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Overview of Aboriginal health status in South Australia

Neil Thomson
Norma Briscoe



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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. The views presented are not necessarily those of the Royal Commission.

The report focuses on current State-wide social and health status indicators for South Australian Aborigines and, along with similar reports for New South Wales, Queensland, Western Australia and the Northern Territory, it 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 South Australian Health Commission for providing data on births, deaths and hospital admissions.

Thanks are extended also to the Department of Health New South Wales, the Queensland Department of Health, the Health Department of Western Australia and 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

The South Australian Health Commission's 1988 review of the health status of the State's residents concluded that 'the health status of Aboriginal populations¹ is unacceptable by any standard and should be a leading priority [for action]' (Esterman et al 1988).

The review directed particular attention to Aboriginal mortality and morbidity, which were found to be excessive for a wide variety of conditions. Specific mention was made of diabetes mellitus, hypertension, obesity, eye disorders, injuries (including burns), alcohol-related diseases, respiratory infections, scabies and other skin diseases, disorders of the ear, disorders of the gut, kidney and other urinary tract diseases, tuberculosis, hepatitis B and other infectious and parasitic diseases.

The perinatal and infant death rates of Aborigines were about three times those of non-Aborigines². For babies born to Aboriginal mothers, the risk factors identified were higher proportions of babies of low birthweight, premature births, low Apgar scores and prolonged times to establish regular spontaneous breathing. The higher proportions of Aboriginal mothers in the teenage years, of high parity and with few antenatal visits were also believed to contribute to the higher perinatal and infant death rates.

The South Australian review did not report on the undoubtedly complex causes underlying the poor health status of the State's Aborigines. 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.

Far more Aborigines than non-Aborigines have never attended school, and the proportion of Aborigines who have achieved post-secondary qualifications is less than a quarter of the proportion of non-Aborigines.

The overall rate of unemployment among Aborigines is more than three times that of other South Australians. 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 other South Australians.

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

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 South Australian Aborigines and non-Aborigines. In these instances, the comparative data are described as relating to South Australian non-Aborigines or to other South Australians. In some cases, it has not been possible to derive separate data for non-Aborigines in South Australia or the data have not been suitable for comparison, in which cases the comparative data are described as relating to the total South Australian population or to all South Australians. In those cases 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, 14,291 (6.3 per cent) lived in South Australia, for which State Aborigines comprised 1.1 per cent of the total population. In South Australia, 41 per cent of Aborigines lived in the Adelaide Statistical Division, and 34 per cent in the Northern Statistical Division (Table 2).

The Aboriginal population of South Australia is relatively young compared with the total Australian population. Almost 39 per cent of Aborigines are less than 15 years of age, compared with 24 per cent of the total population (Figure 1). Only 4.2 per cent of South Australian Aborigines are aged 60 years or over, compared with more than 13 per cent of the total Australian population.

Almost 72 per cent of the State's Aborigines live in urban areas (centres with a total population of 1,000 or more), compared with 85 per cent of non-Aborigines. About 20 per cent of Aborigines live in 'other rural' locations: an increasing number in small groups in their traditional homelands, and the rest in Aboriginal towns and settlements on Aboriginal lands and reserves.

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>
South Australia	14,291	13,298	993	1.1
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
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

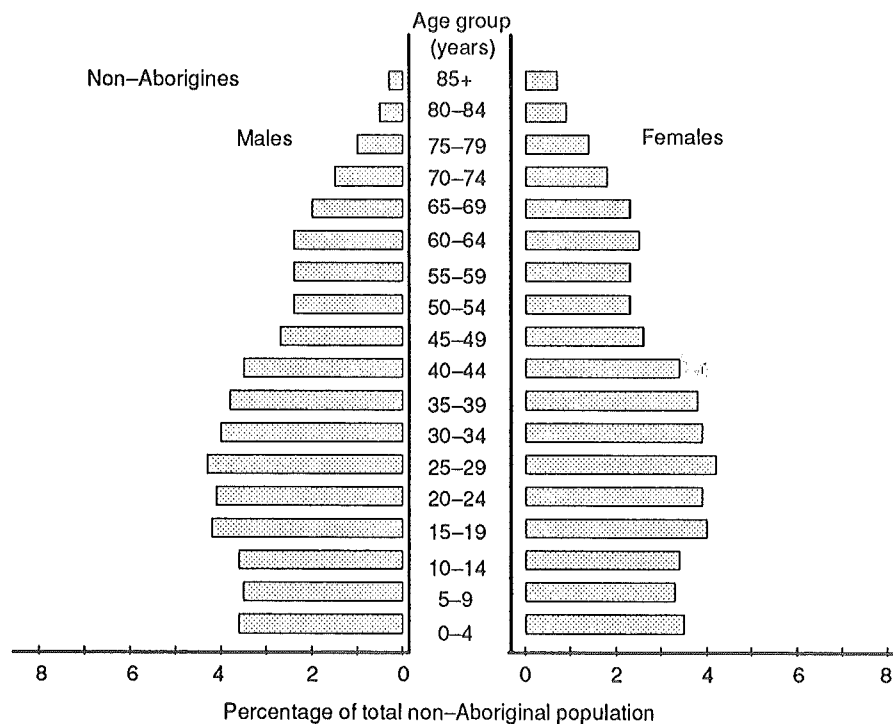
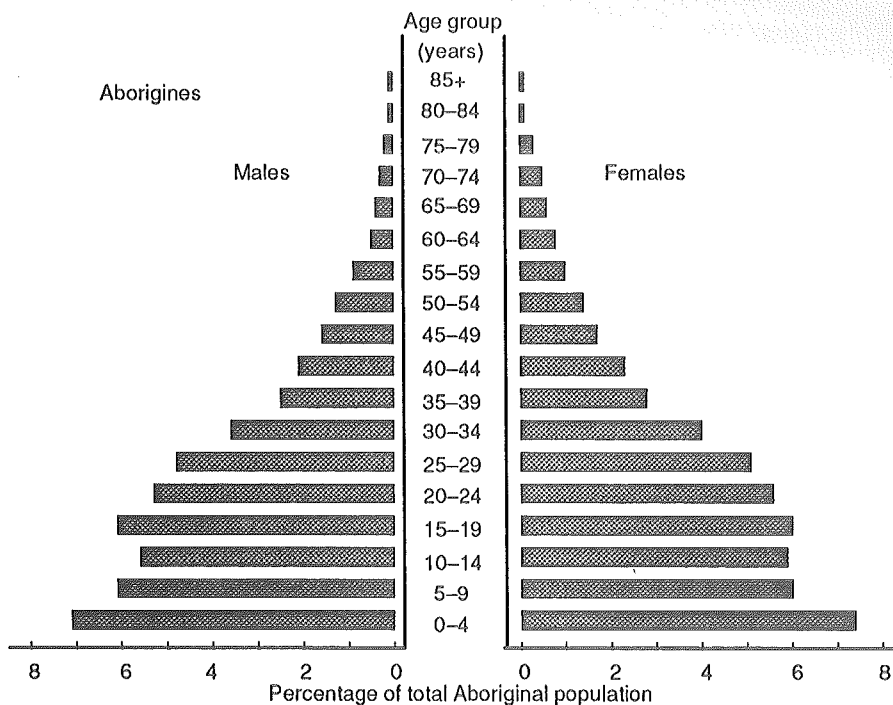
Table 2: Aboriginal and total populations, South Australia, by Statistical Division, 1986

