



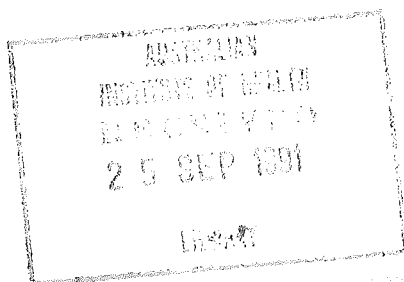
# Aboriginal health

## information bulletin

Number 15, May 1991

# Aboriginal Health Information Bulletin

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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 1,000 to 1,500 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 Reports, Publications and Theses.

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

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# Editorial

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This issue marks the end of an association between the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) and the Australian Institute of Health (AIH). Since 1987 the Bulletin has been a jointly funded publication with the two Institutes cooperating to produce an informative publication. As a result of a recent policy change within AIATSIS the Australian Institute of Health has now assumed full responsibility for the production of the Bulletin.

We also regret to advise that Pat Merrifield has retired. Pat has been the co-editor of the Bulletin since August 1988, and her experience and expertise will be sorely missed. With her departure the task of preparing and editing the Bulletin has become more difficult, and it is an opportune time to remind readers that copy is always required for future Bulletin issues. Articles and information on research, post graduate studies and other works that relate to Aboriginal health should be forwarded to the editor or assistant editor.

Currently there are a number of initiatives that have been announced that concern Aboriginal health. In this issue there is a summary of the Commonwealth Government's decision to approve funding for the National Aboriginal Health Strategy. In addition there are lead articles from John Stephenson and Peter Letz on cardiovascular disease risk factor screening in Wilcannia; and Anthony Radford and colleagues on social health among urban Aborigines with particular reference to suicide attempts. As well, Fiona Stanley and colleagues have written a paper dealing with Aboriginal health research in Western Australia. These papers represent a diversity of issues in Aboriginal health.

By the time this issue of the Bulletin is released the Report of the Royal Commission into Aboriginal Deaths in Custody will have been released. It is hoped to carry a review of the major aspects relating to Aboriginal health in the November issue of the Bulletin.

*Neil Thomson  
Bruce English*

# Current topics

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## **Forum on priorities for national health statistics**

On 14–15 February 1991 the Australian Institute of Health conducted a forum on priorities for national health statistics.

The forum recognised the Aboriginal health issue, and the need for improved collection of Aboriginality was regarded as a priority issue. In addition, the existence of a substantial health differential for Aborigines was seen as a major equity and access issue.

Other priority issues covered by the forum that are relevant to Aboriginal health included:

- education of the Australian community about the need for, and benefits of, health statistics;
- improved access to health data for community groups;
- improved data on health status and risk factors including nutritional status; and
- development of primary health care and mental health data bases.

The proceedings of the forum will be available from the Australian Institute of Health in due course.

## **Aboriginal Health Information Bulletin questionnaire**

Responses to the questionnaire have been most encouraging, not to say enlightening. The responses are being analysed and the results will be included in *Aboriginal Health Information Bulletin* No. 16.

## **Guidelines on ethical matters in Aboriginal and Torres Strait Islander research**

The National Health and Medical Research Council has released a publication entitled *Guidelines on Ethical Matters in Aboriginal and Torres Strait Islander Research*. This document replaces the previous publication *Some Advisory Notes on Ethical Matters in Aboriginal Research*. The National Health and Medical Research Council intends to seek final approval for the document at a meeting of council scheduled for June 1991. All organisations and individuals engaged in research involving Aboriginal and Torres Strait Islanders are encouraged to obtain a copy of the report. A full review of the guidelines will appear in *Aboriginal Health Information Bulletin* No. 16.

## **Making research into Aboriginal substance misuse issues more effective**

A workshop on the theme 'making research into Aboriginal substance misuse issues more effective' was held in Darwin, on 3–4 December 1990. A working paper has been produced following the workshop but unfortunately arrived too late to be included in this issue of the Bulletin. A full report will appear in *Aboriginal Health Information Bulletin* No. 16.

## Drug use and related problems among Aborigines: current and potential data sources

In March this year the Australian Institute of Health released the draft report *Drug use and related problems among Aborigines: current and potential data sources*. The report was commissioned by the National Drug Abuse Information Centre (NDAIC) and was aimed at identifying shortcomings in the existing drug and alcohol data sources and to set out options to overcome these deficiencies. The report was not required to prioritise the options. Recently NDAIC decided to follow-up the report with a series of workshops in each of the States and Territories. The workshops will involve Aboriginal and other agency groups, and will attempt to establish priorities for the options identified in the report for supplementing existing sources. It is anticipated that the workshops will be conducted in the latter half of the year.

## National Aboriginal Health Strategy

In issue No. 14 of the *Aboriginal Health Information Bulletin* it was pointed out that there had been no provision of funds in the Federal Budget for development of the National Aboriginal Health Strategy (NAHS). Since that time the Federal Government has announced the provision of some \$232 million over a five year period to address the implementation of the strategy.

The following notes on the implementation of the NAHS have been provided by the Aboriginal and Torres Strait Islander Commission.

On 17 December 1990, the Minister for Aboriginal Affairs, Robert Tickner and the Minister for Community Services and Health, Brian Howe, announced that the Government had approved funding for the implementation of the National Aboriginal Health Strategy.

The Government decision follows an agreement in June between the Commonwealth and all States and Territories to establish the National Aboriginal Health Strategy. In announcing the decision the Ministers stated:

*The Government believes the Commonwealth commitment, in conjunction with funding from the States and Territories, will significantly improve Aboriginal health.*

*The fundamental goal of the strategy is the gaining of equity in access to health services and facilities for Aboriginal and Torres Strait Islander people by the turn of the century.*

In broad terms, the outcomes of the strategy will be to improve the situation of Aboriginal and Torres Strait Islander people in relation to health status; access to services and facilities (including hospitals); usage of facilities; involvement in health policy and program decision making; the education and training of Aboriginal and Torres Strait Islander health workers and administrators; and infrastructure and housing.

Overall, the Government's decision will:

- provide up to \$232 million over five years to address unacceptable health and infrastructure standards in Aboriginal communities. State and Territory governments will be expected to make substantial contributions;
- address urgent needs in Aboriginal and Torres Strait Islander communities such as housing, water, sewerage, electricity, communications and roads;
- establish new, and enable upgrading of existing, Aboriginal community-controlled health services; and

- establish an Office of Aboriginal Health within ATSIC to oversee and coordinate implementation of the National Aboriginal Health Strategy.

In addition, the Federal Community Services and Health portfolio is required to absorb the costs involved in:

- increasing the effort by the Australian Institute of Health on Aboriginal and Torres Strait Islander health statistics; and
- increasing the projects targeted at Aboriginal and Torres Strait Islander people through the National Campaign Against Drug Abuse.

The availability of funds from the Government is subject to various conditions including negotiations with State and Territory Governments and the development of operational plans and specific proposed outcomes.

The commission has already allocated \$120,000 in 1990-91 and a further \$240,000 in 1991-92 to establish the Council of Aboriginal Health.

The development of information packages is under way and will be available soon. This material will include details of:

- expected outcomes;
- the roles of the Board of Commissioners, regional councils, State and Territory offices, Tripartite Forums and the Council of Aboriginal Health;
- key processes such as community, regional and national planning and coordination with Commonwealth Departments, especially Community Services and Health, and, Employment, Education and Training.

Community organisations, regional councils and State and regional offices of ATSIC are expected to play a crucial role in the implementation of the strategy.

The Bulletin will report any interesting developments.



# Recently published research

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## **Aboriginal and Islander health worker**

Volume 14 No 3 September 1990

This edition includes the second and final part of an article on violence in Aboriginal Australia, as well as articles on: Aboriginal women; strategies for community control of violence; Aboriginal child poverty; and ATSIC.

## **Campbell DH, Plant AJ, Sargent JW, Mock PA, Barrett ER, Archer KH**

Hepatitis B infection of children in a mixed-race community in western New South Wales.

*Medical Journal of Australia* 1991 **154**:253-256

A seroprevalence survey of markers of hepatitis B virus (HBV) infection in children aged 0-16 years was conducted in a mixed-race township in western New South Wales. Ninety-five per cent or 408 children out of the total 0-16 year old population were screened. Of the Aboriginal subjects 69 per cent had seromarkers which indicated previous infection with HBV and 14 per cent were hepatitis B surface antigen (HBsAg) seropositive. In the non-Aboriginal subjects the prevalence of seromarkers was 10 per cent with no subjects HBsAg positive. The township provided an ideal setting for studying possible cross-infection from children in a high risk (Aboriginal) population to children in a low-risk (non-Aboriginal) population.

## **Cawte J**

Aboriginal alcoholism [letter].

*Medical Journal of Australia* 1991 **154**:365

This letter addresses the issue of using the anti-alcohol effect of disulfiram (Antabuse) to treat alcoholism and suggests several methods for assessing and administering the substance to patients to achieve the best results. Based on overseas studies, contraindications to the application of disulfiram have been discounted, provided the substance is prescribed under medical supervision.

