

AUSTRALIAN INSTITUTE OF HEALTH:
ABORIGINAL AND TORRES STRAIT ISLANDER
HEALTH SERIES NO. 5

Overview of Aboriginal health status in New South Wales

Neil Thomson
Norma Briscoe



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Australian Government Publishing Service
Canberra

COPY No.....	313510
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This is No 5 of the Australian Institute of Health: Aboriginal and Torres Strait Islander health series. A description of AIH series will be found on the inside back cover of this book. Before September 1990, publications of the Institute were not issued in series. A complete list of publications is available from the Publications Section, Australian Institute of Health, GPO Box 570 Canberra ACT 2601.

National Library of Australia Cataloguing-In-Publication data

Thomson, Neil, 1942—

Overview of Aboriginal health status in New South Wales

ISBN 0644 14064 X

ISSN 1036-4838

1. Aborigines, Australian — health and hygiene — Western Australia. I. Briscoe, Norma.
II. Australian Institute of Health. III. Title. (Series: Australian Institute of Health: Aboriginal and Torres Strait Islander health series; No 5).

614.42944

Suggested citation

Thomson N and Briscoe N (1991) *Overview of Aboriginal health status in New South Wales*. Australian Institute of Health: Aboriginal and Torres Strait Islander health series No 5. AGPS, Canberra.

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Background to the report

This report has been prepared for the Royal Commission into Aboriginal Deaths in Custody as part of a consultancy arrangement, and the views presented are not necessarily those of the Royal Commission.

The report focuses on current State-wide social and health status indicators for New South Wales Aborigines and, along with similar reports for Western Australia, Queensland, South Australia and the Northern Territory, supplements the information provided to the Commission in a general Australian overview (Thomson 1990). The production of similar reports for Victoria, Tasmania and the Australian Capital Territory was prevented by the limited availability of data for those places.

It was beyond the scope of this report to undertake an analysis of the time trends of these indicators, or to summarise the available disease-specific information, usually the results of special surveys or other research. Similarly, no attempt has been made to consider in detail the underlying causes of the poor health status, or the various programs and services aimed at redressing the health disadvantages experienced by Aborigines.

Acknowledgements

The Australian Institute of Health is grateful to the Department of Health New South Wales for providing data on births, deaths and hospital admissions.

Thanks are extended also to the Queensland Department of Health, the South Australian Health Commission, the Health Department of Western Australia, the Northern Territory Department of Health and Community Services for the provision of data. The Institute acknowledges the cooperation of the South Australian Registry of Births, Deaths and Marriages in providing information on Aboriginal deaths in South Australia to the Royal Commission.

1 Introduction

Of all Australia's States and Territories, New South Wales is second only to Queensland in terms of the number of Aborigines¹ living within its borders. However, no comprehensive analysis of the health status of the State's Aborigines has ever been undertaken. The limited data available suggest that their health status is well below that of other residents of New South Wales², and comparable to that of Aborigines in other parts of Australia.

For example, for Aborigines living in country areas of the State, death rates are more than three times those of the total Australian population. Expectation of life at birth is 15 to 20 years less than that of all residents of New South Wales. Indirect evidence suggests that the mortality of Aborigines living in the State's major urban centres, Sydney, Newcastle and Wollongong, is similar, but, as for most other health indices, there have been no comprehensive studies.

The causes of the poor health of Aborigines, in New South Wales and in other parts of Australia, are complex. However, in its Australia-wide assessment of Aboriginal health, the Health Targets and Implementation (Health for All) Committee (1988) concluded that the social and economic disadvantages experienced by Aborigines were of central importance. These social and economic disadvantages, directly related to Aboriginal dispossession and characterised by poverty and powerlessness, are reflected in measures of education, employment, income and housing.

More Aborigines than non-Aborigines have never attended school, and the proportion of Aborigines who have achieved post-secondary qualifications is less than a third of the proportion of non-Aborigines. The overall rate of unemployment among Aborigines is around four times that of non-Aborigines in New South Wales. As a result, Aborigines are disproportionately represented among those people in the State living in poverty, and are much more dependent on social welfare payments than are non-Aborigines.

In 1987, almost a fifth of all Aborigines were homeless or living in inadequate accommodation, and many were without access to those facilities taken for granted by most other residents of New South Wales.

1. In this paper, the term 'Aborigines' generally will be used to mean both Australian Aborigines and Torres Strait Islanders. Aboriginal identification is in accordance with the accepted 'working definition': an Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he (she) lives (Department of Aboriginal Affairs 1981).

2. Attention is drawn to differences in the populations used for comparison purposes. Wherever possible, comparisons have been made between New South Wales Aborigines and non-Aborigines, in which cases the comparative data are described as relating to New South Wales non-Aborigines or to other residents of New South Wales. In some cases, when it has not been possible to derive separate data for non-Aborigines in New South Wales, the comparative data are described as relating to the total New South Wales population or to all residents of New South Wales. In those instances where the comparative data are for the total Australian population, they have been described as relating to the total Australian population or to all Australians.

2 The Aboriginal population

According to the 1986 Australian Census of Population and Housing, for Australia the Aboriginal population was 227,645: 206,104 Australian Aborigines and 21,541 Torres Strait Islanders (Table 1). Of these, 55,672 Australian Aborigines (27.0 per cent of the Australian total) and 3,339 Torres Strait Islanders (15.5 per cent) lived in New South Wales, making it the most populous of the States and Territories for Australian Aborigines, and the second most populous for Torres Strait Islanders. The New South Wales total Aboriginal population of 59,011 comprised 1.1 per cent of the total State population.

Table 1: Australian Aboriginal and Torres Strait Islander population, by States and Territories, 1986

<i>State/Territory</i>	<i>Total</i>	<i>Australian Aborigines</i>	<i>Torres Strait Islanders</i>	<i>Proportion of total population (%)</i>
New South Wales	59,011	55,672	3,339	1.1
Victoria	12,611	10,740	1,871	0.3
Queensland	61,268	48,098	13,170	2.4
Western Australia	37,789	37,110	679	2.7
South Australia	14,291	13,298	993	1.1
Tasmania	6,716	5,829	887	1.5
Australian Capital Territory	1,220	1,160	60	0.5
Northern Territory	34,739	34,197	542	22.4
Australia	227,645	206,104	21,541	1.5