<i>Statistical Division</i>	<i>Aborigines</i>	<i>Total population</i>	<i>Proportion Aboriginal (%)</i>
Adelaide	5,825	977,721	0.6
Outer Adelaide	283	78,205	0.4
Yorke and Lower North	427	42,142	1.0
Murray Lands	1,174	63,370	1.9
South East	379	60,251	0.6
Eyre	1,261	33,644	3.7
Northern	4,924	88,328	5.6
Total	14,291	1,345,945	1.1

Note: The totals include 18 Aborigines and 2,284 other persons classified under 'Migratory and off-shore'.

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

Figure 1: Age structure: South Australian Aboriginal and non-Aboriginal populations, 30 June 1986



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

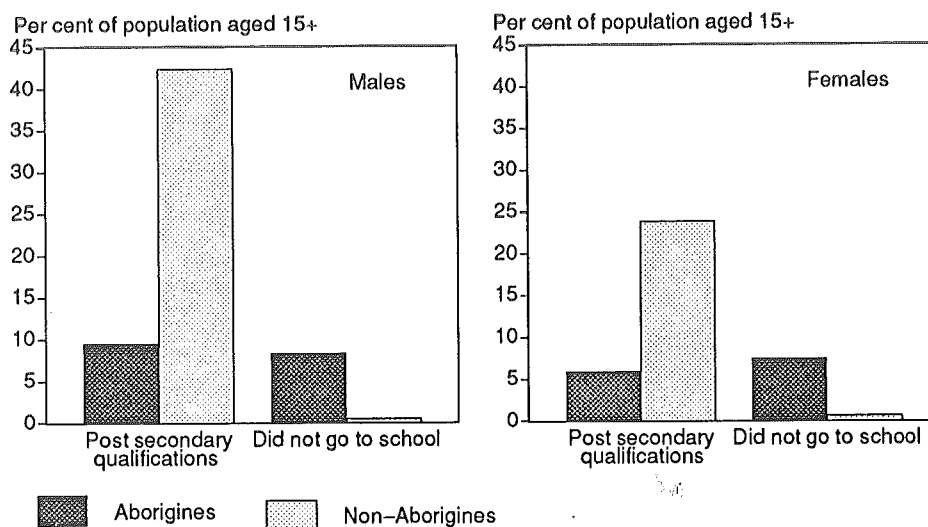
3 Selected social indicators

Education

The 1986 Australian Census revealed substantial improvements in educational attendance of Aborigines in South Australia. Almost 98 per cent of Aborigines aged 15 to 24 years had had some schooling, whereas 25.5 per cent of those aged 55 years or more had not attended school. Overall, for people aged 15 years or more, 7.8 per cent of Aborigines had never attended school, compared with 0.6 per cent of non-Aborigines (see Figure 2, which shows the proportions for males and females separately).

Despite these improvements, a lower proportion of Aborigines than of the total population participate in education beyond 15 years of age. In 1986, 11.5 per cent of Aborigines aged 15-24 years were participating in post-secondary education, compared with 24.7 per cent of non-Aborigines. Only 7.6 per cent of Aborigines had achieved post-secondary qualifications, compared with 32.9 per cent of other South Australians (see Figure 2). Tertiary qualifications had been achieved by 1.6 per cent of Aborigines, and by 9.5 per cent of non-Aborigines.

Figure 2: Educational attainment: South Australia, Aborigines and non-Aborigines, 30 June 1986



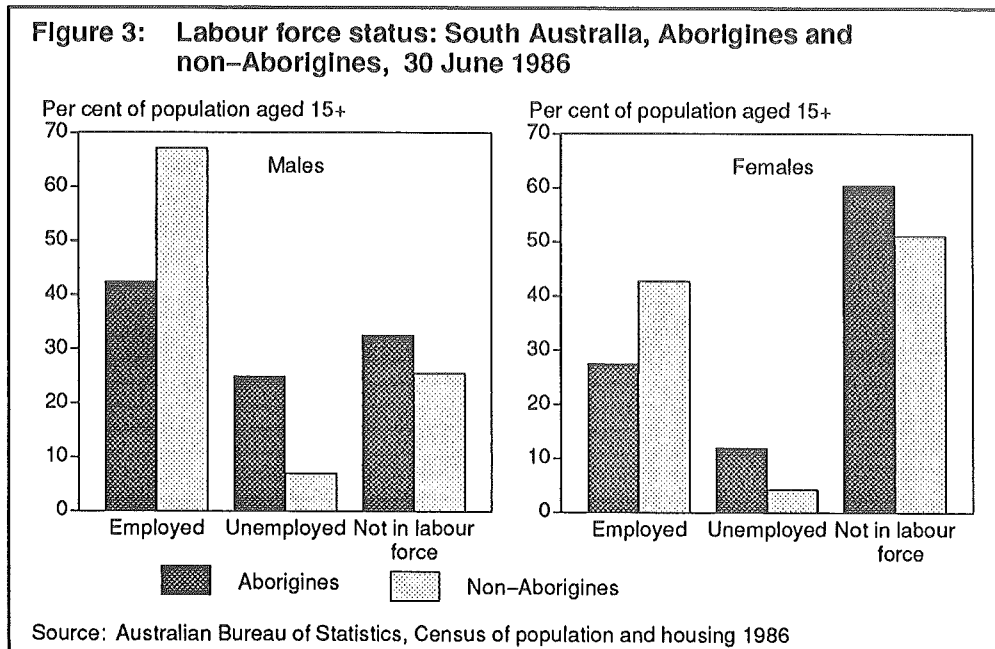
Source: Australian Bureau of Statistics, Census of population and housing 1986

