CAUSES OF EXCESS DEATHS IN ABORIGINAL AND TORRES STRAIT ISLANDER POPULATIONS

Information Circular No. 26

QUEENSLAND HEALTH

EPIDEMIOLOGY AND HEALTH INFORMATION BRANCH

September 1994 - Reprint with amendment

INTRODUCTION

The health of Aboriginal and Torres Strait Islander people in Queensland remain the worst of any social group. While there has been considerable improvement in infant mortality rates (Figure 1), there has been no improvement in mortality rates of adults (Figure 2). Indeed, the gap between death rates for Aboriginal and Torres Strait Islander adults and other adults has widened over the last fifteen years.

The failure to improve the death rates of Aboriginal and Torres Strait Islander adults in the last fifteen years is unique. The World Bank has reported that the mortality rates of adults in the rest of the world have declined dramatically since 1950 (World Bank 1993). With the exception of the socialist economies of Eastern Europe there have been major reductions in adult mortality independent of the degree of development, political system or disease patterns. Rates have declined in sub-Saharan Africa, in India and China, in other parts of Asia, in Latin America, in the Middle East, in the Market Economies, in developing countries in total and in the world as a whole (Figure 3).

As indicated in an earlier information circular (EHIB Information Circular 10), the lack of progress in reducing mortality rates of indigenous adults in Queensland is also in marked contrast to the rapid improvements in the health of indigenous people in North America and New Zealand where life expectancies are higher than for indigenous Queenslanders (Figure 4; Table 1).

The relative life expectancies of the different groups varies by age. The greatest discrepancy between indigenous and non-indigenous people in both New Zealand and Queensland occurs for middle aged adults. For example, in New Zealand, the risk of death is twice as high for Maori men aged 40 years as it is for white 40 year old males (Smith and Pearce, 1984). In contrast, in Queensland, 40 year old indigenous men have 10 times the death rate of non-indigenous men of the same age. Forty year old indigenous women in Queensland have 12 times the risk of dying compared to non-indigenous women of the same age (Hogg and Thomson, 1992: 15).

These comparisons with the rest of the world, indicate that while the strategies that have been used in Queensland and in other parts of Australia have not been effective in reducing the excess mortality of indigenous adults in particular, it is possible to develop strategies which do work.

This circular outlines the major illness conditions associated with excess deaths and points to some of the factors which are implicated in the excess mortality in the Aboriginal and Torres Strait Islander population.

ILLNESS CONDITIONS CONTRIBUTING TO EXCESS MORTALITY

Despite the improvement in Aboriginal infant mortality rates, neonatal death rates are still twice as high as those in Queensland as a whole (Figure 5). For all ages combined four illness conditions contribute 70% of the excess deaths in Aboriginal and Torres Strait Islander populations. They are circulatory, respiratory, diabetes and accidents (Figure 6). The contribution of respiratory conditions, particularly, to excess mortality has received insufficient attention. Such conditions cause about a quarter of the excess mortality (22%) and death rates for pneumonia are nearly 17 times greater in the Aboriginal population (Figure 6).

The illness conditions which contribute most to the excess death rates in the Aboriginal and Torres Strait Islander population compared to the total population are summarised below for different age groups:

Eighty-six per cent of the excess mortality for children (0-14 years) arises from just three conditions: perinatal conditions, respiratory and infectious illnesses (Table 2).

For young adults (20-40 years) almost two-thirds of the excess deaths arise from two conditions: accidents and circulatory diseases. Accidents include drownings, falls, motor vehicle accidents and suicide (Table 3).

For older adults (40-69 years) over half of the excess deaths arise from three conditions: circulatory conditions, diabetes and respiratory conditions (Table 4).

PREVENTABLE FACTORS ASSOCIATED WITH EXCESS MORTALITY AND MORBIDITY

Between the ages of 6 and 30 months, infant nutrition is likely to be a factor in the high death rates from respiratory and other infectious diseases. For young children, monitoring of growth and nutrition, immunisation programs, and systematic attempts to influence birthweight will be necessary conditions for improved health outcomes.

A main cause of high perinatal mortality is the lower birthweights of indigenous babies. The birthweight distribution has not improved over the past 20 years and is associated with maternal health factors. The major preventable factors are: maternal nutrition, smoking, maternal age, alcohol consumption, blood pressure and infections.

Both circulatory conditions and diabetes are associated with poor nutrition. Obesity levels in the Aboriginal and Torres Strait Islander population are 3-4 times higher than in the total population (Figures 7, 8). The price and availability of fresh foods in remote locations reduce their consumption and increase the consumption of pre-packaged foods.

Respiratory conditions and circulatory conditions are associated with smoking. Smoking rates in the Aboriginal and Torres Strait Islander populations are significantly higher than in the population as a whole (Figure 9).

