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ABORIGINAL HEALTH

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Editors: Dr Neil Thomson
Dr Patricia Merrifield

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Guidelines for contributors

Articles which could be published in Brief communications, Selected reviews or Book reviews are most welcome. Those suitable for Brief communications or Book reviews should not exceed 1000 to 1500 words, while those intended for Selected reviews should not exceed 2500 words.

The editors would be grateful for any assistance in the compilation of the *Bulletin*, particularly with regard to Current topics, Recently published research and Recent publications, reports and theses.

Authors are urged to write in plain English so that their work can be easily understood. They should follow the style used in the February 1988 issue of the *Bulletin*. In other cases the recommendations of the Commonwealth *Style Manual* should be followed. The Harvard system of referencing should be used.

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Obtaining copies of specific items

Readers requiring copies of research papers summarised in the *Bulletin* are referred to their local health-related library, or to the library of the Australian Institute of Aboriginal Studies, the world leader on Aboriginal matters. For major reports, etc, readers are referred to the author or the publisher, or to their local library, which should be able to borrow the report through an inter-library loan service.

The Australian Institute of Aboriginal Studies library has copies of all research papers included in this *Bulletin* and can supply copies of most items, at the current charge of 20 cents per page plus postage. The library, located in Canberra, is open to the public, or enquiries can be directed to: Reference Librarian, AIAS Library, GPO Box 553, Canberra, ACT 2601, telephone (062) 46 1111.

CONTENTS

EDITORIAL

An important development in Aboriginal health was the release earlier this year of the report of the National Aboriginal Health Strategy Working Party. After extensive consultation with representatives of Aboriginal communities throughout Australia, the report brought together the latest information on Aboriginal health, and made recommendations for achieving improvements. In the first instance, these recommendations are to be tackled by a Development Group, which is initially to examine aspects relating to environmental health, health worker training, and the collection and analysis of health statistics. Professor Tony McMichael discusses the report in a special review in this issue.

Maggie Brady reviews the literature relating to nutrition and petrol sniffing. She considers that more attention should be given by health workers in this area to the nutritional state of children, as malnourished children appear more likely to suffer from the adverse effects of petrol sniffing.

The hepatitis B program in Queensland is reviewed by John Sheridan, Ken Donald and John Jameson of the Queensland Department of Health. Significant features of the program are the variation in carriage rates from locality to locality, and the very high vaccination-compliance rate, which is attributed to the professionalism and dedication of all those concerned with this problem.

Diabetes mellitus is an increasing problem for many Aborigines, and is known to have adverse effects on pregnancy outcome. Mahomed Patel reviews current approaches to detecting and managing gestational diabetes, and outlines procedures used in central Australia.

Sandy Toussaint draws attention to the need for the acquisition of greater sensitivity, and better cross-cultural understanding and communication skills, by health workers entering the field of Aboriginal health. She gives examples of some of the difficulties that have arisen as a result of the current deficiencies that exist.

The list of theses in Aboriginal health is expected to be ready for publication in the first issue of 1990 (No 13, May). Many thanks to the various people who have already notified us of their theses. If you have recently completed a thesis and had it accepted by a College or University, then we would be very pleased to hear from you, if possible providing a copy of the thesis, so that details can be included in the list.

Although most of the feedback about the *Bulletin* has been positive, some criticisms have recently come to light. These mainly refer to an apparent lack of any editorial policy, and, for maximum benefit, the need for research abstracts to be evaluated epidemiologically.

In response to these criticisms, it should be said that, over the years, the *Bulletin* has aimed to keep readers aware of developments in the field of Aboriginal health. This has involved providing information about published research and other reports, as well as the presentation of specific articles and reviews that would otherwise not normally appear in the public domain. In the area of published research, the editorial policy has been to provide a broad picture, summarising the material as objectively as possible, so that readers can make their own unbiased judgements. In the presentation of specific articles, attempts have been made to focus on topical issues, but this has not always been possible. As with all publications of this type, at times there has been little scope for editorial choice in the articles published.

Readers' comments on these or any other aspects are welcomed, especially if they include possible alternatives. The *Bulletin* can only contribute to improvements in Aboriginal health through both keeping a wide audience informed of what is happening in the field, and being seen as relevant by that audience.

Patricia Merrifield
Neil Thomson

CURRENT TOPICS

National Aboriginal Health Strategy Working Party

Following the release of the report of the National Aboriginal Health Strategy Working Party (NAHSWP) in March 1989, Federal, State and Territory Ministers for Health and Aboriginal Affairs agreed to work together on ways of implementing a national Aboriginal health strategy. Initial attention was to be directed to areas of environmental health, education and training programs for Aboriginal health workers, and developing a uniform system of Aboriginal health statistics. The importance of greater community involvement and government coordination in the area of Aboriginal health was also emphasised.

To assist in the development of the strategy, an Aboriginal Health Development Group of senior officials (comprising Ms Naomi Mayers, chairperson of the NAHSWP and Administrator of the Aboriginal Medical Service, Redfern, and representatives from each of the States and Territories, the Commonwealth Departments of Aboriginal Affairs, and Community Services and Health) was established, and held its first meeting in May 1989.

The Aboriginal Health Development Group is to: advise on the structural arrangements for dealing with matters recommended in the NAHSWP report; develop areas for early action; develop funding guidelines for new programs and services; and report to a joint Ministerial meeting in November 1989, with an interim report in September.

Royal Commission into Aboriginal Deaths in Custody

The Royal Commission has appointed Mr Elliott Johnston QC to replace Mr Justice Muirhead following his resignation in April to take up the position of Administrator of the Northern Territory.

In addition, Mr Pat Dodson, formerly of the Central Land Council, has been appointed to the Commission as the first Aboriginal Royal Commissioner. His task will involve examining the underlying causes of the deaths, including cultural, legal and social aspects.

The Royal Commission has now published eight research papers, the titles of which are listed under Recent Reports, Publications and Theses in this issue.

RECENTLY PUBLISHED RESEARCH

HAZELHURST KM

Alcohol, outstations and autonomy: an Australian Aboriginal perspective.
Journal of Drug Issues 1986;**16**(2):209–20

This article summarises the various attempts to explain drinking patterns and the high rate of alcohol abuse among Aborigines (eg history of colonial exploitation, socioeconomic decline, psycho-environmental factors, social relationships patterned on drinking). The author argues for a deeper understanding of Aboriginal drinking relationships, so that the potential of these can be used to offer real long-term rehabilitative alternatives.

BOUNDY K, BIGNOLD LP

Syphilitic aneurysm of the right subclavian artery presenting with haemoptysis.
Australian and New Zealand Journal of Medicine 1987;**17**:533–35

This article reports the case of a 40 year-old Aboriginal woman who presented with haemoptysis in association with a right upper zone pulmonary and mediastinal mass. Several syphilitic infections in the patient had been documented during the previous 16 years. Death was due to a large haemoptysis, and autopsy showed that the mass in the chest was a right subclavian artery aneurysm which had ruptured into the lung parenchyma. The authors point out the rarity of this condition, and conclude that the increased incidence of syphilis among Aborigines in recent years means that physicians should be alert to the possibility of syphilitic complications in caring for Aboriginal patients, particularly those with unusual clinical features.

CAWTE J

Aboriginal deaths in custody: the views of Aboriginal health workers.
Australian Journal of Forensic Sciences 1987–1988;**20** (2/3):224–33.

This paper deplores the institutional neglect and brutality, stemming rather from medicine than law enforcement, that has resulted in the tragedy of Aboriginal deaths in custody. The author, who founded and currently edits the *Aboriginal Health Worker*, also deplores the failure to establish a Charles Perkins Chair of Mental Health, which was proposed in the early 1970s. He feels that such a development would have produced a trained cadre of health workers able to deal with these emergencies. He uses examples of mental disorders described by Aboriginal people to demonstrate the lack of provision of mental health services for Aborigines. The common mistake of placing blame for Aboriginal depression on 'social oppression' is emphasised, and it is pointed out that this attribution may mean that many people are 'cheated' out of appropriate treatment.

CLARK DJ

The elements of an applied nutrition program in a remote Aboriginal community in the Northern Territory.
Proceedings of the Menzies Symposium Nutrition and Health in the Tropics. Menzies School of Health Research, Darwin, 1987:109–18

This article describes how individual nutrition projects involving the health centre, school and store were carried out in a remote Aboriginal community and became integrated

into a larger program through the team work of all concerned. The importance of the quality of relationships between Aboriginal and non-Aboriginal staff was recognised as a key factor in ensuring that Aboriginal people can participate in, and ultimately run, their own nutrition improvement programs.

CRAMER J

Commentary: a blind eye: community health services in remote areas of Australia.
*Community Health Studies 1987;*XI(2):135–38

This article draws attention to the fact that community health services in remote communities are frequently overlooked by health policy and planning authorities, despite the particular health and social problems that often are a feature of these communities. Nurses are the main providers of primary health care in these areas where they must perform an extended role. It is assumed that a nurse can fulfil multiple and continuous roles in clinical care and public health, and there is often an absence of administrative expertise, so that the health service functions more by reflex action than by design. Although this has relevance for all such communities, it is seen to be of particular relevance for Aboriginal communities, with high levels of morbidity, and vulnerability to rapid turnovers of health staff. The author suggests that attention should be paid to: evaluation of current practices and staff utilisation; greater accountability; flexibility in planning so that there is sensitivity to community changes; and appropriate alternatives to the current curative focus.

DRAKE M, MITCHELL H, MEDLEY G

Human papillomavirus infection of the cervix in Victoria, 1982–1985.
Medical Journal of Australia 1987;**147**:57–59

This article reports that cytological evidence of human papillomavirus infection was present in 4.1 per cent of the smear tests that were received by the Victorian Cytology (Gynaecological) Service during 1982–1985. The prevalence of papillomavirus, estimated at 2.6 per cent overall in 1984, was noted to vary with age and referral source: higher proportions were seen in the age group 20–24 years, and in the cytological results of women who were attending either sexually-transmitted diseases clinics or Aboriginal health cooperatives.

GAFFNEY E

Health care in the Torres Strait.
Australian Aboriginal Studies 1987;**1**:64–65

This article describes the difficulties inherent in a new cultural development called 'modern living' which involved different kinds of individuals with numerous and various theories and remedies. The author found that these were unhelpful to the Islanders, and she provides an example of impractical and inappropriate advice given to a young mother about the feeding of her new baby on discharge from hospital.

KENEN RH

Health status: Australian Aborigines and Native Americans—a comparison.
Australian Aboriginal Studies 1987;**1**:34–45

This paper compares the health status of Australian Aborigines and Native Americans over the years 1955–1985, and investigates reasons for the similarities and differences. The author points out that, while both groups are biologically and culturally dissimilar,

they have been similarly treated and hold similar positions in similar societies. In addition, while the causes of mortality and morbidity among the two groups are similar, the incidence and prevalence of the diseases was consistently higher for Aborigines in the period under study. She concludes that western medical technology and public health efforts will continue to play a role in improving the health status of both groups, but unless there is an acceptance of cultural pluralism and some redress of economic and social wrongs that this entails, it is unlikely that the high rates of morbidity and mortality attributed to social disruption and maladaptation will substantially decline in the near future.

SLATTERY G

Transcultural therapy with Aboriginal families: working with the belief system.
Australian and New Zealand Journal of Family Therapy 1987;**8**(2):61–70

This article considers a framework for conducting transcultural therapy with families, emphasising the importance of developing cultural sensitivity, competence and the role of cultural consultants, and then applying the framework to Aboriginal families. The author explores Aboriginal belief systems about health and healing (including the role of women as healers), and traces both their continuity and change from the traditional to the mission or reserve and urban settings. A case study is given as a practical example.

ALESSANDRI LM, STANLEY FJ, WADDELL VP, NEWNHAM J

Stillbirths in Western Australia 1980–1983: influence of race, residence and place of birth.
Australian and New Zealand Journal of Obstetrics and Gynaecology 1988;**28**:284–92

This article reports on an analysis of stillbirths weighing 1,000 grams and over in Western Australia from 1980–1983, as identified from perinatal death certificates. Causes and demographic correlates are also described. Overall, the stillbirth rate of 4.91 per 1,000 total births compares favourably with the best in the world from WHO figures. Aboriginal women had much higher stillbirth rates (10.80 per 1,000) than non-Aboriginal women (4.57 per 1,000), but the patterns of time and causes of death were similar. Both antepartum and intrapartum stillbirth rates were much higher at low birth-weights and low gestational ages in both racial groups. The authors consider that the excess of low birth-weight is a major factor in the higher stillbirth rate in Aboriginal pregnancies. Aboriginal babies have a lower fetal mortality at low birth-weights than non-Aborigines, which implies to the authors that there may be a racial difference in fetal growth. Similar differences in birth-weight-specific mortality have been noted in data comparing black and white infants in the United States.

Alukura. By the Grandmother's Law.
Journal of the Australian College of Midwives 1988;**1**(1):8–9

This article briefly outlines the funding, administration, goals and staffing of the Congress Alukura Pilot Health Programme, particularly congratulating the small but dedicated group of midwives and health workers for responding to the special needs of their community.