Employment status

The lower educational level of Aborigines no doubt contributes to their poor employment status. According to the Census, for males aged 15 years or more, 32.6 per cent were not in the labour force, compared with 25.6 of non-Aborigines. For females, 60.5 per cent of Aborigines were not in the labour force, compared with 52.1 per cent of other South Australians. Of males in the labour force, 37.1 per cent of Aborigines were unemployed, almost four times the proportion of other males in South Australia, 9.5 per cent. Of females, 30.3 per cent of Aborigines were unemployed, as were 9.2 per cent of

non-Aborigines. Figure 3 shows the proportions of Aborigines and non-Aborigines not in the labour force and, of those in the labour force, the proportions employed and unemployed. Unemployment rates were particularly high for Aborigines in the 15-24 year age group, with 49.9 per cent of males and 43.4 per cent of females being unemployed.

The occupational distribution of Aborigines is also atypical. Of employed Aboriginal males, 37.1 per cent worked in labouring and related occupations, compared with 15.3 per cent of employed non-Aboriginal males in South Australia. Of employed Aboriginal females, 22.2 per cent worked in these occupations, compared with about 15.2 per cent of employed non-Aboriginal females. Only 20.1 per cent of the State's employed Aborigines were described as 'managers and administrators', 'professionals' or 'para-professionals', compared with 31.4 per cent of employed non-Aborigines.

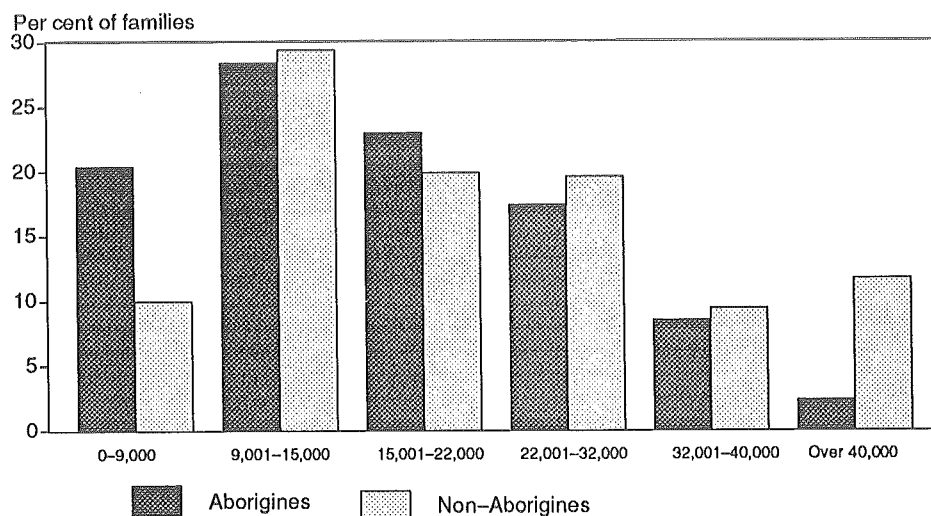


Economic status

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, 13.8 per cent of Aborigines had an individual income of more than \$15,000, compared with 23.8 per cent of other South Australians. Only 30.7 per cent of Aboriginal families had an income of more than \$22,000, compared with 40.3 per cent of non-Aboriginal families in South Australia (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 greater proportion of Aboriginal than of non-Aboriginal income is derived from such sources.

Figure 4: Annual family income: South Australia, 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 Aboriginal South Australians living in sub-standard or overcrowded conditions, it was estimated in 1987 that 1,403 additional dwellings were required, at an estimated cost of \$117.5 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 South Australia, the median number of occupants per dwelling was 4.5 for Aborigines and 3.2 for other South Australians.

4 Fertility and pregnancy outcome

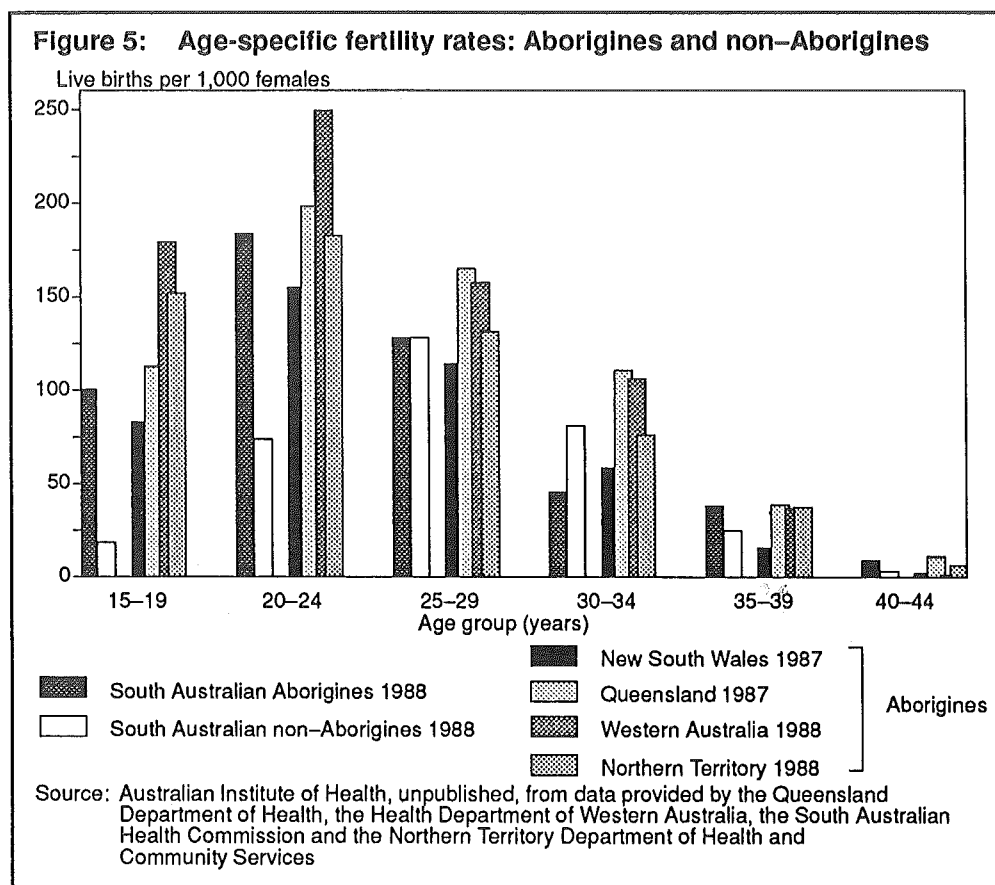
Fertility

The fertility³ of Aboriginal women in South Australia remains much higher than that of non-Aboriginal women. This is despite the fact that Aboriginal fertility in South Australia, 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).