The writer states that he has used disulfiram to treat alcoholism in approximately 100 Aboriginal patients in Adelaide and Sydney over a 40 year period. While most patients actively sought treatment, over half had outcomes classifiable as 'short-term' or 'failed'. Many of these returned for subsequent treatment.

Based on his experience the writer stresses the importance of physical and psychological examination and assessment of patients prior to and after treatment has commenced. Methods of administration and supervision of dosages are also outlined.

Although the drug is expensive the writer believes that disulfiram provides a valuable auxiliary in the management of alcohol abuse in both Aboriginal and Caucasian patients.

**Choo C**

Aboriginal children in poverty.  
*Health Issues* 26:15-16 March 1991

This article looks at the socio-cultural perspective of Aboriginal children and attributes these factors to the fact that Aboriginal children are the most disadvantaged group in contemporary Australian society. Amongst other things the author identifies the high incidence of alcohol and substance abuse in Aboriginal communities as one of the areas requiring urgent attention.

The author prepared the report *Aboriginal Child Poverty*, a study which was part of the Brotherhood of St Laurence Child Poverty Policy Review undertaken in conjunction with the Secretariat of Aboriginal and Islander Child Care. The project relied heavily on consultation with Aboriginal people for input into the report.

**Cleghorn GJ, Erlich J, Bowling FG, Forrest Y, Greer R, Holt TL, Shepherd RW**  
Exocrine pancreatic dysfunction in malnourished Australian Aboriginal children.

*Medical Journal of Australia* 1991 154:45-48

The article looks at the results of a screening test of 398 Aboriginal infants (aged 3 months to 36 months) admitted to the Alice Springs Hospital over a 20 month period for pancreatic dysfunction (human immunoreactive trypsinogen [IRT] assay). Pancreatic exocrine dysfunction has frequently been recorded in protein-energy malnutrition in underdeveloped countries. However the problem had not previously been evaluated for Australian Aborigines. The study attempted to redress this lack of information and concludes that pancreatic dysfunction may be a common and important overlooked factor contributing to ongoing malnutrition and disease in malnourished Australian Aboriginal children.

**Currie B, Anstey N**

Eosinophilic enteritis in the Northern Territory [letter].  
*Medical Journal of Australia* 1991 154:71

This letter reports the admission of two patients to Darwin Hospital for investigation of abdominal pain of recent onset and eosinophilia. Both patients worked in rural parts of the Northern Territory and had heavy exposure to dogs. Following these cases the writers suggest that the concentration of Aboriginal populations and large numbers of heavily parasitised dogs increases the potential for the spread of zoonotic diseases, especially eosinophilic enteritis which is not well recognised. It is suggested that while current therapeutic regimens are aimed at reducing the number of modified zoonotic diseases the use of albendazole may be a better choice for targeted chemotherapy.

**Davies R, Jazwinska EC, Pac R, Serjeantson SW**

HLA-DR RFLP distribution in two groups of Aboriginal Australians.  
*Australian and New Zealand Journal of Medicine* 1990 20:790-793

HLA-DR and -DQ typing by restriction fragment length polymorphism (RFLP) in Aboriginal Australians from the Kimberley and from Coen,

Queensland, show a restricted number of HLA-DR types in these populations. Polymorphism is essentially limited to DR2, DR4, DRw14 and DRw8. The most common DR.DQ RFLP haplotype in Aborigines shows a novel arrangement of DR and DQ alleles that has important implications for histocompatibility matching if the RFLP patterns reflect functional variation in HLA class II molecules.

**Gracey M, Sullivan H, Goodler G**

*Food costs and nutrition in remote areas.*  
*Medical Journal of Australia* 1991 **154**:294

A study of towns in the Kimberley area of Western Australia has shown that limited income and high costs of food encourage unsatisfactory dietary patterns among Aborigines of the region.

**Hargrave JC**

*Leprosy in the Northern Territory.*  
*Communicable Diseases Intelligence* 1990 **90**(24):4-8

The author points out in this article the difficulties that have existed in establishing a national data base for leprosy, and how only basic data should be collected and collated centrally by the Department of Community Services and Health. Prevalence, categorisation of patients together with appropriate treatment regimens, and case detection rates, are explained. In those cases diagnosed in the Northern Territory in the period 1970-1989, the ethnic breakdown showed that Aborigines had the highest proportion (77 per cent). Various related tables (eg prevalence and incidence in Northern Territory Aborigines and in all ethnic groups) are provided.

**Harris MF, Kamien M**

*Change in Aboriginal childhood morbidity and mortality in Bourke 1971-84.*  
*Journal of Paediatric Child Health* 1990 **26**:80-4

This article describes how, in the early 1970s, the Aboriginal community at Bourke attempted to improve its socioeconomic and health status through a number of community development activities. Coincidentally, most markers of the health of Aboriginal children improved over the period 1971-84— in particular, there was a decrease in hospital admissions due to gastroenteritis, eye and ear infections, and the community prevalence of trachoma, middle ear disease and pneumonia. Skin infections, which increased during the period, were the only exception to this general picture.

**Hayes MA**

*Australian Aborigines and American Indians: comparisons in health care.*  
*New Doctor* 1990 **54**:15-18.

This article gives an overview of the history and present conditions of Kimberley Aborigines and the American Indian tribes familiar to the author (the Navajo and the Zuni Pueblo), based on impressions received on a visit to Australia. Culture and health care issues such as substance abuse,

infection and suicide are discussed. The author concludes that both communities are 'greatly compromised in comparison to the whites in their respective countries', and that these deficiencies cannot be accounted for by their genetic differences. He makes a plea for more humanism in medicine, and more input of Indian and Aboriginal opinion into government programs.

**Hetzel B**

Communication and health—health as an ecosystem.

*Medical Journal of Australia* 1990 **153**:548-541

This article describes the important advances that have been made in public health as a result of effective communication based on appropriate data. As an example of recent public health initiatives which demonstrate a broad ecosystem approach necessary for the solution of public health problems, the author invokes the establishment in 1973 of the Central Australian Aboriginal Congress (CAAC). The CAAC was inaugurated through the initiatives of the Aboriginal people, and has led to the employment of a significant number of Aboriginal people in the health area, as well as a greater collaboration from all sectors of the community in health matters. Through the CAAC, there is now a self-reliant Aboriginal community with members skilled in many fields.

**Kelly HA, Weeks SA**

Ear disease in three Aboriginal communities in Western Australia.

*Medical Journal of Australia* 1991 **154**:240-245

Surveys of ear disease amongst Aboriginal people in two isolated rural communities and one urban community in Western Australia were undertaken in 1988-89. The results found that while none of the communities' ear problems approached the much lower prevalence rates of Australia as a whole, the urban Aboriginal community had less ear disease and hearing loss than either of the isolated communities.

**Moody HR, Thomas MAB, Christiansen K, Bucens MR**

Risk of HTLV-1 transmission in renal transplantation among Aborigines [letter].

*Medical Journal of Australia* 1990 **153**:564-65

This letter reports an 8.3 per cent seroprevalence of human T-cell lymphotropic virus type 1 (HTLV-1) amongst Western Australian Aborigines who were surveyed to ascertain the risk of HTLV-1 transmission during renal transplantation. The authors point out that although this figure has not confirmed the 15-18 per cent seroprevalence reported by other researchers, it does illustrate the potential in the studied population for transmission of the virus during this operation.

**Prociv P, Luke RA, Quayle PA**

Unidentified trematode eggs in faeces of Australian Aboriginal children.

*Medical Journal of Australia* 1990 **153**:680-82

This article describes how, in the course of routine screening for intestinal parasites among Aboriginal and Torres Strait Islander children, eggs of

unidentified trematode species have been found in the faeces of three children. In two of these, the eggs appeared to belong to a schistosome species, and in the third they were thought to be most likely from a monostome of dugongs. The authors consider that although these probably represent cases of spurious parasitism, one or more may have been a true infection.

**Van Buynder PG, Mathews JD, Pugsley DJ**

Hepatitis B surface antigen is not associated with chronic renal disease in Aboriginal Australians [letter].

*Medical Journal of Australia* 1991 **154**:366

The importance of hepatitis B surface antigen (HBsAg) as a risk factor for chronic renal disease varies between populations. Past evidence has suggested that hepatitis B carriage and chronic renal disease occur frequently in Aboriginal Australians. Data collected from a random sample of volunteers from three Aboriginal communities in the Northern Territory suggest that hepatitis B infection is not an important cause of chronic renal disease in Aboriginal Australians.

**Yates A**

National Aboriginal Health Strategy.

*Australian Medicine* 5 November 1990:9

This article outlines the development of a National Aboriginal Health Strategy (NAHS), and points out that the Australian Medical Association (AMA) has called on Australia's political leaders to effectively fund and implement the strategy.

The author also cites the AMA Secretary General as having said that urgent steps are now needed, which would involve the expenditure of additional government funds and a strong personal and political commitment in the allocation of these funds. The Minister for Aboriginal Affairs had said that the formulation of the NAHS was the major development in Aboriginal health in recent times, but it had to be followed up by both action and funds.

