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Indigenous Mothers and their Babies Australia 1991-1993

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Abbreviations

NSW	-	New South Wales
Vic	-	Victoria
Qld	-	Queensland
WA	-	Western Australia
SA	-	South Australia
Tas	-	Tasmania
ACT	-	Australian Capital Territory
NT	-	Northern Territory
ABS	-	Australian Bureau of Statistics
AIHW	-	Australian Institute of Health and Welfare
ATSIC	-	Aboriginal and Torres Strait Islander Commission
ICD-9	-	International Classification of Diseases, Version 9
NHMRC	-	National Health and Medical Research Council
na	-	Not available
AHW	-	Aboriginal health worker
ELBW	-	Extremely low birthweight (less than 1000 grams)
LBW	-	Low birthweight (under 2500 grams)
LMP	-	Last menstrual period
VLBW	-	Very low birthweight (less than 1500 grams)

Explanatory notes

- The term ‘Indigenous’ is used to refer to mothers of Aboriginal or Torres Strait Islander descent and their babies. In referring to previous reports or other publications, the term ‘Aboriginal’ is retained when it was used in those reports.
- Births to Indigenous mothers in Tasmania were markedly under-reported in the perinatal collection in the period covered by this report. The Tasmanian data have been included in the tables but excluded from graphs comparing results in the States and Territories.
- Confinements and births in ‘not stated’ categories are excluded from calculation of percentages. Due to rounding, percentages may not always add up to exactly 100.0%.
- If data items such as presentation or type of delivery differed for twins or other multiple births, the confinement was arbitrarily included in the category of the first multiple birth.
- Fetal deaths (stillbirths) from the State and Territory perinatal collections have a gestational age of at least 20 weeks or a birthweight of at least 400g.

Highlights

- In the period from 1991 to 1993, there were 21,750 births to 21,539 Indigenous mothers recorded in the State and Territory perinatal collections, accounting for 2.8% of all mothers and babies in Australia in those years.
- Based on births recorded in the State and Territory perinatal collections, in 1991 the total fertility rate was 2.7 for Indigenous women and 1.8 for non-Indigenous women. Indigenous women began childbearing at younger ages, had higher birth rates in their teenage years and early twenties, and tended to have more children than non-Indigenous women.
- The regions with the largest numbers of Indigenous mothers in the three-year period were Queensland (6,698), Western Australia (4,320), New South Wales (4,269) and the Northern Territory (3,673).
- Most Indigenous mothers (97.7%) gave birth in hospitals; they were more likely to have their babies in smaller hospitals than non-Indigenous mothers.
- The average age of Indigenous mothers was 23.7 years, less than the average of 28.2 years among non-Indigenous mothers. One in four (25.2%) Indigenous mothers was a teenager, five times higher than for non-Indigenous mothers (5.0%).
- Although generally experiencing less intervention at birth than non-Indigenous women, Indigenous mothers in public accommodation in hospital had caesarean rates ranging from 1 in 7 (13.6%) confinements at 15-19 years to 1 in 5 (20.2%) at 30-34 years and about 1 in 4 at 35-39 years (26.2%) and at 40-44 years (28.2%), consistently higher than for non-Indigenous mothers.
- Indigenous mothers had longer antenatal stays in hospital than non-Indigenous mothers. Their average postnatal stay of 4.7 days was slightly shorter than the average of 5.1 days for all other mothers, but the period of postnatal hospitalisation of Indigenous mothers was considerably longer in the Northern Territory (average of 6.0 days) than elsewhere in Australia.
- The mean birthweight of Indigenous infants was 3,145g, 216g less than the mean of 3,361g for all other births. There were marked regional differences in the mean birthweight of Indigenous infants, ranging from 3,028g in the Northern Territory and 3,084g in South Australia to 3,310g in Victoria. The proportion of low birthweight infants among babies of Indigenous mothers (12.6%) was more than twice as high as for babies of non-Indigenous mothers (6.1%).
- The fetal death rate among births to Indigenous mothers (15.9 per 1,000 births) was more than double that for non-Indigenous births (6.7 per 1,000) and was higher in South Australia (21.8 per 1,000), the Northern Territory (19.2 per 1,000) and New South Wales (16.9 per 1,000) than elsewhere. Neonatal death rates of Indigenous infants were also high in those States with available data.
- The completeness and quality of information on Indigenous births would be improved by: linking paternal information on Indigenous status recorded on birth registrations, and on perinatal death registrations, to the perinatal data collections; validation studies of the accuracy of recording Indigenous status of mothers on perinatal data forms; revising data items in the perinatal collections on maternal medical conditions and various complications; surveys of antenatal care within Indigenous communities; and facilitating the communication of relevant information on reproductive and perinatal health to Indigenous local communities.

1 Introduction

The poor health status of Indigenous Australians is widely recognised (Australian Institute of Health and Welfare, 1996). Death rates of Indigenous women have not decreased in recent years. Their death rates from diseases that may adversely affect pregnancy outcome, such as diabetes, infectious diseases and genitourinary disorders, are much higher than the rates for other Australians. Reflecting their poor health status, Indigenous women are far more likely than other women to be hospitalised for infectious and parasitic diseases, skin and subcutaneous diseases, and respiratory illnesses (Thomson 1991). Despite the considerable decline in Indigenous maternal and infant death rates, these important indices of reproductive health status also remain high.