ASSUMPCAO C

Some urinary tract disease in Australian Aboriginal inpatients in 1980
Australian and New Zealand Journal of Medicine 1988;**18**(1):17–20

This article reports a study of 493 patients admitted to Royal Darwin Hospital in 1980 with urinary tract disease. Aborigines had an increased incidence of urinary tract

infection and glomerulonephritis compared with non-Aborigines. Aborigines with post-streptococcal glomerulonephritis tended to grow group A beta haemolytic streptococci from their skins, while non-Aborigines tended to grow the organism from their throats. Aborigines had a lower incidence of urolithiasis. There was no difference in the incidence of benign prostatic hypertrophy.

BENNETT M

An Aboriginal model of care.
Nursing Times 1988;**84**(19):56–58

This article explores two differing models of primary care—assimilation and self-determination—mainly through their application to health services for Aborigines in Victoria. The author asks whether it would be feasible to apply the self-determination model to each of the cultural groups in Australia. She emphasises that cultural values are only one aspect of health care. If the health problems of Aborigines are to be fully redressed, it will be necessary to pay attention to their economic plight and environment, and to encourage change of attitudes of health professionals, as well as those of political and economic decision-makers.

BYARD R

Traditional medicine of Aboriginal Australia.
Canadian Medical Association Journal 1988;**139**(8):792–94

This article gives an overview of the significance of magic and sorcery, herbal medicines, minor surgery, and the training and practice of traditional healers among Aboriginal people. The author wishes to demonstrate some of the complexity involved, and cautions against dismissing these methods out of hand, partly because they have not been examined in enough detail for an accurate assessment to be made of their effectiveness.

COOKSLEY G

Structural analysis of the hepatitis B virus in Aboriginal communities in Australia and its role in hepatocellular carcinoma.
Queensland Cancer Fund Twenty-eighth Annual Report, 31 December 1988

This report notes that the incidence of hepatocellular carcinoma (HCC) in Aborigines appears to be significantly lower than in groups in other parts of the world with similar carrier rates of hepatitis B virus (HBV). The author considers the possibility that Aborigines become infected with a unique subtype of the virus, with fewer cancer-producing properties. In this light, his research is continuing to analyse the viral structure of the HBV in Aborigines, and also employing polymerase chain reaction techniques to examine the DNA of the virus to elucidate its association with HCC in Aborigines.

GRACEY M, SULLIVAN H

Growth of Aboriginal infants in the first year of life in remote communities in north-west Australia.
Annals of Human Biology 1988;**15**(5):375–82

This article reports on a prospective study of growth in the first year of life of 49 Aboriginal babies born in 6 remote communities in the West Kimberley region of Western Australia. Birthweights on average were slightly lower than international reference values (NCHS), but growth velocity in the first three months of life exceeded international reference values. After that time, growth rates in Aboriginal babies slowed, and their

attained weights and lengths fell behind expected values for age. The authors consider that, although there have been measurable improvements in Aboriginal health during recent years, the children in this study were not substantially better off, nutritionally, at 12 months of age, than those studied by Kettle in Arnhem Land a quarter of a century ago. They see environmental factors as dominant in determining these growth patterns in Aboriginal infants.

KING RA, SMITH RM, WILKINSON GN, MILLER RB, SPARGO RM

Nutrient intake of Aboriginal children in the Kimberley.
Proceedings of the Nutrition Society of Australia 1988;**13**:164

This article summarises the mean nutrient intake of 169 Aboriginal children in the Kimberley region of Western Australia, and compares them with those of 70 non-Aboriginal children living in Adelaide. The estimated mean daily energy intake of Aboriginal children was significantly less than that of non-Aboriginal children. Also, while energy intake increased significantly with age in non-Aboriginal children, there was no statistically significant increase for Aboriginal children. The authors concluded that Aboriginal children suffer significant dietary deficiencies.

McINTOSH GH, CHEEK DB, O'BRIEN V, NESS D, GREEN RC

Evidence of malnutrition in Aboriginal children at Yalata.
Proceedings of the Nutrition Society of Australia 1988;**13**:163

This article reports on the findings of a study of 26 children from Yalata, in western South Australia, and 29 from Nepabunna and Marree in northern South Australia. While the geographical conditions of both settlements were similar, the health outcomes were different. There were reductions in both height and weight of the Yalata children, more than half of the population being less than the 50th percentile. None of the Nepabunna Children was so affected. Whereas there was no evidence of hookworm in any community, *Giardia lamblia* was prevalent in Yalata but virtually absent at Nepabunna. The authors suggest an interim solution for children at Yalata involving nutrition supplements and hygiene measures.

MELONI BP, LYMBERY AJ, THOMPSON RCA, GRACEY M

High prevalence of *Giardia lamblia* in children from a WA Aboriginal community [letter].
Medical Journal of Australia 1988;**149**:715

This letter reports on a survey of infestation with *Giardia lamblia* in 71 Aboriginal children aged from one month to six years in Fitzroy Crossing (Kimberley, WA). The prevalence of giardiasis was 32 per cent, a likely underestimate. The authors advise that the possibility of cross-transmission of enteric infections among cats, dogs and humans is currently being investigated. They also point out that there is some circumstantial evidence that giardiasis may be responsible for growth retardation, and consider that the effects of *G. lamblia* and of other enteric organisms on the growth and development of Aboriginal children require closer attention.

PATEL M, MADILL B, WIGHTON M

Abnormal carbohydrate tolerance in pregnancy among Aboriginal women in central Australia [abstract].
Diabetes in Pregnancy. Official satellite symposium of the Thirteenth International Diabetes Federation Congress, Sydney, 1988

This abstract reports on a study of antenatal attendances at the Alice Springs Hospital, the Congress Alukura, and rural health centres in central Australia, during the period January 1985–December 1987, when there were 1296 Aboriginal births. Only women with at-risk pregnancies were specifically tested with the 75g oral glucose tolerance test. Those with two hour venous plasma glucose levels above 7.0 mmol/l were advised on diet, and home monitoring of blood glucose levels up to the time of delivery; insulin was administered if two hour post-prandial levels continued to exceed 7.0 mmol/l.

RAWLINSON WD, BASTEN A, BRITTON WJ, SERJEANTSON SW

Leprosy and immunity: genetics and immune function in multiple case families.
Immunology and Cell Biology 1988;**66**(1):9–21

This article reports on a study of genetic susceptibility to infection with *Mycobacterium leprae* in 10 multiple case families of Aborigines. Of the 87 members available for study, 24 had proven stable clinical leprosy which had been or was still being treated with diamino diphenyl sulphone. Evidence of contact with *M.leprae* in the remaining 63 members ranged from 64 to 78 per cent, according to the test used. The importance of studying genetic differences in the host response to *M.leprae* was prompted by the largely unchanged worldwide prevalence of leprosy despite adequate antibiotics, the resultant need for earlier diagnosis, and the increasing incidence of sulphone resistant *M.leprae* bacilli. Once the marker genotype for susceptibility to leprosy is found, earlier identification and treatment of potentially infectious cases before clinical leprosy develops should be feasible.

RICHARDS LC

Degenerative changes in the temperomandibular joint in two Australian Aboriginal populations
Journal of Dental Research 1988;**67**(12):1529–33

This article reports that the prevalence of degenerative changes differed between two Aboriginal groups studied, between sexes and increased with age, ranging from zero in the youngest groups to 65 per cent in the oldest, most severely affected group. Degenerative changes of the fossa were more frequent than condylar changes. Significant associations between degenerative changes and both the pattern of tooth wear and aspects of facial morphology were also evident. Although recognising the limitations of cross-sectional studies, the author considers that the results of the study were significant, primarily because they confirmed the previously reported association between age and degenerative change in the temperomandibular joint, and provided additional information about the complex relationship between the rate of tooth wear and joint change.

SMITH RM, SPARGO RM, VEITCH LG, FIELD JBF, KING RA

Increased rates of growth of Aboriginal children in the Kimberley region.
Proceedings of the Nutrition Society of Australia 1988;**13**:165

This article reports on a survey of weight and height carried out in the period 1981–1985 on 332 male and 290 female Aboriginal children between one and 17 years of age. The data indicated a widespread change in the growth rate of Aboriginal children in the Kimberley region in this period, and demonstrated that the potential for faster growth has existed for many years.

YAMADA H, BROWN T

Contours of maxillary molars studied in Australian Aboriginals.
American Journal of Physical Anthropology 1988;**76**:399–407

This article reports one phase of an ongoing investigation of occlusal morphology in people at Yuendumu, Northern Territory. The authors advise that although this initial report deals primarily with descriptive data (eg measurements of distances from the central pit to the perimeter of the crown of permanent upper molars on standardised occlusal photographs of dental casts representing 210 males and 181 females), morphological relationships within the dentition are also being studied by multivariate techniques and procedures for quantifying shape and shape differences between the occlusal features of molar teeth.

ABORIGINAL HEALTH WORKER

Volume 13, Number 1, March 1989

This issue especially features the Hunter Region of New South Wales, including: the background and culture of the Birpai people of the Manning River; Aboriginal medical students at the University of Newcastle; occupational therapy work experience for Aboriginal people; and services available for Aboriginal people in Newcastle.

BUNK S

Beat the grog.
Territory Digest March 1989;**11**(1):13–15

This article outlines the family approach to the problem of substance abuse, as implemented by the Uniting, Catholic and Anglican churches of Darwin, under the Council for Aboriginal Program Services (CAAPS). The scheme, based on a 'family disease concept of alcoholism', provides a range of information, counselling, detoxification and aftercare facilities.

CAMPBELL DH, SARGENT JW, PLANT AJ

The prevalence of markers of infection with hepatitis B virus in a mixed-race Australian community.
Medical Journal of Australia 1989;**150**:489–92

This article is the report of a seroepidemiological study of markers of infection with hepatitis B virus in Brewarrina, New South Wales. Forty one per cent of the town's population was screened for a range of serological markers. Of the Aboriginal subjects, 72 per cent had markers which indicated previous infection with hepatitis B virus, with 19.2 per cent of subjects being identified as hepatitis B surface antigen (HBsAg) seropositive. In non-Aboriginal subjects, the prevalence of infection with markers of hepatitis B virus was 13.1 per cent, with 2.2 per cent of subjects being HBsAg-seropositive. The authors consider that until further data become available, and while the cost of the vaccine remains high, mass vaccination of the population probably is not warranted. Initially, control measures should concentrate on the reduction of hepatitis B virus infection in the Aboriginal population and in non-Aboriginal households which contain a HBsAg-seropositive member.

DIXON K

Food for thought. The bush tucker revival combines nutrition with tradition.
Territory Digest March 1989;**11**(1):20–21

This article describes the rise of interest in bush tucker, and how, in the Northern Territory, a campaign to encourage the return of Aborigines to a healthy bush tucker diet is being spearheaded by the Jurnkurakurr Aboriginal Resource Centre in Tennant Creek. This Centre, which serves 1,200 Aborigines in 32 communities scattered across a wide area, is helping Aborigines to cultivate bush tucker through such means as the introduction of cultivation skills for a broad range of foods, and advice on development projects suited to the people's needs and environment.

DURLING G

What we know about cancer in the Aboriginal population in the Northern Territory.
Central Australian Rural Practitioners Association Newsletter 1989;**9**:1–4

Comparisons are made between statistics for Aborigines and non-Aborigines and males and females in relation to cancer of the lung and liver, and between Aboriginal and non-Aboriginal women for cancer of the breast and cervix. The author points out the high cervical cancer rates in the Aboriginal population, and the tendency, suggested by the data, for it to be discovered at a late stage.

FRANKS C

Preventing petrol sniffing in Aboriginal communities.
Community Health Studies 1989;**XIII**(1):14–22

This article, by a member of the Healthy Aboriginal Life Team (HALT), outlines the problem of petrol sniffing among several Aboriginal communities in both the central desert areas, and the Top End of the Northern Territory. The experience in overcoming the problem in Yuendumu, and, later, Kintore, is described, the emphasis being on family strategies developed in close consultation with both family and community.

HANNA J

Bacterial meningitis in children in the Northern Territory [letter]
Medical Journal of Australia 1989;**151**(3):173

This letter reports on a review of all episodes of childhood bacterial meningitis (in children less than five years) that were diagnosed and managed by the five regional hospitals of the Northern Territory from mid-1985 to mid-1988—as part of a comprehensive survey of invasive *Haemophilus influenzae* infections. The survey indicated that Aboriginal children were at a considerably greater risk of developing meningitis than were non-Aboriginal children, the relative risk being estimated at 5.7. For children less than five years of age, the annual incidence of bacterial meningitis for Aborigines was 337 episodes per 100,000 children, compared with 59 episodes per 100,000 non-Aboriginal children. In comparison, the estimated annual incidence of bacterial meningitis in Arizonian Indian children—a recognised high risk population—was reported as 180 episodes per 100,000 children aged less than five years. The author considers that perhaps the most important risk factor to explain the high incidence in Aboriginal children is crowding, which is determined by a number of factors. Thus, it is likely that a vaccine will be required if the incidence of *H.influenzae* meningitis, among both Aboriginal and non-Aboriginal children, is to be reduced substantially. (See also abstract of thesis by same author under *Recent Publications, Reports and Theses* in this issue).