# Brief communications

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## Circulatory disease risk factor screening Wilcannia, New South Wales, October 1989<sup>1</sup>

Stephenson J and Lenz P

Health Promotion Unit, Orana and Far West Region, NSW Department of Health, Dubbo

### Introduction

Circulatory disease remains the major cause of death in Australia despite impressive reductions in disease indicators in the last two decades. Between 1983 and 1987, 27 per cent of deaths amongst residents of Central Darling Shire were due to circulatory system diseases, principally heart attacks and strokes (Stephenson n.d.). On average two or three males and one female aged 69 years or less die every year from circulatory system diseases. Gray and Hogg (1989) estimated that diseases of the circulatory system account for approximately 40 per cent of the excess risk endured by Aboriginal people compared to their non-Aboriginal counterparts. The relative risk of ischemic heart disease was 13 times higher than for the total New South Wales population. In addition, McMichael (1989) has estimated that mortality rates from coronary heart disease were 50 per cent higher in the lowest socioeconomic status group compared to the highest status group, using National Heart Foundation 1980 data. This finding has been confirmed in another recent risk factor prevalence study conducted in Warren, where significantly higher proportions of labourers and related workers were found to be at greater risk of heart disease than their professional counterparts (Stephenson and McKay 1990).

The National Heart Foundation of Australia (1976) has described eight major risk factors for circulatory system diseases, five of which are amenable to change. These five risks are: tobacco smoking, hypertension, high serum cholesterol, obesity and physical inactivity. Furthermore, there is an established association between diabetes and the risk of circulatory system diseases. The National Heart Foundation has published the results of three risk factor prevalence studies based on a random selection of capital city residents. However, there have been few published risk assessments of rural populations. Higher prevalence of smoking, hypertension, obesity and diabetes has been noted in Aboriginal compared to non-Aboriginal populations. Lake (1989) and Watson et al (1988) have estimated the prevalence of smoking in Aboriginal populations as 70 to 78 per cent amongst men and 43 to 64 per cent amongst women. The likely prevalence of diabetes mellitus is between four and 19 per cent in Aboriginal populations compared with a non-Aboriginal prevalence of 3.4 per cent (Australian Institute of Health 1988: 118).

1. This paper is an abridged version of a monograph published by the Health Promotion Unit, Orana and Far West Region, NSW Department of Health.

The purpose of this screening study was twofold. Firstly, individuals with a high risk of circulatory system diseases can be identified and recommended for further investigation and/or treatment. Secondly, screening of a large number of people permits an analysis of the communities' risk factor burden. In response to the results, the health service is capable of providing risk reduction interventions at the individual and community level. The results of the screen can be used for comparison with other towns, or with State and national data. The trend in risk prevalence can be determined when the screen is repeated at 12-monthly intervals. The results will be used to determine the priorities for health promotion interventions.

Wilcannia is one of two participating towns in the Community Development in Health pilot project funded by the Health Promotion Unit of the New South Wales Department of Health. The town is located on the Darling River, 195 kilometres east of Broken Hill in Western New South Wales and is traditional Barkindji territory. Its economic rationale has been dramatically curtailed since its 19th century heyday as a major river port. Wilcannia's service role continues for its own large under-employed population, the surrounding grazing properties and the passing tourist trade. The Community Development Project employs a local Community Development Project Officer who is responsible to a local committee and a coordinator within the Health Promotion Unit, Dubbo.

## Methods

A household survey of Wilcannia's residents was conducted in April 1989. Every household was visited by the Community Development Project Officer and information collected about demographic, employment, household services and the perceived problems and needs of the town. The total population of 888 comprised 545 (61 per cent) Aboriginal and 343 (39 per cent) non-Aboriginal persons.

There were 482 persons in the circulatory system diseases risk factor screen target population of residents aged 20 to 70 years of age. As residents attended the screen, their names were 'ticked off' the household survey population list.

The circulatory system diseases risk factor screen was offered to all Central Darling Shire residents in the target age group. A three week publicity campaign used the electronic and print media as well as the distribution of screening promotion leaflets to every household. The screening survey was conducted over five consecutive days and used five sites within the town. The sites were the community health centre, community development shop, TAFE, Central school and the 'Mission' residential area. The screening was conducted by Health Promotion Unit staff from Dubbo and Broken Hill, Wilcannia District Hospital staff and local volunteers. All staff attended a training session on the day prior to the commencement of the screen. The screening survey was funded by a health promotion program grant and allocations from staff budgets.

Responses to a number of questions were recorded by staff on a standardised self-duplicating form. The participants kept one copy while the information on the duplicate was later transferred to a computer database.

The Reflotron dry chemical analyser was used to measure cholesterol, a mercury column sphygmomanometer to measure blood pressure, an 'Ames' glucometer to measure blood sugar levels and electronic floor scales to record body weight. One kilogram was subtracted from the nominal weight to allow for the weight of 'street' clothes. Both weight and height were measured without the participants wearing shoes.

Participants were advised to consult the town's medical practitioner and/or a visiting dietitian if one of their risk factors was recorded in the high risk category. Finally participants were offered a selection of free booklets and leaflets that explained circulatory system diseases and encouraged modification of risk factor lifestyle.

Wilcannia's results have been compared with the 1983 National Heart Foundation Risk Factor Prevalence Study. The study was conducted in 1983 and surveyed 7,600 men and women aged between 25 and 64 years living in State capital cities (National Heart Foundation of Australia 1985). The accuracy of comparison of Wilcannia and national data has been increased by an adjustment for their different population profiles. Age and sex have been adjusted using the direct standardisation method, using the 1986 Australian population as the reference.

Results for Aboriginal and non-Aboriginal people have been described separately, as have the results for males and females.

## Results

Of the 378 town respondents who participated in the survey 209 were Aboriginal (111 males and 98 females) and 169 were non-Aboriginal (86 males and 83 females). The further 76 participants who were screened but not included in this study were either non-town residents of Central Darling Shire or town residents outside the target age range.

The proportion of current smokers is higher in Wilcannia than the level found in capital cities. This is particularly noticeable in the Aboriginal population where about 70 per cent of the adults surveyed currently smoke—a rate two to three times greater than that found in capital cities (Table 1).

In regard to exercise activities, participants were asked whether they had participated in vigorous exercise in the two weeks prior to the interview. Vigorous exercise was defined as an activity which made the person 'puff and pant' for at least 20 minutes. As a rule women are less active than men, and with the exception of Aboriginal men, Wilcannia residents exercise less than the national average (Table 2).

Participants were divided into descriptive categories of body mass index: underweight, healthy weight range, overweight and obese. Body mass index was calculated by dividing weight by the square of height. With the exception of Aboriginal women, approximately half the population is either overweight or obese. Two-thirds of the Aboriginal women can be so classified (Table 3).

Based on the National Heart Foundation's definition of hypertension approximately 25 per cent of the Wilcannia survey population were found to be hypertensive. Only non-Aboriginal women had a lower proportion of hypertensives than the national data—about eight per cent (Table 4).



The mean cholesterol level of Aboriginal men and women was lower than their Wilcannia non-Aboriginal counterparts and the national figure (Table 5). Additionally, compared with the national and non-Aboriginal figures, Aborigines had a similar proportion of men and women who had low, moderate, and high cholesterol readings.

Random blood sugar level results are listed in Table 6. A result of greater than or equal to 11 mmol/litre warranted investigation for clinical diabetes. Within the Wilcannia survey population, Aboriginal men and women are two to three times more likely than non-Aboriginal men and women to have blood sugar readings equal to or greater than 11 mmol/litre.

In Table 7 the proportion of Aborigines and non-Aborigines who are in the high risk category for each risk factor is noted, together with the confidence interval and significance level. The latter is based on a comparison between the Aboriginal and non-Aboriginal participants in Wilcannia. In particular, this table shows that in Wilcannia there were significantly higher proportions of Aboriginal women who are hypertensive and obese and Aboriginal men and women who are current smokers. Compared to national figures, Wilcannia Aboriginal males and females are more likely to be obese, hypertensive and current smokers and Aboriginal females are more likely not to participate in vigorous exercise.

## Discussion

One of the initial aims of the Community Development Project was to provide a description of the health status of Wilcannia's residents. This information is to be made available to the community so that people can discuss the implications and their responses to this information.

The household population survey is an important initial step in planning a screening service. The denominator population is accurately determined for the calculation of prevalence rates and proportions. The survey would also permit personal invitation and/or random selection of residents to attend the screen. The enthusiastic contribution by local staff and volunteers in providing the screening service is an essential ingredient in the high participation by the community. This is especially so of the Aboriginal health workers who are regarded as trusted 'go-betweens' with the community and the health services. Their skill development in the screening procedures raises the community's respect and compliance with the health worker's authority.

The ultimate goal of health promotion activities in Wilcannia will be to improve the community's health status, as indicated by reduced morbidity, disability and premature mortality. Identifying risk factors associated with common diseases is a necessary short term goal in the process of achieving improved health status. The purpose of this screening has been to reveal the risk factor profile of a country town that has a high Aboriginal population. Both Aboriginal and non-Aboriginal people in Wilcannia carry a higher risk burden for circulatory system diseases than the Australian population as a whole. This is most noticeable for hypertension, tobacco smoking and obesity.