Data from the South Australian Health Commission's maternal/perinatal collection for 1988 confirm that the higher present-day fertility of Aboriginal women is largely due to the great excess of births occurring at young ages, including the teenage years (see Figure 5).

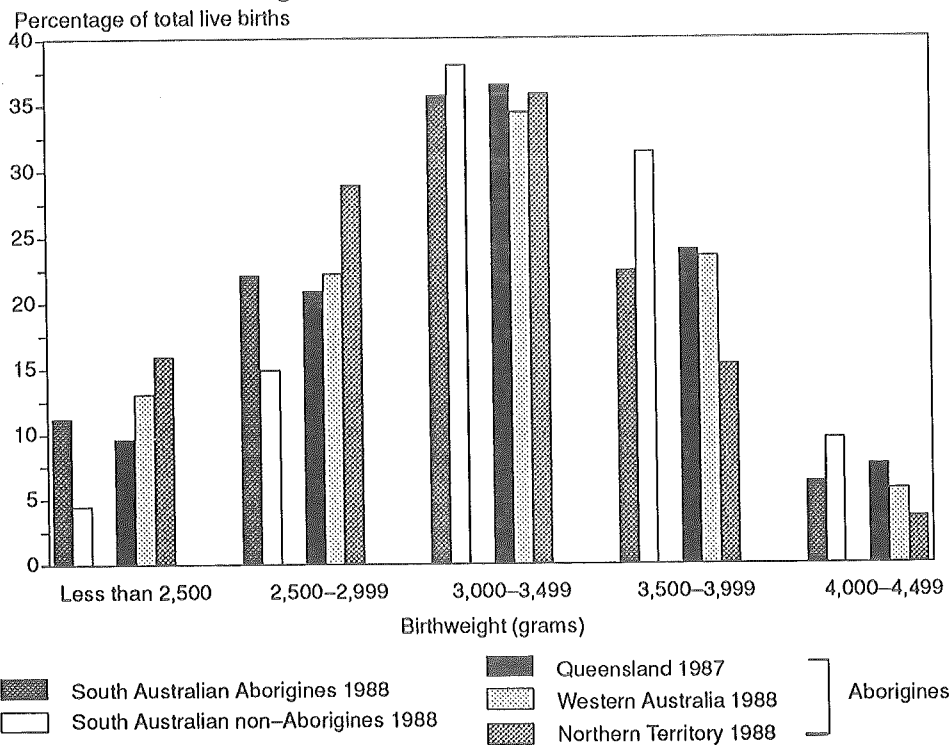
The great differences in maternal age mean that 23 per cent Aboriginal women having babies in 1988 were 19 years or younger, compared with less than six per cent for other South Australian women.

Compared with the total fertility rate of 1,655 children per 1,000 non-Aboriginal women in South Australia in 1988, the rate for Aboriginal women was 2,526 per 1,000. This figure is virtually the same as the estimate



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

Figure 6: Birthweight distribution: babies born to Aboriginal and non-Aboriginal women



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; the Australian Bureau of Statistics 1987

produced by a separate review undertaken by the Australian Bureau of Statistics and the Aboriginal Health Organisation of South Australia of birth registrations in South Australia in 1988, 2,552 per 1,000 (Hampton and Rogers 1990).

However, fertility analysis, focusing only on births to Aboriginal women, ignores those babies born to non-Aboriginal mothers and Aboriginal fathers. Since 1985, the South Australian form of notification of birth has provided for the identification of the Aboriginality of both the mother and the father (in most other places the form of notification of birth does not make this provision). Using this information, the review of birth registrations documented a total of 484 Aboriginal births, 95 births of which were to non-Aboriginal mothers and Aboriginal fathers. There is clearly uncertainty about the size of the population to which the total number of Aboriginal births should be related, but the review used the 1988 Aboriginal population to estimate the crude birth rate as 32.2 births per 1,000 population.

The documentation of a substantial number of births to non-Aboriginal mothers and Aboriginal fathers, in this case almost 20 per cent of the total number of Aboriginal births, provides the first reliable estimate of this component of the growth of the Aboriginal population. It highlights also the need for similar reviews, in order to document the position in other parts of Australia.

Birthweight

At birth, babies born to Aboriginal mothers are almost 200 grams lighter than those born to non-Aboriginal mothers, in terms both of mean and median birth weight. In 1988, the mean birthweight of babies born to Aboriginal mothers was 3,215 grams, compared with 3,395 grams for those born to non-Aboriginal mothers. The median weight was 3,235 grams, compared with 3,400 grams.

Of particular significance is the proportion of babies of low birth weight (less than 2,500 grams). For singleton births in South Australia in 1988, 11.2 per cent of babies born to Aboriginal mothers were of low birth weight, compared with 4.5 per cent of babies born to non-Aboriginal mothers (see Figure 6).

5 Mortality

Expectation of life

The extent of Aboriginal health disadvantage is reflected in their expectation of life at birth, markedly lower than that of other residents of South Australia, and poor even by international standards.

In 1988-1989, the expectation of life at birth of Aboriginal males in South Australia was 55.0 years (Table 3 and Figure 7), more than 19 years less than that of the total male population of South Australia, 74.3 years. For Aboriginal females, the expectation of life at birth was 66.8 years, 13 years less than that of the total female population of South Australia, 79.8 years.

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

	<i>Male</i>	<i>Female</i>
South Australia, 1988-1989	55.0	66.8
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
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

The estimates for South Australian Aborigines are broadly consistent with those for Aborigines⁴ living in other parts of Australia, and with an intercensus survival analysis applied to population figures from the 1981 and 1986 Australian Censuses (Gray 1990b) (see Table 4).