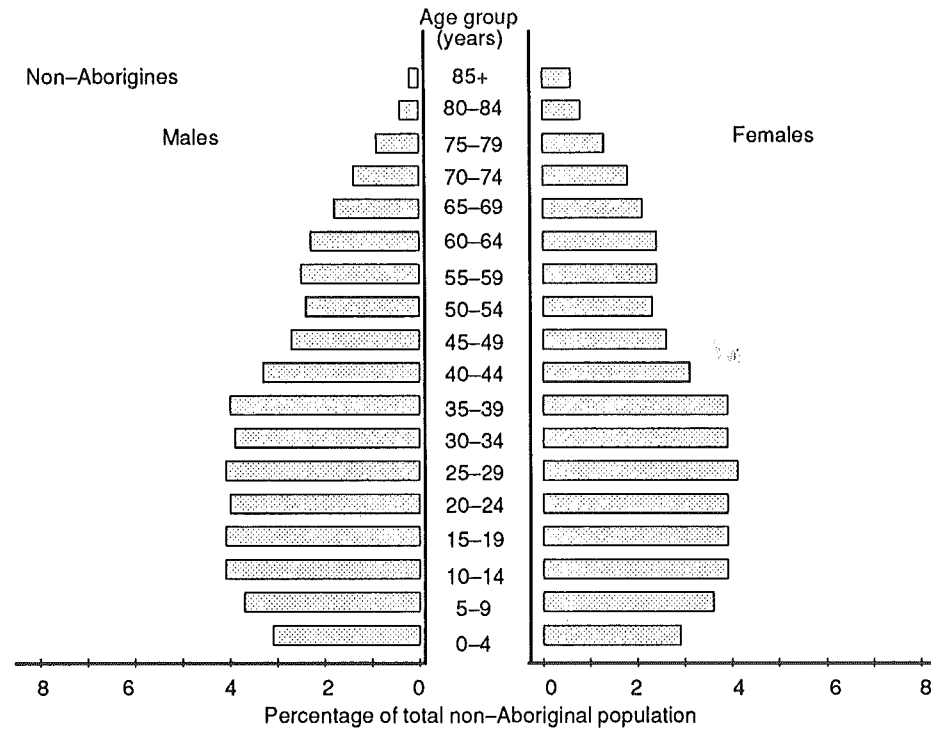
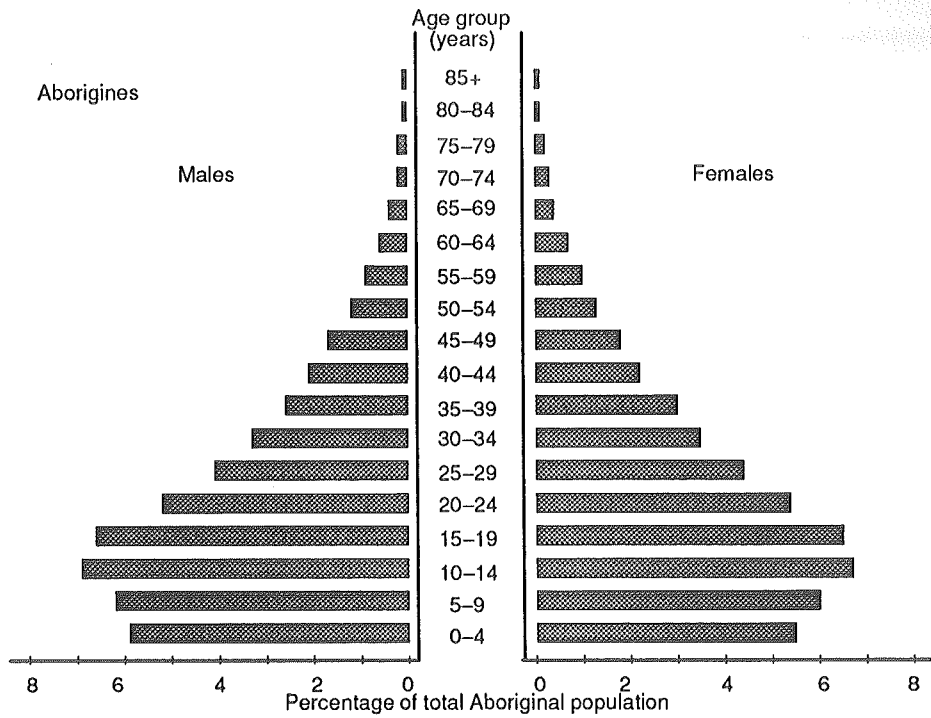
Source: Australian Bureau of Statistics, Census of population and housing 1986

Almost 18,600 Aborigines (31.5 per cent of the State's Aboriginal population, and 8.1 per cent of the total Aboriginal population of Australia) lived in the Sydney Statistical Division, with the next highest number, 8,537 (14.5 per cent), living in the North Western Statistical Division (Table 2).

The Aboriginal population is relatively young compared with the non-Aboriginal population of New South Wales. Forty per cent of Aborigines are less than 15 years of age, compared with 22.8 per cent of non-Aborigines (Figure 1). Only 3.3 per cent of Aborigines are aged 60 years or over, compared with 15.9 per cent of non-Aborigines.

The Aboriginal population of New South Wales is highly urbanised, with 82.6 per cent living in urban areas (centres with a total population of 1,000 or more), similar to the proportion of non-Aborigines, 88.1 per cent. However, a much higher proportion (68.1 per cent) of non-Aborigines live in major urban areas (centres with a total population of 100,000 or more) than do Aborigines (36.3 per cent).

Figure 1: Age structure: New South Wales, Aborigines and non-Aborigines, 30 June 1986



Source: Australian Bureau of Statistics, Census of population and housing 1986

Table 2: Aboriginal and total populations New South Wales, by Statistical Division, 1986

<i>Statistical Division</i>	<i>Aborigines</i>	<i>Total population</i>	<i>Proportion Aboriginal (%)</i>
Sydney	18,589	3,364,858	0.6
Hunter	3,839	482,775	0.8
Illawarra	2,949	309,345	1.0
Richmond-Tweed	2,721	153,009	1.8
Mid-North Coast	4,416	208,654	2.1
Northern	7,253	177,309	4.1
North Western	8,537	110,581	7.7
Central West	3,083	161,597	1.9
South Eastern	2,149	156,110	1.4
Murrumbidgee	2,745	140,520	2.0
Murray	1,523	103,110	1.5
Far West	1,167	29,162	4.0
Total	59,011	5,401,881	1.1

Note: The totals includes 40 Aborigines and 4,851 of the total population classified as 'Migratory and off-shore'.

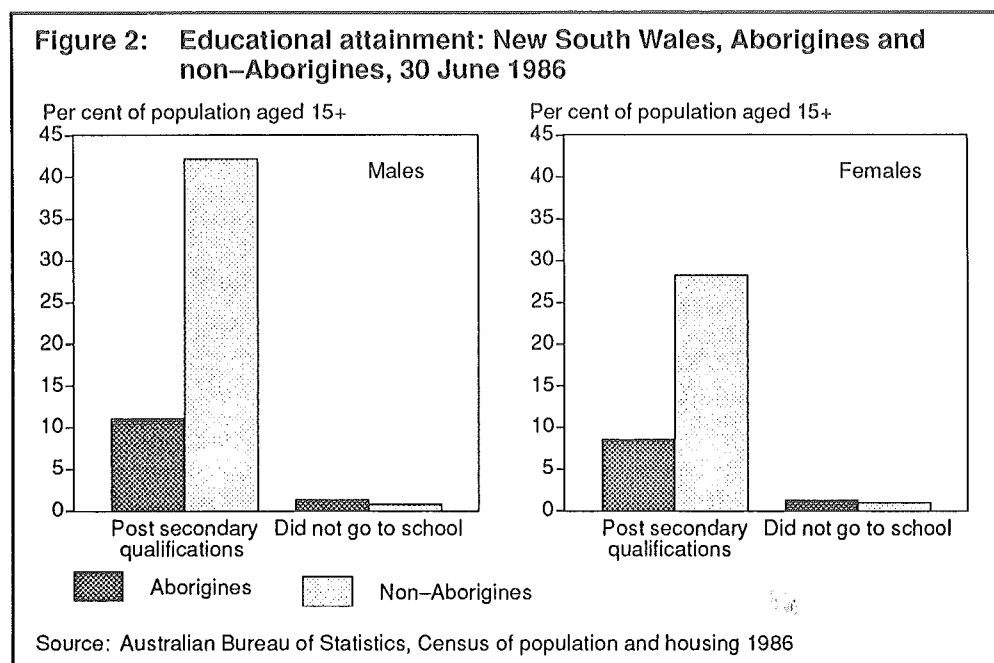
Source: Australian Bureau of Statistics, Census of Population and Housing, microfiche

3 Selected social indicators

Education

The 1986 Australian Census revealed improvements in the educational attendance of Aborigines in New South Wales. Only 0.4 per cent of Aborigines aged 15-24 years reported they had had no schooling, whereas 4.8 per cent of those aged 55 years or more had not attended school. Overall, for people aged 15 years or more, 1.3 per cent of Aborigines had never attended school, compared with 0.9 per cent of non-Aborigines (see Figure 2, which shows the proportions for males and females separately).