The very high proportion of Aboriginal current smokers is of great concern. Aboriginal people start smoking at a younger age and smoke more cigarettes per day than non-Aboriginal people. The peak prevalence of

smoking is men in their fifties (90 per cent) and women in their twenties (88 per cent). There are several hopeful signs on the public health horizon. People who are employed or live in better (including less crowded) housing are less likely to smoke (67 per cent, 70 per cent) than people without jobs or with poor housing (77 per cent, 82 per cent).

Eighty-five people (22 per cent) were measured as being hypertensive, and only 13 (15 per cent) of whom were receiving effective treatment. A community based scheme should therefore be initiated to maintain a surveillance of blood pressures and provide an education program to alert people to the implications of uncontrolled hypertension.

Obesity is more common among women in general and Aboriginal people of both sexes in particular, and is associated with physical inactivity. Living a healthy lifestyle is difficult in the very hot summer weather conditions in Wilcannia, coupled with the relatively limited food choices. Fresh fruit and vegetables are often not available, whereas high fat, salt and sugar based foods are readily available from grocery and fast-food shops. Diabetes is associated with poor nutrition, obesity and the lack of exercise. There were higher proportions of Aboriginal people with an elevated blood sugar level, however the difference was not statistically significant. In spite of these indicators, there were proportionally less Aboriginal men with an elevated serum cholesterol compared to both the non-Aboriginal men in Wilcannia and the national data.

## Conclusion

Because of the relatively small number of people attending the screening, this study lacks the power to more accurately determine the differences in risk factor prevalence levels between Aborigines and non-Aborigines, and between Wilcannia residents and the national data. The circulatory system disease risk factor screening is being conducted in a number of other towns within the Orana and Far West Region. The power of the study will be greatly enhanced when results from the towns are pooled into one database.

Screening data are valuable for determining priorities and evaluating the impact of health promotion and preventive service activities. The Community Development Project, together with the local health services are developing programs aimed at reducing the risk factor burden by creating a healthier environment, and by providing more acceptable and appropriate community based health services. The screening service will be offered to the community after an interval of 12 months.

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**Table 1: Smoking status, Wilcannia Aborigines and non-Aborigines, and capital cities, by sex**

Smoking status	(Per cent)					
	Wilcannia				Capital cities	
	Aborigines		Non-Aborigines		Males	Females
	Males	Females	Males	Females		
Current smokers	71	76	39	41	35	25
Ex-smokers	13	7	25	16	28	16
Non-Smokers	15	17	36	43	37	59
Total	100	100	100	100	100	100

**Table 2: Amount of vigorous exercise(a) in the previous fortnight, Wilcannia Aborigines and non-Aborigines, and capital cities, by sex**

Vigorous exercise	Wilcannia									
	Aborigines				Non-Aborigines				Capital cities	
	Males		Females		Males		Females		Males	Females
	No.	%	No.	%	No.	%	No.	%	%	%
None	71	64	82	84	68	79	67	81	65	73
<3 times/week	25	23	15	15	12	14	11	13	25	21
>=3 times/week	15	14	1	1	6	7	5	6	10	5
Total	111	100	98	100	86	100	83	100	100	100

(a) Vigorous exercise is defined as an activity session, of 20 minutes or longer, which made the person 'puff and pant'.

**Table 3: Body mass index (BMI)(a), Wilcannia, Aborigines and non-Aborigines, and capital cities, by sex**

	Wilcannia								Capital cities	
	Aborigines				Non-Aborigines				Males	Females
	Males		Females		Males		Females			
Body mass index	No.	%	No.	%	No.	%	No.	%	%	%
Underweight	5	5	4	4	4	5	6	7	3	4
Healthy weight	54	49	31	32	34	40	35	42	54	61
Overweight	26	23	24	25	37	44	28	34	36	26
Obese	26	23	39	39	10	12	14	17	6	9
Total	111	100	98	100	85	100	83	100	100	100

(a) BMI categories for males are <20 (underweight); 20-25 (healthy weight); 26-30 (overweight) and >30 (obese).  
 BMI categories for females are <19 (underweight); 19-24 (healthy weight); 25-30 (overweight) and >30 (obese).

**Table 4: Proportion hypertensive(a), Wilcannia Aborigines and non-Aborigines, and capital cities, by sex**

	Wilcannia								Capital cities	
	Aborigines				Non-Aborigines				Males	Females
	Males		Females		Males		Females			
	No.	%	No.	%	No.	%	No.	%	%	%
<b>On tablets</b>										
DBP <95 and SBP <160	4	4	5	5	2	2	2	2	5	6
DBP >=95 and/or SBP >=160	3	3	5	5	3	4	1	1	4	2
<b>Not on tablets</b>										
DBP >=95 and/or SBP >=160	23	21	15	15	18	21	4	5	11	6
Hypertensive	30	27	25	26	23	27	7	8	19	14
Non-hypertensive	81	73	73	75	63	73	75	91	81	86
Total	111	100	98	100	86	100	82	100	100	100

(a) Hypertensive is defined as on treatment or SBP >=160 mm Hg or DBP >=95 mm Hg.

**Table 5: Cholesterol level, Wilcannia Aborigines and non-Aborigines, and capital cities, by sex**

Cholesterol (mmol/L)	Wilcannia									
	Aborigines				Non-Aborigines				Capital cities	
	Males		Females		Males		Females		Males	Females
	No.	%	No.	%	No.	%	No.	%	%	%
<3.0	3	3	2	2	0	0	0	0	0	0
3.0-3.9	12	11	4	4	7	8	7	8	4	5
4.0-4.9	29	26	30	31	15	19	15	19	25	26
5.0-5.9	35	32	31	32	31	36	31	39	37	33
6.0-6.9	21	19	18	18	24	28	15	19	22	22
7.0-7.9	8	7	10	10	7	8	9	11	7	7
8.0-8.9	2	2	2	2	1	1	4	5	2	3
>9.0	1	1	1	1	0	0	0	0	1	1
Total	111	100	98	100	86	100	81	100	98	97

**Table 6: Blood sugar level (BSL), Wilcannia Aborigines and non-Aborigines, by sex**

Blood sugar (mmol/L)	Aborigines				Non-Aborigines			
	Males		Females		Males		Females	
	No.	%	No.	%	No.	%	No.	%
<3	2	2	6	5	2	2	3	4
3-4	5	5	30	27	6	7	17	20
5-6	40	41	42	38	40	48	43	51
7-8	25	26	22	20	23	28	15	18
9-10	16	17	3	3	8	10	5	6
>=11	9	9	8	7	4	5	2	2
Total	97	100	111	100	83	100	85	100

**Table 7: Proportion of participants with a high risk factor, Wilcannia Aborigines and non-Aborigines, and capital cities, by sex**

Risk factor	Wilcannia				Capital cities
	Aborigines		Non-Aborigines		%
	%	Confidence intervals	%	Confidence intervals	
<b>Males</b>					
Cholest.> 6.5 mmol/L	15	(8-21)	22	(14-31)	19
Hypertension	27	(19-35)	27	(17-36)	19
BMI >30	27	(19-35)	17	(9-25)	6
Current smoker	76	(68-84)	36	** (26-46)	35
BSL >11 mmol/L	7	(5-9)	5	(1-10)	na
No vigorous exercise	69	(60-77)	78	(69-86)	65
<b>Females</b>					
Cholest.> 6.5 mmol/L	23	(15-32)	25	(16-34)	21
Hypertension	26	(17-34)	8	*(2-14)	14
BMI >30	43	(33-53)	22	*(18-25)	9
Current smoker	69	(60-78)	40	** (30-50)	25
BSL >11 mmol/L	11	(4-17)	7	(1-12)	na
No vigorous exercise	89	(82-95)	81	(72-89)	73

Note: Confidence levels were calculated at a 95 per cent level of significance. An asterisk represents a significant difference between Aboriginal and non-Aboriginal proportions at a probability level of 0.05; while two asterisks represents a significant difference at a probability level of 0.001.

# Social health among urban Aboriginal heads of households in Adelaide, with particular reference to suicide attempt

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## Introduction

Evidence suggests that in traditional Aboriginal societies, while violence was certainly present, suicide was virtually unknown. Only 15 years ago, Cawte and colleagues (Kahn, Henry, Cawte 1976) were maintaining that suicide was a rarity among Aboriginal people, but five years later he reported that 'suicide is now common ... (and) while doctors and hospitals do not face up to it, a lot of good people are going to die' (Cawte 1981). The evidence suggests that suicide is still considerably less common among those living more traditionally-oriented lives, but its frequency appears to be increasing, especially in urban areas. The study reported here was instigated before the Royal Commission into Aboriginal Deaths in Custody, but it serves, together with the growing literature on destructive behaviour among Aboriginal Australians, to highlight the level and antecedents of such behaviour, together with the kind of action needed to reduce its occurrence and to care for those whose lives lead them into such behaviours.