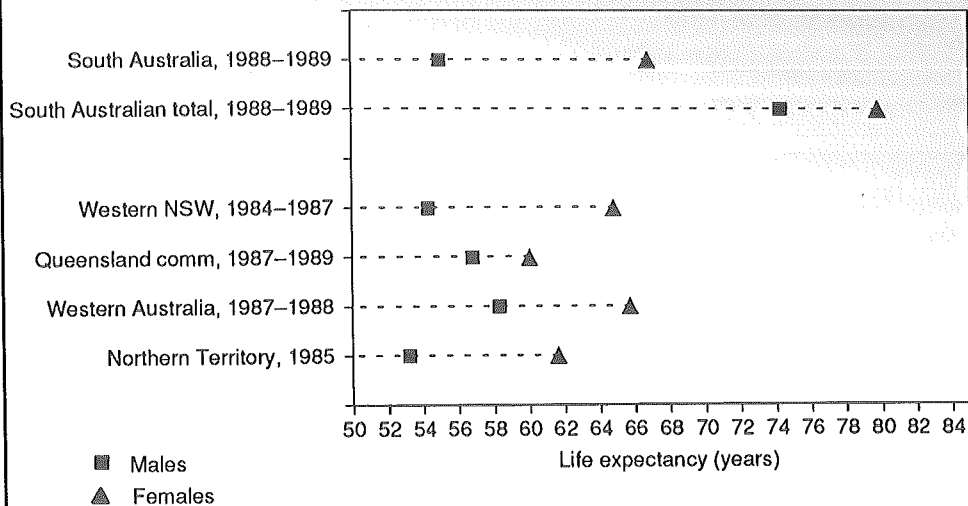
Table 4: Expectation of life at birth: Aborigines for States and Territories, based on intercensal survival estimates

	<i>Male</i>	<i>Female</i>
South Australia	56.2	65.1
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
Northern Territory	53.7	61.8
Australia	55.7	63.9

Source: Gray 1990b

4. The Queensland data apply to the Aboriginal reserve communities (see Glossary).

Figure 7: Expectation of life at birth: Aborigines by selected region and total South Australian population



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

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 in South Australia in 1988-1989 was 3.4 times that of the 1986 total Australian male population. The death rate of Aboriginal females was 2.6 times that of the 1986 total Australian female population. Table 5 shows the number of observed and expected deaths for Aborigines in South Australia, along with the standardised mortality ratios (including 95 per cent confidence intervals) (see Figure 8). For comparison, data from a number of other regions are also shown. These comparative data raise the possibility that the number of deaths of Aboriginal women in South Australia may have been underestimated. This is consistent with the conclusion reached in the review of 1988 death registrations in the State that the number of deaths identified was probably at best less than 90 per cent of the actual number (Hampton and Rogers 1990).

The actual differences in mortality between Aborigines and non-Aborigines in South Australia are greater than the comparison with Australian total population age-specific death rates suggests, as overall mortality in South Australia is lower than that of the total Australian populations. For South Australia overall, in 1988-1989 there were 11,887 male deaths and 10,151 female deaths. Based on age-specific death rates for the total Australian populations (the standard populations used for the estimates of SMRs for Aborigines), 12,236 male deaths (SMR 0.97 (0.95-0.99)) and 10,543 female deaths (SMR 0.96 (0.94-0.98)) 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.

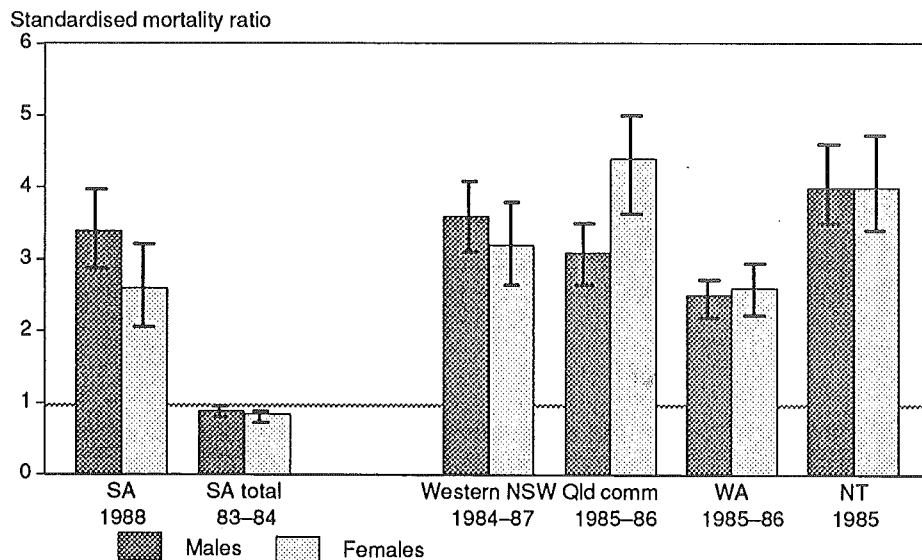
Table 5: Aboriginal observed and expected number of deaths, and standardised mortality ratios

<i>Male</i>	<i>Observed No</i>	<i>Expected No</i>	<i>SMR</i>
South Australia, 1988-1989	155	45.4	3.4 (2.9-4.0)
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)
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>
South Australia, 1988-1989	90	34.0	2.6 (2.1-3.2)
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, 1987-1988	240	93.3	2.6 (2.2-2.9)
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 and total South Australian population