Some of the factors that may have adverse effects on Indigenous reproductive health include socioeconomic disadvantage arising from limited educational opportunities and high unemployment, the poor living conditions of many Indigenous people, poor nutrition during pregnancy, lack of culturally acceptable antenatal care, and inadequate numbers of trained Aboriginal health workers. As Indigenous women generally prefer to be cared for by other women, lack of availability of female health professionals in many regions may result in a late start to antenatal care and infrequent visits. Because many pregnant women living in remote areas must travel away from their local communities to give birth in hospitals, this may be important in influencing the type of care they receive in hospital.

This report contains national data on births to Indigenous mothers in 1991-1993 and is based on notifications of these births to the groups responsible for the perinatal data collections in each State and Territory. Some of the data have been published previously in annual reports on Australia's mothers and babies (Lancaster, Huang & Lin 1996), but this is the first national report that provides a more comprehensive range of information on births to Indigenous mothers. This information can serve as a framework for developing policies and health services for Indigenous mothers and their babies.

1.1 Data sources

Each State and Territory has a perinatal data collection in which notification forms for each birth are completed by midwives, using information obtained from mothers and from hospital or other records. The information collected includes characteristics of the mother; previous pregnancies; the current pregnancy; labour, delivery and the puerperium; and the infant's birth status (live birth or stillbirth), sex, birthweight, Apgar scores and outcome. The minimum data set and definitions for the perinatal collections are presently being revised. Data processing and checking are performed by each State or Territory perinatal data group and annual data are submitted on floppy disk to the Australian Institute of Health and Welfare National Perinatal Statistics Unit at the University of Sydney.

Information on Indigenous births is included in State and Territory reports (Chan et al. 1994; Gee 1994; McComb & Woods 1996; Perinatal Data Collection Unit 1994; Pym et al. 1994; Queensland Health 1995). Some States have published separate reports on these births (Gee 1995; NSW Health Department 1994) or may have used the data for other studies published in journals.

1.2 Criteria

The definition of Aboriginality is included in the National Health Data Dictionary (National Health Data Committee 1996):

'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 with which he or she is associated.'

The term 'Indigenous' is used in this report to refer to mothers of Aboriginal or Torres Strait Islander descent and their babies. Information on infants of Indigenous fathers and non-Indigenous mothers is not included.

Notification forms are completed for all births of at least 20 weeks' gestation or 400g birthweight. The data in this report for the years 1991-1993 are based on the State or Territory where the birth occurred.

1.3 Data quality

In the period covered by this report, all States and Territories except Tasmania had a specific data item on the Indigenous status of mothers in their perinatal collections. In Tasmania, a separate code for Aboriginality was recorded under the data item on maternal country of birth. As the Indigenous status of fathers is not recorded in the perinatal collections, information on Indigenous infants born to Indigenous fathers and non-Indigenous mothers cannot be obtained from this source.

Other important sources of information on Indigenous births are birth registrations and Census data but each source has different characteristics, varying levels of completeness, and sometimes other limitations. Although the Indigenous status of both parents has been collected for birth registrations in most States in recent years, in 1994 only South Australia, Western Australia, Northern Territory and the Australian Capital Territory had data that were generally at least 90% complete (Australian Bureau of Statistics 1995). Indigenous origin was not recorded for registered births in Queensland; Indigenous birth registrations were incomplete in the other States. Among birth registrations in 1993, the proportion of all Indigenous births in which the father was Indigenous and the mother non-Indigenous varied from 20.0% in South Australia and 15.1% in Western Australia to 6.4% in the Northern Territory, indicating the level of under-reporting of Indigenous births in the perinatal collections when the Indigenous status of both parents is taken into account. Estimates of Indigenous births can also be derived from the national Census held every 5 years, but many other data items that are included in the perinatal collections are not available from Census data.

As birth registrations include information on the Indigenous status of both parents, the number of Indigenous live births registered in each State and Territory often differs substantially from the number recorded in the perinatal data collection, in which only the mother's Indigenous status is recorded. In 1993, the numbers in the two data systems were as follows:

	<u>Registered live births</u>	<u>Total births in perinatal data collection</u>
New South Wales	1,278	1,469
Victoria	493	455
Queensland	Not available	2,264
Western Australia	1,535	1,456
South Australia	519	400
Tasmania	264	6
Australian Capital Territory	43	49
Northern Territory	1,359	1,236

The larger numbers of registered births in Victoria, Western Australia, South Australia and the Northern Territory are probably explained by the additional births to non-Indigenous mothers whose partners are Indigenous. As previously noted, the perinatal collections do not include any information about fathers. Other factors contributing to the observed differences in birth counts in the two data systems were the lack of information on Indigenous status for Queensland birth registrations, incomplete registration of Indigenous births in New South Wales, poor recording of the Indigenous status of mothers in the Tasmanian perinatal collection, and sometimes incorrect recording of the mother's Indigenous status in other States, resulting in misclassification.

It has been established that sometimes midwives may not ask women if they are Aboriginal and some Aboriginal women may be reluctant to identify themselves as Aboriginal to midwives (Robertson 1994). As the definition of Aboriginality is based partly on self-identification, some Indigenous women and their babies may thus be misclassified in the non-Indigenous group.

Regarding perinatal deaths, not all States and Territories link registered perinatal deaths to the records for the same births in the perinatal data collections. If the infant's Indigenous status is recorded differently in these two data systems, there are also likely to be differences in the total number of fetal and neonatal deaths. This may well lead to varying estimates of important health outcomes such as perinatal and infant death rates and is likely to affect comparisons between Indigenous and non-Indigenous populations.

