CHAPTER 8

THE IMPACT OF HEALTH ON EDUCATION

The relationship between poor economic status, health and education

8.1 Any examination of the processes and outcomes in Indigenous education require consideration of the effects of poor health upon children's learning opportunities. Poor health hinders many Indigenous children's school attendance and restricts their ability to learn. The *Learning Lessons* report referred to this as

> … a domino effect of health and social problems leading to children suffering serious hearing loss, being malnourished and getting insufficient sleep which then leads to poor attendance and non-punctuality which impedes effective learning outcomes.[1]

8.2 Health problems are intrinsically linked with socio-economic standing. Poor health, including ear, eye, dental and malnutrition problems, often coexists with poverty. Unfortunately, many Indigenous communities still live in impoverished conditions, lacking adequate access to appropriate health care services, and therefore exhibit resultant health problems.

8.3 A 1994 ABS National Aboriginal and Torres Strait Islander Survey [NATSIS] found that in the four-week period prior to the survey approximately ten per cent of Indigenous people were living in conditions lacking either water supply, toilets, electricity or gas.[2] A 1997 study of environmental health needs in Aboriginal communities found the following.

> A total of 210 occupied discrete Aboriginal communities (containing almost 16,000 people) were surveyed. Of these, about 8% of communities had an inadequate water source, 8% were without adequate sewerage treatment and/or disposal systems, and 5% had no electricity supply. Among communities that did have electricity, about 40% had regular interruptions in supply. At the time of the survey, about 44% of dwellings had no functioning hot water service (24% had no service at all, while 20% had a service that was not currently working). About 25% of dwellings had no functioning kitchen sink, bath/shower and/or toilet. [3]

8.4 There is little doubt that the level of educational achievement significantly affects employment prospects, which in turn affects income, access to health care, and

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1 Northern Territory Department of Education, Learning Lessons: An independent review of Indigenous education in the Northern Territory, NTDE, Darwin, 1999, p. 27

2 Australian Bureau of Statistics, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, 4704.0. 1999, p. 49

3 *ibid*., p. 49

standard of housing. Conversely, poor health, poverty and poor quality housing adversely affects school attendance and learning outcomes. Education has been traditionally viewed as a route out of poverty for those living in disadvantage.[4] A higher level of educational attainment is therefore likely to improve health standards.

8.5 This was powerfully illustrated by evidence at a public hearing in Alice Springs.

> The evidence from around the world is very striking: with the addition of a single extra year of education in a population, the infant mortality rate drops by between seven and ten per cent. This has been found throughout the Third World. It has been found historically in a series of mortality data in relation to Western countries. It is basically one of the most substantiated findings in the literature of the social determinants of health that one of the major factors influencing child mortality is the level of education amongst their parents. There is also a great deal of research which shows that education has a positive effect on the health of people themselves, not just on the health of their children.[5]

8.6 Because of the connection between people's health and education opportunities it is necessary to view these two areas holistically rather than in isolation. *Learning Lessons* called for high level support and for systemic policy requiring Governments and Government departments to 'inextricably link education and health in Indigenous communities'.[6] Poor health and low education perpetuate poverty and each other's existence. To assist Indigenous people break out of this cycle of poverty it is therefore imperative to improve the health of Indigenous children in order to enable them to improve their educational attainment and their opportunities for a better and healthier lifestyle.

Barriers to adequate health care

8.7 For Indigenous people barriers to adequate health services include those that are common to people living in remote areas, and to those who are economically disadvantaged: distance to medical and related services, transport, lack of private health insurance and funds to finance travel to access health services. In addition, services available are not always culturally appropriate for Indigenous people. The importance of Indigenous involvement in the provision of health services is vital as it greatly assists in eliminating cultural and communication barriers.

8.8 Language and communication difficulties affect both health and education. Poor English language skills are a barrier for some Indigenous people in taking

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4 D Acheson, *Independent Inquiry into Inequalities in Health Report*, UK, 1998 http://www.official-documents.co.uk/document/doh/ih/part2b.htm (September 1999)

5 Dr Bob Boughton, *Hansard*, Alice Springs, 6 August 1999, p. 274

6 Northern Territory Department of Education, *Learning Lessons: An independent review of Indigenous education in the Northern Territory*, NTDE, Darwin, 1999, p. 27

advantage of available health services. In many locations, Indigenous health workers help span this gap ensuring that communication difficulties do not prevent a child from receiving all available care.

Health problems of Indigenous Australians

8.9 Literature surveys identify a wide range of health problems within Indigenous communities. Some are localised while others are more widespread. The main causes of mortality in Indigenous populations are cardiovascular disease, diabetes, respiratory disease, and injury or poisoning.[7]

8.10 Although there has been much publicity concerning substance abuse [alcohol, tobacco, petrol sniffing, and kava] in some Indigenous communities, the Committee heard little evidence of this affecting education in the communities it visited in the course of this inquiry. The main reference to substance abuse was to some community members drinking throughout the night causing difficulties for children to get enough sleep to enable them to get up early enough for school and to be in an attentive frame of mind. The effects of alcohol on education was summed up in one submission as:

> Alcohol impinges on the participation and achievement of Aboriginal children through its direct influence on levels of poverty, ill-health, abuse poor parental care and neglect of family responsibility.[8]

8.11 The Committee acknowledges substance abuse is a profoundly serious problem in many Indigenous communities. There are numerous programs designed to address these problems and it is not possible to survey them all here. The Committee noted the Living with Alcohol Program in the Northern Territory that is funded through a levy on liquor and an additional cask wine levy, which is administered by the Territory Health Services. The program supports diverse community initiatives such as night patrols, support services for domestic violence and sexual assault victims, tobacco and petrol sniffing education programs, employment of Aboriginal wardens, diversionary programs for youths or establishing a youth centre. *Learning Lessons* listed both alcohol related sleep deprivation and children's own substance abuse as a key cause for poor school attendance and concentration. It reported anecdotal evidence from research done in Tennant Creek by the Menzies School of Health Research linking community alcohol intervention and children having enough money for school lunches.[9]