The combination of obesity and smoking, particularly in middle age is an important aspect of the excess mortality from cardiovascular disease. Alcohol consumption is one of the factors associated with injury. The proportion of Aboriginal and Torres Strait Islander people who consume alcohol is lower than for the rest of the population (Figure 10). However, there are some differences between the Aboriginal and Torres Strait Islander population and the total population in the consumption patterns of those who drink.

HOSPITAL SERVICE UTILISATION AND EXPENDITURE

The higher mortality rates of Aboriginal and Torres Strait Islander people are associated with higher hospital utilisation rates. Aboriginal and Torres Strait Islander people visit outpatient services nearly 5 times more often than non-Aboriginal and Torres Strait Islander people visit these services (Figure 11). Aboriginal people are admitted to hospitals more than twice as often as other people. Compared to rates of admission for other Queenslanders, the highest rates of admission are for skin disease, diabetes, infections, respiratory diseases and injuries (Figure 12).

Despite the high utilisation rates, per capita expenditure on hospital services in remote Aboriginal and Torres Strait Islander communities has been lower than for other remote populations. One consequence of this is that providing extra funding for services directed primarily at indigenous people would be more efficient, in an economic sense, than providing extra funding for those services treating other Queenslanders. That is, for every additional dollar spent on hospitals in indigenous communities, there is a better return than if the same money was spent on services whose clients are mainly non-Aboriginal and Torres Strait Islander people (Hart et. al. 1993).

REDUCING EXCESS MORTALITY RATES

As outlined in the Report of the Working Party to the National Aboriginal Health Strategy, there are five essential parts to any strategy developed to improve Aboriginal and Torres Strait Islander Health. These are:

- Integrated approach to community development: (land, housing, water, sanitation, income, employment education).
- Aboriginal and Islander control of decision making.
- Implementation of effective prevention and treatment health services for the major health problems, including those outlined above.

- Provision of resources for health services to levels at least equal to the rest of the population, as well as additional resources required to address the higher burden of illness and consequently higher use of services by the Aboriginal and Torres Strait islander populations (see above).

- Progressive improvement in the skill levels of health workers providing services to Aboriginal and Torres Strait Islander communities. Experience both in other Australian states and overseas has established that the most effective form of primary health care service delivery is through appropriately qualified indigenous health workers.

A white paper is currently being developed which will outline a model for improving the health of indigenous Queenslanders. The model will present a strategy through which Queensland Health will systematically address each of the major causes of excess mortality in the Aboriginal and Torres Strait Islander populations.

Implementation of primary health care models, such as those used effectively in other countries, are essential to reducing excess mortality levels in Aboriginal people in Queensland.

REFERENCES:

Hart, R. F. G.; Ring, I. and Runciman, C. 1993 "Comparisons of Public Hospital Activity, Hospital Expenditures and Staffing Levels for Indigenous and Non-Indigenous Settlements in Remote Queensland Localities" **Australian Journal of Public Health** 17 (4) December, 325-330.

Indian Health Service (1992) **Trends in Indian Health** Department of Health and Human Services, Maryland, U.S.A.

Hogg, R. and Thomson, N. 1992 "Fertility and mortality of Aborigines living in the Queensland Aboriginal communities 1972-1990" **Aboriginal and Torres Strait Islander Health Series No 8** Australian Institute of Health and Welfare, Canberra.

Kunitz, S.J. ,Santow, M.G., Streatfield, R. and de Craen, T. (1992) "The health of populations on North Queensland Aboriginal Communities: change and continuity" **National Centre for Epidemiology and Population Health, Working Paper 30**, A.N.U. Canberra.

Kunitz, S.J. (1990) "Public policy and mortality among indigenous peoples of North America and Australasia" **Population and Development Review** Volume 16 Number 21: 647-672.

NAHS 1989 **A National Aboriginal Health Strategy: The Report of the Working Party**, Canberra, AGPS, March.

Smith, A. H. and Pearce, N. E. 1984 "Determinants and differences in mortality between New Zealand Maoris and non-Maoris aged 15-64" **The New Zealand Medical Journal** Volume 97, No 749:102-108.

World Bank 1993 **World Development Report 1993: Investing in Health** Oxford University Press, New York.

Table 1: Life Expectancy of American Indians and U.S. Whites for Selected Years

	Life Expectancy at Birth		
Census Year	**American Indians**	**US Whites**	**Difference in Years**
1980	71.1	74.4	3.3
1970	65.1	71.7	6.6
1960	61.7	70.6	8.9
1950	60.0	69.1	9.1
1940	51.0	64.2	13.2

Source: Indian Health Service, 1992 Trends in Indian Health U.S. Department of Health and Human Services.