However, a lower proportion of Aborigines than of the total population participate in education beyond 15 years of age. In 1986, only 6.8 per cent of Aborigines aged 15-24 years were participating in post-secondary education, compared with 16.9 per cent of non-Aborigines. The net result is that only 9.8 per cent of Aborigines aged 15 years or more had achieved post-secondary qualifications, compared with 35.2 per cent of non-Aborigines. Tertiary qualifications had been achieved by 1.1 per cent of Aborigines, and by 9.4 per cent of non-Aborigines.



Employment status

According to the Census, for males aged 15 years or more, 29.7 per cent of Aborigines were not in the labour force, compared with 25.3 per cent of non-Aborigines. For females, 61.2 per cent of Aborigines were not in the labour force, compared with 52.9 per cent of other females in New South Wales. Of males in the labour force, 41.5 per cent of Aborigines were unemployed, compared with 9.7 per cent of other males in New South Wales. Of females in the labour force, 37.5 per cent of Aborigines were unemployed, as were 10.2 per cent of non-Aborigines. Figure 3 shows the proportions not in the labour

Figure 3: Labour force status: New South Wales, Aborigines and non-Aborigines, 30 June 1986



force and, of those in the labour force, the proportions employed and unemployed.

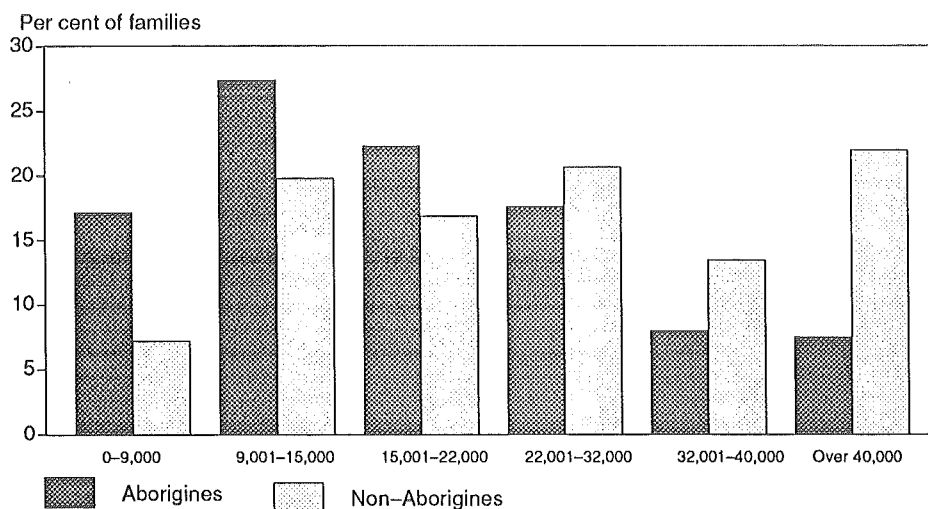
The occupational distribution of Aborigines is also atypical. Almost 37 per cent of Aboriginal males were employed in labouring and related occupations, compared with 15.8 per cent of employed non-Aboriginal males in New South Wales. More than 21 per cent of Aboriginal females were employed in these occupations, compared with 12.6 per cent of employed non-Aboriginal females. Only 14.0 per cent of the State's employed Aborigines were described as 'managers and administrators', 'professionals' or 'para-professionals', compared with 30.6 per cent of employed non-Aborigines.

Economic status

The low levels of education and high rates of unemployment result in a substantially lower economic status for Aborigines. According to the 1986 Census, for those people aged 15 years or more providing details of income, only 15.2 per cent of Aborigines had an individual income of more than \$15,000, compared with 34.9 per cent of other New South Wales residents. Only 33.1 per cent of Aboriginal families had an income of more than \$22,000, compared with 56.2 per cent of non-Aboriginal families in New South Wales (see Figure 4).

The prospects for future improvements in economic status are limited by the extent to which current Aboriginal income is derived from social security sources: a much higher proportion of Aboriginal than of non-Aboriginal income is derived from such sources.

Figure 4: Annual family income: New South Wales, Aborigines and non-Aborigines, 30 June 1986



Source: Australian Bureau of Statistics, Census of population and housing 1986

Housing

The level and standard of current housing is a clear expression of Aboriginal disadvantage, not only in remote areas, but also in long-settled parts of Australia. For Australia as a whole, it was estimated in 1987 that over 70,000 Aborigines (31 per cent of the Census population) were homeless or living in inadequate accommodation (Aboriginal Development Commission 1988). The sub-standard living conditions are generally characterised by overcrowding, inadequate water and washing facilities, poor sanitation and sewage disposal, limited food storage and sub-optimal food preparation facilities.

To adequately house New South Wales Aborigines living in sub-standard or overcrowded conditions, it was estimated in 1987 that 3,274 additional dwellings were required, at an estimated cost of \$250 million (Aboriginal Development Commission 1988).

The 1986 Australian Census confirmed that each Aboriginal dwelling housed a higher number of people than did other dwellings. For separate houses in New South Wales, the median number of occupants per dwelling was 4.7 for Aborigines and 3.4 for other residents of New South Wales.