8.12 Given the minimal evidence presented to the Committee, the focus of this chapter will be on the two health issues raised by witnesses as having the most detrimental effect on the education of Indigenous children. From the evidence

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7 Professor Jacinta Elston, *Hansard*, Townsville, 4 August 1999, p. 225

8 Submission No. 21, Kakadu Employment, Education and Training Group, vol 2, p. 87

9 Northern Territory Department of Education, *Learning Lessons: An independent review of Indigenous education in the Northern Territory*, NTDE, Darwin, 1999, pp. 153-154

gathered by the Committee in the course of its inquiry the two most prevalent issues were:

- otitis media; and
- poor nutrition.

Otitis Media – the silent barrier to learning

8.13 One of the most common health problems for Aboriginal children is otitis media. It is a middle ear disease that affects up to one hundred per cent of infants and a high proportion of children in remote Aboriginal communities. The recurrent nature of the disease afflicts infants through to teenagers. Its incidence decreases with age.

Prevalence of the disease in Indigenous children

8.14 The World Health Organisation considers that the occurrence of otitis media in anything over four per cent of a given population requires urgent attention. One survey revealed that over twenty per cent of all northern Australian Aboriginal children are affected by otitis media.[10] Evidence gathered by the Committee indicates that in many communities there is a much higher incidence than this. Neither is it confined to remote communities, as the following comment from a principal in Bourke indicates.

> It was not until recent times that we had all of our students tested for 'glue ear' – otitis media. Of the first 35 students who were tested we found that 27 of them had from moderate to severe ear problems.
>
> That absolutely staggered my staff and me. We have gone into a program now of alerting staff to those children who have this problem and they are much more aware. … we have wired teachers for sound and we have four speakers in the corners of the rooms. It is important to make teachers more aware of what otitis media is and make sure that children have been tested. … Certainly, we can and should be doing more in that medical-educational setting.[11]

8.15 The Committee was told that screen testing for hearing at Indigenous schools revealed that on any given day an average of half to two thirds of Indigenous children suffered otitis media related hearing loss in one or both ears.[12] This was confirmed by Professor Wronski at the Committee's Townsville public hearing.[13] Recently it was

10 Submission No. 35, National Aboriginal Community Controlled Health Organisation, vol 5, p. 191

11 Mr Desmond O'Malley, *Hansard*, Bourke, 26 July 1999, p. 73

12 Ms Kath Johnson, *Hansard Precis*, Cairns, 2 August 1999, p. 4

13 Professor Ian Wronski, *Hansard*, Townsville, 4 August 1999, p. 226

reported that over 90 per cent of year four students in a bush school were found to have no eardrums.[14]

8.16 A monthly study of forty-one Aboriginal infants in far northern Queensland discovered that during the period of the study one hundred per cent had otitis media and over thirty three per cent had perforated eardrums. Perforated eardrums occurred in infants as young as forty-four days and the mean duration was just over forty-four days.[15] The impact of this on children's later learning ability is discussed below under the heading of auditory processing disorders.

The significance of otitis media in Indigenous children

8.17 The importance of hearing difficulties in relation to learning ability can be understood when one considers that school based learning depends upon children's ability to listen. In addition to the primary difficulties caused by hearing loss, if their ability to learn is further affected by an inability to hear correctly, young children are hugely disadvantaged in learning to read. People who have not mastered reading skills in the early years of schooling will find all subsequent school-based learning a struggle. Hence, their learning disabilities are compounded. For those Indigenous children who do not speak standard Australian English at home, hearing difficulties can magnify the complexities of learning to master new languages and dialects at school.

8.18 Professor Kame'enui from the University of Oregon confirmed this in his keynote address at the recent Australian Association of Special Education 1999 National Conference. He said it was crucial for children to be capable readers by year three, or age eight. This is when the focus of teaching changes from 'learning to read to reading to learn'. Professor Kame'enui believes the chances of a child without adequate literacy skills succeeding after this point were remote.[16] This emphasises the importance of minimising the impact of otitis media in the pre and early years of schooling. It is essential that maximum effort be expended to remove additional, avoidable barriers to learning for Indigenous children.

8.19 Significantly higher rates of learning disabled students have consistently been found to have a history of chronic otitis media.[17] The early onset of otitis media has also been associated with physical growth retardation. One study found that 37.5 per

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14 Northern Territory Department of Education, *Learning Lessons: An independent review of Indigenous education in the Northern Territory*, NTDE, Darwin, 1999, p. 120

15 J Boswell, 'Presentation of early otitis media in 'Top End' Aboriginal infants'. *Australian New Zealand Journal of Public Health*, 1997, p. 21, pp. 100-102 as quoted in M Batten, T Frigo, P Hughes, N McNamara, *Enhancing English Literacy Skills in Aboriginal and Torres Strait Islander Students*, Australian Council for Educational Research, 1998, p. 5

16 'Children who can't read by 8 "destined to fail"', *The Sydney Morning Herald*, 29 September 1999, p. 3

17 Andrew Higgins, *Addressing the Health and Educational Consequences of Otitis Media Among Young Rural School-aged Children*, The Australian Rural Education Research Association Inc, 1997 http://www.nexus.edu.au/TeachStud/arera/Otitis/contents.html (September 1999)

cent and 29 per cent of children below the weight and height percentiles had a perforated tympanic membrane.[18] Yet otitis media is largely a controllable disease, whose impact could be minimised by greater efforts to identify and treat the disease.