Table 2: The Major Illness Conditions Implicated in Excess Mortality for Aboriginal and Torres Strait Islander children (0-14 years) in Queensland

	Contribution to Excess Mortality (%)
Perinatal conditions	41
Respiratory conditions	25
Infectious illnesses	20

Source: Mortality Collection, Epidemiology and Health Information, Queensland Health.

Table 3: The Major Illness Conditions Implicated in Excess Mortality for Aboriginal and Torres Strait Islander Adults Aged 20-40 years in Queensland

	Contribution to Excess Mortality (%)
Accidents	41
Circulatory Diseases	22

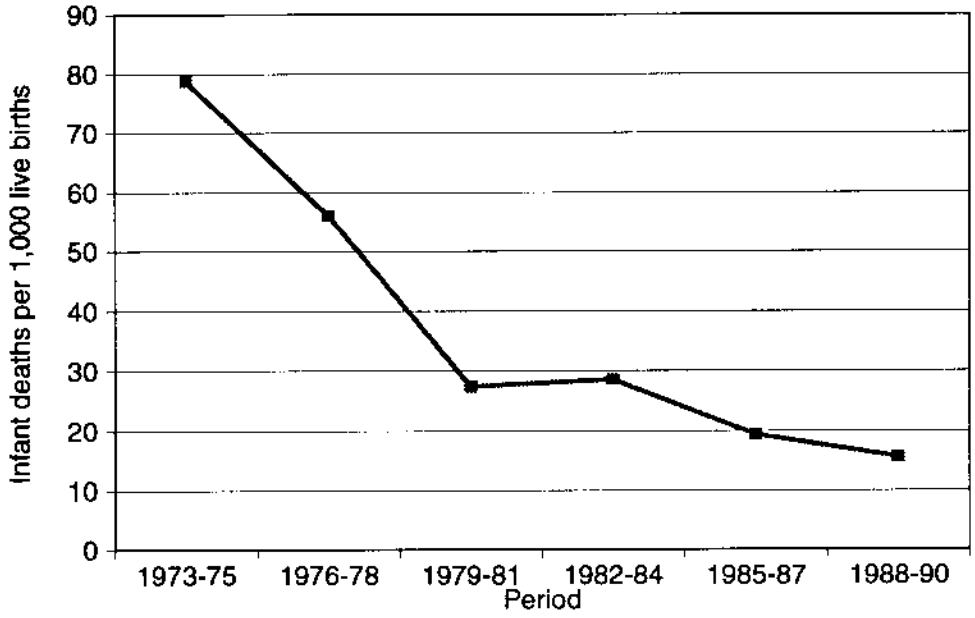
Source: Mortality Collection, Epidemiology and Health Information, Queensland Health.

Table 4: The Major Illness Conditions Implicated in Excess Mortality for Aboriginal and Torres Strait Islander Adults Aged 40-60 years in Queensland

	Contribution to Excess Mortality (%)
Circulatory Diseases	22
Respiratory Diseases	16
Diabetes	15

Source: Mortality Collection, Epidemiology and Health Information, Queensland Health.

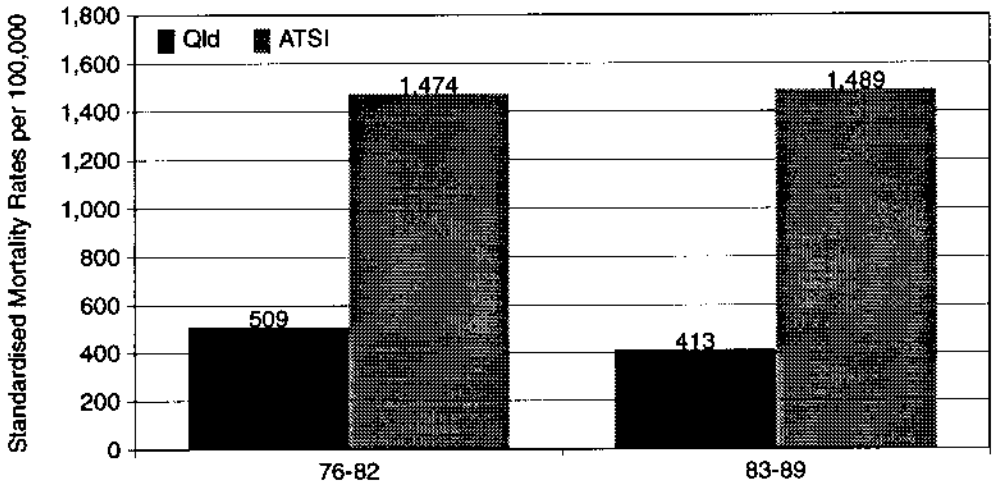
Figure 1: INFANT* MORTALITY RATES 1973-90
ABORIGINES LIVING IN THE QUEENSLAND COMMUNITIES