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

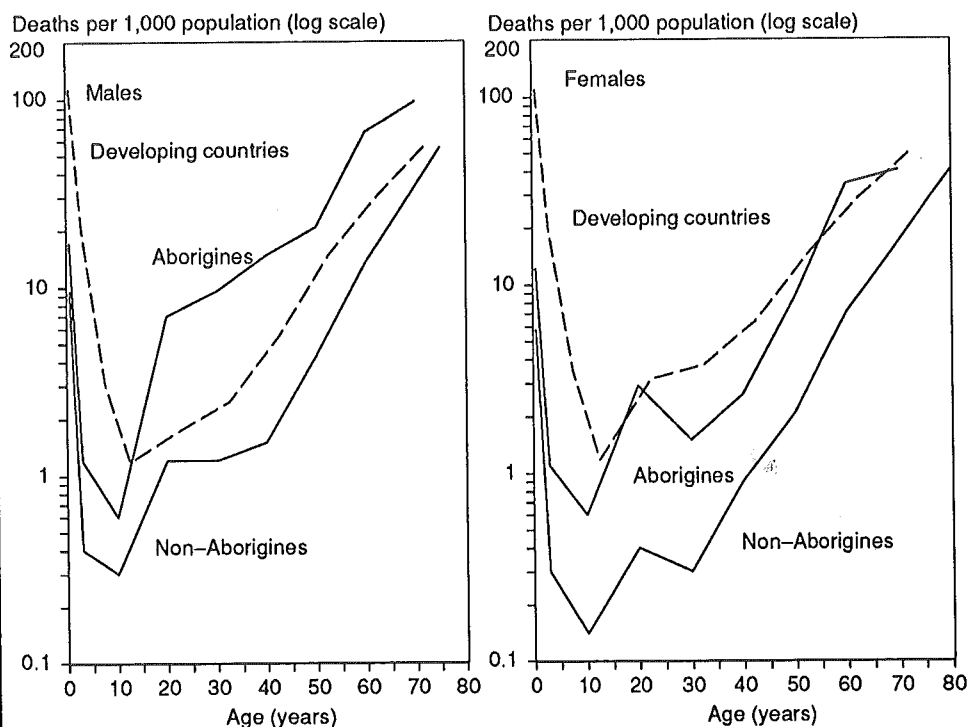
Source: Australian Institute of Health, unpublished, from data supplied by the Queensland Department of Health, the Health Department of Western Australia, the South Australian Registry of Births Deaths and Marriages and the Northern Territory Department of Health and Community Services; Gray and Hogg 1989; Australian Bureau of Statistics, Deaths Australia 1986, Cat.No.3302.0

Age-specific death rates

The most striking aspect of Aboriginal mortality is the higher death rates experienced by young adults, with the Aboriginal:non-Aboriginal ratios of age-specific death rates being highest for young and middle aged adults. For males, the age-group 35-44 years had the highest rate ratio, 9.8. For females, the rate ratio was highest for 45-54 year olds. The age-specific death rates for Aborigines in South Australia, for 1988-1989, are shown in Figure 9, along with the rates for the non-Aboriginal population of South Australia.

For Aborigines, the pattern of age-specific death rates is highly unusual, even compared with the rates typical of a developing country, also shown in these Figures. 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, the age-specific death rates are well above those of the non-Aboriginal population, but, generally are below those typical of a developing country.

Figure 9: Age-specific death rates: South Australia, Aborigines and total population, and developing countries



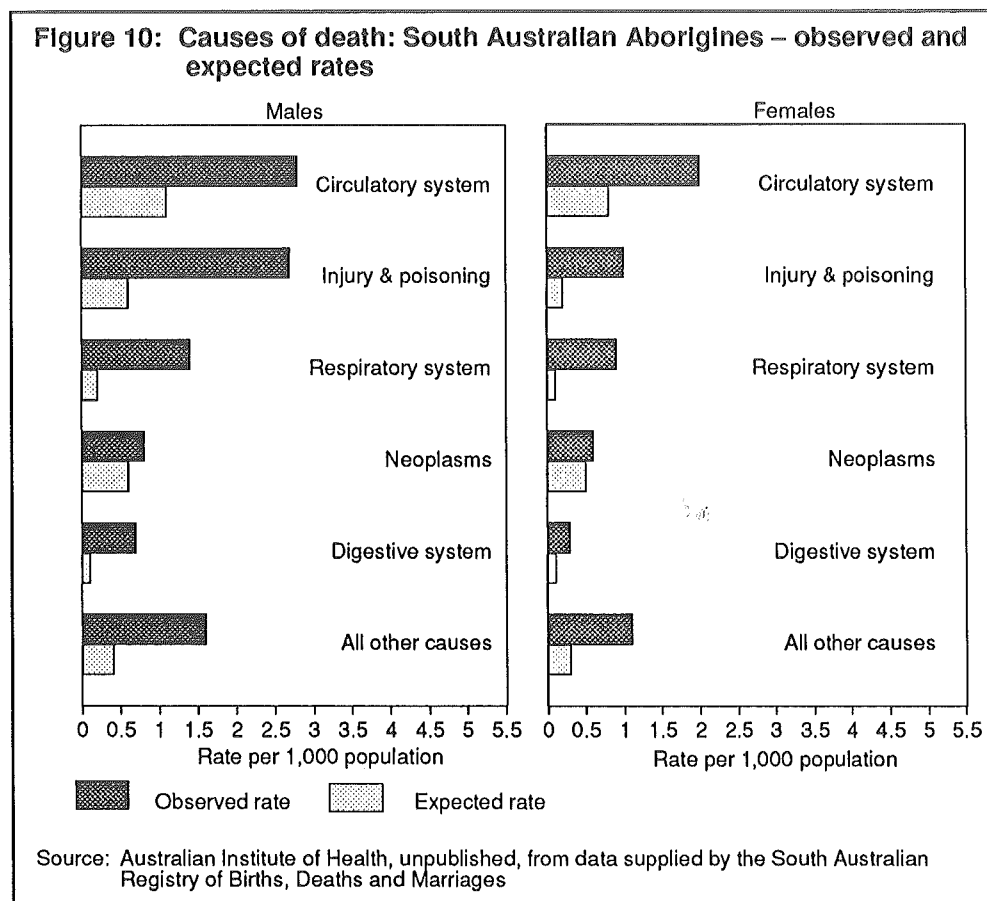
Source: Australian Institute of Health, unpublished, from data provided by the South Australian Registry of Births, Deaths and Marriages

Causes of death

In 1988–1989, the major cause of Aboriginal deaths, 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 2.6 times higher than expected for males, and 2.5 times higher for females. Disease of the circulatory system accounted for 23 per cent of the excess mortality experienced by Aboriginal males, and for 34 per cent of that experienced by Aboriginal females.

For Aboriginal males and females, the second most frequent cause of death 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 4.5 times higher than expected for males, and 4.4 times higher for females. In terms of the excess Aboriginal mortality in South Australia, causes of death in this group were responsible for 29 per cent of the excess experienced by Aboriginal males, and for 21 per cent of that experienced by Aboriginal females.