1.4 Indigenous population

At the 1991 national Census, the Indigenous population of Australia was 265,459, comprising 1.6% of the total population (Australian Bureau of Statistics 1993). This population consisted of 238,575 Aboriginal people and 26,884 Torres Strait Islander people. There were 65,423 women in the reproductive age group of 15 to 44 years. The total Indigenous population is expected to rise to over 400,000 by the census of 2011 (Aboriginal and Torres Strait Islander Commission 1994). In 1991, Torres Strait Islander people were estimated to comprise 10.1% of the Australian Indigenous population. More than half (54.5%) of the Torres Strait Islanders lived in Queensland, 18.2% in New South Wales, 11.1% in Victoria, and the other 16.2% elsewhere in Australia. Only Queensland recorded Aboriginal and Torres Strait Islander women separately in their perinatal collections.

Following adjustment of the 1991 Census count, the estimated resident Aboriginal and Torres Strait Islander population at 30 June 1991 was 282,979 persons (Australian Bureau of Statistics 1994a). In this revised estimate, there were 68,919 women in the reproductive age group of 15-44 years, accounting for almost 1 in 4 (24.4%) of the total Indigenous population. Data from this revised estimate have been used to calculate age-specific birth rates and total fertility rates in this report.

In 1991, only about 28% of Indigenous people lived in a capital city (Australian Bureau of Statistics 1993). The 36 ATSI regions in Australia varied markedly in their population size. The largest was Sydney (22,905 people) and the smallest regions were Ceduna (1,540) in South Australia and Warburton (2,407) and Kalgoorlie (2,567) in Western Australia (Aboriginal and Torres Strait Islander Commission 1994). In the most remote areas of Australia – in western New South Wales, western and northern Queensland, the Northern Territory, northern South Australia and northern and inland Western Australia – Indigenous people comprise more than 20% of the total population (Glover & Woollacott 1992).

1.5 Health services for Indigenous women

Major policy initiatives over recent years have sought to improve services for Indigenous mothers and their babies after consistent findings of poor maternal and infant health and high infant and childhood death rates. The National Aboriginal Health Strategy (1989) proposed a number of broad strategies. These included : education programs which emphasised the importance of antenatal and postnatal care; advanced training in antenatal care for Aboriginal health workers; sufficient resources within urban, rural and remote health services to employ such trained workers; under 5's registers within each health service to monitor the progress of young children; education programs for pregnant women which address their needs and concerns and are developed and presented by Aboriginal women; the development of protocols in health services to ensure comprehensive care of pregnant women; and play-group centres which could incorporate an educational component and therapy.

There was a particular focus on training and education issues. Central to these is the enhancement of training for Aboriginal health workers. The Aboriginal Health Worker (AHW) program is 'recognised throughout Aboriginal communities as one of the most important factors in efforts to improve Aboriginal health status...they (AHWs) have a close association with and an intimate knowledge of the communities they serve...relate western beliefs to an Aboriginal conceptual framework... and make it possible for the health centre's teams to communicate in language and concepts that they understand' (National Aboriginal Health Strategy Working Party 1989). The availability of Aboriginal health workers within local communities can lead to earlier assessment in pregnancy and provision of antenatal care at an earlier stage.

The Evaluation Report on the National Aboriginal Health Strategy in 1994 concluded that the National Aboriginal Health Strategy was never adequately implemented due to gross underfunding of the policy initiatives in rural and remote Australia and a frequent lack of political support.

Health services for Aboriginal and Torres Strait Islander people, and the government departments which may administer them, are diverse. They range from the Office for Aboriginal and Torres Strait Islander Health Services within the Commonwealth Department of Health and Family Services to Aboriginal-controlled community health centres, Aboriginal medical services, mainstream community health centres and hospitals in which Aboriginal health workers are located, and Aboriginal health units within State health departments.

Several innovative programs have been developed by Indigenous communities in recent years to provide care for pregnant women and their infants. In the Northern Territory, the Strong Women, Strong Babies, Strong Culture program began in early 1993 because of the concern of Aboriginal women, nutritionists and doctors about babies being born too small, not growing well and being anaemic. The program is run by Aboriginal women and is established in several communities, with plans to further extend the program. In this program, Aboriginal women teach community health nurses traditional antenatal and postnatal care, as the nurses teach Aboriginal women about the latest methods in antenatal care (Northern Territory Department of Health and Community Services 1994).

Congress Alukura enabled Aboriginal women from diverse groups in northern Australia to describe in detail traditional birth practices, women's attitudes to contemporary western care, and the way in which this care could be made more appropriate for Aboriginal women (Carter et al. 1987). Following from the Congress, the Alukura centre was established near Alice Springs in the Northern Territory. This centre originally provided health care to meet the specific needs of Aboriginal women, including traditional knowledge of all aspects of pregnancy, birth and infant care, and it continues to function as a women's health centre.

In terms of training, Aboriginal health workers may now elect to undertake specific training in aspects of western-style antenatal care (Brooks 1995). Also, Aboriginal health workers are attached to some maternity hospitals, both in capital cities and in regional centres. In 1994, the initial skills transfer program in antenatal care for Indigenous health workers was conducted jointly by an Aboriginal Liaison Midwife Consultant, the Royal Australian College of Obstetricians and Gynaecologists (RACOG), and the Department of Public Health and Tropical Medicine at James Cook University in Townsville. In Western Australia, a similar skills transfer program involved the Broome Aboriginal Medical Service, the RACOG and King Edward Memorial Hospital in Perth. There is also a pilot project of culturally appropriate health care for Indigenous women and infants (Ngungtju Tjitji Pimi) in progress in the Goldfields region of Western Australia, based in Kalgoorlie.

