Inquiry into Hearing Health in Australia

Submission to the Community Affairs References Committee for inquiry and report by the last sitting day in February 2010:

Hearing Health in Australia with particular reference to:

a) the extent, causes and costs of hearing impairment in Australia;

b) the implications of hearing impairment for individuals and the community;

c) the adequacy of access to hearing services, including assessment and support services, and hearing technologies;

d) the adequacy of current hearing health and research programs, including education and awareness programs; and

e) specific issues affecting Indigenous communities.

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SUMMARY

This submission reviews the most current research literature pertaining to indigenous ear health. It outlines an innovative collaboration of agencies in Perth, Western Australia to deliver ear screening and primary care services to indigenous children attending primary schools in Perth and Bunbury, Western Australia. Telethon Speech & Hearing operates a mobile children's ear clinic that screens children in schools with large cohorts of indigenous children. The children who fail the screening are referred on to the Street Doctor Bus run by the Perth Primary Care Network GPs. The GPs visit the schools to follow up on the children referred. Once GPs treat the children they then identify those who need ENT review and/or referral using a tele-otology link to the Ear Science Institute Australia. Children who need surgical intervention are then prioritized for treatment which is provided at the local public hospital.

It suggests that innovative delivery models are necessary to prevent children being lost to treatment and intervention.

Review of the literature on Otitis Media with Effusion (OME) and the hearing loss associated shows that incidence rates for indigenous children in Australia maintain at significantly above what the WHO regards as a "massive public health problem" (4).

Aboriginal children experience earlier onset of the disease (peak prevalence 5-9 months) (7.10). They have longer periods when the disease is active and suffer more significant hearing loss than non indigenous children. (7.10.11) Research on early years development clearly points to periods of critical and sensitive development, and current research indicates the period between birth and twelve months to be most critical for the development of the sound (auditory) system(9)

The impact of the disease on a child's development is mediated by the degree of hearing loss, the length of time the child is exposed to a hearing loss, the stage of development at which the child sustains the hearing loss and the level of support available to the child. (13) The degree of impact on development is also mediated by socio-economic status, with children who have existing risk factors suffering a larger impact. (13, 14)

The impact of OME on indigenous communities can be felt at all ages; poor speech, language and hearing as a result of OME has been mentioned as a possible causal pathway factor in crime, youth detention, substance abuse, family and sexual violence. (5.12).

The poor educational outcomes experienced by Aboriginal children (8), have been related to OME, studies have shown that Aboriginal children have specific and significant difficulty in the area of Phonological Awareness. (15) Phonological Awareness has been described as the single best predictor of reading performance. (4)

The aetiology of OME is mulitfactorial with many of the risk factors related to poverty and lack of access to adequate health care. (1.9.10) Recent studies in indigenous communities refer to the complex causal pathways of OME and that interventions aimed at reducing single risk factors in isolation are likely to fail. (7)

The Australian Research Alliance report on Indigenous Early Learning and Care reports that internationally successful interventions; develop from locally expressed need, involve children their families and the wider community, they are holistic, addressing the health and wellbeing of the whole family,(5).

We will need to take a whole of community approach in order to address risk factors, increase compliance with recommended treatments and encourage families to be watchful for ear disease and hearing loss. (10.2.6)

The WA Earbus Project - Key Elements of WA Service Delivery Model

Variety WA Mobile Children's Ear Clinic run by the Telethon Speech & Hearing Centre in partnership with indigenous communities.

WHAT IS THE EARBUS PROJECT?

- Telethon Speech & Hearing currently operates 2 mobile children's ear clinics – The Earbus.
- Screen at schools with significant cohorts of indigenous children.
- Earbus #1 goes to Primary Schools in the Perth Metropolitan area and Earbus #2 covers parts of the South West (based in Bunbury)
- Screen for middle ear health and some basic hearing screening.

Earbus Screeners carry out a battery of tests that include

- otoscopy
- tympanometry
- audiometry (thresholds screening)
- otoacoustic emission screening (transient evoked) and
- behavioural observation audiometry screening.

Students are screened and are given one of three results

- PASS – results in normal range – No further action
- REVIEW NEXT VISIT – some results outside normal expected range, mild or temporary abnormality suspected.
- REFER TO GP – results in both ears show concerning ear health or one ear with discharge, perforation or foreign object suspected.

Client Management

- Students who PASS are not seen again until the next initial round of screening.
- Students for REVIEW are screened again in approximately 10 weeks when the bus returns to their school.
- Students for REFER TO GP – results are given to Street Doctor Bus for further investigation.

BEYOND SCREENING – Establishing a workable primary care pathway

The Street Doctor Bus in Perth

- Street Doctor Bus run by the Perth Primary Care Network GPs.
- Street Doctor Bus visits the schools towards the end of the Ear Bus visit to follow up on the children referred.
- GPs identify those who need ENT review/ referral initially using a tele-otology link to the Ear Science Institute Australia (now ENT reviewed)
- Using ESIA/ENT resources children who need surgical intervention are then prioritized for treatment.

Doctors on the PPCN Bus:

Treat children referred from the Earbus screening including

- Prescribing medication or treatment as appropriate
- Referring on for ENT review

GPs liaise closely with the school, ALOs AIEOs to ensure prescription medication is purchased, stored and administered for the full course of antibiotics.