In Adelaide, during the single month of March 1986, there were four suicides from among the Aboriginal community. So great was the distress to the community, in general, and to the Aboriginal Education Foundation, in particular, that the latter decided to see if the size of the problem, which was well recognised at least in the Aboriginal community, could not be quantified and qualified in such a manner that preventive action and effective care programs could be established.

The seed of this idea began to grow, and out of it developed an unusual and fruitful collaborative effort which resulted in research reported in a monograph entitled *Taking control - a joint study of Aboriginal social health in Adelaide* (Radford, Harris et al 1990), which includes an extensive literature review (Brice 1990). The monograph, summarised in this article, reports on a study of Aboriginal heads of households, the first part of a planned three-part project to look at some of the issues of stress and destructive behaviours.

In initiating the study, the Aboriginal Education Foundation sought the assistance of the Department of Primary Health Care at The Flinders University of South Australia. Together, they obtained the support of the Aboriginal community, and the Aboriginal Research Committee in South Australia approved the plan. Both Aboriginal and non-Aboriginal workers of the Foundation— all female— were trained and used as interviewers. Two of the workers had participated in the extensive urban study of Gale and

Wundersitz (1982), almost a decade earlier. The two non-Aboriginal interviewers had extensive experience working with, and were accepted by, Aboriginal people. The final team consisted of a multi-disciplinary group of Aboriginal education, legal and welfare staff, a community physician, a social psychologist and two sociologists.

## **Methodology**

No listing of all Aboriginal households in Adelaide is known to exist. In the belief that stress and destructive behaviours were more likely to occur among those living in government-owned accommodation as they were likely to be in greater socioeconomic need, a random sample of one in eight of those Aborigines known to be living in such housing was made from Aboriginal and government housing lists. Using the 1986 census data (Australian Bureau of Statistics 1988), such accommodation was estimated to house approximately half of the total Aboriginal population living in metropolitan Adelaide. This approach was preferred to an alternative method, namely, to develop by networking a total population cluster sample of all Aboriginal housing in a given area.

A semi-structured interview format yielding both qualitative and quantitative information was used, with Aboriginal staff and community participating both in the decision of which questions to ask and in the way in which they were to be asked (Radford, Brice et al 1990). It is believed that by working closely with the target population, this cross-cultural study proved to be more successful in terms of the information gathered than would otherwise have been the case (Gale and Wundersitz 1982). After a pilot test, in which the issues were explored in a totally informal manner with 10 Nunga households, the questionnaire was revised.

Accepting that there is doubt in the validity of the sole use of standard questionnaires and psychological tests derived for one culture and applied in another, a life-story approach to gathering information was adopted. This provided structure for the in-depth interviews. As a supplement to the main interview, a card-sorting exercise, using a modification of the Holmes and Rahe 'stress incident' table, was developed (this replaced many of the standard stressors with others identified by the Aboriginal community as being of greater relevance). For example, 'jail term' and 'contact with police' were included and 'ability to pay mortgage' was excluded. Also, a single sheet anxiety scale test was incorporated (for details of questionnaire design, card-sorting exercise and stress rating scale used, see Radford, Harris et al 1990).

## **Results**

Of the 88 heads of households, whose mean age was 38 years, 72 (82 per cent) were female. Thirty-two were single parents, 10 of whom had children in their care who were not their own. Only one in 10 had lived in Adelaide less than 10 years, though two-thirds had been born in the country. While more than a third had left school before age 15 (compared with one in five of all Adelaide's adults), over half had participated in some post-school educational programs.



### **Early life and present accommodation**

One in 12 respondents had known neither of their parents, and around one in seven knew only one of them. One in six had lived in one or more foster homes and one in five had experienced hostel care by the end of adolescence. A quarter of respondents had lived in four or more houses in the previous five years, indicating a high mobility, though less than that reported by Gale and Wundersitz (1982).

Similarly, while only a third of household heads had less than four people living in the house, the mean occupancy rate was considerably lower than that found in the earlier study (Gale and Wundersitz 1982). A third of those interviewed regarded their present accommodation as 'very unsatisfactory'.

### **Isolation, support and finance**

Of the household heads with partners, one in five regarded the relationship to be troubled. One in six reported having no close friend, almost half had no telephone (compared with only 6.4 per cent for Adelaide as a whole), and a similar proportion did not have access to a motor vehicle. Thirty per cent said that they had weak or no ties to any Aboriginal community, and just over half claimed that traditional language, customs or ways were, at most, only occasionally discussed or used in the home. One in three respondents had considerable economic difficulty, as indicated by usually or always having difficulty with payment of bills. Two-thirds of household heads were in receipt of at least one pension or benefit – four times the national average.

### **Abuse**

Over half of the respondents claimed to have been bashed or assaulted at some time, two-thirds of whom had suffered in this way on multiple occasions. A quarter described the frequency in terms such as 'too many to recall' or 'weekly for years'. Of the 13 (15 per cent) who had been sexually abused, half had been abused more than once, nine during their pre-primary or primary school years. For eight respondents, the sexual abuse had been perpetrated by a relative.

### **Experience with the police**

This research found an extraordinary level and pattern of police custody and prison experience among the study group, but, unfortunately, no comparative data are available for non-Aborigines in similar socioeconomic areas of Adelaide. Bearing in mind that only heads of households were sampled, one in five of those interviewed had been in prison at some time, and half of these more than once. Of those who had been in prison, half had been incarcerated for minor offences such as non-payment of fines. Almost half the sample had, in their own words, 'experienced trouble with the police' and believed that they had received 'unreasonable attention' by them outside the home. Even higher levels of police visits to the house were reported, with a quarter reporting police entry to their houses without warrant or arrest. Almost a quarter of respondents reported actual physical abuse at the hands of police. In the card-sorting exercise, prison terms were assessed as the fourth most stressful experience behind death/loss and

health issues, and a quarter of household heads regarded frequent contact with the police as one of the most stressful experiences of daily living.

### **Stress**

The study paid particular attention to levels of stress experienced or perceived in specific life incidents. Using the Spielberger State-Trait Anxiety Test (see Radford, Harris et al 1990 for details), high anxiety was significantly associated with unhappiness over their housing situation, low frequency of talking with a close friend, frequency of expression of anger, lack of reasonable control over one's life, leaving school at 15-16 years of age (but not earlier or later), and being brought up with mother only or by both parents. Other positive associations with anxiety included suffering violence (but only if perpetrated by relatives), frequency of visitors coming to stay, and the number of times they had thought about suicide.

### **Suicide attempt**

One-third of those interviewed had thought seriously about taking their own lives, and more than half of them had had such thoughts during the previous year. A similar proportion had had suicidal thoughts 'more than a few times'.

While only one of the 16 (six per cent) males in the study had actually attempted suicide, 21 per cent of the females had, with half of these having made more than one attempt. Medication overdose and wrist slashing were the most common methods used. Most people who had attempted suicide were aged less than 26 years at the time of the first attempt, and only half of all attempters sought help after the event.

In this study there was a greater likelihood of attempting suicide if, in early life, there was: lack of knowledge of at least one parent; foster-home (but not institutional) experience by age 12 years; or employment instability of parents or caregivers. Contemporary social factors included: receipt of benefit or pension, and past emergency relief; unsatisfactory housing or at least one move in the last five years; lack of private vehicle; or frequency of past unemployment. Attempted suicide was more likely among respondents with a major health problem (either self or partner), or with a history of drug (apart from alcohol) abuse (either self or partner). Personal factors, including a perception of non-acceptance by the rest of society, major stress as a result of minor violations of the law, frequent feelings of anger, or a feeling of lack of reasonable control over one's life, were also associated with a history of attempted suicide. Other positive associations were the number of police calls to the house, and having been bashed or assaulted (including sexual abuse).

Neither recent movement to the city, nor the number of children cared for, were found to be significantly related to suicide attempt, though it had been hypothesised that either or both might be.

### **Conclusion**

Among urban Aboriginal heads of households in Adelaide, a number of social situations and past events were found to be associated with destructive behaviours. The most frequent associations, that were unlikely

to have occurred by chance, were with powerlessness, isolation, high levels of poverty, low perceptions of self, and apparently less effective use of existing resources.

Evidence from the literature and this study suggests that a significant number of women, especially supporting mothers, are so alienated, isolated and wounded by various components of their social environment that they seek to harm themselves. Whether or not Aboriginal single parents are finding it more difficult to cope, and are therefore more at risk than non-Aboriginal supporting mothers, is being studied in the second phase of this project. The results for this phase are expected shortly.

The collaborative research team is acutely aware that there is little, broadly speaking, which has been revealed by these results, that is not well known in many Aboriginal circles. There would appear to be little 'uniquely Aboriginal' to the self-destructive behaviours described here, given the historical and contemporary social factors that were common to the majority of those who attempted suicide. It is recognised that the overall research approach, despite being non-Aboriginal in nature, has attempted at each level to focus on Aboriginal perceptions of urban life. While several issues have been clearly identified as in need of urgent attention as a matter of life and death, even outside the 'deaths-in-custody' domain, other questions remain which call for answers and action.