Aboriginal medical services have a central role in providing antenatal care to women. In recognition of the traditional role grandmothers and aunts play in the birthing process, the Aboriginal medical service in Campbelltown, New South Wales, introduced an antenatal program which focused on providing information to aunts and grandmothers as well as to the pregnant women. These older family members provide a supportive role to the new mother (Gray et al. 1991).

The National Health and Medical Research Council report on 'Options for effective care in childbirth' (NHMRC 1996) included specific recommendations that:

- 'Aboriginal and Torres Strait Islander women leaders in each region should be involved in planning maternity services';
- 'in some regions it may be appropriate to provide birthing centres';
- 'Aboriginal and Torres Strait Islander representatives should be appointed to liaison committees representing the consumers of major obstetric hospitals'; and
- 'priority needs to be given to increasing the number of Aboriginal and Torres Strait Islander birth attendants, midwives and obstetricians'.

In New South Wales, the Shearman report specifically called for the targeting of health service resources to improve obstetric outcomes and decrease the social and economic costs of complicated pregnancies for at-risk groups, including Aboriginal women (NSW Department of Health 1989). Funding was provided for initiatives such as the appointment of specially trained Aboriginal health workers to work in hospital and community settings, and for some new ventures in co-operation with existing Aboriginal medical services (Cranny 1994).

Health promotion is another important aspect of antenatal care. Health promotion resources designed by and for Indigenous people include information relevant to the care of pregnant women and manuals to allow Indigenous health workers to access these resources (Ellis 1994).

1.6 Recent trends in fertility of Indigenous women

Over the past three decades, fertility has declined both in the whole Australian population (Australian Bureau of Statistics 1994b) and amongst Aboriginal women (Gray 1990). Indigenous women have a higher fertility rate than non-Indigenous women. Estimates from the 1991 Census indicate that the total fertility rate of Aboriginal women was about 3.1 children each, compared with 1.9 children for Australian women generally (Dugbaza 1994). Not only do Indigenous women tend to have more children, but they also start their childbearing at a younger age than non-Indigenous women. The younger Indigenous mothers aged 15-24 years contributed 75% of the difference in the total fertility rate between Indigenous and non-Indigenous women. Social disadvantage and lack of educational opportunities, as well as cultural influences, are important factors that contribute to high fertility rates among these younger women.

Although young maternal age is a known risk factor for some poor obstetric and infant outcomes (Zhang and Chan 1991), it is important to appreciate the context in which women may decide to start their childbearing early, besides the common assumption that they do not know about, or do not know how to use, various contraceptive methods. Cultural traditions of early marriage, and placing a high value on motherhood and childbearing in Aboriginal communities, may be significant factors (Burbank 1995).

1.7 Antenatal care

Antenatal care is important for monitoring the progress of pregnancy. If women first attend late in the pregnancy, or attend infrequently, identification and treatment of problematic medical conditions and other complications that affect the health of the mother and fetus may be more difficult. The perinatal data collections often lack information on the time of starting, type of care and number of antenatal visits, but data from several collections have been analysed. Indigenous women are more likely than other women to start antenatal care at a later stage in pregnancy and to have fewer antenatal visits.

In the Northern Territory, only 1 in 5 (21.8%) Aboriginal women were first seen antenatally before 13 weeks' gestation, compared with 34.6% of non-Aboriginal women (McComb & Woods 1996). Almost 1 in 3 (30.5%) Aboriginal women had two or fewer antenatal visits, compared with 8.2% of non-Aboriginal women (Durling 1992).

In New South Wales, fewer than half (48.8%) of pregnant Indigenous women began antenatal care in the first 12 weeks of pregnancy, compared with 64.8% of non-Indigenous women (NSW Health Department 1994). More than 1 in 4 (26.9%) Indigenous women had their first antenatal visit after 20 weeks' gestation, compared with 11.9% of other women. Half of all Indigenous women received their antenatal care from general practitioners, who were their main providers of antenatal care.

Indicating their own preference for culturally appropriate care, in one Australian urban centre over 40% of Indigenous women travelled more than 12 kilometres for treatment at the Aboriginal Medical Service (Brooks 1995). On the other hand, in rural New South Wales, How and Bowditch (1994) found that late presentation for antenatal care remained a problem despite moving antenatal visits from a hospital setting to a more convenient location in a community health centre. A pregnant woman's area of residence (capital city, other urban or rural area) is also a factor in the availability of antenatal services. In capital cities, 94.6% of Indigenous women had antenatal services within 25 kilometres of where they lived. Smaller proportions in

other urban and rural areas of 88.3% and 54.4%, respectively, were within this distance (Australian Bureau of Statistics 1994c). In commenting on the relatively high maternal death rates of Indigenous women, Bastian (1993) emphasised that when a small proportion of mortality or morbidity is attributed to 'patient factors', then women's behaviour may provide an explanation of events. However, when a large proportion of a population do not seek out antenatal care, then the health system itself must be in part responsible.