8.20 The disease can affect children's learning ability in three ways:

- temporary and re-occurring hearing loss;
- permanent hearing damage ; and
- auditory processing disorders

Temporary hearing loss

8.21 At several inspections and public hearings, the Committee heard of the adverse effects of hearing loss on students' ability to learn. One of the most obvious impacts of the disease is upon school attendance.

> In my experience, the major reason for not going to school was ill health. At any given time, up to 95 per cent of the kids could have educationally significant hearing loss due to otitis media ...[19]

8.22 The unpredictable nature of the re-occurrence of Otitis Media is a constant source of frustration for educators. A child could be tested today and have no signs of hearing loss, yet tomorrow the same child could be suffering a re-occurrence of otitis media with its attendant loss of hearing.

8.23 The infection begins in the middle ear causing the child to get 'glue ear' which is a build-up of thick fluid in the middle ear. This build-up can cause the eardrum to burst, releasing the discharge. It is the build-up of fluid that causes temporary deafness. During the time of infection, the child may suffer *fluctuating* hearing loss. This means that at any given moment it is impossible to predict the severity of the hearing loss. They may hear the teacher's voice at one moment but one hour later be totally unaware the teacher is speaking to them. The quality, quantity and intensity of sounds heard by the child can vary greatly within one day.

8.24 The Committee found that the problem was not confined to remote areas. The Principal of Cairns West State Primary School, a predominantly Indigenous school, expressed concern that fluctuating deafness was more difficult to identify and deal with than the permanently impaired students within the deaf unit at the school. Similarly, a research project which observed North-East Arnhem Land children for a period of two years found that it was the children with fluctuating chronic hearing loss who experienced the greatest communication and learning difficulties. The authors of the research paper believed this was because, out of necessity, the children with severe

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18 *ibid.*

19 Dr Christine Nicholls, *Hansard,* Adelaide, 27 July 1999, p. 107

hearing difficulties had developed extensive strategies to compensate for their disability.[20]

8.25 Early detection and treatment has a dramatic effect in controlling the disease and limiting its impact upon children's hearing and the extent of permanent ear damage.

Permanent hearing disorders

8.26 The constant inflammation and perforation of the eardrum can cause permanent damage. Scarring can result from constant perforations. Sometimes the perforation is so severe it simply does not heal completely. The infection can also cause damage to the three tiny bones between the middle and inner ear. Some children may be profoundly deaf by the time they reach school age. More common, however, is the partial loss of hearing in one or both ears.

8.27 The Committee inspected the deaf unit at Cairns West State Primary School whose students were predominantly Indigenous. The Committee saw first-hand evidence of the point made above that those children with perforated eardrums often fall within the lower height and weight percentiles.

Auditory processing disorders

8.28 The first two to three years of a child's life are critical years for language development. When these years are plagued by continual bouts of temporary hearing losses, auditory processing disorders may develop which continue long after full hearing has returned. The impact is that these children have significant difficulty processing auditory information, a lower verbal intelligence, and generalised speech and language disorders. These children have a continuing impairment of ability to focus on, discriminate, recognise or comprehend oral information. The incidence of this problem was studied in a Menzies School of Health Research project which found 38 per cent of the 1,050 students involved with the project suffered from Central Auditory Processing Disorder. Other findings included: 16 per cent meet the current criteria for individual FM hearing aids; 24 per cent had educationally significant conductive hearing loss; and 40 per cent had active ear disease and/or needed re-constructive middle ear surgery. As part of the trial, FM sound field amplification systems were installed in the classrooms; remedial treatment for existing conditions became part of the school or communities' everyday health care system; and a phonics program specifically designed for Indigenous students learning English as a foreign language was added to the curriculum. This resulted in dramatic improvements in the

20 Anne Lowell, Budukulawuy, Gurimangu, Maypilama and Nyomba, "Communication and Learning in an Aboriginal School: The influence of Conductive Hearing Loss", *The Aboriginal Child at School*, vol. 23, No. 4, 1995, p. 3

participating students' literacy levels, but only for those students who attended school for at least 75 per cent of the trial period. [21]

8.29 Auditory processing problems are exacerbated when the child's first language is Indigenous and they then enter a school environment where English is the teaching medium. The phonemes of the English language will be new to a child who is accustomed to hearing only their native language. Additionally, their ability to master English is somewhat dependent on their mastery of their native tongue. Gaps in the framework of their native tongue are a shaky foundation from which to learn English. A noisy classroom environment aggravates hearing difficulties and auditory processing problems further.

8.30 Indigenous children can often feel isolated and ill at ease in the foreign structured setting of formal schooling. Hearing difficulties exacerbate this feeling of isolation. In addition, when a teacher is ignorant of the disability caused by any of these otitis media related problems, they can sometimes label a child as insolent, ignorant or lazy, when in fact, the behavioural 'problem' is caused by a medical problem – the child simply does not hear the teacher's instruction or most of the lesson. These misunderstandings further alienate the child from the teacher, school environment and even their peers. This alienation increases the likelihood of that child dropping out of or skipping school.

Contributing factors to otitis media

8.31 Despite common acceptance that it is viral or bacterial in origin, no single bacterium or fungus has been isolated as a common cause. Otitis media is commonly found in third world countries and communities with low socio-economic standards of living. It has been linked, with varying degrees of confidence and scepticism, to poor hygiene, overcrowded housing, nutrition, vitamin deficiency, and inherent immunological problems. It is likely that a combination of factors stimulate its occurrence. Treating the disease must therefore also include isolating the individual contributing factors and minimising their effect, where possible. Indigenous children have a poor immunological response to introduced infections like influenza and the common cold.

