canal, and completely in the canal). There are also body aids for the profoundly hearing-impaired.

HEARING VOUCHER

Under the Voucher System, new applicants are referred to the Office by a medical practitioner, while returning clients are referred by a qualified hearing services practitioner or a medical practitioner. Eligibility under the voucher system is prescribed by the *Hearing Services Administration Act 1997*. To be eligible, a person must be an Australian citizen or permanent resident 21 years of age or older and the holder of a Pensioner Concession Card, Department of Veterans' Affairs (DVA) Gold Repatriation Health Card or DVA White Repatriation Health Card covering hearing loss, or be in receipt of Sickness Allowance from Centrelink. Dependents of a person in any of these categories are also eligible. Other eligible clients include members of the Australian Defence Forces; and clients of the CRS Australia undergoing a vocational rehabilitation program who are referred by their case manager.

INTERSECTORAL COLLABORATION

This is defined in the National Aboriginal Health Strategy 1989 (National Health Strategy Working Party 1989) as the dependency that exists between health and all other sectors of a community's activity. In health, intersectoral collaboration recognises the fact that improvement in health cannot be achieved through the efforts of the health sector alone. Vital to the efforts to improve health and wellbeing are the contributions of a variety of sectors including agriculture, land, animal husbandry, socio-political, cultural, food, industry, education, communications, and community infrastructure such as housing and public works.

MAINSTREAM HEALTH SERVICE

Means health and health related services that are available to, and accessed by, the general community.

NATIONAL HEARING STRATEGY

National Aboriginal and Torres Strait Islander Hearing Strategy 1995-99 (Department of Human Services and Health 1995).

OTITIS MEDIA

Refers to all forms of inflammation and infection of the middle ear.

OTOSCOPE

Instrument used for the visual inspection of the ear.

OTOSCOPY

The use of an otoscope to examine the ear drum and ear canal.

PRIMARY HEALTH CARE

Primary health care is generally understood as the health care that is available to the general community in their local area. It is the first point of contact between the community and the health care system. Primary health care includes general practitioners, community and bush nursing, the Royal Flying Doctor Service together with community health, dental health and Aboriginal and Torres Strait Islander health care services. It may also include outpatient services provided by a general hospital. Primary health care services provide clinical and community health care, and play a gatekeeper role in facilitating access to specialist health services.

Aboriginal and Torres Strait Islander community controlled health services operate primary health care according to the working definition of primary health care as defined in the 1989 *National Aboriginal Health Strategy* (National Health Strategy Working Party 1989).

Essential health care based on practical, scientifically sound, socially and culturally acceptable methods and technology made universally accessible to individuals and families in the communities in which they live through their full participation at every stage of development in the spirit of self-reliance and self-determination.

PRIMARY HEALTH CARE ACCESS PROGRAM (PHCAP)

The Primary Health Care Access Program (PHCAP) is a Commonwealth program that supports the continuation of services established through the Coordinated Care Trials. PHCAP also provides for increased primary care services in Aboriginal and Torres Strait Islander communities identified as having the highest relative need and capacity to utilise funding through a completed regional planning process, agreed between the Aboriginal and Torres Strait Islander Commission, Aboriginal community controlled health organisations and Commonwealth, State and Territory Governments. Funding will be provided on a per capita basis to levels more commensurate with the health needs of these regions and will take into account the extra costs involved in providing health services in remote areas. Capacity development is an important part of the overall program.

RECOMMENDATIONS FOR GUIDELINES

Recommendations for clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations (Morris et al. 2001).

SENSORI-NEURAL

This is hearing loss due to cochlear (sensory) or neural nerve dysfunction.

SOUND-FIELD AMPLIFICATION

Amplification of sound into an open space (as opposed to an enclosed space such as the ear canal). This system can be used in class room situations.

SOUND TREATED ROOMS

A room where ambient noise levels have been reduced by the use of noise reducing materials.

STRATEGIC FRAMEWORK

Aboriginal and Torres Strait Islander health workforce national strategic framework (Standing Committee on Aboriginal and Torres Strait Islander Health 2002).

SYSTEMATIC REVIEW

Systematic review of existing evidence and clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations (Couzos et al. 2001).

TELEMEDICINE

The remote diagnosis and treatment of patients by means of telecommunication technologies.

TYMPANOMETER

The machine used to measure the movement of the middle ear system.

TYMPANOMETRY

Tympanometry is a test of middle ear function. It measures the movement of the middle ear system. Tympanometry can only be used on children older than six months of age. The ear canal for younger infants is too elastic.

VIDEO OTOSCOPY

An otoscope with the additional feature of the image being transferred to a screen for easier viewing.

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