1.8 Maternal medical conditions and complications of pregnancy

Maternal medical conditions and obstetric and labour complications are important because they may significantly impair the health of the mother or fetus. Many of the conditions which arise during pregnancy can be treated, thereby improving the outcome of pregnancy. In Western Australia, reported complications of pregnancy in 1993 were higher among Aboriginal women (507 per 1,000 women) than among non-Aboriginal women (384 per 1,000) (Sommerford et al. 1995). As teenage mothers are more likely than older mothers to have a medical or obstetric complication during pregnancy (Zhang & Chan 1991), the younger average age of Indigenous mothers is likely to increase their risk of complications.

In New South Wales between 1986 and 1991, the rates of pre-eclampsia and antepartum haemorrhage were similar between Aboriginal and non-Aboriginal women. The rates of gestational diabetes, premature rupture of the membranes and threatened premature labour were all raised amongst Aboriginal women, being 1.4, 1.5 and 1.5 times, respectively, more likely (NSW Health Department 1994).

It is well known that there is a high prevalence of non-insulin dependent diabetes in Aboriginal people. Bower et al (1992) carried out a retrospective cohort study of all births in Western Australia between 1980 and 1984, looking at the prevalence of birth defects diagnosed up to six years after birth. For Aboriginal mothers, non-insulin dependent diabetes or gestational diabetes was significantly associated with an increased risk of having an infant with a birth defect, as it did for non-Aboriginal mothers who had either insulin dependent or non-insulin dependent diabetes.

Other examples of significant morbidity among pregnant Indigenous women include genitourinary tract infections and sexually transmitted diseases (How & Bowditch 1994). As well as affecting maternal health, these infections may have important adverse effects on fetal and neonatal outcome.

1.9 Future improvements in perinatal data systems

The completeness and quality of information on Indigenous births can be improved in several ways.

- As previously noted, because information on fathers is not included in the perinatal collections, reports of Indigenous births based on this source do not include births to non-Indigenous mothers whose partners are Indigenous. This deficiency could be overcome by linking the paternal information on Indigenous status recorded on birth registrations to the records obtained in the perinatal collections.
- The Indigenous status of registered fetal and neonatal deaths is not recorded on perinatal death certificates. Again, by linking perinatal death registrations to the records for the same infants in the perinatal collections in all States and Territories, it would be possible to analyse perinatal deaths nationally according to Indigenous status.
- Validation studies similar to the one reported from Victoria (Robertson 1994) are needed to determine whether all Indigenous mothers are recorded in the perinatal collections.
- The planned revision of data items on maternal medical conditions, complications of pregnancy, labour and delivery, and postpartum complications will improve the quality of this information in the perinatal collections and provide comparable data for each State and Territory.
- Surveys are needed within Indigenous communities to determine local factors that influence at what stage of pregnancy women begin antenatal care and the number and quality of their antenatal visits.

- Data published in State, Territory or national reports give a population perspective of Indigenous mothers and babies but often lack specific information that is useful within the 36 ATSI regions or smaller local communities. Future collaboration between Indigenous communities, the Aboriginal and Torres Strait Islander Health and Welfare Information Unit in Darwin, and those responsible for the perinatal data collections will improve the availability of regional data and enable better communication of information on reproductive and perinatal health to local communities.

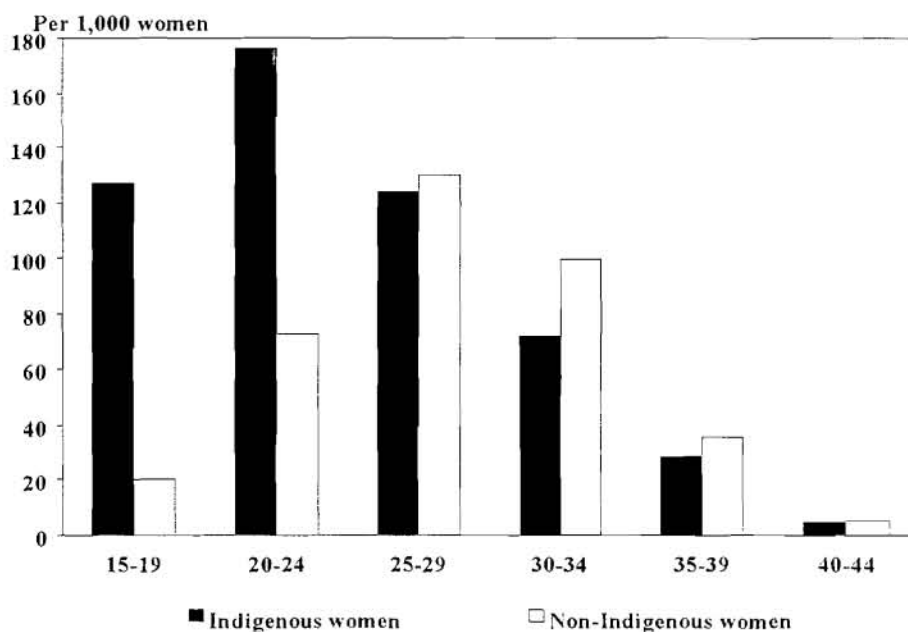
2 Results

2.1 Birth rates

The estimated crude birth rates and age-specific birth rates of Indigenous and non-Indigenous women are derived from the annual number of live births to mothers in both of these population groups, and from national Census data or other estimates derived from Census data. As the number of live births in this report differs from the numbers based on birth registrations or Census estimates, the birth rates reported here will also differ from those derived from other sources.