8.32 This could explain the results of a 1992 study comparing the incidence of hearing loss between Aboriginal and non-Aboriginal children in Brisbane schools. The Indigenous children had significantly higher levels of ear complaints than their non-Indigenous counterparts, yet much lower incidence than Indigenous children from remote areas. [22] It is most probable that the city-based children had access to better living conditions - clean water, better housing, greater variety in food – yet similar immune responses as country-based Indigenous children.

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21 As quoted in Northern Territory Department of Education, *Learning Lessons: An independent review of Indigenous education in the Northern Territory*, Darwin, 1999, p. 152

22 B McPherson and E Knox, 'Hearing loss in urban Aboriginal and Torres Strait Islander children', *Australian Aboriginal Studies* (1992), pp 2, 60-70 as quoted in Batten (1998), p. 227

8.33 Although swimming in muddy creeks is a known causal factor for infection in children with perforated eardrums, swimming in clean, flowing creeks, swimming pools, or the ocean has proven to be beneficial. It is suggested that this is due to hygiene factors as well as the healing properties of salt water. The Committee heard anecdotal evidence of significant reduction in children's ear infections in Central Australian communities with chlorinated swimming pools. From evidence gathered by the Committee in the course of its inquiry and from a literature survey, the most obvious and prevalent catalyst factor is the common cold.

To minimise the impact of otitis media

8.34 Despite the complexities contributing to the occurrence of otitis media, the Committee heard of several strategies that have been successfully used to reduce its impact and occurrence.

Health education

8.35 The Committee heard repeatedly that the involvement and support of the Indigenous community is a vital to the successful identification and treatment of the physical ailments that impede learning. Indigenous involvement minimises the cultural and language barriers to health education and services. This was confirmed by the ABS survey where over three-quarters of Indigenous people ranked Indigenous involvement in health services as important.[23]

8.36 Aboriginal health workers play a crucial role in educating communities and in securing their support in the early detection and treatment of ailments like otitis media. The Office for Aboriginal and Torres Strait Islander Health Services has acknowledged the essential work done by Aboriginal health workers and their need for continued training.[24]

8.37 The Committee received evidence that the education of Indigenous health workers in the Northern Territory left much to be desired. In the 1970s Aboriginal health workers (AHWs) received training which put emphasis on community health care and recognition of basic clinical skills. Health literacy and numeracy were components of the training of AHWs. According to one submission, this successful model has been replaced by one in which Batchelor College has been contracted to provide training which is more suited to the needs of mainstream trainees than Indigenous people from remote communities. As the submission describes the current system of training:

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23 Australian Bureau of Statistics, 4704.0, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, 1999, p. 71

24 Speech by Dr Ian Anderson, Medical Adviser to the Office for Aboriginal and Torres Strait Islander Health Services, Commonwealth Department of Health and Family Services, to the World Health Organisation's Regional Committee for the Western Pacific, *Overview of Indigenous Health Status in Australia*, 24 September 1997

http://www.health.gov.au/about/cmo/indhea.htm (October 1999)

> Few remote, low-literacy health worker recruits have experience of mainstream work or education, At great expense they are dragged long distances from home to sit in classes, often taught by poorly experienced earnest lecturers with little idea of the students needs or skills, with no literacy support. Some students sit it out to get a job. Most others drop out, for they are often mature people with family responsibilities, shamed by poor literacy, harassed by domestic problems when away from home, unable to live on Abstudy, confused by lecturers concerns and barely supported in their community clinic (nurses usually have neither time, proper instruction, or often even understanding, to follow up classes).[25]

8.38 The Central Australian and Barkly Aboriginal health workers' Association claims that educational institutions have a vested financial interest in the current arrangements, and would resist moves to take training back to the communities. It claims that many health promotion and specialist training interests have done well out of the poor health of Indigenous people, the benefits going to urban based personnel who make weekly forays to remote communities 'bearing another stranger talking about something different the community should do'. The Association is not opposed to competency-based training and agrees with the direction of the VET sector traineeship system, but it favours the funding through DETYA of community–based trainers.[26]

8.39 The Committee takes note of evidence it has received of the need for government decisions to take account of community needs and cultural sensitivities. Just as education services must be provided by people familiar and empathetic to local cultures, the same consideration should be given to the education of local health workers. The Committee makes a general recommendation that governments and educational institutions bear these important matters in mind and it notes many existing initiatives in this regard. For example all non-Aboriginal health staff in the Northern Territory must undergo an Aboriginal cultural awareness training course.[27]

Access to professional health care

8.40 Despite the remarkably high incidence of hearing impairments in children in remote and rural areas, their access to specialist hearing services remains significantly below that for children in metropolitan areas.[28] Given the status awarded by the World Health Organisation for a health issue such as this, the Committee considers it very important that this situation be improved. Specialist ear nose and throat [ENT] outreach [visiting] programs already exist in the Northern Territory, yet the need still far outweighs the provision of service.

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25 Submission No.13, Central Australian and Barkly Aboriginal Health Workers' Association, vol.1, p.149

26 ibid, p. 151

27 http://www.nt.gov.au/nths/aboriginal/apac/apactintro.html (November 1999)

28 Submission No. 35, National Aboriginal Community Controlled Health Organisation, vol 5, p. 192

8.41 The problem of getting enough specialists into remote communities is not particular to audiologists and ENT surgeons. One option could be a focus by professionals on otitis media similar to the Fred Hollows program of targeting trachoma. Some medical practitioners use their annual leave to treat disadvantaged groups. The Committee commends this practice and believes that this could be promoted among professionals as community service. Tax concessions could be made for expenses. Similarly, students in their final years of university could be encouraged to visit remote locations working alongside permanent and visiting professionals to gain some intense practical experience.