HANNA J, BROOKES D, CONLON B

An unusual secondary case of invasive *Haemophilus influenzae* disease.
Communicable Diseases Intelligence 1989;**89**(13):4-5

This article points out the extremely high attack rate of *Haemophilus influenzae* infections among Aboriginal children in central Australia. However, despite the fact that secondary cases have been well described in household contacts of children with invasive *H.influenzae* infections, in the first three and a half years of surveillance in central Australia no secondary cases were evident. The authors report two recent cases of invasive *H.influenzae* disease in Aboriginal children from the same community, for which prophylactic doses of rifampicin were distributed to household contacts.

The authors point out that such prophylaxis can only have minimal impact on reducing the incidence, since secondary cases only constitute an estimated 1-2 per cent of the total number of cases. They consider that the best prospect for reducing the incidence of invasive *H.influenzae* disease in Aboriginal children ultimately lies with the use of conjugate *H.influenzae* type b vaccines currently being developed and trialled.

HANNA JN, MACINTYRE AB, WORSWICK DA, BURRELL CJ

Seroconversion after administration of measles vaccine to central Australian Aboriginal children at nine months of age.
Medical Journal of Australia 1989;**150**:188-92

This article describes a simple method for examining the seroconversion rates to measles vaccines in outlying communities. The authors found that, among 82 susceptible central Australian Aboriginal infants who were vaccinated at nine months of age, 76 children (93 per cent) demonstrated seroconversion as a result of the vaccine, and this figure is similar to those that have been reported from some developing countries. The implications for a measles-vaccination policy are discussed.

HARRIS MF

The change in rural practice. Bourke 1968 to 1985.
Australian Family Physician 1989;**18**(1):54-56

This article reports on a study of all general practice records for Bourke in 1985, compared with similar studies in 1968 and 1971. Gastrointestinal infections, conjunctivitis, otitis media, and the more serious respiratory infections were diagnosed less commonly among Aborigines in 1985 than in 1968 to 1969. Skin infections and the less severe respiratory infections in children were diagnosed more often. The author considers that while improvement in living conditions and nutrition are the most important priority, more effective management in general practice, including health education and prevention, is also needed.

JONES TW, HENDERSON TR

Urinary calculi in children in Western Australia: 1972-1986.
Australian Paediatric Journal 1989;**25**:93-95

This article reports on a review of records of all children presenting at Princess Margaret Hospital for Children, Perth, with urinary calculi in the period 1972-1986. Of a total of 85 children, 59 were Aboriginal. The features of urolithiasis differed between the two groups. Aborigines presented at younger ages, frequently with failure to thrive, and the calculi consisted mainly of uric acid and urates. Calculi were commonly located in the upper urinary tract, and most required surgical removal. Non-Aboriginal children

tended to present at a later age, frequently with abdominal pain, and most calculi were associated with an underlying urological or metabolic abnormality.

ABORIGINAL HEALTH WORKER

Volume 13 Number 2 June 1989

This issue features the health workers of Elcho Island, the majority of articles having been submitted from the Ngalkanbuy Health Centre where clan names have been retained, and their meanings explained to readers. Topics include: identity, art and health; kava problems; relationships; culture and language; effects of smoking. Additional articles relate to: the TAFE Drug and Alcohol Training Course; diabetes education; and new health material from the Aboriginal Medical Service, Redfern.

MACDONALD KT, WALKER AC

Rheumatic heart disease in Aboriginal children in the Northern Territory.
Medical Journal of Australia 1989;**150**(9):503-05

This study, of 33 Aboriginal children with rheumatic heart disease attending Royal Darwin Hospital over a four-year period (1980-1984), found that mitral valve incompetence and mitral stenosis were the most common valvular lesions. The authors consider that the ultimate containment of rheumatic heart disease in Aboriginal communities will depend on the reduction in the prevalence of streptococcal infections, associated with better social circumstances. Interim control measures which may reduce the impact of the disease include: regular surveillance by throat and skin swabs, where indicated, of school-age children and their families; and the treatment with intramuscular benzathine penicillin therapy of all persons with positive test-results for the presence of beta-haemolytic streptococci.

McCONNELL F

AMA representation needed on Aboriginal health council.
Australian Medicine 1989;**1**(5):115

This article refers to the role of the Australian Medical Association (AMA) in Aboriginal health. Although policies have been developed, these have not in the past led to significant action. The author argues that, because the AMA is the only organisation with the breadth of membership and sphere of influence to bring about the necessary changes, it is important that it be involved intimately with developments in this field. One way of providing that involvement would be by representation on the Council of Aboriginal Health proposed by the National Aboriginal Health Strategy Working Party.

PHILLIPS B

Action on Aboriginal health
Australian Medicine 1989;**1**(4):87

This article from the President of the Australian Medical Association (AMA) draws attention to the poor health status of the Aboriginal people. The author stresses the importance for organisations such as the AMA to obtain a national perspective on this, including the need for respect of cultural beliefs and practices, and Aboriginal consultation and participation in the planning, provision, and delivery of health services. He considers that the AMA has a role in more effectively assisting all governments to improve the standards of health care for the Aboriginal population.

PROST A, NEGREL AD

Water, trachoma and conjunctivitis.
Bulletin of the World Health Organization 1989;**67**:9-18

This article reports on a re-analysis of published data on trachoma in relation to the most relevant indicators of water accessibility, using prevalence ratios as the single parameter for risk assessment. The definite trend that emerged from the review was that the incidence of infectious conjunctivitis is not sensitive to differences in water accessibility, but a reduction in the risk of trachoma is consistently associated with better access to water. The authors consider that this conclusion may support the efforts of WHO and other multilateral and bilateral agencies to sustain the commitment towards the water supply sector beyond the International Drinking Water Supply and Sanitation Decade.

STUART J

Aboriginal health. Has there been any progress?
Australian Medicine 1989;**1**(5):114-15

This article comments on the recently released executive summary of the report of the National Aboriginal Health Strategy Working Party (NAHSWP), referred to elsewhere in this issue. The author considers that there are many similarities between the recommendations here and those of a Commonwealth Government report ten years previously. While the recommendations are seen as sensible and necessary, there remains a need for Commonwealth, State, and local governments to work together to improve Aboriginal health, or there may well be a similar report in ten years' time.

BRIEF COMMUNICATIONS

Lead toxicity and nutritional factors: some implications for petrol sniffers

Maggie Brady
Australian Institute of Aboriginal Studies, Canberra

Introduction

In 1921, when US research workers in the laboratories of General Motors discovered that organo-lead compounds acted as an anti-knock agent in petrol, it was already known that these compounds were highly toxic. After the occurrence of thirteen deaths, which were associated with the increased production of leaded petrol, a public outcry in the US in 1925 halted production for a year (Grandjean 1983). Grandjean observed in 1983 that if the discovery of organo-lead as an anti-knock agent had been made today, the addition of so toxic a substance to petrol would not be permitted (1983).

Despite the introduction of unleaded petrol in Australia in recent years, it will be a long time before vehicles using unleaded petrol are in common use by Aboriginal people in remote areas. Meanwhile, the use of leaded petrol as an inhalant by young Aborigines will continue to be associated with acute encephalopathy, with seizures, choreo-athetoid movements, and hallucinations—symptoms which require emergency evacuations to hospital (see Morice, Swift, Brady 1981; Rischbieth et al 1987). Children who survive acute encephalopathy can be left with permanent neurological sequelae and with mental impairment (Rutter 1980).

Deaths have been reported, primarily from central Australia and the 'central reserves' region of Western Australia, and there appears to be substantial regional variation in the prevalence of sniffing-related morbidity and mortality. Although there may be many variables affecting the vulnerability of certain groups of petrol sniffers to the medical sequelae of lead inhalation, nutritional status is undoubtedly a significant one.

There is considerable evidence from research studies to show that nutritional status can influence susceptibility to lead toxicity. This was realised over a century ago when milk was used as a dietary supplement for lead industry workers to 'protect' them from lead poisoning (Mahaffey 1985). An individual's diet and nutritional status influence not only the absorption of lead but also modify the toxicity of external exposure to lead. Additionally, lead exposure can affect the utilisation of nutrients in the body (Mahaffey 1985). The evidence from both animal and human subjects is reviewed by Mahaffey (1982, 1985), and the following discussion draws largely on her findings.

First, any dietary intervention has only a preventive role, rather than a therapeutic one: such intervention can merely try to reduce the absorption of lead and the accumulation of the body burden of lead (ie the total amount of lead in an individual's body) in those known to be at risk. Researchers have found that the overall patterns of food intake can influence the absorption of lead. In other words, fasting or an erratic food intake serve to increase lead absorption, as was found in a Washington DC study of low income children whose diets fluctuated according to the arrival of social support payments. Aboriginal dietary patterns are also influenced by the arrival of social security cheques on a fortnightly basis, as well as by a multitude of other factors (including erratic store supplies, access to bush foods, cash expenditure patterns).

Specific nutrients and lead toxicity

After considering the nutrients known to be inadequate in certain subpopulations, Mahaffey includes calcium, phosphorus, iron, zinc, vitamin E and dietary fat as being influential in the development of lead toxicity. A low calcium diet increased susceptibility to lead toxicity approximately 20-fold in animal experiments, and also facilitated the accumulation of lead in the femur and the kidney. Studies have also shown that children with elevated body stores of lead have a lower dietary calcium intake (Mahaffey, 1982).

Phosphorus deficiency will increase susceptibility to lead toxicity, as will iron deficiency. Animal studies show that even mild iron deficiency increases the absorption of lead from the gastrointestinal tract, and that iron prevents the accumulation of lead in the body. Deficiency of the trace element, zinc, is also known to be associated with increased tissue lead levels in animals. Protein and fat intake are also important influences on the degree of lead toxicity. Low or high protein diets increase the severity of effects of exposure to lead, while moderate or normal amounts of protein are beneficial. High fat diets are associated with elevated tissue lead concentrations, and vitamin E deficiency greatly increased the susceptibility of rats to lead toxicity.

Aboriginal nutrition

Thomson and Merrifield's bibliography of Aboriginal health (1988) provides an overview of published research on nutrition and growth in Aboriginal populations. Some of the research findings they note, and other recent studies, are relevant to the above discussion. For example, the Nganampa Health Council Environmental and Public Health Review of Anangu Pitjantjatjara Lands notes:

> ...the diet is high in energy, very high in refined carbohydrate, high in fat and salt and very low in dietary fibre. This pattern of dietary intake is consistent with obesity and associated conditions ... Intake of most vitamins and minerals are inadequate. Diets are commonly low in A and B vitamins, especially folic acid and B6 and frequently zinc and magnesium.
>
> (Nganampa Health Council, 1987: 64,69)

A recent study by Cheek and colleagues (1989) found that the plasma levels of zinc, tocopherol (vitamin E), B-carotene (pro-vitamin A) and retinol (vitamin A) were lower for growth-retarded Western Desert Aboriginal children living at Yalata than for normally grown Aboriginal children from another rural community in South Australia. The Yalata children showing these deficiencies were aged between 6 and 13.5 years. Medical staff at Adelaide hospitals who treated two petrol sniffers with encephalopathy found that one had low plasma zinc concentrations (Rischbieth et al 1987). The role of zinc in Aboriginal nutrition has been summarised by Thomson (1984).

There are variations in dietary intake and nutritional status, both within and between Aboriginal communities, as pointed out by Cowlishaw (1982), Harrison (1986) and Lee (1988). These variations are due to a number of factors, including the ecology of the region, seasonal factors, remoteness and accessibility, store contents and turnover, mobility and access to bush foods, and sex differences. Lee's data compare Northern Territory coastal communities with central Australian desert communities and use analysis of store turnover as the method of describing apparent dietary intake. Some marked differences in nutritional intake are apparent from her analysis, which is still in progress.

Some tentative conclusions

It is clear that more detailed work needs to be undertaken on the morbidity and mortality patterns associated with petrol sniffing. Preliminary findings from my research into petrol

sniffing in the Northern Territory, Western Australia and South Australia suggest notable differences in mortality associated with sniffing.

The association between dietary and nutritional factors and the degree of lead toxicity is well established. There is also considerable evidence that Aboriginal people living in the regions where petrol sniffing is practised often have an erratic food intake, and that some are poorly nourished (both as a result of inappropriate diet and repeated gastrointestinal infection such as giardiasis). In addition to these facts, we know that in at least some regions where research has been carried out, Aboriginal people experience specific deficiencies in nutrients known to be influential in the increased susceptibility of lead toxicity. It is thus highly likely that there is a significant interaction between sniffing-related morbidity and mortality, and nutritional status.

To conclude, it is worth noting some guidelines provided by Mahaffey for the role of nutrition in the prevention of acute lead intoxication:

1 Attempt to provide regular balanced food intake.

2 Provide quantities of zinc and calcium at levels that are recommended by nutritional authorities.

3 Do not provide high levels of mineral supplements. Although deficiency of a nutrient may increase susceptibility to lead toxicity, high levels of supplementation may also increase susceptibility. If the levels of these nutritional supplements are high enough they may be toxic in themselves.

4 Be aware that there is some evidence that higher levels of iron than are now recommended by nutritionists may be useful in preventing lead toxicity. Children may require iron supplements if their eating patterns do not provide enough iron in food.