In the Census year of 1991, there were 6,969 live births to Indigenous mothers recorded in the perinatal collections among the total estimated Indigenous population of 273,518 (excluding Tasmania), and 247,657 live births to non-Indigenous mothers among the population of 17,001,057 (population estimates obtained from Australian Bureau of Statistics 1994a). Based on the perinatal data, the estimated crude birth rates were 25.5 per 1,000 people for the Indigenous population and 14.6 per 1,000 for the non-Indigenous population, but the Indigenous rate underestimates the actual figure because of incomplete reporting of births to Indigenous mothers. In comparing age-specific birth rates of Indigenous and non-Indigenous women, the number of live births to mothers in each age group is related to the number of women of the same age, rather than to the total population. The peak birth rates were in the 20-24 years age group for Indigenous women and 25-29 years for non-Indigenous women (Table 1, Figure 1). Among teenagers, the Indigenous birth rate was 6 times higher than the non-Indigenous rate; among women aged 20-24 years, the Indigenous birth rate was more than two times higher. About 1 in every 8 Indigenous females of 15-19 years gave birth in 1991, as did about 1 in 6 women aged 20-24 years. Among older women, Indigenous birth rates were consistently less than non-Indigenous rates.

Figure 1: Age-specific birth rates, Australia, 1991



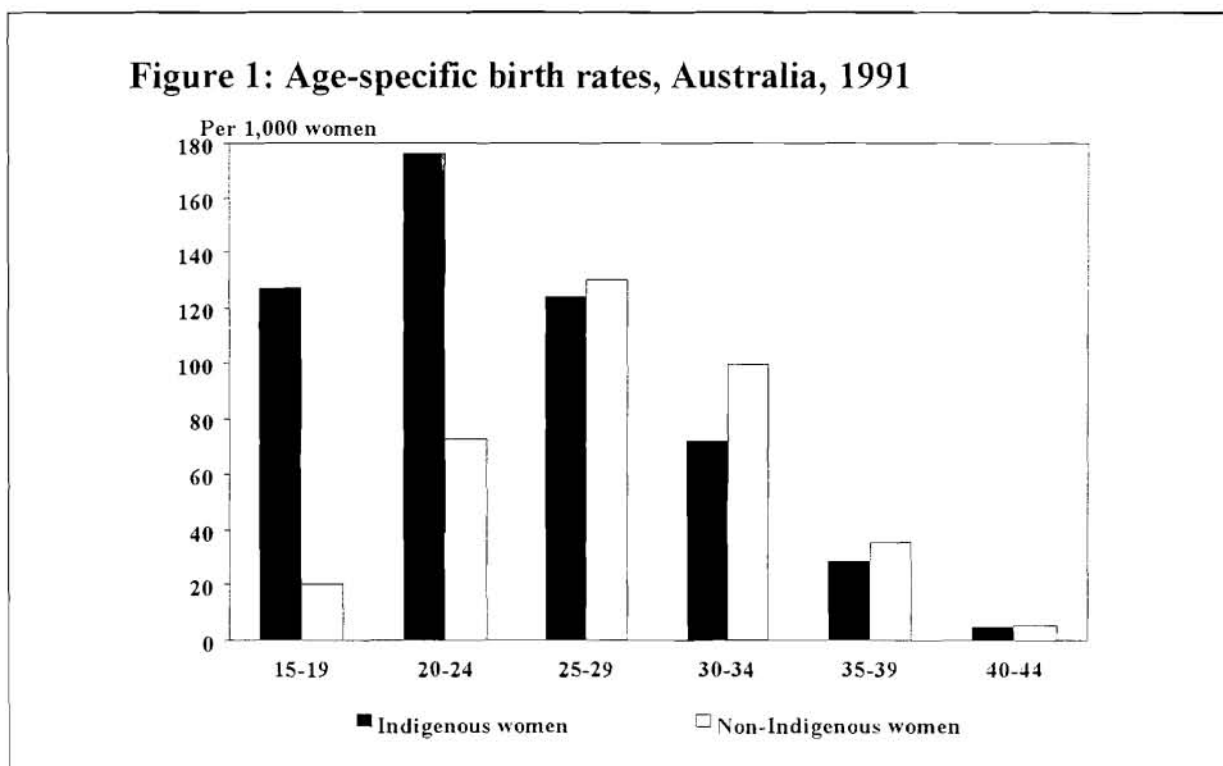
The total fertility rate provides an estimate of the number of children that 1,000 women would have throughout their reproductive lives if they experienced the prevailing birth rates in a particular year (Australian Bureau of Statistics 1994b). It is calculated by adding together the age-specific birth rates for each 5-year stratum of maternal age and multiplying by 5. In 1991, the total fertility rate for Indigenous women was 2,666 per 1,000 women aged 15-44 years, compared with 1,817 per 1,000 for non-Indigenous women. Based on these figures, Indigenous women would have an average of 2.7