In 1988–1989, disease of the respiratory system was the third most frequent cause of death for both Aboriginal males and females, with overall death rates 7.3 times higher than expected for males, and 8.2 times higher for females. These causes were responsible for 17 per cent of the excess mortality experienced by Aboriginal males, and for 22 per cent of that experienced by Aboriginal females.



For Aboriginal males and females in South Australia, neoplasms were responsible for the next highest number of deaths. The rates observed were only marginally higher than those expected, and neoplasms did not contribute much to the excess mortality experienced by Aborigines.

Death rates for diseases of the digestive system were 7.3 times higher than expected for males, and 4.0 times higher for females. These diseases were responsible for 8 per cent of the excess mortality experienced by Aboriginal males, and for 5 per cent of that experienced by Aboriginal females.

Fetal and infant mortality

Based on the review of birth and death registrations in South Australia in 1988, the Aboriginal infant mortality rate has been estimated at 14.5 infant deaths per 1,000 live births (Hampton and Rogers 1990). This figure is significantly lower than the estimates produced without the knowledge of the numbers of babies born to non-Aboriginal mothers and Aboriginal fathers. To date, throughout Australia estimates of Aboriginal infant mortality rates have been based on identifiable deaths of Aboriginal infants per 1,000 babies born to Aboriginal mothers. To illustrate trends and permit comparisons to be made, these estimates will be presented here⁶.

From data available for other parts of Australia, it can be seen that Aboriginal infant mortality has declined significantly since the early 1970s, from 83 infant deaths per 1,000 live births in 1972-1973 to 32 per 1,000 in 1986-1988 (see Table 6). For the Queensland communities, Western Australia and the Northern Territory, the major decline occurred during the 1970s, and there has been little further improvement in the 1980s.

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

	South Australia	Queensland communities	Western Australia	Northern Territory	Total population Australia
1972-1973	na	82.6 (5.0)	na	83.4 (5.0)	16.6
1974-1976	na	63.4 (4.3)	na	52.8 (3.6)	14.8
1977-1979	na	42.0 (3.5)	25.8 (2.1)	55.9 (4.7)	12.0
1980-1982	na	27.2 (2.6)	25.1 (2.4)	34.9 (3.4)	10.3
1983-1985	na	28.1 (2.9)	25.1 (2.6)	33.5 (3.5)	9.6
1986-1988	20.4 (2.3)	20.7 (2.4)	24.1 (2.8)	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; Hampton and Rogers 1990

6. Excluding from the denominator of the infant mortality rate those babies born to non-Aboriginal mothers and Aboriginal fathers, these figures probably overestimate the level of Aboriginal infant mortality. The preparation of precise estimates requires accurate information about the actual identification of babies, for both the denominator (births) and numerator (infant deaths). With the definition of Aboriginality requiring 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.

The other useful indicator of fetal and infant survival is the perinatal mortality rate, which is the number of late fetal deaths (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 deaths of live born infants within the first seven days of life).

For 1986-1988, the perinatal mortality rate for Aborigines in South Australia was 33.1 perinatal deaths per 1,000 total births, 3.0 times the rate for the total Australian population (Table 7).

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

	<i>South Australia</i>		<i>Queensland communities</i>		<i>Western Australia</i>		<i>Northern Territory</i>		<i>Total population Australia</i>
1972-1973	na		52.3	(2.2)	na		56.7	(2.4)	23.4
1974-1976	na		63.4	(3.0)	na		55.4	(2.6)	21.2
1977-1979	na		40.8	(2.5)	23.6	(1.4)	58.0	(3.5)	16.3
1980-1982	na		21.4	(1.6)	32.0	(2.4)	49.0	(3.6)	13.6
1983-1985	29.2	(2.4)	35.3	(3.0)	23.1	(1.9)	36.2	(3.0)	11.9
1986-1988	33.1	(3.0)	32.1	(2.9)	19.6	(1.8)	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 and the Northern Territory Department of Health and Community Services; Australian Bureau of Statistics 1988a, 1988b; Hampton and Rogers 1990

Of the two components of perinatal mortality, late fetal deaths made a slightly greater contribution, with a rate for 1986-1988 of 19.2 late fetal deaths per 1,000 total births, 3.2 times the total Australian rate. The neonatal mortality rate was 14.0 per 1,000 live births, 2.7 times the total Australian rate.

For South Australia for 1986-1988, the reported postneonatal mortality rate (deaths of live born infants between 28 days and one year of age per 1,000 live births) was 5.6, 1.6 times the rate for the total Australian population.

6 Hospitalisation

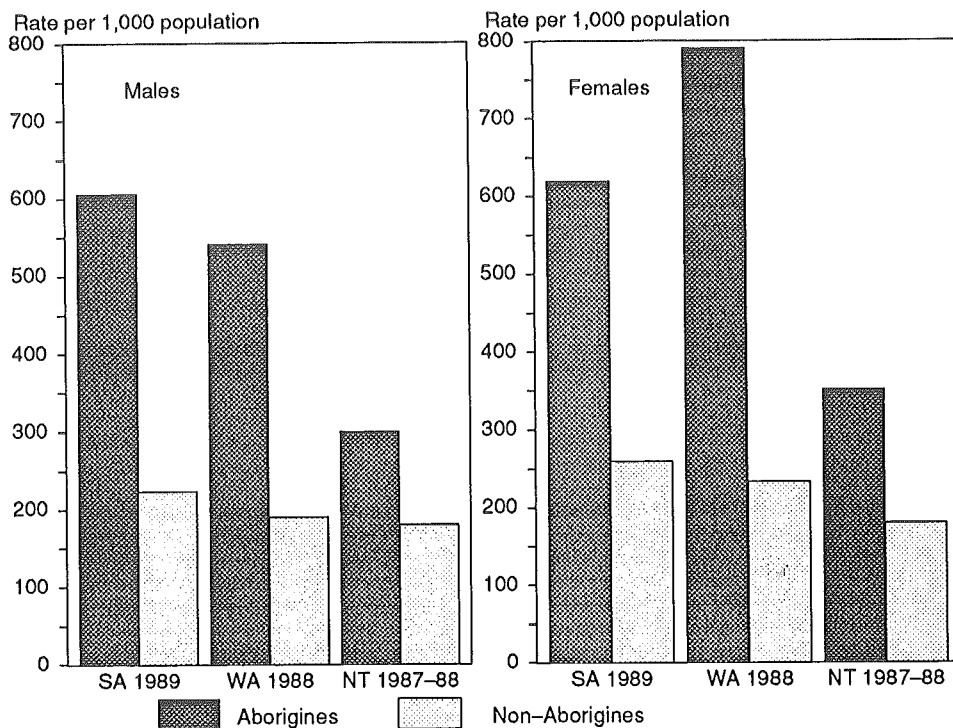
While not necessarily accurately reflecting the extent or pattern of treatable illness in the community, hospital statistics, generally reflecting more serious types of morbidity, confirm the relatively poor health status of Aborigines, both in terms of the rate of hospitalisation and the length of stay in hospital.