* Infant - within the first year of life

Source: AIHW, derived from data provided by Queensland Health

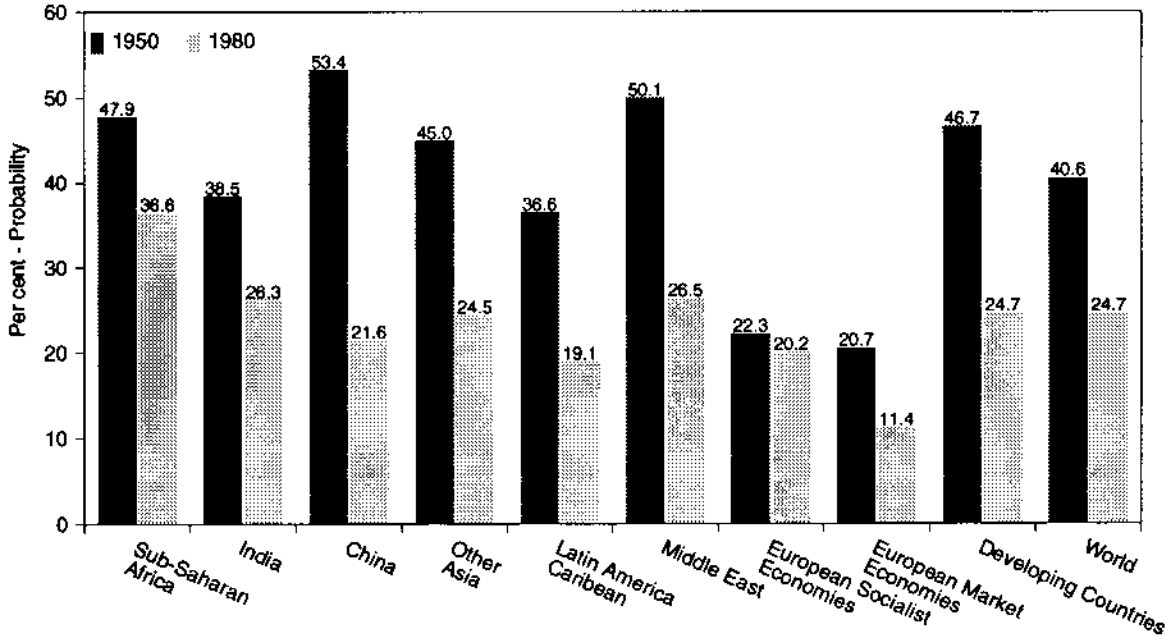
Figure 2: ESTIMATED[1] MORTALITY RATES
ATSI POPULATION[2] AND QUEENSLAND POPULATION
1976-82 & 1983-89
AGE 20-69



1. Direct standardised to the world standard population. Non ATSI population in selected SLA's assumed to have average mortality
2. SLA's with >50% ATSI population (Aurukun, Burke, Carpentaria, Mornington & Torres Strait - 75% of the population of these areas combined is ATSI)

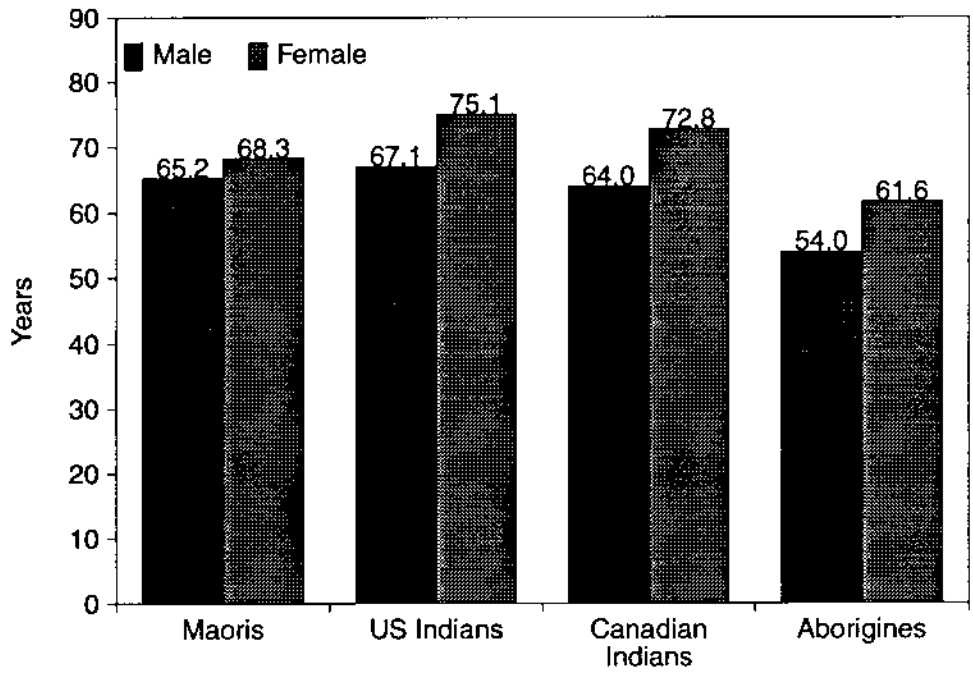
Source: Mortality Collection, Epidemiology and Health Information Branch, Queensland Health