5 Plan diets to contain levels in vitamins in accordance with recommendations by nutrition authorities. Avoid diets or supplements containing high levels of vitamins because some vitamins are toxic when consumed at high levels, and there is no evidence that these are beneficial for prevention of lead toxicity.
(Mahaffey, 1982:75–76)

Some, if not all, these guidelines would be difficult to implement in remote Aboriginal communities; influencing dietary habits is never easy. Nevertheless, those in a position to influence young Aborigines who use petrol as an inhalant, and their caregivers, should be aware that dietary factors may be affecting the degree for which petrol sniffers suffer from lead toxicity.

ACKNOWLEDGEMENTS

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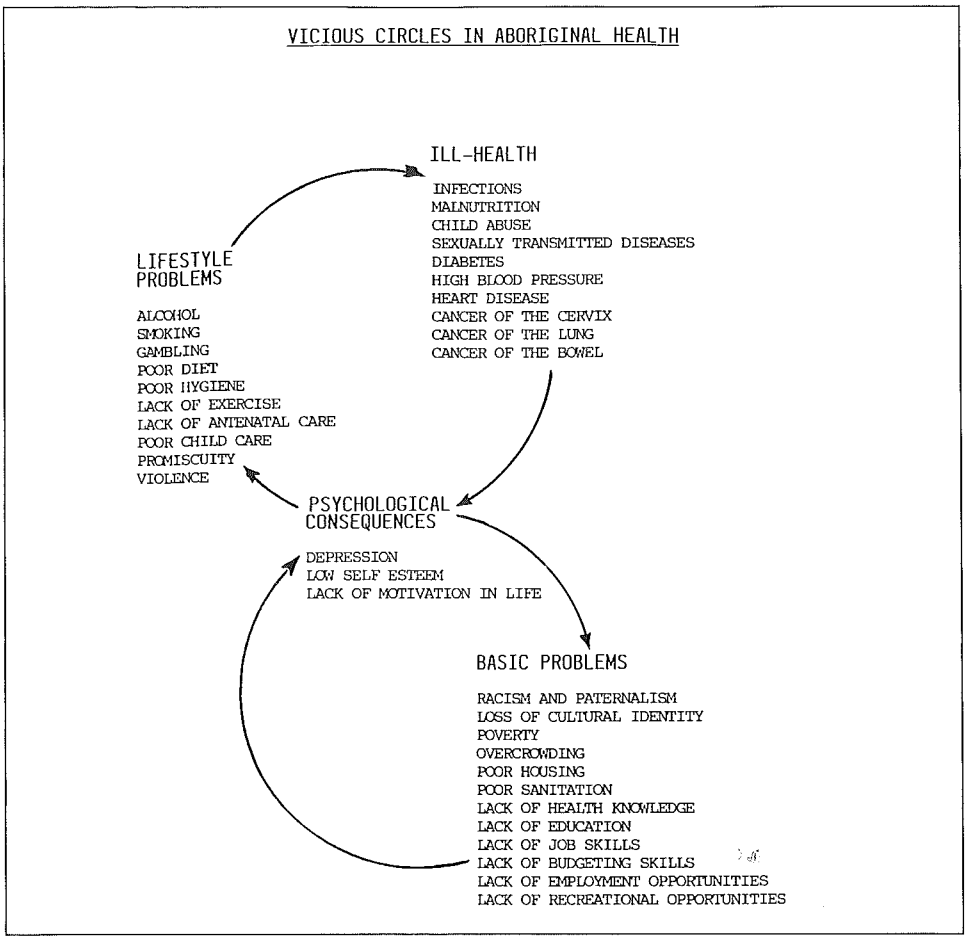
The Queensland hepatitis B program

John Sheridan, Ken Donald and John Jameson
Queensland Department of Health

The majority of the health problems faced by Aborigines and Islanders have deep seated social and environmental causes (Figure 1). These are not readily amenable to preventive health measures. Their correction requires long term multi-disciplinary approaches involving both Aborigines and non-Aborigines.



Some diseases, fortunately, can be readily prevented. The availability of an effective vaccine places hepatitis B in this category.

Hepatitis B is endemic in both the Aboriginal and Islander communities. Carriage rates however vary markedly from locality to locality (Tables 1, 2, 3 and 4). Both genetic and environmental factors are likely to be involved. The prevalence of mites and biting insects, trauma and the standard of skin hygiene are thought to influence the prevalence of open sores, which in turn may act as portals of spread. In the Torres Strait, contact with migratory populations with high infection rates may also be involved.

Table 1 PREVALENCE OF HEPATITIS B SEROLOGICAL MARKERS, QUEENSLAND ABORIGINAL AND ISLANDER WOMEN 1986–1987

Ethnic Group	HBsAg + ve %	Anti-HBs + ve %	Anti-HBc + ve %
Aborigines	3.1(57/1866)	15.9(121/762)	24.7(188/762)
Torres Strait Islanders	11.5(66/572)	47.0(116/247)	63.2(158/250)

Notes

1. HBsAg (surface antigen of the hepatitis B virus) is indicative of either acute or chronic infection by the hepatitis B virus. In the case of adults, the finding of HBsAg is generally indicative of chronic infection. Such people are known as chronic carriers. In children, a moderate proportion of those with HBsAg will have acute infections from which they will later recover.

2. Anti-HBs (antibody to the surface antigen of the hepatitis B virus) is indicative of protective immunity to the hepatitis B virus. This is usually acquired following recovery from hepatitis B infection. Persons who have been successfully vaccinated against hepatitis B will also have this antibody.

3. Anti-HBc (antibody to the core of the hepatitis B virus) is indicative of past or present infection by the hepatitis B virus. A proportion of people with anti-HBc will have neither detectable HBsAg nor detectable anti-HBs. A small proportion of those with anti-HBc alone will be in the process of recovery from hepatitis B infection. Others will have fully recovered but lost detectable anti-HBs. Still others may be low grade hepatitis B carriers who lack detectable HBsAg.

Table 2 PREVALENCE OF HEPATITIS B SURFACE ANTIGEN (HBsAg), ADULT ABORIGINES, BY COMMUNITY

Location	HBsAg prevalence (percentage)	Number positive	Number tested
Cherbourg	3.9	13	337
Coen	4.0	3	75
Doomadgee	0.5	1	197
Eidsvold	0	0	51
Hopevale	4.5	14	312
Mornington Is	5.4	23	427
Palm Island	2.8	21	741
Woorabinda	2.1	12	562
Total	3.2	87	2702

Note:

See notes at foot of Table 1.

Table 3 PRE-VACCINATION PREVALENCE OF HEPATITIS B SEROLOGICAL MARKERS, QUEENSLAND ABORIGINAL CHILDREN 1987–1989, BY COMMUNITY

Location	HBsAg + ve %	Anti-HBc + ve %	Number tested
Aurukun	6.9	46.4	248
Cherbourg	2.2	10.0	231
Coen	0	5.9	34
Doomadgee	0	3.0	267
Edward R.	0	4.4	45
Eidsvold	0	5.5	73
Hervey Bay	0	0	42
Hopevale	2.1	6.4	94
Kowanyama	3.4	13.7	146
Lockhart R	21.0	79.0	100
Maryborough	10.7	25.0	28
Mornington Is	1.9	8.7	207
Palm Is.	6.4	35.7	456
Woorabinda	0	7.9	139
Total	3.9	21.7	2110

Note:
See notes at foot of Table 1.

Table 4 PRE-VACCINATION PREVALENCE OF HEPATITIS B SEROLOGICAL MARKERS, QUEENSLAND ABORIGINAL AND ISLANDER CHILDREN 1987–1989, BY COMMUNITY

Location	HBsAg + ve %	Anti-HBc + ve %	Number tested
Badu Is.	7.4	31.2	122
Bamaga	12.7	52.4	565
Boigu Is.	17.8	48.9	90
Coconut Is.	0	2.7	37
Darnley Is.	17.6	41.2	51
Dauan Is.	0	38.5	26
Kubin, Moa Is.	14.8	48.1	27
Mabuiag Is.	24.5	59.2	49
Murray Is.	3.8	20.0	105
Saibai Is.	24.6	54.1	61
St Pauls, Moa Is.	24.5	62.3	45
Stephen Is.	36.4	72.7	11
Sue Is.	2.0	14.3	49
Thursday Is.	8.7	29.6	311
Weipa South	1.1	16.1	180
Yam Is.	10.7	39.3	56
Yorke Is.	2.8	11.1	36
Not Stated	0	17.6	17
Total	10.6	38.0	1838

Note:
See notes at foot of Table 1.

Table 5 HEPATITIS B VACCINATION COMPLIANCE RATES, QUEENSLAND ABORIGINAL AND ISLANDER INFANTS

Injection	Number Vaccination	Compliance rate (%)
First	3555	100
Second	3292	93
Third	2972	84

Note:
These rates apply to infants born between 1.1.86 and 30.6.88.

In late 1985, Queensland became the first State to institute state-wide antenatal hepatitis B screening for Aboriginal and Islander women with vaccination of their infants. In 1987, Commonwealth money became available to enable all States and Territories to vaccinate infants born into the high carriage rate ethnic groups. In Queensland the program continued to be coordinated by the Aboriginal Health Programme (AHP).

Currently nearly all pregnant Queensland women are being screened for hepatitis B and over 8 per cent of the 40,000 infants born in Queensland annually are commencing vaccination at birth. To 30 June 1989, some 4,000 Aboriginal, 1,200 Islander and 4,000 infants from other high carriage rate ethnic groups had commenced vaccination. Many of these infants have now completed their hepatitis B vaccination courses.

A novel feature of the Queensland program is the very high compliance rate (Table 5). Experience suggests that the three dose compliance rate of 84 per cent for Aboriginal and Islander infants born to 30 June 1988 can be expected to exceed 90 per cent when stragglers are contacted. By comparison, a similar program for ethnic minority infants born in California reported a compliance rate of 38 per cent. The Queensland achievement is a consequence of two major factors: first, the professionalism and untiring efforts of AHP head office staff in monitoring vaccination notification forms and in notifying field staff of infants that are overdue for boosters; and secondly, the dedication and perseverance of field staff, particularly AHP health team staff in tracing those infants who are overdue for boosters.

Towards the close of 1987, the program was further expanded to enable the vaccination of children aged less than ten years who were born into any of the high carriage rate ethnic groups. The majority of children to have benefited from the expanded program have been from Aboriginal communities or from the Torres Strait. To 30 June 1989, about 2,000 Aboriginal, 1,000 Islander and 1,200 children from other ethnic groups are in the process of, or have completed, vaccination courses.

Nurses from the Department of Community Services and Ethnic Affairs are playing a vital role in the pre-vaccination venepuncture and vaccination of these children. Also involved have been State and mission hospitals, the Royal Flying Doctor Service, the Aboriginal and Islander community health services and private general practitioners. Needless to say, AHP teams have also played avery important role.

A recent grant from the Department of Aboriginal Affairs is enabling the further expansion of the Aboriginal and Islander component of the hepatitis B program. Pre-vaccination testing and vaccination of those found to be seronegative is now available to all Queensland Aboriginal and Islander children aged 19 years or less. The testing of adults for current infection is also being done. According to age, other blood tests are also being offered. The Aboriginal and Islander community health services are playing a major role in this most recent expansion of the hepatitis B program.

Another component of the hepatitis B program, and one which will develop when further funds, staff and computer facilities become available, is the follow-up of hepatitis B carriers.

While it is known that liver disease and primary liver cancer are more common in Aboriginal and Islander people than in the general community, the true extent of the consequences of hepatitis B infection in Aborigines and Islanders has not been defined. In addition to a direct benefit to affected individuals, the carrier follow-up program should elucidate the morbidity patterns in Aboriginal, Islander and other high carriage rate groups.

SELECTED REVIEWS

Should all pregnant Aboriginal women be offered a test for diabetes?

Mahomed Patel
Formerly Community Health Centre, Alice Springs

Introduction

Testing for diabetes during pregnancy is now recommended as a regular practice in the United States (American Diabetes Association 1987), and in Melbourne it has been conducted as a routine at the Mercy Maternity Hospital since the early 1970s (Oats, Beischer 1986). More widespread testing is now being introduced elsewhere in Australia (Martin et al 1988). Should such testing be recommended for pregnant Aboriginal women?

Health care providers have reason to be confused when examining recent literature reports on testing for diabetes during pregnancy. The range of blood tests, the diagnostic criteria, and the management options that have been described sometimes appear incomprehensible. This paper is intended to be a brief resume of the literature that would assist in developing an approach for testing for diabetes during pregnancy among Aboriginal women. It also describes some aspects of the antenatal program that have been developed for detecting and managing diabetes among Aboriginal women in central Australia.

Definitions

Diabetes mellitus is defined by World Health Organization (WHO) criteria as a two-hour plasma glucose level exceeding 11.1 mmol/l during the 75 gm glucose tolerance test (GTT), or random values exceeding this level in a person who has the clinical features of diabetes (WHO 1980).

Gestational diabetes is defined as carbohydrate intolerance of variable severity, with onset or first recognition in the present pregnancy. The definition, developed at the Second International Conference on Gestational Diabetes (1988), applies whether or not insulin is used for treatment, or the condition persists after pregnancy. The specific diagnostic test and glucose level for diagnosing 'carbohydrate intolerance' have varied between studies. This variation is the result of inconsistencies with the type of test performed (either 50 gm, 75 gm or 100 gm glucose), the gestation period at the time of testing, and differences in the genetic, nutritional and environmental factors of the population being studied (Hadden 1985). There is no diagnostic or cut-off blood glucose value that will separate a 'normal' from an 'abnormal' result as the frequency of pregnancy-related complications tends to increase as the 2 hour plasma glucose level increases (Pettitt et al, 1980; Tallarigo et al, 1986).