As a consequence of the findings of this part of the project, a number of actions have been initiated. The first is that the results have been fed back to the Aboriginal community, by way of seminars and forums, as well as by dissemination of the report. The second action relates to the extraordinary level of police contact with urban Aborigines and the unpleasant nature of much of that contact. Besides supplying data to the Royal Commission into Aboriginal Deaths in Custody, progress has been made with the Police Department in the exploration of mechanisms by which the Department and the Aboriginal community can address a number of issues. The third action deals with housing and counselling issues. A number of proposals have been put to the Minister for Aboriginal Affairs for consideration. And, fourthly, an entirely new approach to Aboriginal family support is being piloted by the Aboriginal Education Foundation, using local Nunga 'elders' in the northern suburbs of Adelaide.

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# Aboriginal health research in the Western Australian Research Institute for Child Health

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## Introduction

The Western Australian Research Institute for Child Health was established in 1990 to promote the health of children in Australia and internationally by establishing and developing a centre of scientific excellence. The Institute, which is located at the Princess Margaret Hospital in Perth (the only paediatric hospital in Western Australia), has brought together the perinatal and paediatric epidemiology group from the National Health and Medical Research Council (NHMRC) Unit in Epidemiology and Preventive Medicine and scientists from the Princess Margaret Children's Medical Research Foundation Clinical Immunology Unit. In regard to Aboriginal health the Institute is developing a strong child health focus, while continuing to concentrate on disease description and the development of appropriate preventive approaches, both antenatal and postnatal. This Aboriginal research focus has been strengthened by the addition of the NHMRC unit, which has considerable maternal health expertise, and by Dr Jeffrey Hanna, who has substantial experience in the primary care of Aboriginal children and their families in the Northern Territory.

As a centre of excellence the Institute actively promotes and encourages research in cooperation with universities, other medical and educational institutions, and government health authorities. The Institute has developed an excellent working relationship with the Aboriginal Health Policy Unit, run by Mr Ken Wyatt of the Health Department of Western Australia, and with the University of Western Australia. In the near future it hopes to work more closely with all tertiary institutions in Western Australia.

The Institute also evaluates the development and marketing of medical and scientific technology associated with all aspects of family and child health and child care. This includes the trial and evaluation of new techniques, not necessarily discovered by scientists in the Institute, but under consideration for use either in Australia or overseas.

The Institute has no core budget for research and funding as this work comes from external grants. To date, the Institute has obtained funds from the NHMRC Public Health Research and Development Committee (PHRDC), the Wellcome Bicentennial Aboriginal Health Research Award, and a five year project grant from NHMRC which funds the basic data collection and analyses arising from it.

Crucial to the Institute's work, and to the implementation of research findings into health promotion or disease prevention activities, is the role of Aboriginal health workers. Since 1988, when funds became available from a grant from British Wellcome, the Institute has employed an Aboriginal health worker. These workers, initially Mrs Gloria Wally and now Mrs Patricia Morich, have fostered a close and important relationship with Sister Joan Winch and others in the Aboriginal Medical Services in Western Australia, as well as with the Aboriginal community generally. In addition,

their input into the planning and conduct of the Institute's research has enabled these topics to closely reflect those areas considered important by Aboriginal people.

Finally, the Institute serves as a centre for learning and training in a wide range of disciplines for Australian and overseas undergraduates and postgraduates in health education and research. Postgraduate students wishing to work on maternal and child health research projects for honours, masters or PhD degrees can be supervised by appropriate Institute staff. Two of our best recent Aboriginal health research endeavours were student projects— one a Master of Public Health thesis (Arturo 1990) and the other a Bachelor of Medical Science dissertation (Schultz 1991).

### **Specific research activities**

The Institute seeks to advance knowledge in the field of child health by attempting to discover and better understand the causes and nature of diseases which cause ill-health in children. It is the aim of the Institute to use this knowledge to improve methods of prevention, diagnosis and the treatment of ill-health in children and their families. Overall, the Institute seeks to consider all questions affecting child and family health research interests and to support or oppose, as deemed necessary, any legislative or public education matter concerning child and family health.

The backbone of the research done at the Institute is based on the Western Australian Maternal and Child Health Research Data Base, a record linked collection of birth, death and morbidity information on all mothers and their children born in Western Australia since 1980. It incorporates the Western Australian midwives' notification of birth, the Western Australian birth certificate, the perinatal and infant death certificates, the Western Australian Birth Defects Registry, and (still to be linked completely) the Western Australian Cerebral Palsy Register and hospital morbidity data. Thus, for each mother and child pair, perinatal experience can be linked to other records on hospitalisations, birth defects, cerebral palsy or death. As detailed below, these data sources provide an excellent monitor of both Aboriginal and non-Aboriginal maternal and child health indicators and a most useful sampling frame for epidemiological studies.

### **Aboriginal birthweight charts**

An NHMRC PHRDC grant has enabled Dr Eve Blair, with the assistance of Mrs Morich, to construct Aboriginal birthweight and gestational age charts based on ultrasound dating of pregnancies from throughout the State. Research papers on Aboriginal intra-uterine growth and the various antenatal complications which influence it are in preparation.

### **Gestational age and infant survival**

In spite of such charts being unavailable, Dr Erich Kliewer from the National Centre for Epidemiology and Population Health (NCEPH) at the Australian National University, Canberra, has helped in the analysis of data describing Aboriginal birthweight and gestational age patterns (Stanley and

Mauger 1986; Kliever and Stanley 1989) and how perinatal and infant mortality varies between Aboriginal and Caucasian infants by these two important characteristics (Kliever and Stanley, submitted for publication). A paper on specific causes of death is in preparation.

In particular this research has shown that at early gestational ages, the mean birthweight for Aboriginal infants was greater than for Caucasian infants, but at later gestational ages this trend was reversed. Aboriginal infants are more likely to be born pre-term than Caucasian infants, and when they are born at term and beyond they tend to be smaller.

### **Regional variations in maternal and child health indicators**

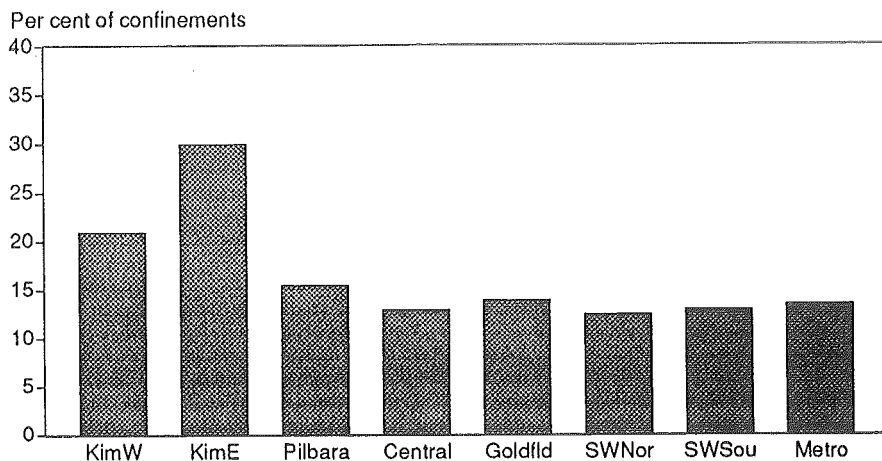
Mrs Zeena Arturo (1990), the Institute's first Master of Public Health student, used the Maternal and Child Health Research Data Base and additional sources of information to monitor Aboriginal maternal and child health indicators by region. The additional data included the Health Department of Western Australia's nutritional anthropometry data collected for Aboriginal children in the State (height, weight and immunisation status are recorded at three, six, nine, 12, 18, 24, 36, 48 and 60 months by community health nurses). While not every child is examined at each age, most Aboriginal children under five years of age are examined at least once. The Institute also obtained social and health care variables for Aboriginal communities from the (then) Department of Aboriginal Affairs. Unfortunately this data source was of limited use as the data were only representative of a highly selected sample of small isolated communities.

The linked data were used to describe, for each statistical region in Western Australia, maternal antenatal risk factors (height, age, parity, pregnancy complications, etc), obstetric care (type of delivery, place of birth, distance from care, etc) and infant outcome (birthweight, gestational age, perinatal and infant mortality). As illustrated in Figure 1 and Figure 2, some interesting regional variations were observed for maternal height and parity.