Figure 3: PROBABILITY OF DYING FOR THE 15-59 AGE GROUP FOR MAJOR DEMOGRAPHIC REGIONS IN 1950-1980



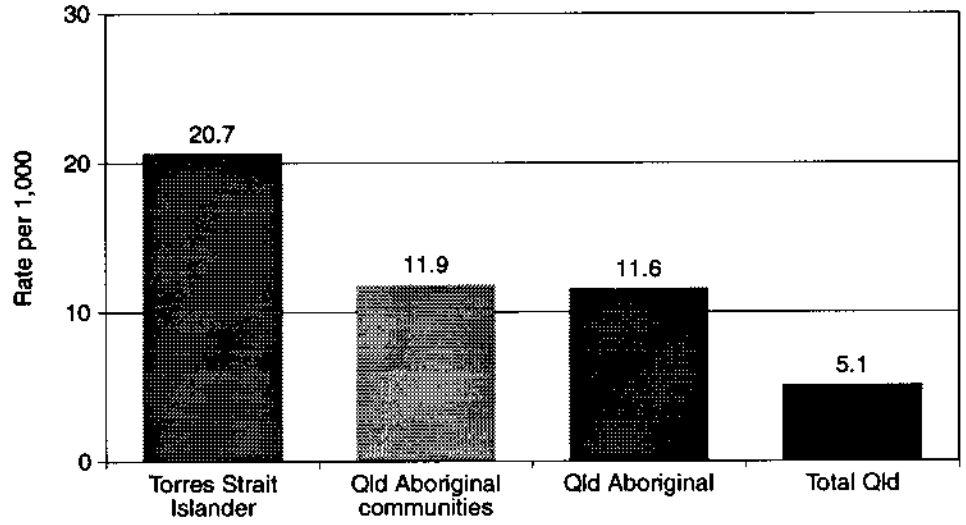
Source: World Development Report 1993, Oxford University Press.

Figure 4: LIFE EXPECTANCY AT BIRTH, FOUR INDIGENOUS POPULATIONS, 1980s



Source: Kunitz, S, Population and Development Review 16 No. 21.

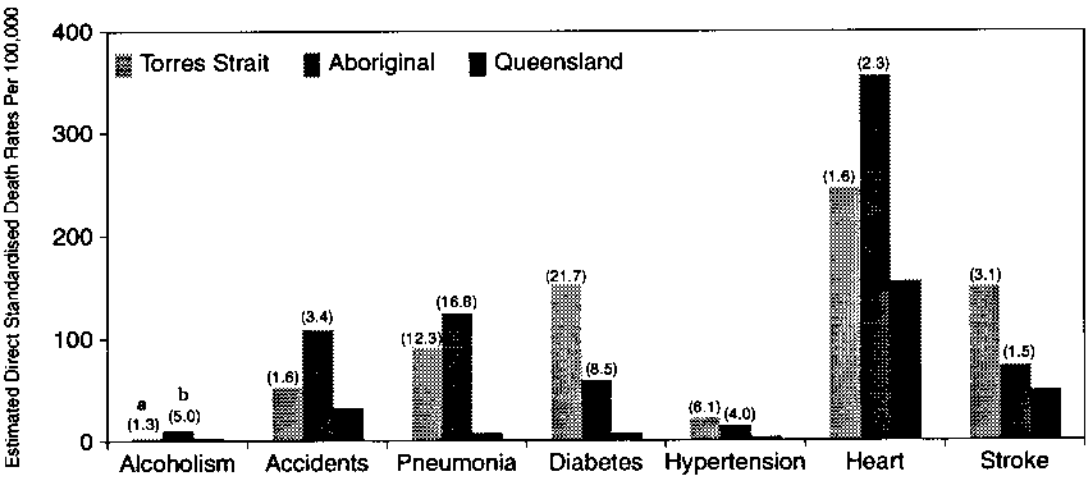
Figure 5: NEONATAL* MORTALITY RATES IN QUEENSLAND 1987-1991



* Neonatal - within 28 days of birth

Source: Epidemiology and Health Information Branch, Queensland Health

Figure 6: ESTIMATED MORTALITY[1] RATES FOR SELECTED CONDITIONS FOR TORRES STRAIT ISLANDER,[2] ABORIGINAL,[3] QUEENSLAND POPULATION 1983-89