Implications for Aboriginal women

The prevalence of diabetes in Australia has been reported at 3.4 per cent (Glathaar et al 1985), but for Aborigines is likely to be between 7.5 and 16 per cent (Australian Institute of Health 1988). The frequency of gestational diabetes in the USA, Britain and

Australia is between 0.2 and 3 per cent when all women are tested in pregnancy (O'Sullivan et al 1974; Forest et al 1983; Gabbe 1985; Oats, Beischer 1986).

Between 1985 and 1987, Aboriginal women in central Australia were tested for diabetes (75 gm GTT) if they had an at-risk pregnancy (table 1), and 3.0 per cent had gestational diabetes (i.e. 2 hour plasma glucose $\geqslant$ 7.8 mmol/l) while 1.6 per cent had pre-gestational diabetes (unpublished data). However, when routine screening was commenced more widely, the incidence of gestational diabetes was twelve per cent for the first six months of 1989 (unpublished data). It is reasonable to expect that the frequency of diabetes in pregnancy would be higher if all Aboriginal women were routinely tested during antenatal care.

Table 1 DIAGNOSTIC CLUES SUGGESTING DIABETES

Maternal age over 30 years
Family history of diabetes
Glycosuria
Obesity
Poor obstetric history, including:
Habitual spontaneous abortions
Unexplained fetal deaths
Neonatal deaths
Large-for-dates infant or shoulder dystocia
Congenital malformations
Prematurity
Toxaemia/pregnancy induced hypertension
Hydramnios
Urinary tract infections
Recurrent vaginal moniliasis

With early diagnosis and adequate treatment of diabetes, perinatal mortality and morbidity can be reduced (Martin et al 1987; Molstead-Pederson 1980). A poor outcome of pregnancy among women with lesser degrees of glucose intolerance (not diabetes as defined by WHO criteria), has also been reported (Pettitt et al 1980; Tallarigo et al 1986; Langer et al 1987). However, the validity of some of these reports has been questioned recently (Ales, Santini 1989). The extent to which such cautions may be applicable for communities that have a high prevalence of diabetes and of pregnancy-related complications in general cannot be assessed because there is a paucity of relevant studies among such population groups.

As Aboriginal women have not been routinely tested to identify diabetes during pregnancy, it is not possible to determine how diabetes may have contributed to the poor outcomes of pregnancy that have been reported (Hart et al 1985; Allesandri et al 1988; Harris 1988; Gray, Khalidi 1989). Carefully designed prospective studies will be required if this uncertainty is to be resolved.

The diagnostic test for gestational diabetes

One of three variations of the GTT has generally been used for detecting gestational diabetes. The 100 gram 3-hour GTT is recommended in the USA, and the cut-off points are defined by the O'Sullivan criteria (O'Sullivan, Mahan 1964). A different set of diagnostic criteria is employed for the 50 gram 3-hour GTT used at the Mercy Maternity Hospital in Melbourne (Oats, Beischer 1986). Martin's survey of the antenatal tests used across Australia revealed that the 100 gm GTT was used by 20 per cent of respondents,

and the 50 gm GTT by 10 per cent (Martin et al 1988). The majority favoured the 2-hour 75 gm GTT as recommended by the WHO (1980) for testing in the general population. However, the diagnostic level for gestational diabetes was a 2-hour glucose value that varied between 6.7 and 9.0 mmol/l for different centres.

In central Australia the 75 gram GTT is used, and women who have a 2 hour plasma glucose level that exceeds 7.0 mmol/l are advised on dietary modifications and 24 hour home monitoring.

In a study where all pregnant women were routinely tested for diabetes, up to 50 per cent of women who had gestational diabetes did not have any of the risk factors described in table 1 (O'Sullivan et al 1973). Hence, the recommendation for routine testing, even in the absence of risk factors (American Diabetes Association 1987). As it may not always be feasible and practicable to test all pregnant women with a complete 2 hour GTT, is there a simpler screening test?

The screening test

The best validated test for screening is the glucose challenge test, where 50 grams of glucose is administered at any time of day, irrespective of the time of the last meal (Benjamin et al 1986). A plasma glucose level exceeding 7.8 mmol/l at 1 hour is taken as the indication for performing a confirmatory GTT. At some centres, the threshold level has been defined as 7.2 mmol/l (Widness et al 1985). This screening test has been recommended at about 28–30 weeks, as gestational diabetes is most likely to manifest in the third trimester when the physiologic resistance to insulin reaches a peak level. The test should be repeated at 33–36 weeks in women who have a risk factor, even if earlier testing had revealed a normal result (Benjamin et al 1986).

A random glucose test can be useful for the diagnosis of gestational diabetes (Lind 1985), but can be applied only if a set of normal values is established for specific time intervals after a meal in a given population group. This test was found to be an inefficient screening method for a community that had a high prevalence of abnormal glucose tolerance (Nasrat, Johnstone, Hansan 1988). Because of these limitations, this test cannot be recommended for Aboriginal women.

The glucose level for a positive screening result should be determined according to the characteristics of the relevant community; these include the prevalence of diabetes among women in the reproductive age-group and the frequency of diabetes-related complications in pregnancy. As the latter information is not available for most Aboriginal communities, an empirical screening protocol will have to be developed. The validity of the diagnostic criteria can be determined subsequently only if large prospective studies of the outcome of pregnancy are conducted among Aboriginal women.

In central Australia, the 50 gram glucose challenge test is recommended at the first antenatal visit because the prevalence of diabetes is high among women in the reproductive age group (prevalence of one to nine per cent, progressively increasing with age: unpublished data). This provides an early opportunity to identify women with previously undetected diabetes. A one hour level of at least 7.8 mmol/l is the indication for the 75 gram GTT. If the one hour level is less than 7.8 mmol/l, the test is repeated at 26 to 32 weeks gestation. In the case of women who have any of the risk factors listed in table 1, the challenge test is omitted and the 75 gram GTT is recommended at the first antenatal visit to avoid any possible delay in detecting and treating diabetes.

Management

If a mildly elevated glucose level (2 hour GTT level between 7.0 and 10 mmol/l) is detected, it is essential to determine the actual blood glucose levels that the woman experiences in her normal day to day activities before commencing treatment with

insulin. These levels are thought to be more relevant to the outcome of pregnancy than the results of the 'experimental' GTT in itself (Anonymous 1988). Construction of an accurate blood glucose profile over a 24 hour period requires blood glucose to be monitored regularly between four and six times per day for two to seven days per week, depending on the severity and persistence of the hyperglycemia.

With the advent of glucometers and blood glucose measuring strips, such testing is best conducted at home. Prolonged hospitalisation can be avoided in most cases by encouraging responsible self-management with culturally sensitive education techniques. Most women have achieved this successfully in central Australia.

The criteria for introducing insulin treatment for gestational diabetes vary in different reports (Persson et al 1985; Li et al 1987; Vaughan 1987; Second International Conference 1988). In central Australia, insulin is commenced when either the fasting blood glucose level exceeds 5.5 mmol/l, or where the two hour post-prandial level exceeds 7.0 mmol/l on two to three consecutive occasions. Insulin is advised earlier in women with the risk factors listed in table 1.

Appropriate advice on diet and physical activity is discussed with all women who have abnormal glucose tolerance, and regular contact (at least once per week) is maintained to provide continuing support throughout the pregnancy. An education program that is rigid, instructional, based on instilling fear, and loaded with 'do's' and 'donts' is bound to fail. The program must be individualised and coupled with support measures to include family education, attention to other health or socioeconomic needs, etc.

Recommendations

Some important principles for developing a screening and management program are described.

1 Consultation with Aboriginal women in the community is essential to discuss the current scientific perspectives on the effects of diabetes on pregnancy. It provides women with an opportunity to discuss this further within their own groupings, and for them to identify the priority that they would give to have continuing intervention during antenatal care.

2 Women's groups and health workers must be active participants in planning and developing the program.

3 Standard guidelines should be developed for performing and interpreting the screening and diagnostic tests.

4 Responsible self-management rather than a state of dependence must be encouraged.

5 Regular feedback must be provided to women and to the health care providers in the community on the frequency with which diabetes is subsequently detected in the community and the likely impact of the diabetes education program.

6 The overall program cannot be isolated from the greater need for culturally specific and appropriate support that encourages early antenatal attendance and attention to the nutritional and other needs of pregnancy.

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Copies of the detailed screening and management protocols that are used in central Australia are available from the author (Dr M Patel, Director, Communicable Diseases Centre, Department of Health and Community Services, PO Box 40596, Casuarina, NT 0811).

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Aboriginal and non-Aboriginal healing, health and knowledge: sociocultural and environmental issues in the West Kimberley

Sandy Toussaint
Department of Anthropology, University of Western Australia

Introduction

This article is based on research commissioned by the Princess Margaret Medical Research Foundation (PMHMRF) to bring a social science perspective to a study concerning the monitoring of growth, health and nutrition of a selection of Aboriginal women and infants living in five communities in the West Kimberley region of Western Australia. The Fitzroy Crossing Regional Hospital provided a 'home base' for the recording and monitoring of data (Map 1). Although PMHMRF commissioned the research, this article addresses the general array of health services available in the region, as these all impinge on each other and are often viewed by Aboriginal people as carrying out similar tasks.

Background to the research

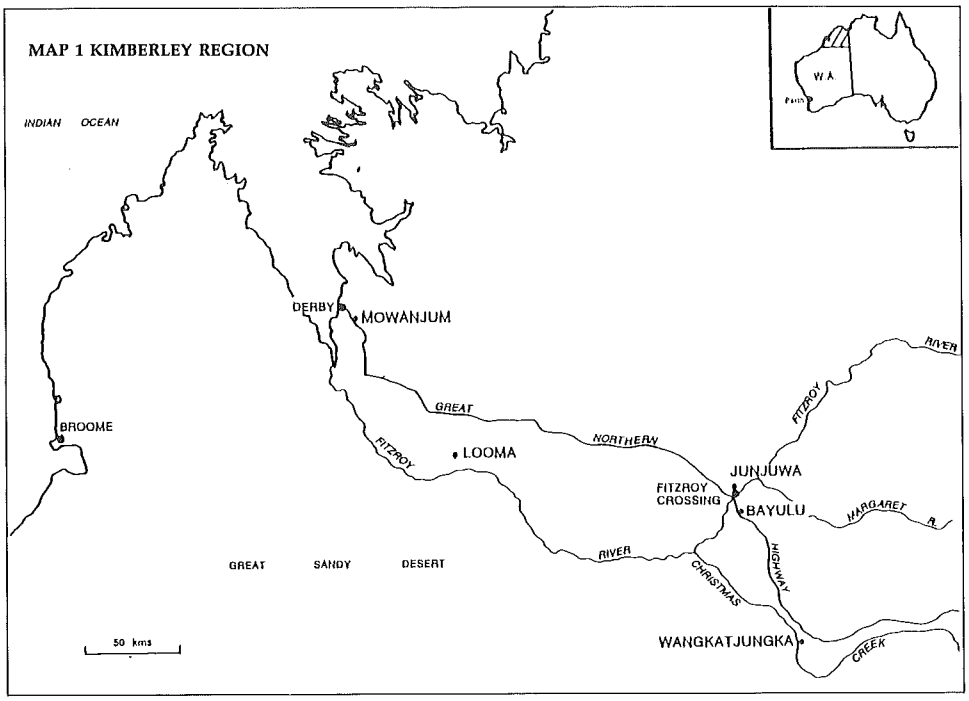
The findings of the following material were largely based on consultations with, and observation of, Aboriginal adults and infants in the Fitzroy Valley area of the West Kimberley (Toussaint 1987). The people whose views have been incorporated range in age from the late teens to the early sixties, and are from several different language groups. Some people live in outlying communities, whereas others live in town. Many people possessed limited literacy and numeracy.

The Fitzroy Valley has one of the largest concentrations of Aboriginal people in Western Australia. In 1986, the more than 1,700 Aborigines comprised almost 90 per cent of the total population of the area. There is massive unemployment in the area, with only 51 of the total potential workforce of 882 being in permanent employment in 1986 (Arthur 1986). Unemployed people rely on social welfare payments or survive without an income of any kind.

The language groups in the area are primarily Walmatjeri, Wangkatjungka, Gunian and Bunapa. There are others in the wider region who identify as Mangala and Nyigina. Generally Walmatjeri and Wangkatjungka speakers migrated into the Fitzroy Valley region from desert areas and are described as the 'desert people', whereas Bunapa and Gunian speakers more strongly identify with the Fitzroy Crossing river area and are often referred to as the 'river people'.

The area around Fitzroy Crossing has been used for pastoral purposes since the turn of the century. The town itself radically altered in the late 1960s following the relocation of Aboriginal people from their homelands around the Canning Stock Route, the closure of Moola Bulla (an Aboriginal pastoral station formerly run by the Department of Native Welfare), and the introduction of the Pastoral Award in 1968. At this time, large numbers of Aborigines either walked off or were evicted from stations. Living conditions seriously declined in the area, and health problems, including severe alcohol abuse, increased.