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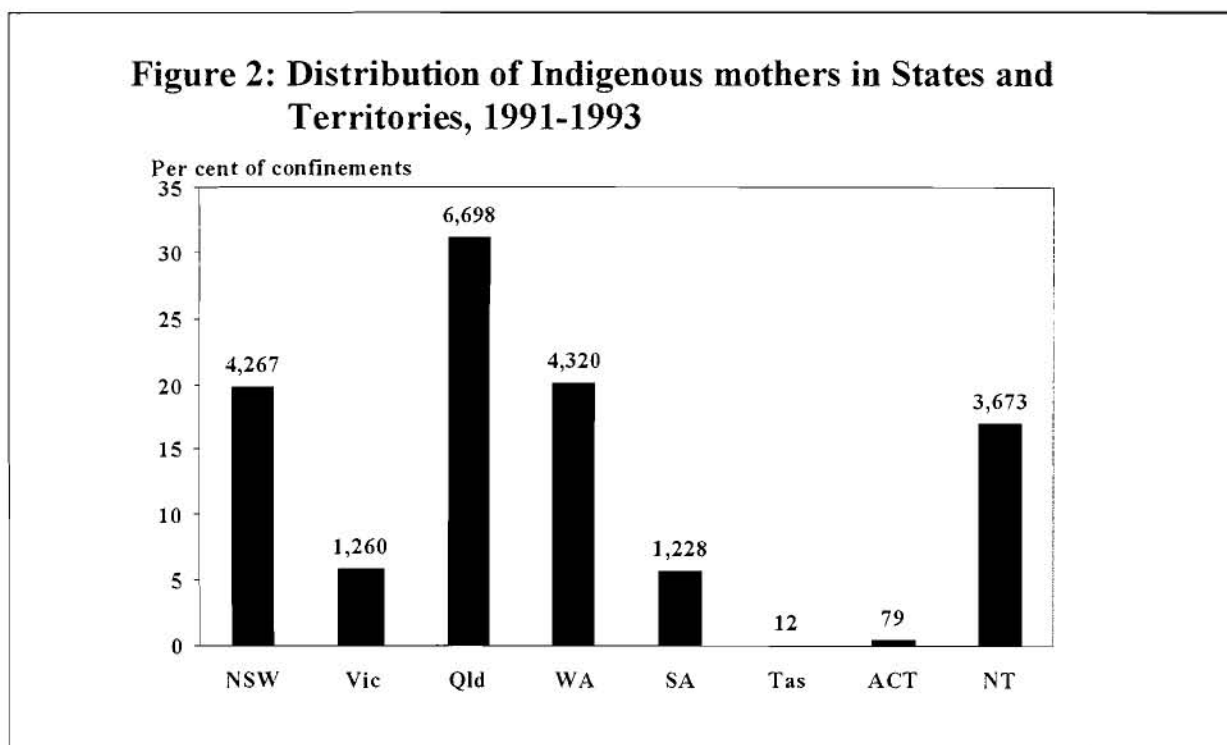
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children and non-Indigenous women, 1.8 children. Again, these estimates are less than those of 3.1 for Indigenous women and 1.9 for non-Indigenous women, derived from Census data (Australian Bureau of Statistics 1994b).

2.2 Confinements and births

In 1991-1993, there were 21,539 confinements recorded for Indigenous women, resulting in the birth of 21,750 infants, of whom 21,405 were live births and 345 were fetal deaths (Table 2). The reported number of births to Indigenous mothers increased from 7,086 in 1991 to 7,329 in 1992 and 7,335 in 1993. These births accounted for 2.8% of all births in Australia in the three-year period. Fetal deaths occurred in 1.6% of births to Indigenous mothers, more than double the rate of 0.7% among other births.

The geographical distribution of births to Indigenous mothers within Australia depends on the size of the local Indigenous population and also on variations in fertility rates in different areas. Of the 21,539 Indigenous mothers in Australia in 1991-1993, 6,698 (31.1%) gave birth in Queensland. There were also relatively large numbers of Indigenous mothers in Western Australia (4,320 - 20.1%), New South Wales (4,269 - 19.8%) and the Northern Territory (3,673 - 17.0%), with relatively fewer in Victoria (1,260 - 5.8%), South Australia (1,228 - 5.7%), the Australian Capital Territory (79 - 0.4%) and Tasmania (12 - 0.1%) (Table 3, Figure 2).