The Street Doctor Bus is a parental option. Families who wish to access their own GP or visit the Aboriginal Medical Service for primary care are able to do so.

From GP to ENT

Treatment protocols and management strategies have been beautifully documented in the recent Aboriginal Ear Health Manual under the leadership of Clinical Professor Harvey Coates.

Professor Coates is the ENT referral point for the Street Doctor Bus.

ENT Clinics held monthly at Swan District Hospital in Midland. SDH provides theatre space, anesthetists, (hopefully) full audiology work up, post-operative pre-discharge care and patient handling.

Schools organize central transport pick up and drop off, parent information and education and continuing surveillance and supervision of each child's educational and pastoral care needs.

THE PROJECT PARTNERS

The Earbus Project is a collaborative endeavour between

1. Variety WA
2. Professor Harvey Coates ENT
3. Telethon Speech & Hearing Centre for Children WA – the Earbus
4. Perth Primary Care Network – the Street Doctor Bus
5. Swan Education District
6. Ear Science Institute of Australia
7. Office of Aboriginal Health
8. Bunbury Education District
9. SWAMS - SW Aboriginal Medical Service
10. Swan District Hospital
11. Bunbury Regional Hospital *
12. Peel Education District *
13. Warren-Blackwood Education District *
14. Australian Hearing

Goal

To reduce the incidence and impact of OME on the development of Aboriginal children using a whole of community strategy

General

To collect whole of community statistics

Infants

1. To screen the younger (non school age) siblings, focus on infants under 12 months (6.7.9)

2. To provide suitable material to parents/siblings/ any extended family, which outlines; risk factors, care pathway, early intervention/school readiness options. (11)

3. To facilitate child's entry and journey on the care pathway. (11)

4. To facilitate the Health worker/school health nurse to remind parents/extended family of the risk factors and consequences. (6)

School Age

1. To screen Aboriginal Primary School children for the presence of OME

2. To assess and quantify the level of hearing loss in children with an active disease process.

3. To provide ongoing tracking for children with active or a history of the disease

4. To provide support for that child to enter and progress along the care pathway

5. To provide ongoing feedback to the teacher, school nurse, health worker child and extended family, (7)

Secondary

It may not be feasible given current levels of resourcing but it would be great to screen secondary students/TAFE/Juvenile (5.12.)

Adults

1. To provide tympanometry and further screening if required
2. To refer adults to Australian Hearing/GP

3. To provide appropriate information on risk factors for children and consequences if hearing loss is not managed

Key focus in WA Earbus Project

The research evidence makes a very compelling case for viewing poor indigenous ear health as a subset of a wider community health problem that cannot be treated effectively or approached in isolation.

It means that we are not going to have a positive, lasting and measurable effect on indigenous ear health without taking this wide, contextual approach. We need to be prepared to address these wider issues if we were going to change the shape of this long standing, intransigent pandemic.

The 2006 Koori Ear Health report made these key recommendations
in regard to strengthening Koori children's ear health and their general health

1. ...improve access to Maternal and Child Health Services, particularly later child health visits
2. Offer families cost free, community-based financial counseling
3. ...improve food security and support healthy eating
4. ...support mothers in establishing and sustaining breastfeeding
5. Offer families cost-free, community-based support to deal with stress
6. Implement and continue initiatives to prevent family stress
7. ...cost-free, community-based support to give up smoking
8. ...community-based support to establish and maintain housing security
9. Support Koori childcare centres and playgroups with access to adequate hygiene facilities and infection control
10. Continue community-based Koori playgroups, childcare centres and health services as important sources of social support

-Koori Kids' Ears and Health – 2006 report from VicHealth p. 13

KEY LEARNING

10 INDISPENSIBLE ELEMENTS OF WA SERVICE DELIVERY MODEL

1. Middle ear ***screening via Earbus*** using a range of instruments – otoscopy, tympanometry, Pure tone audiometry screening, otoacoustic emissions and acoustic refelctometry.
2. School or district-based ***Aboriginal Liaison Officers*** to work with Aboriginal families to elicit their cooperation, support and consent for the screening program.
3. ***Professional Development for school staff*** to increase their understanding of the impact and causes of middle ear disease; support for staff to develop intervention approaches.
4. Community Development (***Education and Awareness***) for families, health workers and allied health professionals to engage them as informed supporters and participants.
5. ***Infrastructure investment*** and support advice for communities that can invest in value adding such as soundfield amplification, swimming pools, personal FM systems etc.
6. ***GP services delivered directly into the schools*** wherever possible based on close liaison and collaboration with existing Aboriginal Medical Services and GP divisions.
7. ENT liaison and ***local hospital support*** to expedite surgery for children in urgent need.
8. School nurses as ***key support personnel in administering medication***, following up GP treatment regimes and liaising with families.
9. Follow up ***audiology services*** where required using community resources (eg UWA Masters of Clinical Audiology students), Australian Hearing and local area health services.
10. ***Data capture*** for research purposes to evaluate the success of the program in reducing the incidence of middle ear disease in Aboriginal children and of primary school age.

CONCLUSION

...changing ear health outcomes for indigenous Australians is an ambitious and difficult challenge. But by working persistently and intelligently as technical experts in partnership with indigenous communities we CAN effect real and enduring change.

"The height of your accomplishment will equal the depth of your convictions."

- William F. Scolavi

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