The climate in the region is arid to semi-arid monsoonal. Temperatures range from the low 20s into the 40s. During the hot wet summer season groups who live outside the Fitzroy Crossing townsite can be isolated due to severe flooding. This often means a scarcity of resources in those communities.



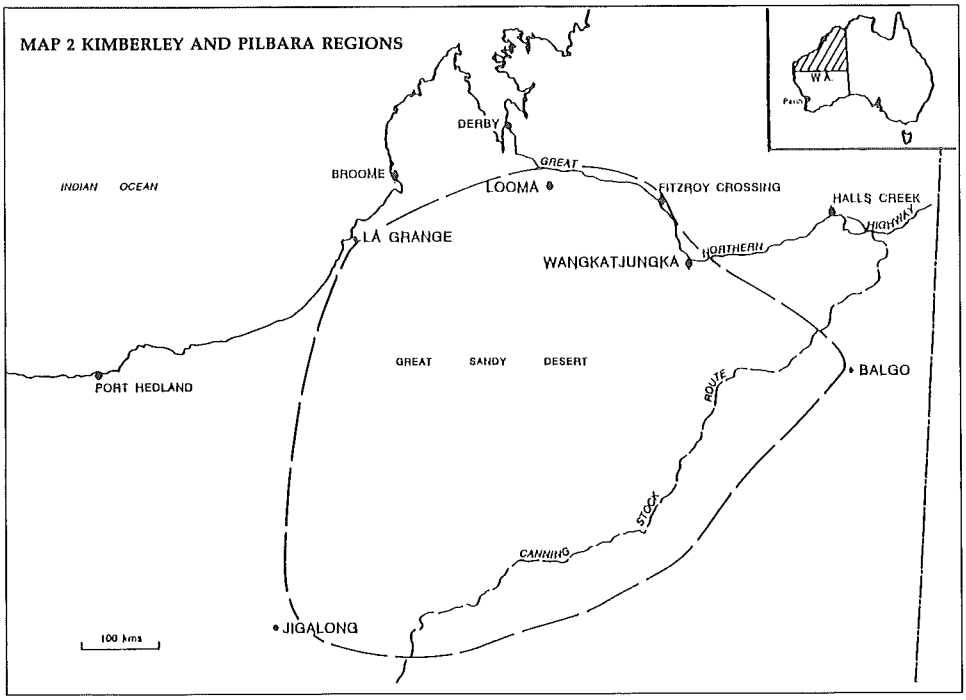
Cultural complexities and continuity

The Aboriginal people of the area are diverse, with many following more closely the guidelines of their own culture, rather than those of the imposed non-Aboriginal one. This often means that non-Aboriginal health care personnel function from one set of values, Aboriginal people from another. Illustrations of some Aboriginal beliefs and practices in relation to healing and health and the 'rearing up' of small children, demonstrate this point.

A 'healthy baby' is regarded by Aboriginal people as one they 'know' is healthy. This 'knowingness' is often based on the fact that certain rituals have been performed following the infant's birth. One of the more common ceremonies is to 'smoke' the baby, creating smoke by burning the branches and leaves of a conkerberry bush (*Carissa lanceolata*) and rocking the baby over the smoke. Another method is to apply a type of poultice made from either fungi or mud to the 'soft' part of the baby's head. These type of enactments encourage people to believe that the good health and long life of the child is ensured, and that loss of weight, a cold or minor fever, are simply states that the child will pass through.

An infant is rarely cared for solely by its actual mother. The social organisation of most Aboriginal people in the area encompasses the wider family network, including classificatory and actual kin. Pre-eminent roles are ideally played by the maternal and paternal grandmother, aunts and sisters. The maternal grandmother's brother (the infant's mother's uncle) also has a great deal of involvement and authority concerning a particular child.

Breast feeding, however, is usually the sole prerogative of the actual mother, and most Aboriginal women in the area breast feed their children from birth to three or four years of age. Breast feeding is not only for sustenance but also for the physical and emotional comfort it provides. It is rare to spend time with Aboriginal women and their babies and not see the baby continually seek out the mother to be suckled. By making these



sorts of demands, Aboriginal infants begin to assert their independence. It is also extremely rare to find a young infant or small child who is not receiving comfort, usually in the form of being held and fondled, from some member of their kin network. This sort of contact can sometimes replace the overt need for comfort from food intake for limited periods of time.

Bush foods are still sought by many Aboriginal people in the region. This is partly because hunting, fishing and foraging continue to be enjoyed, but also because bush resources can supplement supplies when incomes are particularly low, or food outlets are unable to meet with local demands. However, many taboos in relation to bush food continue to be maintained during times of mourning, pregnancy and lactation. While the taboos are relevant only to the consumption of small animals and particular species of fish, they often restict people's dietary patterns, especially when bush foods are preferred and European food outlets are curtailed.

Aborigines in the area also continue to rely on sources of 'bush medicine' to treat ailments they may have contracted in circumstances similar to those that existed in the pre-contact period: for example, if a fish sting is suffered when fishing at the nearby river, then a poultice will be made from the leaves of a local tree and applied to the wound. However, for newly recognised diseases, such as diabetes and trachoma, people usually seek assistance at the regional hospital or community clinic.

The use of a *mabarn*, or traditional healer, is still followed, and there are several men (the role of the *mabarn* is traditionally identified with men) in the region whose skills are often sought. While the role of the *mabarn* has somewhat diminished over recent years, their guidance can be a significant factor in directing people's actions. The *mabarn* is often sought out in preference to seeing community health or hospital staff, but an 'ailing patient' may be referred to the hospital or clinic.

Mobility is another important aspect of Aboriginal life, and something which is not always appreciated by non-Aboriginal health care personnel. Aborigines are involved

in constantly rearranging and binding relationships that entail emotional, intellectual and physical maintenance through particular types of contact and association. Both historically and linguistically, people in the area have kin links which range from Balgo to Jigalong, and from La Grange to Looma (Map 2). These links often involve considerable mobility between these areas for ceremonies, exchange, settling disputes, and visiting relatives. Being mobile with the extended family network is crucial for many Aboriginal adults and infants in the Kimberley.

Socioeconomic dimensions and difficulties

Given prevailing circumstances such as remoteness, low income, unmet housing requirements, and severe climatic conditions, Aboriginal people are often denied access to resources that many members of the wider society take for granted. For example, there may not be a wide variety of fresh food available and, when there is, many people do not have the money to pay the high prices that living in a remote location entails. Also, most people are without refrigeration for perishable goods due, again, to lack of money and the limited availability of electricity. Access to housing is often also limited. For those who choose to live in communities outside the vicinity of the townsite, there is often the added difficulty associated with access to transport, plus the high cost of fuel when transport is available, and the possibility of isolation when the 'wet' season occurs.

Initial findings of the PMHMRF program revealed that Aboriginal people in the West Kimberley experience a serious shortfall between per capita income and potential spending (see Sullivan, Gracey, Hevron 1987; Gracey, Sullivan 1987). It was demonstrated that, due to a number of factors (such as 'food shortages' and 'social problems'), Aborigines were often unable to purchase sufficient food of 'nutritional' value to ensure and maintain a reasonable level of health. These figures, however, make little allowance for the way in which Aboriginal people need to distribute their income and resources. That is, while it may appear that Aboriginal people have a particular income per fortnight, the reality is often quite different. For a variety of reasons (eg payment for participation in ceremonial activity, assistance with fuel for kin to attend a funeral, community 'chuck in'), Aboriginal people share their income and resources no matter how small these may be. While such sharing is part of a person's ongoing responsibilities, the repayment of which is usually made in some way over time, it often means that particular weeks or periods are more 'lean' than others. Such a situation may restrict the amount of money available for extra food and basic necessities at one level, but necessarily reflects an Aboriginal requirement at another level. These types of requirements are rarely recognised outside the Aboriginal domain.

Conceptual frameworks and misunderstandings

The health care system in the area often fails to meet the needs of Aboriginal adults and infants. This is largely because the system is culturally inappropriate and insensitive to socioeconomic constraints. But the system also fails because Aboriginal people are not adequately informed of the way in which it operates—how it goes about its work, and the information it is trying to seek and to provide. The taking of medicine is one example of this problem, as is shown in the following illustration:

> A young woman and her baby were brought from an outlying community to the Fitzroy Crossing Hospital, primarily because the woman had failed to administer a full course of antibiotics for the child who was suffering from a high temperature, scabies and head sores. Both mother and child stayed in hospital for five days, the time needed to ensure a full course of medicine. However, during that time, hospital staff gave the child the medicine, thus missing the opportunity for the

mother to learn about an activity that she would undoubtedly be called on again to carry out.

There could be an alternative view to this story. For example, hospital staff may have considered themselves unable to spend time teaching the woman about the way the medicine should have been administered. But, given that the educational aspect did not occur on that occasion, when would it occur? Does this kind of scenario only mean that the child would need to be rehospitalised each time a course of antibiotics was required?

The lack of time accorded to Aboriginal people in situations such as the above appears to be where things often 'go wrong'. One of the essential requirements of working with Aboriginal people (recalling that Aborigines comprise almost 90 per cent of the total population in the area) is taking time to talk and explain. In Aboriginal terms, one is more likely to do things 'properly' if an appropriate amount of time is taken to discuss matters of importance to the person's wellbeing. While acknowledging that non-Aboriginal staff often have non-Aboriginal time-tables to which they are accountable, it is also necessary to consider that taking more time to explain is likely to ensure greater potential for an improvement in levels of health.

Combined with the poor socioeconomic conditions experienced by Aborigines in the area, and the complexity of differing cultural attitudes, is the lack of receipt of real information by Aborigines about hygiene, nutrition and medical care, in a situation which is markedly different from that existing prior to European contact. For example, information of potentially health educative value is often provided to Aborigines in either written or spoken English. Basically, this means that many people receive no information at all, because while most speak several Aboriginal languages, many are not proficient in English.

Finally, many non-Aboriginal women and men go to areas like the Kimberley with little prior knowledge, not only of the Aboriginal people with whom they will be working, but also of the environmental conditions in which they will be living. They often lack the ability to apply cross-cultural and medical skills that may not have been drawn on before, while maintaining an existence in temperatures frequently over 40 degrees Celsius. Some people take time to listen and learn about aspects of Aboriginal life such as mobility, the influence of ritual, bush medicine, and the importance of social organisation; others cannot cope with the circumstances and leave; and others, though well meaning, are paternalistic, and become frustrated when their paternalism fails to be appreciated. Some appear to go into regions like the Kimberley with the idea of ameliorating the poor health suffered by the Aborigines, but many leave because they were unprepared from the beginning, and because the ideas that they brought with them are different from Aboriginal ones.

Conclusion

Inadequate living conditions, and the fact that Aboriginal people and those who work with them in the delivery of health services function from entirely different cultural values and attitudes, predispose to the emergence of problems and continuing poor health. This is due partly to the lack of experience and tolerance of Aboriginal beliefs and practices by non-Aboriginal people working in the area. But it is also due to the lack of education—on both sides—in relation to the relevant issues. The educative material concerning western medicine which currently exists to assist Aborigines may as well not exist at all.

In addition, non-Aboriginal health care personnel have usually received no substantial training or education in relation to Aboriginal society, leaving them without the necessary skills and expertise to properly carry out a valuable part of their task. Given that the

population in the Kimberley region is predominantly Aboriginal, this is a grave oversight by the relevant authorities. While it is obvious that a massive education program should occur, there is little likelihood that Aboriginal people in the region will experience positive change until adequate attention is paid to matters such as reduced food prices, increased employment opportunities and improved housing. The situation in the Kimberley concerning the very serious implications in the areas of health, healing and knowledge are not rare, nor are they new..

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SPECIAL REVIEW

A National Aboriginal Health Strategy

Tony McMichael
President, Public Health Association of Australia

In March of this year, the report of the National Aboriginal Health Strategy Working Party was released. Chapter 2 of this report begins thus:

> 'Aboriginals have the worst health of any identifiable group in Australia, they carry a burden of health and mortality far in excess of that expexted from the proportion they comprise of the total Australian population. This state of affairs has been documented on many occasions and there is considerable literature describing Aboriginal ill health.'

Yes, we have heard this bad news, with the attendant appalling statistics, before. But, nevertheless, non-Aboriginal Australia mostly remains cosily oblivious to the continuing illnesses, diseases, and demoralisation of the Aboriginal population. We are much more likely to read, in the daily newspaper, of the loss of life in a malfunctioning DC10 aircraft somewhere overseas, or of the road toll, or of the rising epidemic of AIDS in backstreet Sydney, or of some tenuous link of a food additive with cancer of the whatnot. The disgraceful story of Aboriginal suicides in custody has also aroused a discomforting fascination.

No wonder, then, that the Forward to this report is angry and lurid in its analysis of the historical and sociopolitical dimensions—'The reality and not the myth'—of the tragedy of Aboriginal repression, slaughter, and social disintegration since 1788. Robert Hughes had it wrong, we are told, in his construal of 'The Fatal Shore'. The deportation of convicted murderers, rapists, thieves, and vagrants, along with the dregs of the army and police (who could not make it to up-market India and East Africa) resulted in inevitable degradation, destruction, disease and death for Aboriginal Australians. It was for the First Australians that the deportation of convicts proved 'fatal'.