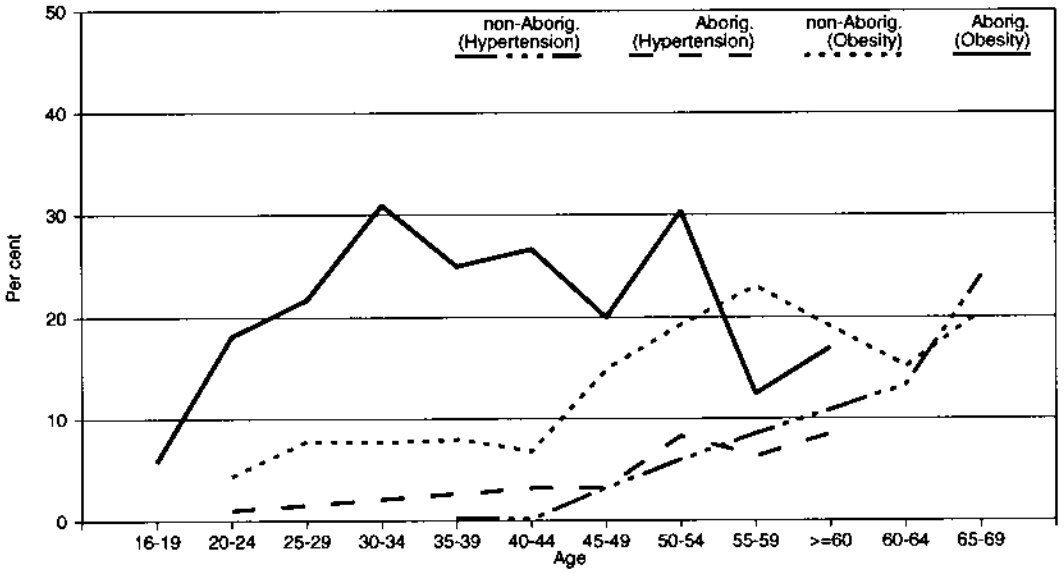
(N.B. Numbers in brackets on top of columns indicate the ratio of Aboriginal or Torres Strait Islander deaths to the deaths of the Queensland population.)

1. Direct standardised to the world standard population. Non ATSI population in selected SLAs assumed to have average mortality
2. Torres Strait
3. Burke, Carpentaria, Aurukun & Mornington Shires

a Ratio TSI/Qld rates
b Ratio Aboriginal/Qld rates

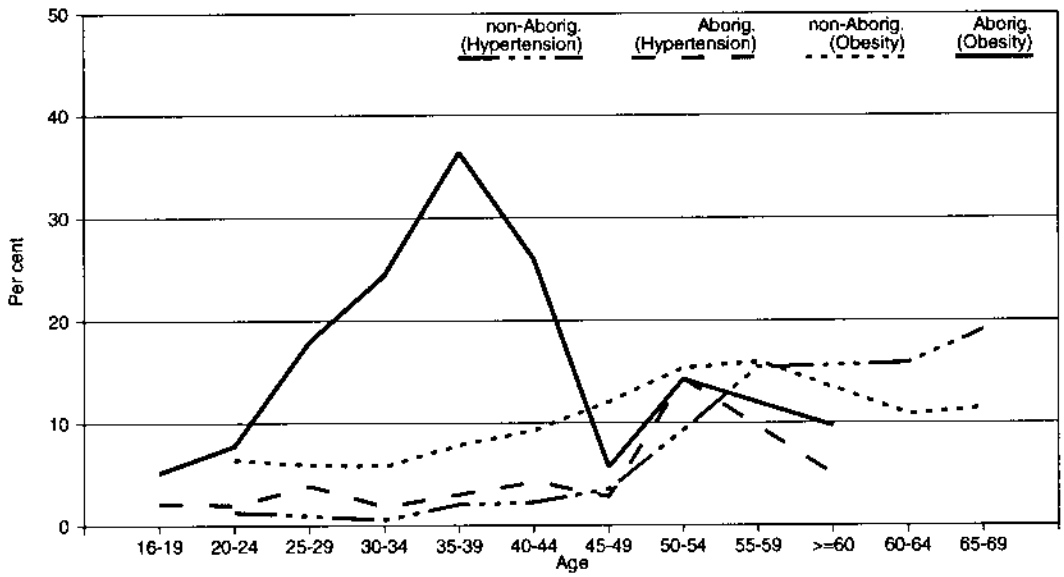
Source: Epidemiology and Health Information Branch, Queensland Health 1993

Figure 7: RESULTS OF SCREENINGS IN FOUR ABORIGINAL COMMUNITIES COMPARED WITH NON-ABORIGINAL AUSTRALIA (FEMALES)