### **Pre-term birth/low birthweight and genital and urinary tract infections**

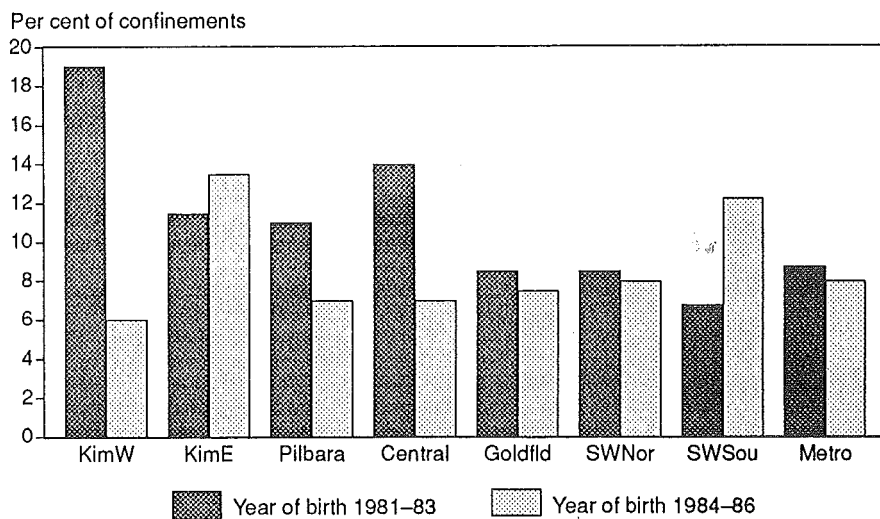
An interesting and potentially important association, of a higher proportion of low birthweight babies in those regions where the highest rates of genital and urinary tract infections were recorded in pregnancy, stimulated a case-control study using the Maternal and Child Health Research Data Base. Ms Rosalie Schultz, a third year Bachelor of Medical Science student, and Mrs Patricia Morich, examined a sample of Aboriginal cases of low birthweight and controls in order to test the hypothesis that genital and urinary tract infections in pregnancy were a risk factor for pre-term birth (Shultz 1991; Shultz et al, submitted for publication). A statistically significant association of low birthweight/pre-term birth with reported genital and urinary tract infections was observed (all potentially confounding factors were controlled). This research finding will be used to develop an antenatal intervention to improve pregnancy outcome in Aboriginal women in Western Australia.

**Figure 1: Aboriginal births in Western Australia 1981–86. Maternal height greater than 165cm by region**



Source: Arturo 1990

**Figure 2: Aboriginal births in Western Australia 1981–86. Parity greater than four by region**



Source: Arturo 1990



### **Diabetes and perinatal outcome**

The importance of diabetes in pregnancy as a cause of poor perinatal outcome in Aboriginal births, particularly birth defects, has been described by Dr Carol Bower and her team (Bower et al 1989). The high prevalence of gestational and non-insulin dependent diabetes among pregnant Aboriginal women makes a significant contribution to the level of birth defects reported in Aboriginal infants. As much of this morbidity and mortality may be preventable, it again highlights the importance of antenatal intervention to improve maternal and child health.

### **Childhood communicable diseases**

Dr Jeffrey Hanna has conducted a survey of bacterial meningitis in the Northern Territory and Western Australia and has reviewed respiratory disease in Aboriginal children in Australia.

### **Future plans for Aboriginal health research**

Using the Maternal and Child Health Research Data Base, the Institute intends to examine mortality and morbidity patterns of Aboriginal children up to the age of five years. Initially, lower respiratory illness (pneumonia, bronchiolitis, asthma) during the first two years of life will be studied, with particular attention to the association of these conditions with different birthweight and gestational age categories. The role of pregnancy complications in subsequent infant and child mortality and morbidity will also be examined. All analyses will be carried out for Caucasian as well as Aboriginal infants to enable comparisons to be made. As part of the project, it is also planned to investigate the association of sociogeographic factors with lower respiratory illness (by linking data on income, occupation and adequacy of housing from the 1986 Census of population and housing).

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# Recent reports, publications and theses

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## **Australian Bureau of Statistics**

*Census 86 - Australia's Aboriginal and Torres Strait Islander People: census of population and housing, 30 June 1986* (Australian Bureau of Statistics Catalogue No. 2503.0). Canberra, 1991

The report, based on census data, is divided into six sections. The first five present descriptions of Aboriginal and Torres Strait Islander people in terms of their demographic characteristics; living arrangements and housing, education, language and religion, labour force characteristics and income. The sixth section presents a set of statistical tables presenting the main 1986 census topics in detail. Further unpublished data is available from the Australian Bureau of Statistics on request.

## **Divakaran-Brown C, Honari M**

*Aboriginal health indicators in South Australia.*

Aboriginal Health Organisation of South Australia, Adelaide, November 1990.

This report looks at the collection of health statistics for the Aboriginal community of South Australia. In the main, attention is focused on morbidity and mortality of South Australian Aborigines by reviewing available sources of information such as the relevant government records covering birth and deaths. In addition, hospital data is also considered. This latter source of data was the subject of a validation survey which revealed among other things, that the *Patient Summary Form* was completed by hospital staff. Staff attitude was also suggested as playing an important part as to whether Aboriginality was identified or not. The survey concluded that all patients should be asked the question of racial origin.

There was a general acceptance that there has been a lack of recognition by the Aboriginal community of the need to keep records and statistics that are sent out of the area to a central office. The report states that with the development of community controlled health services that the responsibility for local community records will be retained by the individual health services.

The report concluded that there was a need for better identification of Aborigines by people responsible for recording information. In addition, Aboriginal people should be encouraged to identify themselves if they choose to do so.

## **Evans KM**

*The health and nutrition status of children in an urban Aboriginal community in the 'Top End' of the Northern Territory.*

Master of Public Health thesis, University of Sydney, Sydney 1990.

This treatise describes the health and nutrition status of children under 16 years of age resident at an urban Aboriginal community. The findings

reported a significantly higher prevalence of under-nutrition and disease compared with the Australian community. Older males (6-16 years of age) had a significantly higher prevalence of acute under-nutrition compared with the rest of the study population. Other factors identified in the study included generally poor immunisation rates, overcrowding and under-nutrition.

### **McConnel FB**

Aboriginal health. *Australian Medicine* 1990 2(18):10.

This report summarises a meeting of the Chairman of Council (Australian Medical Association), the Director of the Federal Industrial Department, and a group of doctors involved in Aboriginal health in Darwin, mostly from government services. The AMA presented its policy (described as a 'living evolving document') and perceived role in Aboriginal health. The local view saw the need for local solutions not constrained by rigid policies, and an acceptance that some less-than-ideal, short-term solutions are necessary. Politically, it was seen as important to gain bipartisan support for Aboriginal health initiatives, which could be enhanced by longer term budget and financing arrangements.

### **Menzies School of Health Research**

*Annual Report 1989-1990*

In addition to the Director's Review and Overview, which includes a segment on the various aspects of research with Aboriginal people, and the increasing need for their involvement in research that concerns them, this report contains inter alia a section which summarises scientific studies currently in progress at the Menzies School of Health Research. In relation to Aborigines, the topics include: prevention and rehabilitation of otitis media and hearing loss in Aborigines; guidelines for evaluation of rural Aboriginal health services; the cost of hospitalisation for diarrhoeal diseases; community based program for the prevention and control of diabetes; an evaluation of methods used at Royal Darwin Hospital to assess gestational age in Aboriginal neonates; epidemiology of renal disease in Aborigines; evaluation and initial human health impact of an 'Avomec' dog treatment program on three north Queensland Aboriginal communities; clinical and laboratory observations of snakebite in the Top End; pneumonia and septicemia at Royal Darwin Hospital; the importance of manganese exposure in East Arnhem; preventing the need for hospitalisation in children with diarrhoeal disease; clinical observations of jellyfish envenomation; nutritional status among Aborigines in the Northern Territory; impact on birthweight; the health and nutrition status of children in an urban Aboriginal community; a community based food and health project in a small northern coastal Aboriginal community; Darwin Satellite Project of the WHO Collaborative Study on hazardous drinking; intravenous drug use in Darwin; acquisition of *Chlamydia trachomatis* by Aboriginal infants; serovars of *Chlamydia trachomatis* in northern Australia; detection of *Chlamydia pneumoniae* in the Northern Territory; antibiotic usage, *Chlamydia trachomatis* and trachoma; urine as a specimen for the diagnosis of chlamydial urethritis; human lymphocyte

responses to *C.trachomatis*; pathogens isolated from Aboriginal and non-Aboriginal patients presenting to Alice Springs Hospital with diarrhoeal disease; *Cryptosporidium* and carbohydrate intolerance in small children with diarrhoea hospitalised in Darwin; clinical surveillance related to human immunodeficiency virus (HIV) in the Northern Territory; hepatitis B virus infection among school children in the Northern Territory; seroconversion after hepatitis B vaccine in Aboriginal infants; detection of an HTLV amongst Aboriginal Australians; lymphokine production and sensitivity of peripheral blood lymphocytes from Aborigines; immunity to hepatitis B: cellular and humoral immune responses against HBsAg (surface antigen) and synthetic peptides; cell mediated immunity in Aboriginal Australians; and establishment of HLA studies in Aborigines.

#### **Milns NR**

*Low birthweight in the Northern Territory: relationship with neonatal and maternal immunity and identification of major risk factors.*

Master of Science thesis, University of Queensland, Brisbane 1987.

Low birthweight (LBW) and intrauterine growth retardation (IUGR) were studied in 85 Aboriginal and 82 non-Aboriginal neonates born over a nine month period in 1987 at the Royal Darwin Hospital. The prevalence of risk factors for LBW and IUGR was assessed in the mothers to identify any factors that may contribute towards the high incidence of LBW in the Aboriginal population. Maternal and neonatal cell mediated immunity (CMI) and neutrophil function was measured and their relationship with birthweight and gestational age assessed.