While the Working Party went about the preparation of this report during 1988, the 'vulgar trumpetings and epicly Philistine commercialism' of the Bicentennial further served to 'sanitise [white Australia's] convict past'.

Recent historical background

Ten years ago the House of Representatives Standing Committee on Aboriginal Affairs reported the state of Aboriginal health as being 'intolerable', and made 18 recommendations and 24 suggestions to improve the situation. The Committee gave highest priority to the provision of basic environmental health facilities, especially safe water supplies. Today, however, many Aboriginal communities still do not have a safe and reliable water supply.

The inadequacy of the piecemeal and episodic approach has been plain for many years. It was plain to the members of the Better Health Commission when they carried out their work, on behalf of the Commonwealth Minister for Health, during 1985–1986. Indeed, the terms of reference of the Better Health Commission, whose central task was to review Australia's major health problems and the means for their reduction,

specified paying particular attention to the needs of disadvantaged and minority groups, including Aborigines. The inadequacy was also plain to the subsequent Health Targets and Implementation Committee (1987–1988), charged by the Australian Health Ministers Advisory council (AHMAC) with developing specific health promotion targets and strategies for all Australians.

Thus, both those national committees of enquiry gave primary emphasis to the needs of the overall Australian population. On large canvases, the details and the needs of minority groups were overshadowed by broader brush strokes. The National Better Health Program that has recently been spawned by these two enquiries specifies four major health problem areas and one needy group—the elderly.

Origins of the Working Party

In late 1987, recognising Australia's continuing lack of a cohesive approach to Aboriginal health, and presumably influenced by the ideas, rhetoric, and social health strategies of the World Health Organization's 'Health For All By the Year 2000' campaign, a meeting of Commonwealth, State and Territory Ministers responsible for health and Aboriginal affairs established a National Aboriginal Health Strategy Working Party.

The Working Party comprised 19 persons: two Commonwealth appointees, eight State/Territory representatives, and nine Aboriginal community representatives. It is worth noting that this was the first time that Commonwealth, State and Territory governments, and Aboriginal and Torres Strait Islander community representatives have worked together on a national health policy.

The Working Party was to review governmental and community funding of Aboriginal health care services and social health programs, and was to develop strategies for improving Aboriginal health (both short-term and longer-term), for promoting intersectoralism, and for evaluating progress. The Working Party carried out extensive community consultations, and met ten times, in the course of its work.

The report

The resultant report documents in detail the current health status of Aborigines and—to the extent that incomplete earlier health statistics allow—time trends in health indices. Age-adjusted rates of disease, adult death, and perinatal death are, variously, two to six times higher than in non-Aboriginal Australia. The socioeconomic indicators display the other side of this dismal coin.

Subsequent chapters deal with a logical sequence of major issues: Commonwealth/State health care responsibilities; the structure of the health care system (including the relatively recently emergent Aboriginal health services)—and the profound cultural dissonances between Aboriginal and non-Aboriginal perceptions of health and health care; the education and training of Aboriginal health care workers; intersectoralism; the need for, and nature of, social health strategies; strategies for coping with special problem areas—such as alcohol abuse, women's health (including the culturally sensitive area of birthing), a range of infectious, chronic, and traumatic diseases and injuries, and various health problems caused by antisocial and violent behaviours attributable to social and cultural degradation. Finally, there is discussion of the needs for better Aboriginal health research - conducted from within, and not 'imposed' from without—and for systematic monitoring and evaluation.

The report identifies the need for some structural changes in the machinery of government, if a national strategy is to be viable and effective.

Since 1984, the Department of Aboriginal Affairs has had sole responsibility for funding and administering all Commonwealth programs relating to Aboriginal health. The Commonwealth Department of Community Services and Health retains a broad policy responsibility for Aboriginal health matters.

Neither the Department of Aboriginal Affairs nor the Department of Community Services and Health has a direct role in providing health care services for Aborigines. This responsibility lies with the general Australian health care system, including that administered by State and Territory governments, and with the community-controlled Aboriginal health services.

The report recommends the creation of an Office of Aboriginal Health, to coordinate, monitor and evaluate Aboriginal health programs, and to promote an intersectoral approach across portfolios of government. The Office would be a non-statutory body within the Aboriginal Affairs portfolio (not explicitly within or without the Department of Aboriginal Affairs). It also recommends the creation of a National Aboriginal Health Council, to act, intersectorally, as a standing committee of both the Health Ministers Council and the Council of Aboriginal Affairs.

Interim response

Not surprisingly, the political/bureaucratic response to the report's recommendations has been to establish a 'Development Group' (comprising the Working Party chairperson and various senior Commonwealth and State/Territory officials). This body will review the detailed recommendations of the report, and will recommend to a joint Health/Aboriginal Affairs Ministerial meeting in November 1989 on Aboriginal health problem priorities and preventive strategies, and organisational and funding needs.

Immediately, however, the Commonwealth Departments of Aboriginal Affairs and of Community Services and Health have agreed to take action in relation to environmental health matters (eg safe water, hygienic food, sanitation), education and training programs for Aboriginal health workers, and the development of a uniform system of Aboriginal health statistics. This last is an obvious task for the Australian Institute of Health.

Hopefully, too, the incipient National Better Health Program, under the auspices of the Department of Community Services and Health, will find ways of interfacing its five specific health promotion thrusts—in relation to hypertension control, nutrition improvement, injury prevention, early detection of cancers, and health care needs of the elderly—with the manifest needs of Aboriginal communities.

The work of this Working Party provides our best chance yet of starting to get Aboriginal health right. The year 2000 is little more than a decade off.

RECENT REPORTS, PUBLICATIONS AND THESES

BEATTIE A

The problems of Aboriginal patients at Kalano Health Service, Katherine, Northern Territory, 1982–1984. Master of Medicine thesis, Department of Community Medicine, University of Sydney, May 1986.

This thesis is a descriptive study of the major health problems of Aboriginal patients attending Kalano Health Service at Katherine in the Northern Territory in 1982–1984. The Service is part of a local Aboriginal-controlled resource organisation, the Kalano Community Association. The framework of community diagnosis used in the study is presented, and population-based estimates of health are studied through two kinds of bases—the estimated population of the Kalano Aboriginal community, and the population of Aboriginal patients attending the Kalano doctor. The author found that serious health problems were evident in members of both the Kalano community who lived in conventional town housing, and the town campers. However, in the former group, some health indicators (eg birthweights, morbidity and mortality) were found to be encouraging. It was in the town camper group that the depth of need was found to be great, in that practically all health indicators confirmed previous reports that had described Aboriginal health in Australia as 'appalling'.

PHILLIPS C

Diabetes mellitus in central Australia. A study of morbidity, mortality and health service utilisation among Aboriginal diabetics. Bachelor of Medical Science thesis, Department of Community Medicine, University of Melbourne, December 1987

Although the high prevalence of diabetes in many Aboriginal communities is well known, little is known of the pattern and effects of the disease in central Australia. This study aimed to identify all Aboriginal diabetics who attended health care services in central Australia between 1 January 1984 and 31 December 1986, and to describe some of the consequences of the disease on them, and on the health care services.

Using a systematic study of health service records, 373 diabetics were identified. Frequency and reasons for attendance to health care services in the three year study period were determined. The case fatality rate over the same period was calculated. A representative sample of the cohort took part in a detailed clinical and biomedical examination to describe their current state of health, with particular attention to the complications of diabetes.

The results support the view that diabetes in Aboriginal people is a disease in which lack of control leads to many complications, much hospital expense and higher levels of mortality than in the general Aboriginal community. The data argue strongly for a new educational program to explain lifestyle diseases in a way which is acceptable to Aboriginal people. Only then will they be in a position to make clear choices about prevention and control of the disease.

REATH JS, PATEL M, MOODIE R

The frequency of abnormal cervical smears in Aboriginal women. Central Australian Aboriginal Congress, Alice Springs, 1987

This prospective study, carried out between July and December 1986, on cervical smears from 113 Aboriginal women who attended a community controlled health service in central Australia, found *inter alia* that 10.6 per cent had cervical cytological abnormalities, including 8.8 per cent with benign atypia and 1.8 per cent with dysplasia. No cases of carcinoma were found. The rates were similar to those observed in larger Australian and overseas studies. The study also found: a high prevalence (13.8 per cent) of abnormal smears in women under 25 years; and a higher prevalence of abnormal smears in the urban dwellers than for those living in the town camps or in rural areas. The authors considered that the results provided a rational basis for routine screening of central Australian Aboriginal women.

ROSS H

Just for living. Aboriginal perceptions of housing in northwest Australia. Aboriginal Studies Press, Canberra, 1987.

The study on which this book is based was designed to explore the role of housing in Aboriginal life, and to discover those aspects of housing which Aboriginal people considered important.

The book relates to the Halls Creek area of Western Australia, where the author lived while collecting the data, from April 1980 to April 1981. The main focus of the study is on policy issues rather than on attitudes and functions of individual agencies. The author points out, for example, that Aboriginal viewpoints on economic issues, social factors, location, crowding and privacy are poorly understood, with the result that plans made on behalf of Aborigines are frequently inappropriate. She discovered that, even with respect to aspects of housing which Aborigines are known to value, such as shelter, facilities and internal space, there are wider individual and group variations in demand than has been appreciated by policy-makers, and these may be governed by Aboriginal cultural reasoning which is beyond the awareness of most non-Aborigines.

It is also pointed out that improvements in health will not automatically follow the provision of improved housing (as is often believed), and that it would be extremely naive to assume that Aborigines will necessarily use a house for the purposes for which it has been designed. Thus, it is better to design for the uses which are likely to be made of a house, especially in relation to sleeping arrangements, food storage, food preparation and cleaning. The conclusions indicate the complexities and difficulties (eg allowing of sufficient time and flexibility) of designing and administering policies to meet the needs of diverse and often isolated groups.

CAWTE J

Aboriginal medicine. In: Joske R, Segal W (eds) *Ways of Healing*, Penguin Books Australia 1987:47–81

The author contends that Aboriginal medicine is an alternative for only a relatively small number of Aborigines residing in remote regions on the fringes of Western society. In view of the difficulty in defining the terms 'Aboriginal' (which is far too general to embrace the many different groups of people to whom it is generally applied) and 'medicine' (where, in the Aboriginal context, he feels it might be truer to say 'rallying from sickness'), he sees the need to make a comparative study of consciousness, if an understanding of Aboriginal healing is to be reached. As an example, he considers the Yolgnu of north-eastern Arnhem Land against a background of senses of self, power and religion. Other aspects discussed include: medicine in wild plants; medicine in the

law (sorcery and taboo); medicine in ritual; medicine from sacred sites; medicine from dreams; and medicine from death and the afterlife.

ANDERSON I

Koorie health in Koorie hands. An orientation manual in Aboriginal health for health care providers. Koorie Health Unit, Health Department Victoria, Melbourne, June 1988

This book is written by a Koorie fifth year medical student working closely with his people in Victoria, and has the purpose of overcoming the considerable inadequacies in teaching about Aboriginal health issues. It gives a background of Koorie history and contemporary life, generously studded with photographs, together with recent information on Aboriginal morbidity and mortality, health service delivery, and extensive references and tables.

COLLMANN J

Fringe-dwellers and welfare. The Aboriginal response to bureaucracy. University of Queensland Press, St Lucia, 1988

The aim of this book is to provide a systematic alternative to the argument that the process of 'detribalization' in Aboriginal society is represented by the advent of 'fringe-dwellers'—who are generally the Aboriginal group regarded with most opprobrium by the rest of Australian society. This aim is reached primarily by examining everyday social life in the fringe-camps around Alice Springs, the role of social welfare agencies in it, and analysing the community (both Aborigines and non-Aborigines) who are involved in making and remaking Aboriginal social life. The author stresses that fringe-camps emerged as Aborigines responded to the increased power and involvement in their lives of the Commonwealth Government, and considers that, by living in fringe camps, Aborigines minimise their debt to, and involvement with, non-Aboriginal society.

DEPARTMENT OF COMMUNITY MEDICINE, UNIVERSITY OF SYDNEY, AND THE ROYAL AUSTRALIAN COLLEGE OF GENERAL PRACTITIONERS

Childhood immunization and infectious diseases survey. The immunization status of children attending general practitioners in Australia. Department of Community Medicine, University of Sydney, 1988

This is a report of the Childhood Immunization and Infectious Diseases Survey (CIIDS) in general practice in Australia. The survey, conducted from September to December 1986, involved a representative sample of 187 general practitioners in Australia, together with 25 doctors working in 15 Aboriginal Medical Services (AMSs), who surveyed the extent to which the children attending them were reported to have received each of the recommended routine childhood immunisations, and to have previously had measles, mumps and pertussis. The frequency and clinical characteristics of cases of suspected measles occurring in this period was also documented.