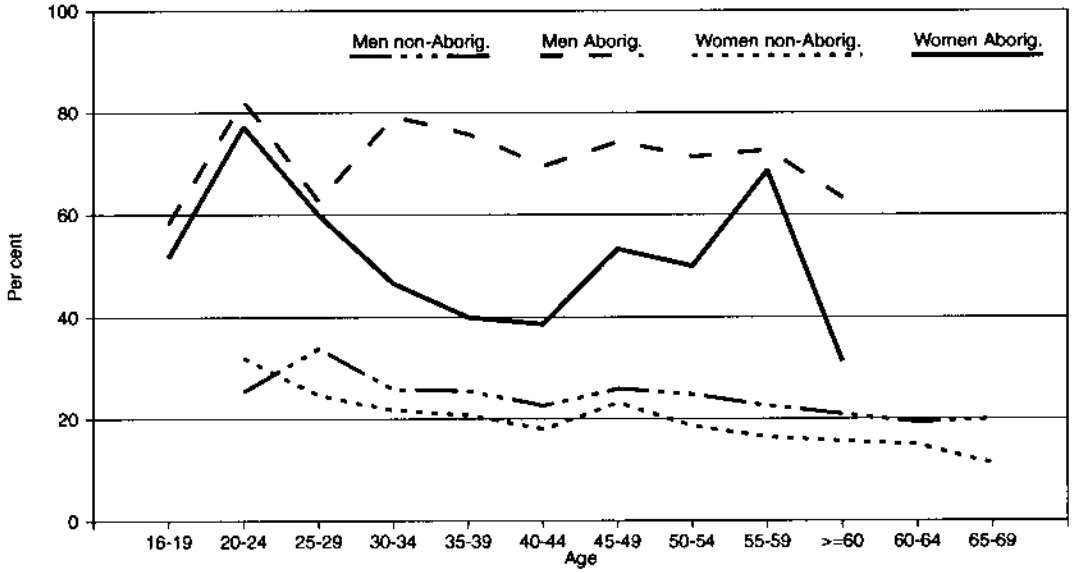
Source: Kunitz S.J. et al. NCEPH Working Paper No 30 1992

Figure 8: RESULTS OF SCREENINGS IN FOUR ABORIGINAL COMMUNITIES COMPARED WITH NON-ABORIGINAL AUSTRALIA (MALES)



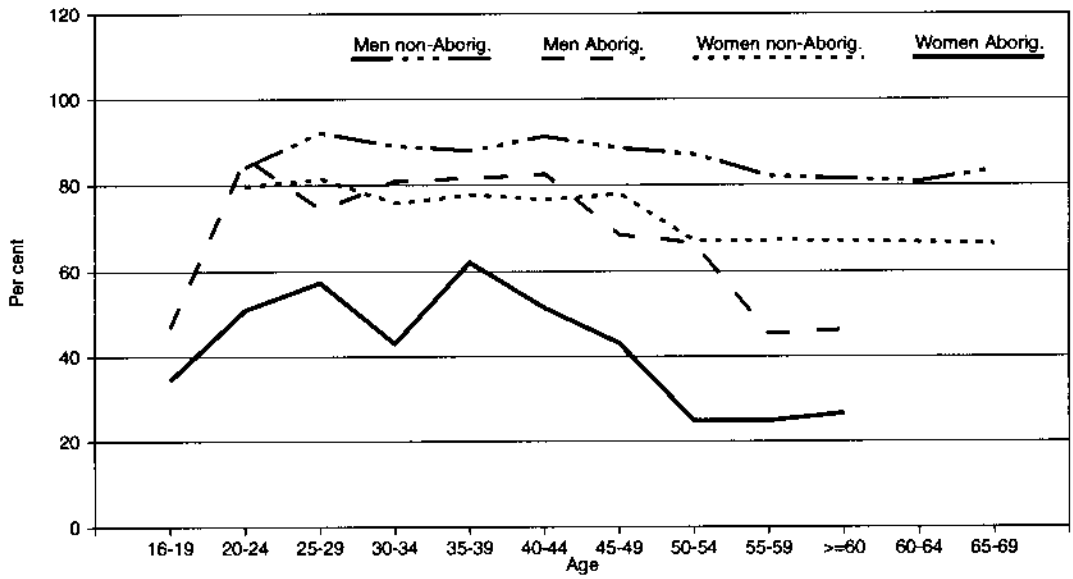
Source: Kunitz S.J. et al. NCEPH Working Paper No 30 1992.