8.42 In July 1998 the Minister for Health and Family Services launched the Northern Territory Remote Workforce Agency to administer incentives encouraging general practitioners to move to remote areas.[29] Given the need in these communities, such a scheme directed at setting up sequential audiology specialists in a remote area mobile practice for a contracted period of time warrants consideration.

8.43 The most readily available source of health care to many communities is the Aboriginal health workers. Therefore, the importance of their education and up to date training cannot be underestimated. Although acknowledging the limits of their training, it must be recognised that much of the detection, treatment and community education can be achieved by Aboriginal health workers.

8.44 Health workers involved with baby clinic check-ups and pre-schools must be adequately trained in screening for otitis media and hearing problems. Such early detection will short-circuit many learning difficulties in later life. This requires a funding commitment, both for expanding the numbers of health workers and for their continued training. Health workers must then be able to refer their clients to an accessible hearing specialist.

Hearing aids and amplification

8.45 Hearing aids can assist many children who have suffered permanent mild to moderate hearing loss. Obviously, their use is dependent upon access to professional audiological screening.

8.46 A number of schools visited by the Committee have employed the use of amplification in classrooms to assist children with fluctuating and mild hearing loss. Even non-hearing impaired children have benefited from classroom amplification. Although classroom amplification is of great assistance to many students, it is expensive especially in remote areas. Children, their families and communities need instruction in the use of hearing devices. This was illustrated by a case study detailing how a child was flown to the nearest town and given a bone conductor hearing aid. The child misunderstood its purpose and the teachers and family did not know how to

29 Media Release, Dr Michael Wooldridge, Department of Health and Family Services, 6 July 1998 http://www.health.gov.au/archive/mediarel/1998/mw14498.htm (September 1999)

operate it. Within a short time the child ceased using the hearing aid.[30] Access to a sufficient supply of batteries may also be an issue in remote locations.

Cough, spit, blow

8.47 It is sometimes said the simplest solutions are the most effective. In the case of otitis media, the Committee heard evidence that the 'cough, spit, blow' program was very successful in reducing the number of infections.[31] Teaching children the importance of expelling fluid build-up when they have a cold, is a simple and obvious step toward reducing the number of infections. Of all programs the Committee saw, this one is the least expensive and most easy to implement. Teachers could be made aware of these steps through its inclusion in teacher in-service and pre-service training and by articles in teaching journals. Through the training of Indigenous health workers, the program could then be promoted throughout communities.

Classroom strategies

8.48 Given the high incidence of otitis media hearing and learning problems in Indigenous children, it is vitally important that teachers and those in training be equipped with the skills to teach hearing impaired children. The high turnover of teachers in remote communities, means that it is essential that this training be offered regularly or included with schools' induction programs.

8.49 One suggestion which the Committee heard is to alert teachers to the possibility of fluctuating hearing loss is to place a blue dot besides each child's name on the role to alert, and remind, teachers of those children who are known to have re-occurrences of otitis media.[32] With this awareness, the teacher can then observe the child's behaviour and employ appropriate teaching strategies. The following are examples of educational strategies, which could be used to assist students with hearing disabilities.[33]

- The teacher should use simple language, and summarise and repeat information often.
- The non-verbal content of communication should be given greater importance. Aboriginal communities employ this communication method when dealing with hearing impaired children. They use lots of gestures and sign language and place great emphasis on facial expressions and intonations.

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30 Lowell, Anne, Budukulawuy, Gurimangu, Maypilama and Nyomba, "Communication and Learning in an Aboriginal School: The influence of Conductive Hearing Loss", *The Aboriginal Child at School*, volume 23 number 4 (1995), p. 5

31 Cairns West State School, Queensland, *Hansard Precis*, 2 August 1999, p. 4

32 Mr Desmond O'Malley, *Hansard*, Bourke, 26 July 1999, p. 73

33 In addition to evidence gathered by the Committee, most of the classroom strategy information has been drawn from Higgins, 1997, (Overview of Literature – Research and Programs) see

http://www.nexus.edu.au/TeachStud/arera/Otitis/Part2.html (September 1999)

- Students with fluctuating hearing loss should be encouraged to sit close to the teacher. The teacher could use extensive eye contact and call the child's name to get their attention before speaking. The teacher's face should be sufficiently well lit to enable lip reading if necessary, and the teacher should speak in a precise and clear manner. If high numbers of students are affected, the classroom layout may need to be rearranged. Alternatively, the use of small groups and individual instruction might be increased. Small groups allow the children to interact with each other assisting hearing, or SAE language, impaired children to watch other children's responses and non-verbal cues closely.
- Care should be taken in moving pupils with a hearing loss to another class or group. If it is imperative to move them, it is advisable also to move a child who understands their impediment and who is accustomed to assisting them.
- Streaming which concentrates students with hearing loss into lower ability groups should be avoided, since this inhibits student's use of valuable peer learning strategies.
- Classroom noise greatly adds to the difficulties of hearing impaired children. While it cannot be eliminated completely, factors like the addition of carpet squares on the floor, hangings on the walls, rubber stoppers on furniture may assist in reducing the overall noise level. Consideration should also be given to reducing other sources of noise such as air-conditioners.

8.50 In its literature survey the Committee noted a caution for teachers seeking to identify children with hearing-related problems.[34] This confirms the need for specific health issue training for teachers.

Urbanisation

8.51 Professor Ian Wronski spoke to the Committee in Townsville about the different levels of hearing among children from Indigenous communities and those from towns.[35] According to his experience, the impact of urbanisation – clean water, sewerage, better housing and nutrition – was a significant factor in the lower incidence of otitis media as well as other health issues among urban Aboriginal children.