Overall in South Australia, Aborigines are admitted to hospital about 2.5 times more frequently than non-Aborigines, and, once admitted, tend to stay slightly longer. They are admitted more frequently for virtually every cause, and for every age-group, than are non-Aborigines.

Admission⁷ rates

Admission data for Aborigines and non-Aborigines living in South Australia, directly standardised using the World Standard Population as the reference population, reveal that in 1989 the hospital admission rate for Aboriginal males was 2.7 times that for non-Aboriginal males, and the rate for Aboriginal females was 2.4 times the non-Aboriginal rate (see Figure 11).

Figure 11: Standardised hospital admission rates: Aborigines and non-Aborigines



Source: Australian Institute of Health, unpublished from data provided by the Health Department of Western Australia, the South Australian Health Commission and the Northern Territory Department of Health and Community Services

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.

Age-specific admission rates

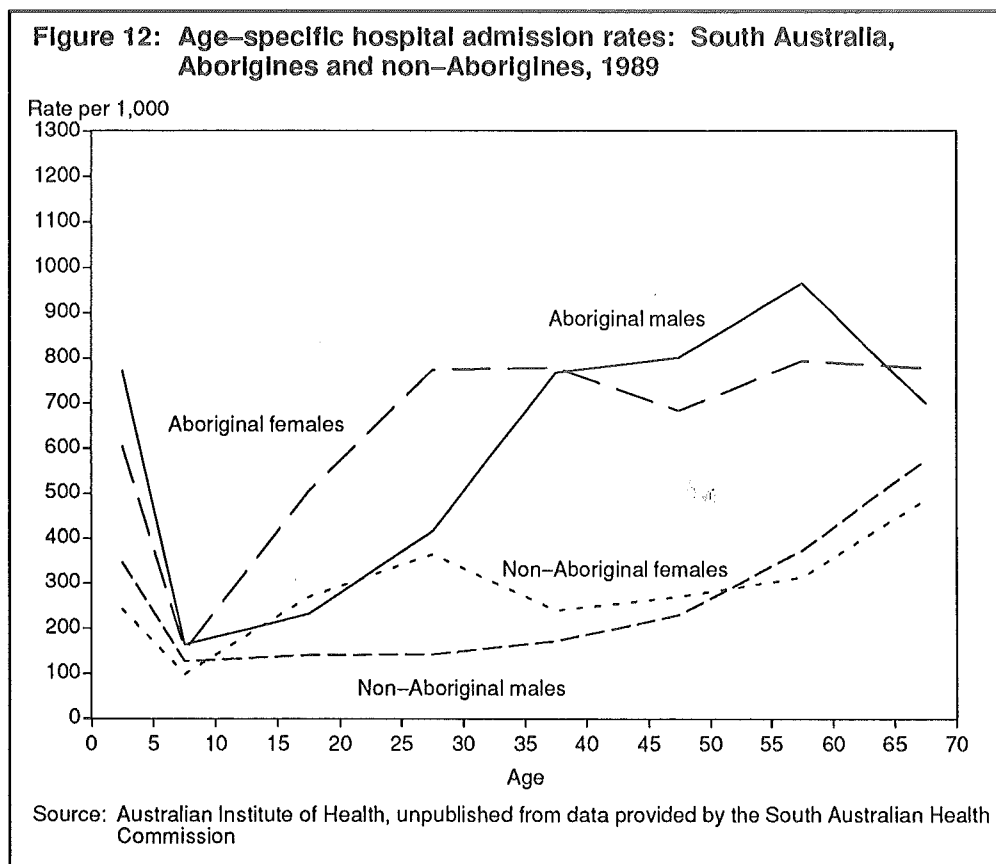
The age-specific admission rates were uniformly higher for Aborigines than for non-Aborigines (Figure 12). As for the total population, Aboriginal age-specific rates were highest for older people, but Aboriginal infants and young children (0-4 year age group) also had high admission rates. For Aborigines, the high admission rates for middle aged adults were particularly noteworthy, with the highest Aboriginal:non-Aboriginal rate ratios being documented for the 35-44 year age group.

Causes of hospitalisation

For Aboriginal males in South Australia in 1989, the leading cause of hospitalisation was disease of the respiratory system (ICD 460-519), with almost 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 diseases of the digestive system (ICD 520-579) being the next most frequent cause of hospitalisation.

For 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 'Symptoms and ill-defined conditions' (ICD 780-799).



7 Summary

Overall, the mortality of Aborigines living in South Australia is about three times that of the total Australian population. The major cause of Aboriginal deaths is disease of the circulatory system, including heart disease, with injuries and diseases of the respiratory system also making major contributions to the excess mortality experienced by Aborigines.

The greatest difference 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 is that the expectation of life at birth of Aborigines is much less than that of all South Australians, around 19 years for males, and at least 13 years for females.

The mortality of Aboriginal infants in South Australia is around twice that of other South Australian infants, and appears comparable to that of Aboriginal infants from the Queensland Aboriginal communities and Western Australia. Perinatal mortality is probably more than three times that of other Australians.

The rates of hospitalisation of Aborigines are about 2.5 times those of other South Australians and, as with death rates, the greatest difference between Aboriginal and non-Aboriginal rates is found among young and middle aged adults.

The magnitude of the health problems experienced by Aborigines in South Australia clearly justifies the South Australian Health Commission's conclusion that Aboriginal ill-health is a leading priority for action.

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, Wepa South, Woorabinda, Wujal Wujal and Yarrabah. Some recent data also include Camooweal, Cowal Creek, Thursday Island and Wepa 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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