Figure 9: USE OF TOBACCO BY ABORIGINAL WOMEN AND MEN COMPARED TO NON-ABORIGINES (IN PERCENT)



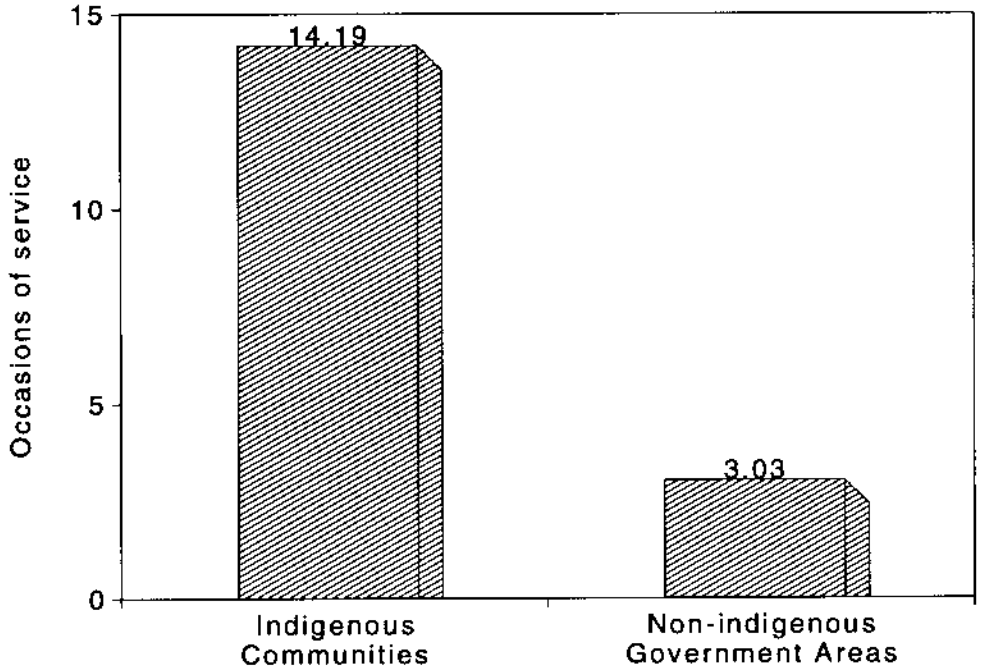
Source: Kunitz S.J. et al. NCEPH Working Paper No 30 1992.

Figure 10: USE OF ALCOHOL BY ABORIGINAL WOMEN AND MEN COMPARED TO NON-ABORIGINES (IN PERCENT)



Source: Kunitz S.J. et al. NCEPH Working Paper No 30 1992.

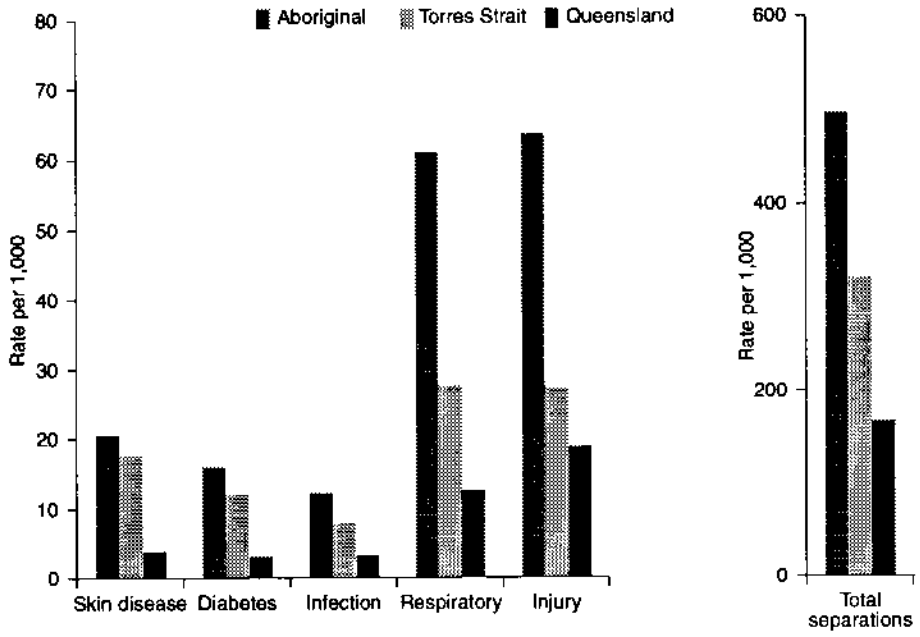
Figure 11: HOSPITAL ACTIVITY PER CAPITA 1989-90* OUTPATIENT ACTIVITY



* Occasions of service for 1989-90 have been estimated by doubling the data available for July/December 1990

Source: Epidemiology and Health Information Branch, Queensland Health, 1990

Figure 12: MAJOR CAUSES OF HOSPITAL SEPARATIONS RATES: ABORIGINAL, TORRES STRAIT ISLANDER AND TOTAL QUEENSLAND (PER 1000 PERSONS) QLD 1991



Source: Hospital Morbidity Collection, Epidemiology and Health Information Branch, Qld Health, 1991