8.52 Increased and on-going funding should be allocated to training Aboriginal health workers and equipping teachers with the necessary knowledge and skills to identify and work with children with hearing deficiencies. Incentives to promote a professional community health service similar to the Fred Hollows Trachoma model should be investigated. Although the Committee understands that health delivery to Indigenous people is a State responsibility, it encourages relevant Commonwealth ministers to pursue this issue through ministerial councils.

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34 Anne Lowell, Budukulawuy, Gurimangu, Maypilama and Nyomba, "Communication and Learning in an Aboriginal School: The influence of Conductive Hearing Loss", *The Aboriginal Child at School*, volume 23 number 4 (1995), pp 4-6

35 Professor Ian Wronski, *Hansard*, Townsville, 4 August 1999, pp. 226-228

Nutrition and hunger

8.53 Some would question whether issues like hunger are the responsibility of educators. It is, however, believed by many that due to its impact on children's education, their general well-being, including nutrition, must be addressed to enable effective education to occur. The Principal of Tauondi College in Port Adelaide summed up the importance of the link between health and education.

> In terms of a real focus, over the last three to four years we have encouraged local primary health care provider agencies … to be on-site to support primary health care needs of students and community members who visit the college. We have the occasional planned clinics – health checks and nutritional promotional activities – to begin a process whereby students, community members and staff, for that matter, think about those issues that impact not only on themselves but their families. …
>
> We are treading that fine line between being criticised for not being wholly and solely an educational institution and acknowledging that you cannot have education of anybody, black or white, young or old, if they are not sound of mind, body and spirit.[36]

The incidence of malnutrition

8.54 A 1991 study estimated that twenty per cent of Aboriginal children aged two or younger were malnourished. Twelve per cent exhibited wasting and three per cent stunting of growth. Five per cent of the surveyed children were afflicted by both problems.[37] Similarly, a 1993 study reported twenty-two per cent of children suffering from malnutrition.[38] *Learning Lessons* recounted that the Territory Health Services recorded between 13 and 22 per cent of Indigenous Northern Territory children under five years were clinically underweight.[39]

8.55 Inadequate access to enough of the right food groups has contributed to the thirty-nine per cent of Indigenous school children with iron deficient anaemia.[40] The incidence of iron deficiency and anaemia has been reported in some locations at a higher levels. One Kimberley region study found seventy-two per cent of Aboriginal children under five years, and seventy-nine per cent of children aged five to fourteen

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36 Mr Bill Wilson, *Hansard*, Port Adelaide, 27 July 1999, pp. 147-148

37 Ruben AR, Walker AC, *Malnutrition among rural aboriginal children in the Top End of the Northern Territory*, Med J Australia, 1995, p.'s 162, 400-403, as quoted in Submission No. 35, National Aboriginal Community controlled Health Organisation, vol 5, p. 189

38 Paterson, Barbara; Ruben, Alan; Nossar, Victor 'School screening in remote Aboriginal communities – results of an evaluation', *Australian and New Zealand Journal of Public Health*, vol 22 no. 6, 1998

39 Northern Territory Department of Education, *Learning Lessons: An independent review of Indigenous education in the Northern Territory*, Darwin, 1999, p. 149

40 Paterson, 1998

were anaemic.[41] The National Aboriginal Community Controlled Health Organisation submission reported that one third of Aboriginal people living in rural areas were concerned about having insufficient food.[42]

The impact of malnutrition

8.56 The effects of malnutrition begin before birth. Indigenous babies are more than twice as likely to be of low birthweight[43] which is commonly attributed to the health status of the mother. It has been reported that there is growing evidence that malnutrition during infancy can be linked to adult diseases such as diabetes and end stage renal disease.[44]Malnutrition in children effects their learning abilities and consequently limits their academic potential.

8.57 Malnourished children tend to be often tired, have low concentration levels and are prone to other illnesses. Poor nutrition is a contributing factor to the high absentee rates of Indigenous children. In addition, research has shown that the incidence of malnutrition on children under two years of age has a long-term impact on their brain development and academic potential. This once again highlights the importance of effective and early health care to education.

> In a study of 157 Aboriginal children aged under two years who were admitted with diarrhoea to Royal Darwin Hospital between May 1990 and April 1991, wasting (an indicator of malnutrition) was found to be significantly associated with microcephaly (small head circumference). The authors recommended that there be an emphasis on improved nutrition during pregnancy, lactation and infancy. These periods were seen as critical for the healthy brain development of children, ***with long-term consequences for intelligence and cognitive functioning***. [45]

Contributing factors to malnutrition

8.58 Malnutrition has been consistently linked to poverty. The weight of scientific evidence supports a socioeconomic explanation of health inequalities. This traces the roots of ill health to such determinants as income, education and employment as well

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41 Hopkins, R et al, "The prevalence of hookworm infection, iron deficiency and anaemia in an Aboriginal community in north-west Australia", *Medical Journal of Australia*, volume 166 3, March 1997, pp. 241-244

42 Madden R, National Aboriginal and Torres Strait Islander Survey,1994 as quoted in Submission No. 35, National Aboriginal Community controlled Health Organisation, vol 5, p. 194

43 National Aboriginal and Torres Strait Islander Health Clearinghouse (1999). *Summary of Indigenous health status, 1999*. http://www.cowan.edu.au/clearinghouse/summary99.htm [September 1999]

44 Rose Ellis and Donnaleen Campbell, The National Nutrition Networks Conference – Sharing Good Stories, *Aboriginal and Islander Health Worker Journal 1998*, Jan/Feb, see

http://www.indiginet.com.au/journal/national_nutrition_network.htm [September 1999]

45 Australian Bureau of Statistics, 4704.0, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, 1999, p. 50; Source: Skull, Ruben and Walker 1997. (Emphasis added)

as to the material environment and lifestyle.[46] A 1998 report in the United Kingdom found that economically disadvantaged people eat less healthily partly because of the cost of food. Foods richer in energy, high in fat and sugar were cheaper per unit of energy than foods rich in protective nutrients.[47]

8.59 The remoteness of location also contributes to the limited variety of available food with particular shortages in vital fresh foods. Many stores are now community controlled and some have taken a very pro-active stance in regard to nutrition. Some have reduced the amount and variety of unhealthy foods and increased the supply of healthy foods. Certain stores have implemented 'sampling' days to expose the community to a wider and healthier range of food.