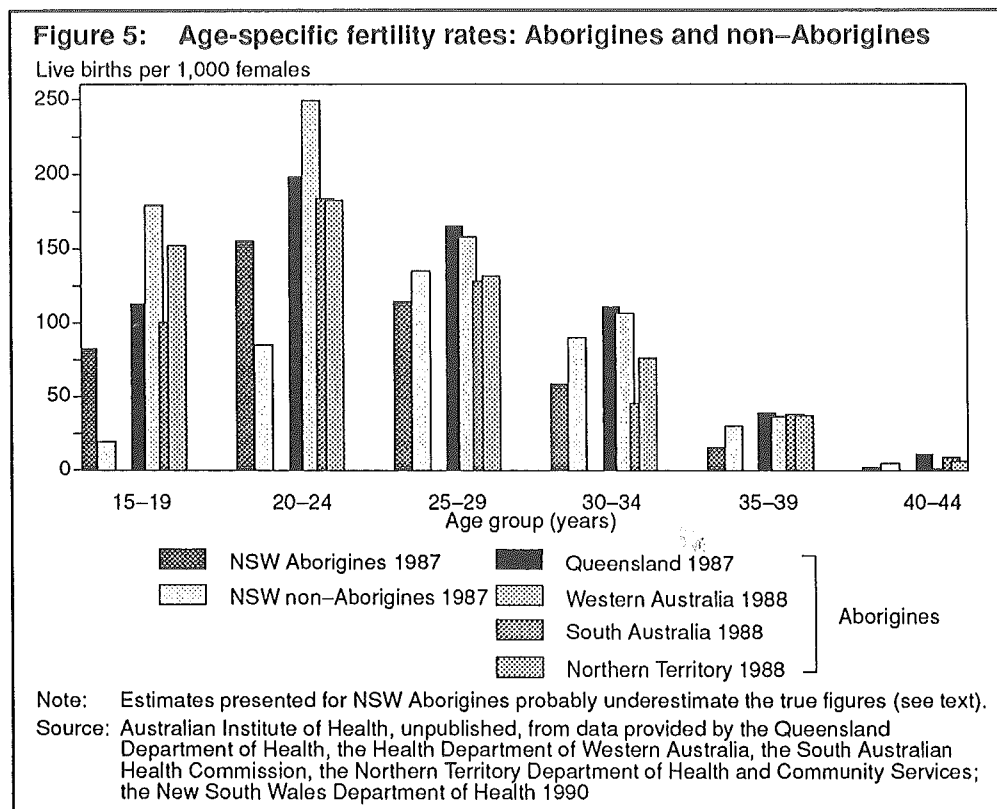
4 Fertility and pregnancy outcome

Fertility

The fertility³ of Aboriginal women living in New South Wales remains higher than that of non-Aboriginal women. This is despite the fact that Aboriginal fertility in New South Wales, and in other parts of Australia, has declined substantially since the late 1960s, largely in parallel with the decline in fertility in the total population (Gray 1983, Gray 1990a).

In an analysis of data collected by the 1981 and 1986 Censuses of Housing and Population, Gray (1990a) estimates that, for the period 1981-1986, the total fertility rate of Aboriginal women in New South Wales and the Australian Capital Territory⁴ was 2,900 births per 1,000 women, compared with 1,900 for the total Australian population.

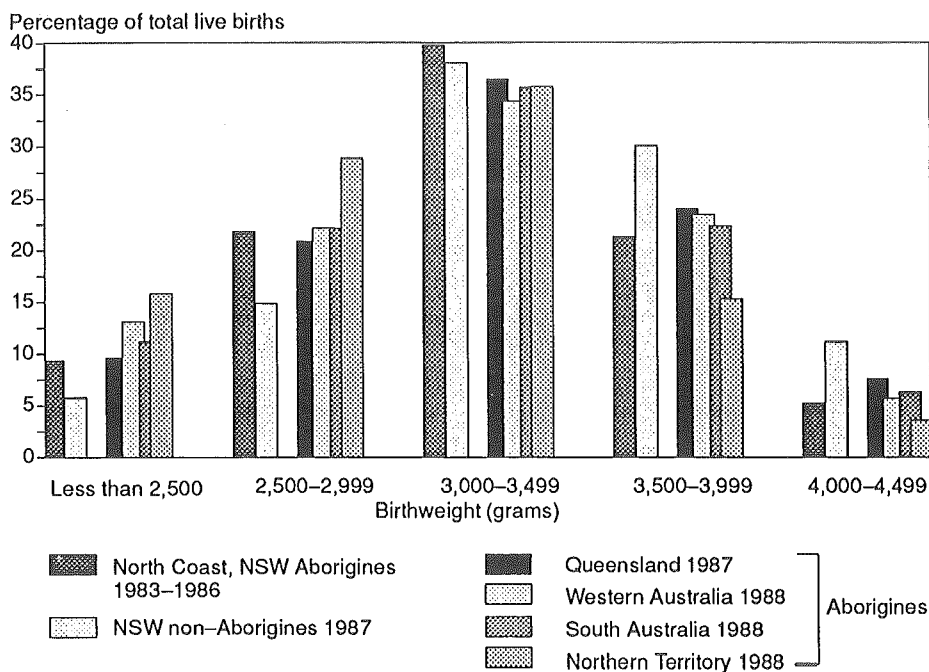
Data from the New South Wales Department of Health's maternal/perinatal collection for 1987 produce a lower estimate, 2,150 births per 1,000 Aboriginal women (New South Wales 1990). However, based on experience with the State's hospital morbidity collection (Manning and Sewell 1984, Thomson, Paden and Cassidy 1990), it is likely this lower estimate at least partly reflects incomplete identification of Aboriginal women in the maternal/perinatal collection.



3. Fertility is used in the technical sense, denoting actual, rather than potential, reproductive performance. See Glossary for further detail.

4. Because of the ACT's small population size, its population was grouped with that of NSW.

Figure 6: Birthweight distribution: Aborigines and non-Aborigines



Source: Australian Institute of Health, unpublished, from data supplied by the Queensland Department of Health, the Health Department of Western Australia, the South Australian Health Commission and the Northern Territory Department of Health and Community Services; and Australian Bureau of Statistics 1987; New South Wales Department of Health 1990; Thomson unpublished

The maternal/perinatal collection confirmed the higher proportion of young mothers among Aborigines than among non-Aborigines. Of the births identified, 25.4 per cent of Aboriginal women having babies in 1987 were 19 years or younger, compared with 5.3 per cent of other New South Wales women.

The age-specific fertility rates derived from the maternal/perinatal collection are shown in Figure 5, along with estimates for Aborigines in a number of other States. However, because of the probable under-identification of Aboriginal mothers in New South Wales, the differences between Aborigines in New South Wales and the other States is not likely to be as great as appears from Figure 5.

Birthweight

The material published from the maternal/perinatal collection provides little useful information about birthweights, but data from a study of Aboriginal births in the North Coast region of the State suggests that, as in other States, the weights of babies born to Aboriginal women are less than those of babies born to non-Aboriginal women (Thomson unpublished). In the period 1983-1986, the mean birthweight of 603 babies born to Aboriginal women was 3,225 grams, and the median weight was 3,235 grams. These birthweights are about 150 grams less than those estimated from an aggregation of the available Australia-wide data for non-Aboriginal women in the period 1983-1987: a mean weight of 3,360 grams and median weight of 3,385 grams (Thomson 1989).

The material published from the maternal/perinatal collection does permit an estimate of the the proportion of babies of low birth weight (less than 2,500 grams) born to Aboriginal women. For singleton births in New South Wales in 1987, 10.8 per cent of babies born to Aboriginal women were of low birth weight, compared with 5.9 per cent of babies born to non-Aboriginal women. This estimate for Aboriginal women is slightly higher than that found in the study of Aboriginal births in the North Coast region, 9.4 per cent (Thomson unpublished). In the absence of State-wide estimates, the distribution of birthweights from the North Coast study are shown in Figure 6, along with estimates from other States.

5 Mortality

Data sources

Although provision is made for the identification of Aborigines in the notification of deaths in New South Wales, the incompleteness of identification is such that it is not possible to make reliable State-wide estimates of Aboriginal mortality. In the absence of State-wide figures, it is necessary to rely on estimates from small studies in country areas of the State.

The most recent study, of deaths occurring in western New South Wales in the period 1984-1987, reported 205 deaths to the estimated 4,629 Aboriginal males, and 110 to the estimated 4,728 Aboriginal females. Some of the figures presented here may differ slightly from those appearing in the source publication, as they have been recalculated to enable them to be more directly compared with the results of other studies.

Expectation of life

For Aboriginal males living in western New South Wales in 1984-1987, the expectation of life at birth was 54.3, about 19 years less than that of the total male population of New South Wales in 1986, 73.2 years (see Table 3 and Figure 7). For Aboriginal females, the expectation of life at birth was 64.8 years, 14 years less than that of the total female population of New South Wales in 1986, 78.8 years.