The main findings relating to Aboriginal children attending AMSs were that all their immunisation rates were lower than in non-Aboriginal children attending general practitioners, and these rates were somewhat better in remote areas than in metropolitan areas. Overall, the levels of immunisation with triple antigen and polio were found to be high (98 per cent for both in children aged 2–4 years attending general practitioners; and 93 per cent for triple antigen, and 89 per cent for polio in children of the same age attending AMSs). The comparable rates for measles (88 per cent in the 2–4 age-group for those attending general practitioners, and 63 per cent for those attending AMSs) and mumps (77 per cent for those attending general practitioners, and 46 per cent for those attending AMSs) immunisation were found to be not as good, although the measles rate had improved since a household interview survey in 1983. The rate of reported previous measles was found to be lower in Aboriginal children than in others. The authors consider that a great deal more needs to be done in Australia to monitor both the extent

of immunisation and the incidence of measles and other infectious diseases. This could be inexpensively achieved through the establishment of a network of sentinel general practice recording stations to monitor a range of conditions along the lines developed by this survey.

HANNA J

The epidemiology of invasive Haemophilus influenzae infections in children under five years of age in the Northern Territory and Central Australia. Master of Public Health thesis, University of Adelaide, 1988

This thesis reports on a survey of all episodes of invasive *Haemophilus influenzae* disease that occurred over the three year period mid-1985 to mid-1988 in children in the Northern Territory and central Australia. The primary aims of the study were to obtain comprehensive incidence data, to identify relevant risk factors, and to propose appropriate preventive strategies.

The survey documented a significantly higher incidence in central Australia (the Alice Springs and Barkly regions and the Anangu Pitjantjatjara Lands) than in the Top End (the Darwin, East Arnhem and Katherine regions), and a greater incidence in Aboriginal than in non-Aboriginal children. In particular, the Aboriginal children of central Australia had an exceedingly high annual incidence of the disease. Identified risk factors for Aboriginal children were: residence in central Australia; infancy (over 70 per cent of cases occurred before 12 months of age); and gender (with a predominance of cases occurring in girls).

Environmental crowding was also seen as a possible major risk factor. The epidemiology of the disease in Aboriginal children was seen as similar to that documented in some developing countries. The author considers that it is likely that the most important preventive strategy will be immunisation, using newer conjugate vaccines, and passive/active immunisation strategies, rather than active immunisation strategies alone.

PLANT AJ

Aboriginal mortality in the Northern Territory, 1979–1983. Master of Public Health treatise, University of Sydney, 1988

The aims of this study were to: establish age-specific mortality rates; determine the causes of death; construct life tables; compare past and present patterns of mortality, and compare these with those of other Australian Aboriginal populations. The results showed that Northern Territory Aborigines had a higher death rate than the general population for all age groups, and a higher age standardised relative risk for almost all major disease categories, the notable exception being malignancies. The pattern of mortality was found to be very similar to those from Western Australia and New South Wales.

THOMSON N, MERRIFIELD P

Aboriginal Health: an annotated bibliography. Australian Institute of Aboriginal Studies and Australian Institute of Health, Canberra, 1988

The aim of this document was to update the 1971 publication of PM Moodie and EH Pederson: *The health of Australian Aborigines: an annotated bibliography* (AGPS, Canberra). While journal articles comprise a large proportion of the items, also included are books, chapters in books, government and non-government reports, and submissions made to some Parliamentary and other inquiries.

In selecting material for inclusion, emphasis was placed more on the practical social and medical aspects of health, rather than on some of the more esoteric biomedical

or anthropological aspects. Entries have been arranged in chapters according to subject. There are also two cross-reference indexes—one by author, and one by geographic region, which has a primary grouping of State/Territory, as well as sub-grouping into regions, such as the Arnhem Land region in the Northern Territory, and the Kimberley region of Western Australia. Material since 1985 is currently being added to the computerised data base, and, for this, readers are referred to summaries of recent research, reports and theses appearing in this *Bulletin*.

WATSON C, FLEMING J, ALEXANDER K

A survey of drug use patterns in Northern Territory Aboriginal communities: 1986–1987. Northern Territory Department of Health and Community Services, Drug and Alcohol Bureau, 1988

This report supersedes and expands an earlier report: *A survey of drug use patterns in NT Aboriginal communities: a preliminary report on the Top End and Katherine region communities—1986*. The data on which the report is based were collected in the Top End and Katherine regions in April-November 1986, and in central Australia in May-October 1987. The objectives of the survey were to ascertain the prevalence of alcohol, kava, tobacco and analgesic use, and the frequency and quantity of drug use, as well as Aboriginal people's perceptions of the drugs, their beliefs about drug use, and the value of the drugs in their culture.

Among the findings with the most important public health implications were: the high proportion of drinkers consuming alcohol at harmful levels, and the high prevalence of smoking. The authors found that Aboriginal people freely acknowledged the problems of drug abuse, and have expressed a willingness to act. What is now needed is a commitment from governments to provide resources and support, both financial and in the form of trained personnel to assist the Aboriginal people to develop appropriate prevention, intervention and treatment programs.

DEPARTMENT OF COMMUNITY SERVICES AND HEALTH

Consultation Paper No 1. Report of the working panel on Aboriginals, Torres Strait Islanders and HIV/AIDS. Department of Community Services and Health, Canberra, 1989

This booklet is one of a series of six, relating to AIDS, and contains the report of the consultative working panel on Aborigines, Torres Strait Islanders and AIDS. These working panels were a key element in the consultation process for developing the National HIV/AIDS Strategy. The booklet summarises the concerns and needs expressed to the panel about such matters as community priorities, alcohol implications, HIV testing, confidentiality, prisons, sexual assault. etc. The recommendations address such aspects as the following: general (eg AIDS prevention programs should be developed in such a way as to support and strengthen existing health, welfare and other community services); regional coordination (eg recognition by funding organisations of the need for community control of AIDS education and treatment programs for Aboriginal and Islander communities); education and prevention (eg that appropriate AIDS education begin in childhood, be included in school curricula, and also be available to school-age children who do not attend school); care and treatment and support for carers; funding (eg that each State and Territory set aside, and publicise the existence of, moneys for Aboriginal community-based programs; evaluation and monitoring (eg that realistic and culturally appropriate performance indicators be developed by Aboriginal and Islander people in conjunction with funding organisations for use in evaluation programs); and testing and screening (eg that Aboriginal people not be tested for HIV infection without individual and informed consent and pre- and post-test counselling).

GRAY A

Discovering determinants of Australian Aboriginal population health. National Centre for Epidemiology and Population Health, Australian National University, Canberra, May 1989

This report traces the history of data collection in Aboriginal health from before the 1960s to the present day, and the effect that the varying approaches have had on research, programs and policies. The author points out the need for setting priorities in Aboriginal health, rather than the commoner past practice of developing long lists of problems requiring attention. Among the questions discussed are: fertility decline; health services and their role; infant and adult mortality; health inequalities; interaction between Aboriginal families and the institutions of non-Aboriginal society; a study conducted on the north coast of New South Wales; community participation; the social environment and cultural beliefs of a community in which death occurs frequently; the effect of adult mortality on family and household structure; an association between small households, greater use of health facilities and lower mortality; and the production of useful outcomes from the research process without a complete health development model.

GRAY A, HOGG R

Mortality of Aboriginal Australians in Western New South Wales 1984–1987 New South Wales Department of Health, 1989

This report follows on a 1983 report, *Aboriginal Mortality in New South Wales Country Regions, 1980–81* (Smith, Thomson, Gray), which indicated such a serious mortality situation that close monitoring and examination of underlying causes were considered necessary. The investigation on which the current report is based indicated that the death rate for Aboriginal males in western New South Wales is 3.5 times the standardised rate for the total population of the State, and the rate for Aboriginal females is 3.0 times the standardised rate for all females. For most causes of death, the estimated rates were found to be considerably greater than twice those of the total population of the State, and up to seven or eight times in some age groups. 'Diseases of the circulatory system' and 'accidents, poisoning and violence' were the two major classes of causes of death for adult Aboriginal people in western New South Wales. The estimated death rate for ischaemic heart disease (IHD) for Aboriginal men and women was approximately 13 times that for the total New South Wales population. The authors found that Aboriginal mortality is lower in communities where households are smaller and there is more employment, and this relationship is seen by them as highly important, because it signals that programs of economic empowerment can be used as an effective attack on Aboriginal mortality levels. Among their recommendations were that there should be urgent new programs to counsel communities, their doctors and individuals about the high levels of IHD, and the underlying risk factors, and introduction of routine screening programs for all young Aboriginal adults at risk.

JAIN SK

Estimation of Aboriginal fertility, 1971–86: an application of the own-children method of fertility estimation. Australian Bureau of Statistics, Occasional Paper, July 1989

In this document, the author utilises the *own-children* technique of fertility estimation to derive age-specific and total fertility rates for Aboriginal women for each year 1971 to 1986 using the 1986 Australian Census data on Aboriginal women and children. The estimates obtained have established a declining trend in Aboriginal fertility in the period 1971–1986. The Aboriginal fertility rate during 1981–1986 (a total fertility rate of 2.8

children per woman) was almost 46 per cent higher than the corresponding rate for all women in Australia in the same years (a total fertility rate of 1.9 children per woman). The 1981–1986 total fertility rate for Aboriginal women compares with the rate for all women in Australia during 1966–1971. The high total fertility of Aboriginal women is largely contributed by women aged under 25 years. The age-specific fertility rates for Aboriginal women aged 25–39 years resemble closely the rates for all women of those ages in 1981–1986. The peak age of fertility is 20–24 years for Aboriginal women and 25–29 years for all women in Australia. The *own-children* technique, despite various difficulties in its application to the Aboriginal population at the 1986 Census, has produced meaningful estimates of Aboriginal fertility which are broadly consistent with the rates obtained using other indirect techniques of fertility estimation and different data sources.

KHALIDI NA

Aboriginal mortality in central Australia, 1975–77 to 1985–86: a comparative analysis of levels and trends. NCEPH Working Paper, National Centre for Epidemiology and Population Health, Australian National University, Canberra, April, 1989

This paper shows that while Aboriginal mortality in the region declined steadily over a period of 10 years, the level of mortality still remained much higher than that of the total population of the Northern Territory and Australia as a whole. In addition, the gap between male and female mortality levels was closing. The leading causes of Aboriginal death were diseases of the circulatory and respiratory systems, accidents and violence, diseases of the genitourinary system, and infective and parasitic diseases, in that order. More than half the improvement in the male expectation of life in this period was due to reduction in mortality from diseases of the circulatory system, and in the female expectation of life to reduction in mortality from diseases of the respiratory system. This is the first study to suggest a decline in Aboriginal mortality, especially in adults on a consistent basis at three points over a 10-year period.

LAKE P

Age-sex registers in Aboriginal community health. Aboriginal Health Organisation of South Australia, Adelaide, 1989

The purpose of this monograph is to describe and explain a method of organising medical records known as the age-sex register. The register is widely used throughout British general practice, where it is now considered to be an indicator of good management. Because such a register can be added on to any existing record system, minimal disruption is caused during implementation. Also, it is cheap and straightforward to operate, and can quickly produce improvements to patient care. The age-sex register is a card index file (or its computer equivalent) of current patients, subdivided by age and sex. It is based on the fact that risks and prevalences of most diseases vary according to age and sex, so that a register of patients thus organised allows the targetting of prevention and health promotion activities at appropriate subgroups. The manual form of register described is well suited for use in rural Aboriginal communities where populations are small and concentrations of disease very high. The experience of the author was gained during a three year period during which a large manual register was started in an urban Aboriginal health service covering a population of 6,000. Some examples of how to use such a register include: mammography screening; influenza vaccinations; disease audits; follow-up for ear surgery; and health indicators. (Copies can be obtained from the author at the Aboriginal Health Organisation of South Australia, PO Box 285, Norwood, SA 5067).

NATIONAL ABORIGINAL HEALTH STRATEGY WORKING PARTY

A National Aboriginal Health Strategy. March, 1989.

This report is discussed by Tony McMichael as a Special Review earlier in this issue.

NORTHERN TERRITORY DEPARTMENT OF HEALTH AND COMMUNITY SERVICES

Aboriginal Health Promotion Training Manual March 1989

This manual is the outcome of a series of workshops conducted in 1987 and 1988 by the Northern Territory Department of Health and Community Services with Aboriginal health workers in association with the National Campaign Against Drug Abuse. Basically, it is a colourfully illustrated guide to getting the message of health promotion across in individual Aboriginal communities.

ROYAL COMMISSION INTO ABORIGINAL DEATHS IN CUSTODY

RESEARCH PAPERS

Biles D. *Preliminary analysis of current data base.* Research Paper No 1, February 1988

Biles D. *Draft guidelines for the prevention of Aboriginal deaths in custody.* Research Paper No 2, April 1988

Brewer J. *Public drunkenness—Australian law and practice.* Research Paper No 3, October 1988

Smyth R. *The Aboriginal and Torres Strait Islander population.* Research Paper No 4, February 1989

McDonald D. *Drug testing in prisons.* Research Paper No 5, February 1989

Biles D. *Aboriginal imprisonment—a statistical analysis.* Research Paper No 6, July 1989

Biles D, McDonald D, Fleming J. *Australian deaths in custody 1980–1988: an analysis of Aboriginal and non-Aboriginal deaths in prison and police custody.* Research Paper No 7, July 1989

McDonald D. *National police custody survey August 1988: preliminary descriptive findings.* Research Paper No 8, June 1989