8.60 The possibility for remote communities to grow their own fresh foods is somewhat limited by unfortunate recollections of enforced labour in mission gardens in years past. Their culture of hunting and gathering has not pre-disposed Indigenous people towards agricultural pursuits. Some areas, however, have utilised perma-culture to improve environmental health aspects of their communities including the growing of appropriate foods. Permaculture consists of growing trees, vines, and groundcovers to reduce dust levels and provide shade as well as some nutritional foods suitable for production in hot dry conditions. The Uwankara Palyanku Kanyintjaku (UPK) Report, a joint publication of Nganampa Health, the South Australian Health Commission, and the Aboriginal Health Organisations of South Australia, is an important resource for educators interested in arid zone environmental health issues.

8.61 The impact of poverty on diet for many Indigenous communities has been compounded by the fact that food prices in remote towns have consistently been shown to be double that of major cities.[48] Given the high incidence of poverty in Indigenous communities, it is not difficult to believe that there is a link between high prices and poor diet resulting in a high percentage of malnourished children in Indigenous communities.

8.62 As mentioned above, the health status of the mother can seriously effect her children. Pregnant Indigenous women often have inadequate diets and lead an inactive lifestyle. Indigenous children tend often to have a low birth weight, itself an indicator of future health problems. While they are breast-feeding their growth rates are comparable to non-Indigenous children. Once they commence solid feeding, however, there is a comparative decline in their growth rates. A low growth rate has been linked with an increase in early childhood illnesses. Should malnutrition problems continue

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46 Acheson, 1998; http://www.official-documents.co.uk/document/doh/ih/synopsis.htm (September 1999)

47 Acheson, 1998; http://www.official-documents.co.uk/document/doh/ih/part2d.htm (September 1999)

48 Sullivan Hansard, Gracey M, Hervon V, *Food costs and nutrition in remote areas of Northern Australian*, Med J Australia, 1987, p. 147, as quoted in Submission no. 35, National Aboriginal Community controlled Health Organisation, vol 5, p. 189

the child is prone to other illnesses potentially leading to regular absences from school.

Possible effective solutions

Breakfast/lunch programs

8.63 Several locations visited by the Committee have recognised that children have demonstrated learning disabilities caused by lack of regular meals. If a child is hungry they will have difficulty concentrating and will often get sleepy during class. Many of these locations have implemented nutrition programs.

8.64 At Cairns West Primary School lunch and afternoon tea is available every day and the program is monitored so a family worker can be notified if it becomes obvious that a child is not receiving regular meals.[49] St Ignatius Primary School in Bourke provides a breakfast program and also employs a school nurse for half of each day.[50] Our Lady of the Sacred Heart College in Alice Springs provides transport to and from school, breakfast programs, school uniforms and hygiene opportunities for children coming from communities.[51]

8.65 The provision of private funding allowed East Kalgoorlie Primary School to build what is known as the Henderson Centre next door to the school. Through government funding this Centre is staffed to enable teachers to refer students with special needs. Students can have breakfast or a shower, or visit the school nurse before returning to the classroom in a more 'learning ready' state.[52]

8.66 The provision of free, nutritionally balanced meals can be a vital component in the diet of children from disadvantaged families. A national, school-health nutrition strategy would benefit all economically disadvantaged children regardless of their race.

8.67 Some would argue that state provision of nutritional food diminishes parents' sense of responsibility. The counter argument is that the state has a responsibility to ensure the future well-being of people who are unable to look after themselves. If a child is being disadvantaged by a parent's inability to provide a adequate and regular food supply, the Committee believes it to be the schools' responsibility to address that need to enable the child to achieve the optimal benefit from their educational opportunities.

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49 Cairns West Primary School, *Hansard Precis*, Cairns, 2 August 1999, p. 4

50 Brother Mark Fordyce, *Hansard*, Bourke, 26 July 1999, p. 68

51 Brother Paul Gilchrist, *Hansard*, Alice Springs, 6 August 1999, pp 254-255

52 Site visit, Hendersen Centre, Kalgoorlie, 14 September 1999

Educational strategies

8.68 The Acheson *Independent Inquiry into Inequalities in Health Report* in the United Kingdom, and the World Health Organisation have both recommended that health education programs seek to address preventive health issues in school aged children.[53] Such a program should include information about the nutritional value of food and its effects, budgeting for food, and the nutritionally best way to prepare and cook it.[54]

8.69 The Acheson inquiry looked at the problems economically disadvantaged families have. Many of the issues examined are applicable to Australian Indigenous peoples. The Acheson inquiry recommended a broad interdepartmental policy approach as many issues, such as health and education, are interrelated. Three of the Report's recommendations specific to nutrition and education are reproduced below.