These estimates of expectation of life at birth for Aborigines living in western New South Wales are broadly consistent with those for Aborigines living in other parts of Australia. The estimate for Aboriginal females is virtually the same as that derived from an intercensus survival analysis applied to the total New South Wales and Australian Capital Territory population figures from the 1981 and 1986 Australian Censuses (see Table 4) (Gray 1990), but the estimate for males is slightly lower than the intercensus survival estimate of 56.9 years.

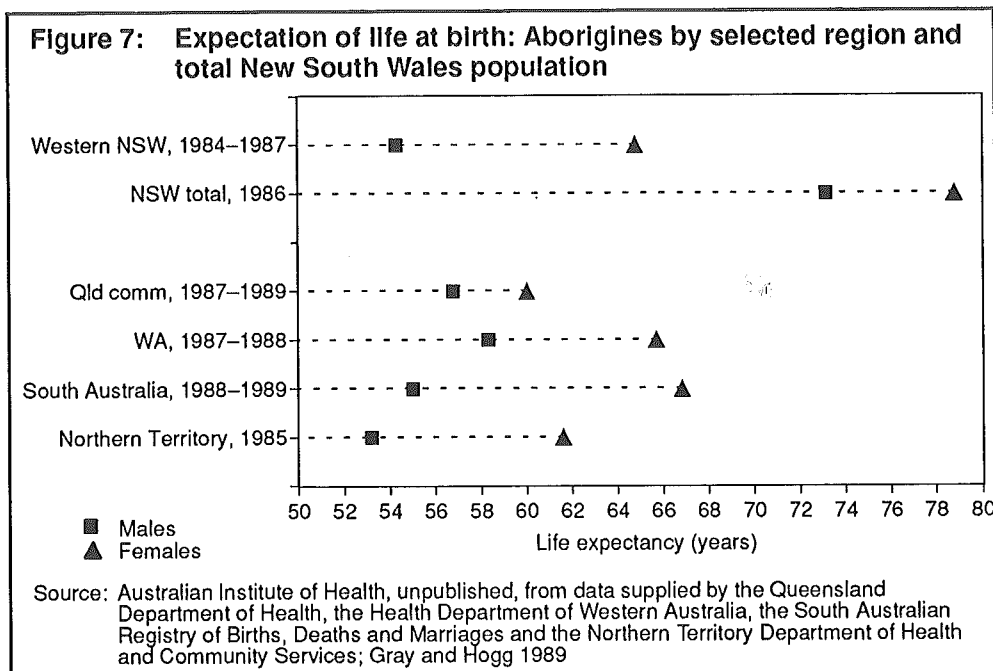


Table 3: Expectation of life at birth: Aborigines for selected regions, by sex

	<i>Male</i>	<i>Female</i>
Western New South Wales, 1984-1987	54.3	64.8
Queensland communities, 1987-1989	56.8	60.0
Western Australia, 1987-1988	58.3	65.7
South Australia 1988-1989	55.0	66.8
Northern Territory, 1985	53.2	61.6

Source: Australian Institute of Health, unpublished, from data supplied by the Queensland Department of Health, the Health Department of Western Australia, the South Australian Registry of Births Deaths and Marriages and the Northern Territory Department of Health and Community Services; Gray and Hogg 1989

Table 4: Expectation of life at birth: Aborigines for States and Territories, based on intercensal survival estimates (years)

	<i>Male</i>	<i>Female</i>
New South Wales/Australian Capital Territory	56.9	65.0
Victoria/Tasmania	57.2	66.6
Queensland	55.6	63.9
Western Australia	55.3	63.2
South Australia	56.2	65.1
Northern Territory	53.7	61.8
Australia	55.7	63.9

Source: Gray 1990b

Standardised mortality

After adjustment is made for differences in the age structures of the Aboriginal and total Australian populations⁵, the death rate of Aboriginal males living in western New South Wales in 1984-1987 was 3.6 times that of the 1986 total Australian male population. The death rate of Aboriginal females was 3.2 times that of the 1986 total Australian female population. Table 5 shows the number of observed and expected deaths for Aborigines living in western New South Wales, along with the standardised mortality ratios (including 95 per cent confidence intervals) (see also Figure 8). For comparison, data from a number of other regions are also shown.

The actual differences between the mortality of Aborigines in western New South Wales and that of the total State population are very slightly less than the standardised mortality ratios suggest, as overall mortality in New South Wales is higher than that of the total Australian populations. For New South Wales overall, in 1986 there were 22,571 male deaths and 19,596 female deaths. Based on age-specific death rates for the total Australian populations (the standard populations used for the estimates of the SMRs), 21,861 male deaths (SMR 1.03 (1.02-1.05)) and 18,975 female deaths (SMR 1.03 (1.02-1.05)) would be expected.

5. A technique known as indirect standardisation is used to provide an estimate of the number of deaths expected by the various Aboriginal sub-populations if they experienced the same age-specific death rates as a standard population. The ratio of the number of deaths observed to the number expected is known as the standardised mortality ratio (SMR). In this analysis, the 1986 total Australian male and female populations have been used as the standards.

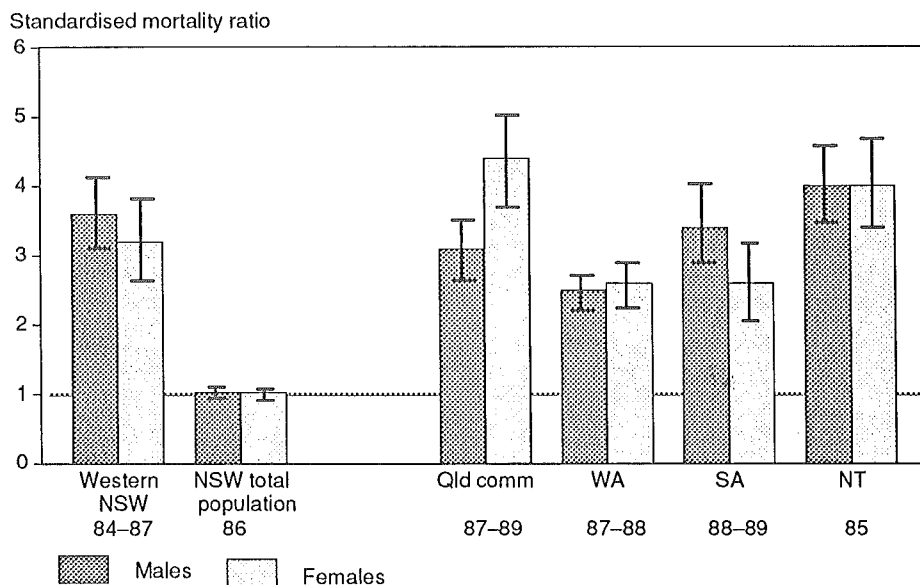
Table 5: Aboriginal observed and expected number of deaths, and standardised mortality ratios

<i>Male</i>	<i>Observed No</i>	<i>Expected No</i>	<i>SMR</i>
Western New South Wales, 1984-1987	205	56.8	3.6 (3.1-4.1)
Queensland communities, 1987-1989	226	73.8	3.1 (2.7-3.5)
Western Australia, 1987-1988	387	156.9	2.5 (2.2-2.7)
South Australia, 1988-1989	155	45.4	3.4 (2.9-4.0)
Northern Territory, 1985	209	52.2	4.0 (3.5-4.6)
<i>Female</i>	<i>Observed No</i>	<i>Expected No</i>	<i>SMR</i>
Western New South Wales, 1984-1987	110	34.6	3.2 (2.6-3.8)
Queensland communities, 1987-1989	168	38.4	4.4 (3.7-5.0)
Western Australia, 1985-1986	240	93.3	2.6 (2.2-2.9)
South Australia, 1988-1989	90	34.0	2.6 (2.1-3.2)
Northern Territory, 1985	151	37.4	4.0 (3.4-4.7)

Note: The estimated numbers of deaths and the SMRs may differ slightly from those provided in the sources, as they have been recalculated using the 1986 age-specific death rates of the total Australian male and female populations.