The thesis describes how more than half the cases of LBW were unable to be accounted for by any recognised risk factor and that mothers with LBW infants failed to show a decrease in helper/inducer T-lymphocyte numbers suggesting that there may be a relative failure to suppress CMI and that this may be related to pregnancy outcome. In addition, Aboriginal neonates (as a group) showed raised numbers of suppressor/cytotoxic T-lymphocytes, and LBW Aboriginal neonates showed a decreased number of helper/inducer T-lymphocytes. It is suggested that the alterations in the lymphocyte subset distribution in Aboriginal neonates may explain their increased mortality and morbidity. No effect on birthweight on lymphocyte blast transformation as a measure of CMI was found in either Aboriginal or non-Aboriginal neonates.

Neutrophil chemotaxis was impaired in all neonates and further reduced with decreased birthweight. Total bactericidal capacity was related to neonatal maturity, but not birthweight. Intracellular metabolic capacity was normal in all neonates suggesting that the defective bactericidal capacity is not a result of impaired degradation of particles. The increased susceptibility of neonates, particularly LBW and growth retarded neonates, to infection may in part be explained by these defects in neutrophil function.

#### **Munoz E**

*Environment and the health of children living in Aboriginal communities.*

Menzies School of Health Research, Darwin, 1990.

This is a summary of the report of a study of the health of children in relation to the environment, carried out in ten communities in the Northern

Territory in the period 1986–1990. It is written for distribution to Aboriginal communities, and is in large type, clear language and well illustrated with graphs.

### **Orr S**

Aborigines to get voice in AMA. *Australian Medicine* 2(21):10.

This article reports that the Northern Territory branch of the Australian Medical Association (AMA) decided, at a meeting jointly organised by the AMA and the Menzies School of Health Research, to include non-medical Aborigines in its Aboriginal Health Committee. The meeting was led by the AMA's Federal Council Chairman, Dr Scaife, who said, *inter alia*, that there was increasing emphasis on Aborigines becoming more involved in health issues and services within their communities. The article also referred to a meeting between the President of the AMA, Dr Shepherd, and the Central Australian Rural Practitioners' Association (CARPA), who said that it was important now for the AMA to push for the implementation of a plan put forward by a meeting of State and Commonwealth health ministers earlier in the year for the establishment of an Aboriginal health council in each State and Territory. The author states that the Northern Territory was the only place, since the meeting of health ministers, where such a council had not been set up.

### **Sladden TJ**

*Cardiovascular disease risk factors in an Aboriginal community.*

Master of Science (medicine) thesis. University of Sydney, Sydney 1990.

This treatise describes a pilot investigation to assess the prevalence of ischemic heart disease risk factors in a coastal community in Arnhem Land Northern Territory. Based on a modified National Heart Foundation survey protocol and utilising results obtained from blood pressure tests, urine and blood samples the pilot found that community based monitoring of ischemic heart disease factors was basically feasible provided that consent and cooperation of the population was obtained.

### **Valliappan M**

*Alcohol and pregnancy outcomes: a pilot study in Aboriginal communities.*

Master of Medicine thesis, University of Sydney, Sydney, 1990.

This treatise reviews the literature concerning the effects on the fetus of exposure to alcohol and explores a method by which alcohol-related outcomes can be examined in Aboriginal children whose mothers were known to consume heavily during pregnancy.

Two Aboriginal communities were examined in the feasibility study and alcohol consumption established retrospectively in women during pregnancy.

The thesis concludes that retrospective study of alcohol-related outcomes in Aboriginal communities has limitations in terms of recall bias and fieldwork-related difficulties. It suggests however that with the current high rate of antenatal attendance and hospital delivery among Aboriginal women, and the evolution of 'under fives clinics', problems associated with a retrospective study may be overcome in a prospective study. The

involvement of Aboriginal health workers and the community leaders was seen as important.

# General publications and reports\*

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## **New South Wales Health Department**

During February 1991 the New South Wales Minister for Health launched a program to reduce the risks of HIV infection in health care workers. The program's 'train the trainer' kit is available to all New South Wales hospital and community based health care services.

## **Chalmers EM**

Volatile substance abuse.

*Medical Journal of Australia* 1991 **154**:269-274

This article reviews the literature of the past 20 years or so and attempts to clarify trends in volatile substance abuse, problems associated with this behaviour and possible solutions. The article concludes that while the volume of material dealing with the problem has increased there has been little progress in finding effective solutions to the problems.

## **Gilbert GL**

Meningococcal infections: 1990 [leading article].

*Medical Journal of Australia* 1990 **153**:507-8

This leading article outlines the medical history of meningococcal infection, and details the types of infecting organisms, and the epidemiology, symptoms, signs, complications and treatment of these. The author refers to Aboriginal children in central and Western Australia as examples of minorities in industrialised countries where epidemics of meningococcal infections occur from time to time, and how such epidemics can often be controlled by immunisation of the population at risk. However, she also points out that there is no vaccine available against serogroup B, and the quadrivalent vaccine (against serogroups A,C,Y and W135) is relatively ineffective, if effective at all, in very young children.

## **Impact, March 1991 21(2):8-9**

A study is being conducted by the Institute of Family Studies to measure family living standards at 12 locations throughout Australia. Rather than basing the assessment on the traditional factors of income and expenditure the study will also look at a number of areas including health, employment, housing, economic resources, education, transport, recreation, security, community services, social and political participation, access to information, family relationships, the physical environment and personal well-being.

\* These publications and reports, while usually focusing on the general population, include reference to Aborigines and/or other indigenous peoples.



The survey covers locations in Victoria, South Australia, Queensland, New South Wales and the Northern Territory. One Aboriginal community (Tennant Creek) is included and the Institute of Family Studies is expected to report to the Federal Government in June 1993.

#### **Kolbe A**

*The prevalence of a sexually transmitted Chlamydia trachomatis infection in an Australian and Polynesian population.*

Master of Public Health thesis, University of Sydney, Sydney 1990.

Infections caused by *Chlamydia trachomatis* are recognised as some of the most common sexually transmitted diseases in western countries. Studies of symptomatic and asymptomatic patients have shown a wide variation in the prevalence of infection. To develop appropriate control strategies, the prevalence of infection needs to be measured and high risk groups identified for each population.

The thesis recommends that routine screening of ANC, GPC and STD clinic attendees be commenced with treatment of positive cases and their partners and a reporting and contact tracing scheme commenced. Additionally antibiotic coverage should be initiated in appropriate circumstances and an education program commenced.

#### **National Better Health Program.**

*In Touch* 1990 7(4):5-6, 11-12

This article gives an overview on how the National Better Health Program (NBHP) is being planned and/or implemented in the Commonwealth, States and Territories. With specific reference to Aborigines, the Northern Territory Department of Health and Community Services is giving exclusive priority to Aboriginal health through its Health Promotion Branch. The Queensland Department of Health is planning two pilot programs for the involvement of Aboriginal communities in the Better Health, Better Life program, and training of Aboriginal community workers in north Queensland in nutrition, community and personal development skills, disease, exercise, food and alcohol education. Additionally, an injury prevention program aimed at Aboriginal women is to be developed.

#### **New South Wales Health Department**

*Public Health Bulletin* 1990 10(1)

This volume contains an article on the need for an asthma strategy, together with public health abstracts, notifications of infectious diseases, and news and comment (including the Central Office move from Haymarket to 73 Miller Street, North Sydney, meeting of country public health units, and the Nyngan flood follow-up).

*Public Health Bulletin* 1991 2(2)

This volume reports raised concerns about the resurgence of bacterial meningitis following three deaths in Victoria attributed to meningococcal meningitis during 1985. In addition outbreaks of meningitis were reported from Victoria, Northern Territory and Western Australia. The NSW Department of Health initiated a statewide surveillance of bacterial meningitis for the period 1 January to 22 May 1990.

*Public Health Bulletin* 1991 2(3)

This volume contains a report that Aboriginality is poorly recorded in the three Statewide health data collections in New South Wales – mortality, hospital inpatients and midwives – that routinely provide the main information on deaths. For example a recent study found that the major problem was under-enumeration. This was detected when 33 per cent of the 315 deaths of Aboriginal people were found to be not coded as such in the official births, deaths and marriages records.

Also contained in the volume is a report of a Finnish-based study which found that low socioeconomic status is associated with increased risk for many health outcomes, including ischemic heart disease.

**Stevens M, Gill J, Watson C**

Prevalence of *N. meningitidis* carriage in the Katanning area.

*Communicable Diseases Intelligence* 25 February 1991 15(4):58-60

This is the report of a survey to detect the prevalence of *Neisseria meningitidis* carriage in the population of the Katanning area. The survey found that out of a sample population of 282 there was one isolation of Group C *N. meningitidis*; nine isolates of ungroupable *N. meningitidis* and 25 isolates of *Neisseria lactamica*. In passing it was noted that the presence of Group C meningococcal carriage in the population was lower than the prevalence of carriage detected during an outbreak of group A meningococcus in 1987 in an Aboriginal community in the north west of Western Australia.

The survey concluded that the prevalence of Group C meningococcus was unexpectedly low and that a larger sample was required to explore other variables.