> We recommend further measures to improve the nutrition provided at school, including: the promotion of school food policies; the development of budgeting and cooking skills; the preservation of free school meals entitlement [in England, children from economically disadvantaged groups receive a free school lunch]; the provision of free school fruit; and the restriction of less healthy food.
>
> We recommend policies, which will increase the availability and accessibility of food stuffs to supply an adequate and affordable diet. Specifically:
>
> We recommend the further development of policies, which will ensure adequate retail provision of food to those who are disadvantaged.[55]

8.70 For any Indigenous educational program to succeed it will need to gain the support of the local community. The importance of Indigenous participation in designing and implementing programs has been stated consistently since the *Report into Aboriginal Deaths in Custody* and is integral to self determination.

8.71 The importance of the role of Indigenous health workers cannot be overstated. They are the people most likely to identify health problems at an early stage. Their role in educating parents within the community on health issues is also important.

8.72 The National Nutrition Networks Conference in 1997 was conducted around the theme 'sharing good stories'. Following are some accounts of community level

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53 Submission No. 35, National Aboriginal Community controlled Health Organisation, vol 5, p. 194

54 Acheson, 1998; http://www.official-documents.co.uk/document/doh/ih/part2d.htm (September 1999)

55 Acheson, 1998, as quoted in Submission No. 35, National Aboriginal Community Controlled Health Organisation, vol 5, p. 186

projects that were successful in raising health and nutrition levels for Indigenous people.[56]

8.73 The Northern Territory 'Strong Women, Strong Babies, Strong Culture' program emphasises the importance of the link between a pregnant mother's health status and that of her child. The Nganampa Health Council run a Nutrition Awareness Project for young mothers and babies. The project provides information, resource materials and conducts workshops for nutrition education across an area of 350,000 square kilometers.

8.74 The Looma aboriginal community involve the community store, the Town Council, CDEP, health workers and the school in their diabetes project. The community store stocks healthy food and the staff are trained to assist customers in their choices. They assist in educating the community by hosting food tastings and 'shelf talks' – signs placed on the shelves to inform customers of the nutritional value of various foods. The school provides lessons on health and nutrition in conjunction with sport opportunities and conducts iron man and woman competitions to promote exercise.

8.75 At Halls Creek, Western Australia, a Failure to Thrive Committee was formed to identify children at risk and to offer education in regard to nutrition. They also produced an educational video for parents on preventing failure to thrive and on introducing solid foods to babies' diets.

Recommendation 28

8.76 The Committee recommends that more funding be targeted towards flexible community development and self-management schemes aimed at improving standards of health in Indigenous communities.

Conclusion

8.77 There is overwhelming evidence that health problems seriously effect the education of many Indigenous children. The solution to this problem is, unfortunately, not as clear as the evidence it presents.

8.78 Nonetheless, some strategies are meeting with varying degrees of success in dealing with health problems. The most basic and obvious steps would appear to be the most promising. Those steps are:

- increasing awareness and skills of teachers in understanding and identifying health issues that impact upon education;

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56 Rose Ellis and Donnaleen Campbell, The National Nutrition Networks Conference – Sharing Good Stories, *Aboriginal and Islander Health Worker Journal 1998*, Jan/Feb, see also

http://www.indiginet.com.au/journal/national_nutrition_network.htm [September 1999]

- increasing the number and quality of training of Aboriginal health workers, given how crucial Indigenous involvement is in the provision of health services;
- providing community health education programs;
- increasing Indigenous access to specialist services;
- continuing to take steps to reduce Indigenous poverty; and
- implementing policies which support the provision of school based health education and the provision of an adequate variety of reasonably priced nutritional food.

8.79 The Queensland Teachers' Union submission highlighted the critical importance of training existing and pre-service teachers to be able to recognise symptoms of health problems that will affect students' learning ability.[57] This training should include warning signs for malnutrition, abuse, learning difficulties, diabetes, otitis media, and substance abuse, as well as appropriate referral methods and knowledge of available resources for preventative, promotive and corrective health care.

8.80 *Learning Lessons* makes the point that Education Departments, as the main purchaser of services from tertiary institutions, should be able to nominate certain skill sets they consider necessary for their teachers.[58] In the context of this chapter, the Committee considers that Indigenous culture, English as a second language, and basic training in identifying pediatric illnesses which will affect students' ability to learn, should be included in all teacher training curriculums. Chapter six of this report includes a recommendation on teacher training.

8.81 The transient lifestyle of many Indigenous people groups adds a further challenge to educators pursuing a holistic program. The Committee saw an example of best practice in dealing with this problem at Kalgoorlie and Geraldton.[59] Both these centres have created a tracking program to enable teachers to access transient student profiles with relevant medical histories that can be accessed on-line.

8.82 Such longstanding and complex problems will never be solved by a single program. They require a whole-of-government, and cross-departmental effort, accompanied by a continuing commitment to turn the tide. In the last decade there have been substantial improvements in the health status of many Indigenous school aged children. The Committee wishes to point to some of these successes and encourage those working for improved health in Indigenous communities to keep pressing forward.

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57 Submission No. 22, Queensland Teachers' Union, vol. 2, p. 92

58 Northern Territory Department of Education, *Learning Lessons: An independent review of Indigenous education in the Northern Territory*, Darwin, 1999, p. 83

59 Site visits, Kalgoorlie and Geraldton, WA, 13 and 14 September 1999

Recommendation 29

8.83 The Committee recommends that relevant Commonwealth Ministers and state governments undertake immediate action through ministerial councils to coordinate programs to improve community health, including:

- **identifying linkages between education and health care initiatives;**
- **providing maternal, baby and early childhood health care;**
- **teacher education to identify and deal with hearing impairments and other health issues in the classroom;**
- **accelerating the training of more community health workers in Indigenous communities;**
- **improving Indigenous access to specialist services and community health education programs;**
- **encouragement of community efforts to improve nutritional standards through education and community purchasing and cultivation initiatives; and**
- **improving provision of school based health education.**