Source: Australian Institute of Health, unpublished, from data supplied by the Queensland Department of Health, the Health Department of Western Australia, the South Australian Registry of Births Deaths and Marriages and the Northern Territory Department of Health and Community Services; Gray and Hogg 1989

Figure 8: Standardised mortality ratios: Aborigines compared with total New South Wales population



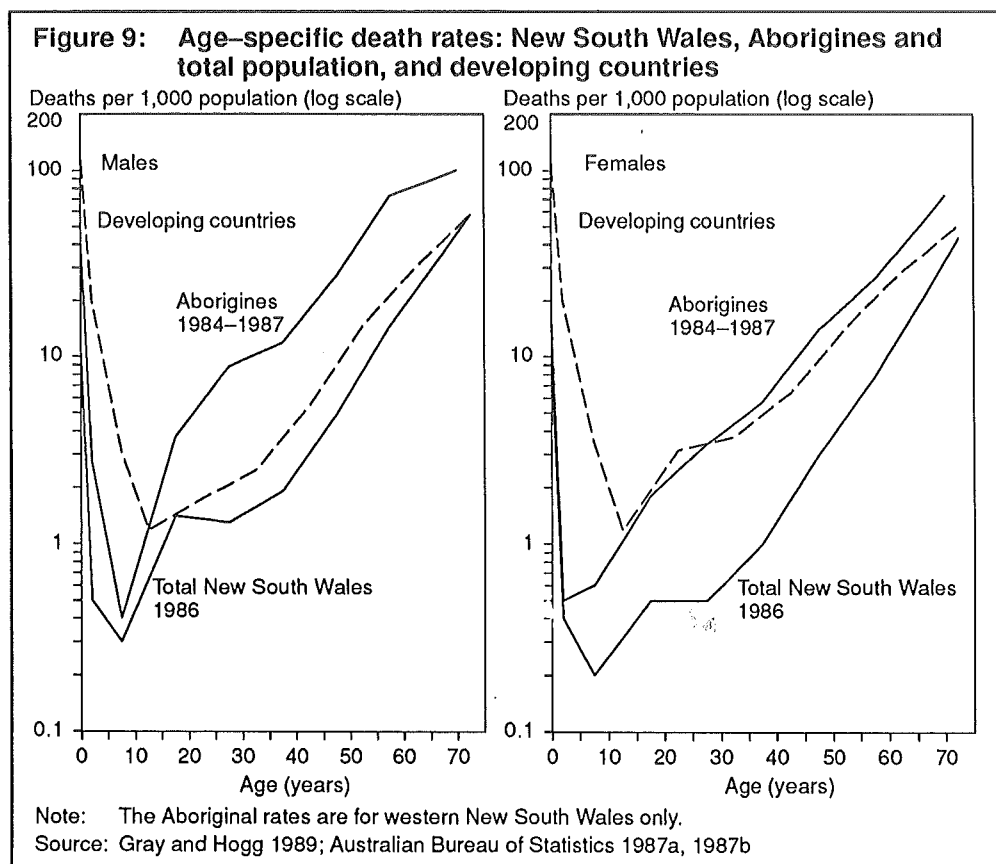
Note: The vertical lines indicate the 95% confidence range for each SMR. The SMRs have been estimated using the age-specific death rates for the 1986 Australian populations.

Source: Australian Institute of Health, unpublished, from data supplied by the Queensland Department of Health, the Health Department of Western Australia, the South Australian Registry of Births Deaths and Marriages and the Northern Territory Department of Health and Community Services; Gray and Hogg 1989; Australian Bureau of Statistics, Deaths Australia 1985, Cat No.3302.0

Age-specific death rates

The most striking aspect of Aboriginal mortality is the higher death rates experienced by young adults. The ratio of the age-specific death rates for Aborigines living in western New South Wales (1984-1987) to those for the total New South Wales population (1986) were highest for young adults. The highest rate ratios, 6.7 for males and 6.4 for females, were for people aged 25-34 years. For all age-groups, the age-specific death rates for Aborigines living in western New South Wales were higher than those for the total population of New South Wales (Figure 9).

For Aboriginal males, the pattern of age-specific death rates is highly unusual, even compared with the rates typical of a developing country, also shown in Figure 9. While Aboriginal male death rates in infancy and early childhood are much lower than those in developing countries, beyond the teenage years the position is reversed, with death rates for young and middle aged Aboriginal adults being higher. For Aboriginal females, death rates in infancy and early childhood are much lower than those in developing countries, but the age-specific death rates for adults are similar to those typical of a developing country.

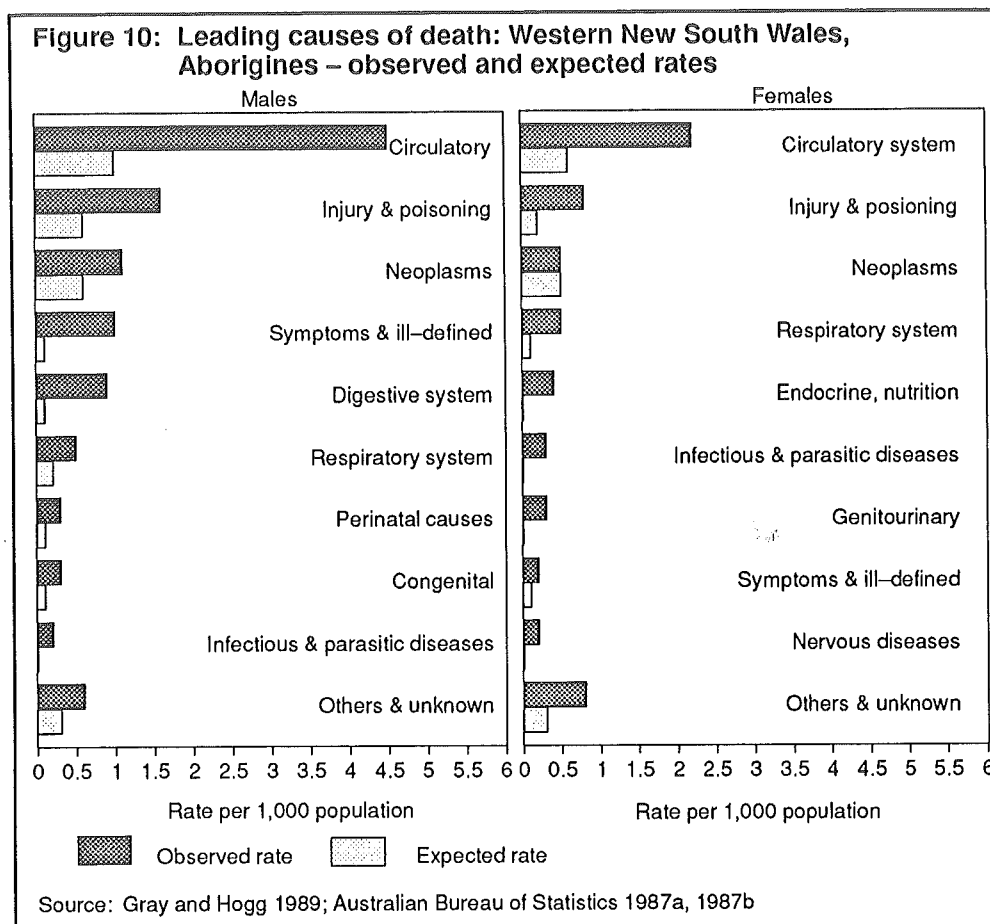


Causes of death

For Aborigines living in western New South Wales in 1984–1987, the major cause of death, for both males and females, was disease of the circulatory system (see Figure 10). Overall, death rates from these diseases, including ischemic and other heart disease, were 4.4 times higher than expected for males, and 3.5 times higher for females. Disease of the circulatory system accounted for 44 per cent of the excess mortality experienced by Aboriginal males, and for 39 per cent of that experienced by Aboriginal females.

The second most frequent cause of death, for males and females, was the ICD group 'External causes of injury and poisoning' (including motor vehicle and other accidents, suicide and self-inflicted injury, and homicide and injury purposely inflicted by others). Overall death rates were 2.8 times higher than expected for males, and 3.8 times higher for females. In terms of the excess mortality for Aborigines living in western New South Wales, causes of death in this group were responsible for 13 per cent of the excess experienced by Aboriginal males, and for 15 per cent of that experienced by Aboriginal females.

In 1984–1987, malignant neoplasms contributed the next highest number of deaths, both of males and females. Overall death rates were 1.7 times higher than expected for males, and 1.1 times for females. Malignant neoplasms were responsible for six per cent of the excess mortality experienced by Aboriginal males, but for only one per cent of that experienced by Aboriginal females.



Excluding deaths classified in the group 'Symptoms, signs and ill-defined conditions', which includes deaths for which the cause is unknown, the next highest number of deaths of males was attributed to disease of the digestive system. Many of these deaths were related to liver disease, often resulting from alcohol use (Gray and Hogg 1989). For males, the overall death rate was 9.9 times higher than expected, and these causes were responsible for 10 per cent of the excess mortality.

For females, disease of the respiratory system was the fourth most frequent cause of death (it was sixth for males), with an overall death rate 5.2 times higher than expected. Causes in this group were responsible for 10 per cent of the excess mortality experienced by Aboriginal females, but for only four per cent of that experienced by males.

Fetal and infant mortality

Unfortunately, there are no routine statistics available in New South Wales to enable estimation of Aboriginal fetal and infant mortality.

For 1980-1981, as part of an analysis of deaths occurring in a number of country areas of New South Wales, the Aboriginal infant mortality rate was estimated at 25 infant deaths per 1,000 live births, 2.4 times the rate for the total New South Wales population (Smith, Thomson and Gray 1983).

For Aborigines living in western New South Wales in 1984-1987, there were 31 infant deaths, 21 of males and 10 of females (Gray and Hogg 1989). In the absence of information on the number of Aboriginal births for this area and period, it is not possible to make a precise estimate of the infant mortality rate. However, an estimate of the number of births can be made by applying likely age-specific fertility rates to the estimated female population of the area. From these rates, it is likely that there were between 1,040 and 1,100 births to Aboriginal mothers for the period 1984-1987, leading to an estimated infant mortality rate of between 28 and 30 infant deaths per 1,000 live births.⁶

This rate is broadly similar to those from areas with more reliable estimates. These estimates reveal that the infant mortality rate has declined significantly since the early 1970s, from around 80 infant deaths per 1,000 live births to an overall rate of 26.1 per 1,000 in 1986-1988, 3.0 times that of the total Australian population (see Table 6). For all regions, the major decline occurred during the 1970s, and there has been much less improvement in the 1980s.

The other useful indicator of fetal and infant survival is the perinatal mortality rate, which is the number of late fetal deaths (death of a fetus of at least 500 grams or, if weight is not known, of at least 22 weeks gestation; also known as stillbirths) and neonatal deaths (deaths of live born infants within the first 28 days of life) per 1,000 total births (live births plus late fetal deaths). Some caution needs to be used in comparing the figures quoted here with international figures, some of which relate only to late fetal deaths and the deaths of live born infants within the first seven days of life.

6. In this paper, the estimation of Aboriginal rates has followed the convention of using as the denominator the number of births to Aboriginal mothers, disregarding the race of the father. This convention developed because of the absence of separate figures of the numbers of births to non-Aboriginal mothers and Aboriginal fathers. The exclusion of such births from the denominator will result generally in overestimation of the level of Aboriginal infant mortality, the presence and extent of overestimation depending on the numbers of these births relative to the numbers born to Aboriginal mothers, and on the actual identification of babies and of infant deaths. The preparation of precise estimates requires accurate information about the identification of babies, for both the denominator (births) and numerator (deaths). Since the definition of Aboriginality involves an element of self-identification, it is possible that some deaths of Aboriginal infants may not be identified as such if the infant's Aboriginality is assessed without reference to the parents. On the other hand, it is also possible that some babies with an Aboriginal mother or father may not in fact be identified by their parents as such.

For New South Wales, the only estimate of the Aboriginal perinatal mortality rate is that derived in the analysis of deaths occurring in a number of country areas in 1980-1981 (Smith, Thomson and Gray 1983). The perinatal death rate was estimated at 39 deaths (late fetal plus neonatal) per 1,000 total births, 2.7 times the rate for the total New South Wales population.

Again, this estimate is similar to those from other parts of Australia (see Table 7). For 1986-1988, the overall Aboriginal perinatal mortality rate of 32.4 perinatal deaths per 1,000 total births was 3.0 times that of the total Australian population.

Table 6: Infant mortality rates^(a-d), Aboriginal and total Australian population, by triennium

	Queensland communities		Western Australia		South Australia		Northern Territory		Total population Australia
1972-1973	82.6	(5.0)	na		na		83.4	(5.0)	16.6
1974-1976	63.4	(4.3)	na		na		52.8	(3.6)	14.8
1977-1979	42.0	(3.5)	25.8	(2.1)	na		55.9	(4.7)	12.0
1980-1982	27.2	(2.6)	25.1	(2.4)	na		34.9	(3.4)	10.3
1983-1985	28.1	(2.9)	25.1	(2.6)	na		33.5	(3.5)	9.6
1986-1988	20.7	(2.4)	24.1	(2.8)	20.4	(2.3)	32.2	(3.7)	8.7

(a) Rates are infant deaths per 1,000 live births.

(b) Numbers in parentheses are the Aboriginal:total population rate ratios.

(c) Except for the first period (1972-1973) and the figures included under 1977-1979 for Western Australia, these estimates represent the grouped data for three-year periods. Reliable data are not available for 1971, nor for Western Australia for 1977.

(d) The data provided for 1988 by the South Australian Health Commission have been updated with figures from Hampton and Rogers 1990.

Source: Australian Institute of Health, unpublished, from data supplied by the Queensland Department of Health, the Health Department of Western Australia, the South Australian Health Commission and the Northern Territory Department of Health and Community Services; Australian Bureau of Statistics 1988a, 1988b

Table 7: Perinatal mortality rates^(a,b): Aborigines and total Australian population, by triennium

	Queensland communities		Western Australia		South Australia		Northern Territory		Total population Australia
1972-1973	52.3	(2.2)	na		na		56.7	(2.4)	23.4
1974-1976	63.4	(3.0)	na		na		55.4	(2.6)	21.2
1977-1979	40.8	(2.5)	23.6	(1.4)	na		58.0	(3.5)	16.3
1980-1982	21.4	(1.6)	32.0	(2.4)	na		49.0	(3.6)	13.6
1983-1985	35.3	(3.0)	23.1	(1.9)	29.2	(2.4)	36.2	(3.0)	11.9
1986-1988	32.1	(2.9)	19.6	(1.8)	33.1	(3.0)	46.1	(4.2)	10.9

(a) Rates are late fetal deaths plus neonatal deaths per 1,000 total births (live births plus late fetal deaths).

(b) Numbers in parentheses are the Aboriginal:total population rate ratios.

Source: Australian Institute of Health, unpublished, from data supplied by the Queensland Department of Health, the Health Department of Western Australia, the South Australian Health Commission and the Northern Territory Department of Health and Community Services; Australian Bureau of Statistics 1988a, 1988b; Hampton and Rogers 1990

6 Hospitalisation

Provision for the identification of Aborigines in hospital admissions has existed in New South Wales since 1977, but the identification is known to be incomplete (Manning and Sewell 1984, Thomson 1986, Thomson, Paden and Cassidy 1990). Although the precise extent of the under-identification is uncertain, it was found that only 81 per cent of Aboriginal admissions to hospitals in the North Coast region of the State were correctly recognised as such (Thomson, Paden and Cassidy 1990), and the situation in the urban areas of Sydney, Newcastle and Wollongong is much worse (Manning and Sewell 1984, Thomson 1986).

Admission⁷ rates

Despite the known under-identification of Aborigines in hospital admissions, data for 1986 from the New South Wales hospital morbidity collection reveal an excess of hospitalisation for Aborigines. For males, the standardised admission rate for those Aborigines identified was 1.7 times the rate for non-Aborigines. For females, the rate for identified Aborigines was 1.3 times that for non-Aborigines. However, based on estimates for country regions of New South Wales in 1984 (Thomson 1986), and for Western Australia and South Australia (Thomson and Briscoe 1991a, 1991b), it is likely that the true admission rates for Aborigines in New South Wales are at least twice, and possibly up to three times, those for non-Aborigines.

Age-specific admission rates

Even with the under-identification of Aborigines in hospital admissions, for virtually every age group, age-specific admission rates were higher for Aborigines than for non-Aborigines. As for the total population, Aboriginal age-specific rates were highest for older people. For males, the highest Aboriginal:non-Aboriginal admission rate ratio was for the 35-44 year age group. For females, the rate ratio was highest for the 0-4 year age group.

Causes of hospitalisation

In 1986, the leading causes of those admissions identified as being of Aborigines were similar to those documented for States with more complete identification of Aboriginality.

For males, the leading cause of hospitalisation was disease of the respiratory system (ICD 460-519), with more than a half of the admissions being contributed by the 0-4 year age group.

Conditions classified within the ICD group 'External causes of injury and poisoning' (ICD E800-E999) contributed the next highest number of admissions, with conditions classified in the ICD group 'Mental disorders' (ICD 290-319) being the next most frequent cause of hospitalisation.

For the admissions identified as being of Aboriginal females, after pregnancy-related admissions the leading cause of hospitalisation was disease of the respiratory system, followed by 'External causes of injury and poisoning' and the ICD group 'diseases of the digestive system' (ICD 520-579).

7. Hospitalisation data are usually reported in terms of 'separations', comprising discharges, transfers and deaths. However, in this paper the more generally understood term 'admission' is used.

7 Summary

The available data reveal that the health status of the New South Wales Aboriginal population is much lower than that of other residents of the State.

The mortality of Aborigines living in western New South Wales is around three to 3.5 times that of the total Australian population. The major cause of Aboriginal deaths is disease of the circulatory system, including heart disease, with injuries also making a substantial contribution to the excess mortality experienced by Aborigines.

The greatest differences between Aboriginal and non-Aboriginal death rates is found among young and middle aged adults. The net result of the excess mortality experienced by Aborigines living in western New South Wales is that the expectation of life at birth of Aborigines is much less than that of other residents of New South Wales, around 19 years for males, and 14 years for females.

For Aborigines in New South Wales, birth rates are higher than those of non-Aborigines, particularly for women in the teenage years. The proportion of low birth weight for babies born to Aboriginal women is almost twice that for babies born to non-Aboriginal women.

No routine data are available about Aboriginal infant mortality in New South Wales, but it is likely that the rate of deaths is between two and three times that of the total population.

For Aborigines, the number of admissions to hospital is under-estimated, but admission rates are likely to be between two and three times that of non-Aborigines in New South Wales.

The magnitude of the health problems experienced by the New South Wales Aboriginal population justifies the special targeting of problems announced recently by the State Minister for Health, Mr Peter Collins (Media Release, 16 August 1990). Clearly, much needs to be done if Aborigines in New South Wales are to achieve a standard of health similar to that of other residents of the State.

Glossary

Aborigine/Torres Strait Islander. A person of Aboriginal or Torres Strait Islander descent who identifies as an Aborigine or Torres Strait Islander and is accepted as such by the community in which he (she) lives.

age specific death rate. Number of deaths in a specified period of persons of a specific age group per 1,000 persons of the same age group.

age specific fertility rate. The number of live births to women in a specified age group in one year per 1,000 women in the same age group.

age standardised. Weighted average of age-specific rates according to a standard distribution of age to eliminate the effect of different age distributions and thus facilitate valid comparison of groups with differing age compositions.

expectation of life. Predicted number of years of life remaining to a person if the present pattern of mortality does not change.

fertility. The actual production of live offspring. Fetal deaths and abortions are not included in the measurement of fertility in a population.

fertility rate. See age specific fertility rate.

infant death. Death of an infant within a year of birth.

infant mortality rate. Number of infant deaths per 1,000 live births.

late fetal death. Birth of a fetus weighing at least 500 grams (or where birthweight is unavailable, of at least 22 weeks gestation), which shows no signs of life.

late fetal death rate. Number of late fetal deaths per 1,000 total births, live and stillborn.

low birthweight. Less than 2,500 grams.

neonatal death. Death of an infant within 28 days of birth.

neonatal mortality rate. Number of neonatal deaths per 1,000 live births.

perinatal death. Stillbirths (fetal deaths) plus neonatal deaths.

perinatal mortality rate. Number of perinatal deaths per 1,000 total births.

postneonatal death. Death between 28 days and one year of birth of an infant surviving the neonatal period.

postneonatal mortality rate. Number of postneonatal deaths per 1,000 live births.

prevalence. The number of instances of a given disease or other condition in a given population at a designated time.

Queensland Aboriginal communities. Data relate to Aurukun, Bamaga, Cherbourg, Doomadgee, Pormpuraaw (Edward River), Hopevale, Kowanyama, Lockhart River, Gununa (Mornington Island), Palm Island, Weipa South, Woorabinda, Wujal Wujal and Yarrabah. Some recent data also include Camooweal, Cowal Creek, Thursday Island and Weipa North.

relative risk. The ratio of the risk of disease or death among the exposed to the risk among the unexposed.

stillbirth. See late fetal death.

stillbirth rate. See late fetal death rate.

total fertility rate. The number of live births a woman would have if, throughout her reproductive years, she had children at the rates prevailing in the reference calendar year. It is the sum of the age specific fertility rates for that calendar year.

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