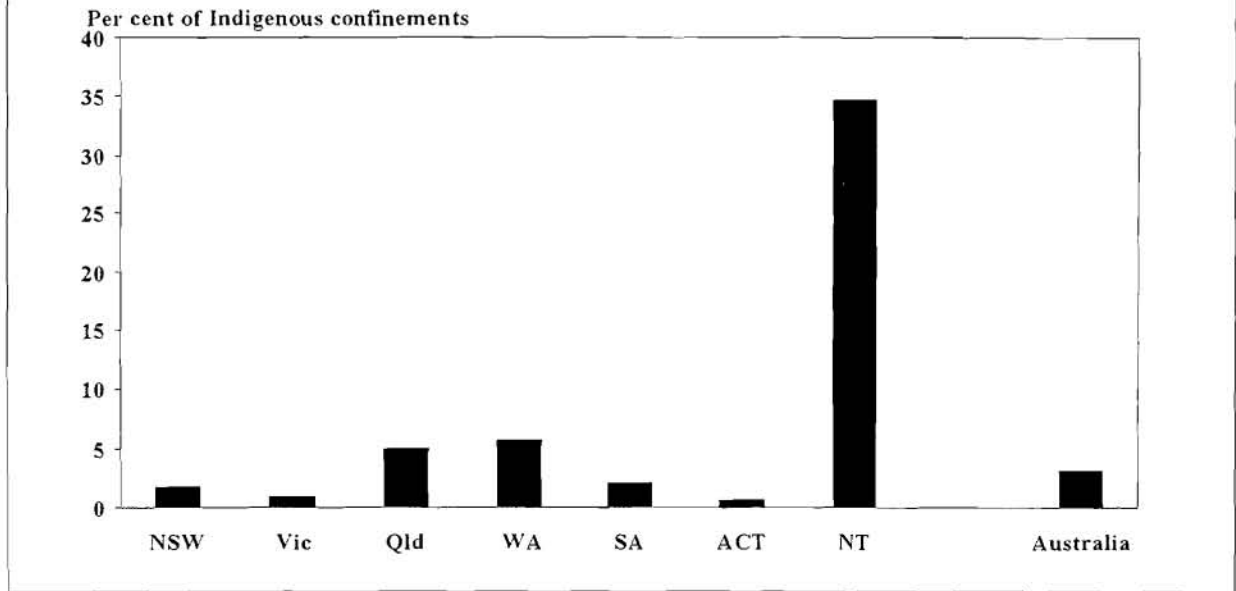


Expressed as a percentage of all mothers giving birth in each State and Territory, the proportion of Indigenous mothers varied from 34.8% in the Northern Territory to 0.1% in Tasmania, although reporting in Tasmania was incomplete (Figure 3). Western Australia (5.8%) and Queensland (4.9%) also had relatively large proportions of Indigenous mothers. Queensland was the only State that made the distinction between Aboriginal and Torres Strait Islander mothers on its perinatal form.

2.3 Place of birth

As only 28% of Indigenous people live in a capital city (Australian Bureau of Statistics 1994c), many Indigenous women would be expected to give birth in smaller rural hospitals but some will be transferred to larger centres, often in teaching hospitals. Most Indigenous mothers (97.7%) gave birth in hospitals and relatively few in designated birth centres (0.2%) or at home (0.1%) (Table 4). Some births (1.0%) occurred before the mother arrived in hospital and others (1.1% of all Indigenous births) took place in bush clinics in the Northern Territory.

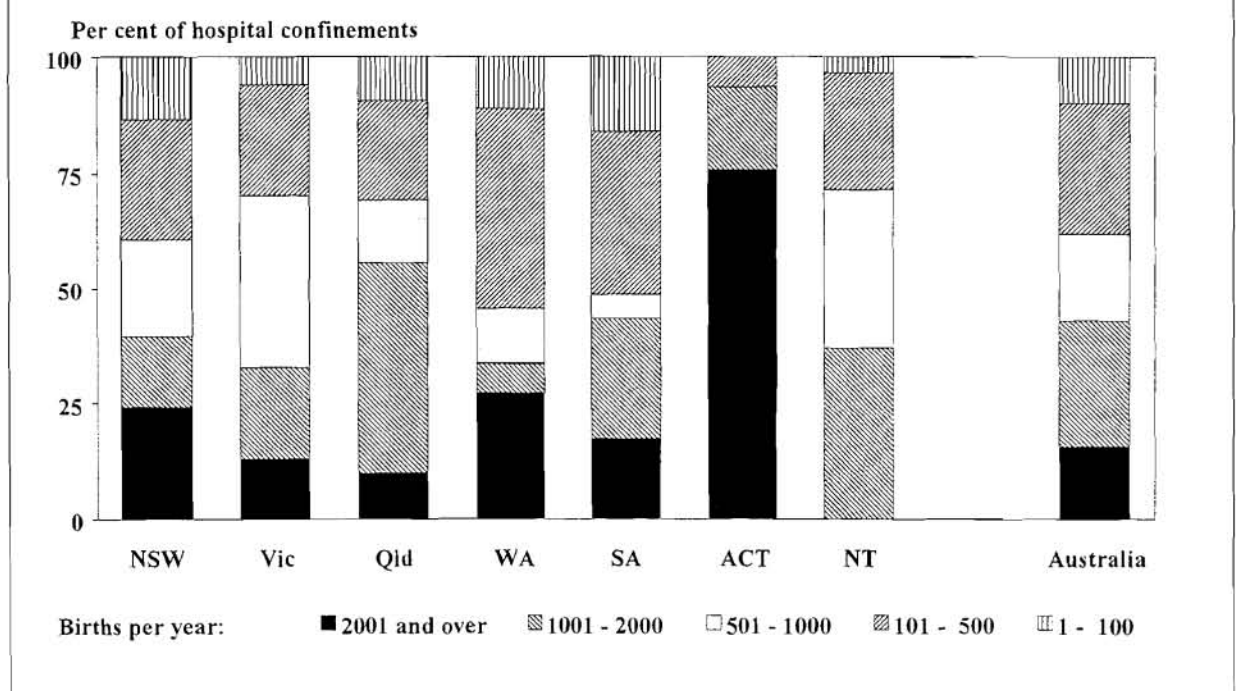
Figure 3: Proportion of Indigenous confinements, States and Territories, 1991-1993



2.4 Size of maternity unit

Consistent with their greater likelihood of living in rural and remote areas, Indigenous mothers were more likely than other mothers to give birth in relatively small hospitals (Table 5). Nevertheless, the majority (62.1%) of Indigenous mothers gave birth in hospitals that had more than 500 confinements annually. Relatively more Indigenous mothers in Western Australia (54.4%) and South Australia (51.1%) gave birth in smaller hospitals of up to 500 confinements annually than in the other States and Territories (Table 6, Figure 4).

Figure 4: Distribution of Indigenous confinements by size of maternity unit, States and Territories, 1991-1993



2.5 Maternal age

The age at which women give birth is a risk factor for the outcome of the pregnancy and for the infant's outcome. Indigenous mothers are more likely to give birth at younger ages than are other mothers. In 1991-1993, their average age was 23.7 years compared with 28.2 years for other mothers (Table 7). One in four (25.2%) Indigenous mothers was a teenager, five times higher than for other mothers (5.0%) (Figure 5). The difference in maternal age distribution between Indigenous and non-Indigenous mothers was most pronounced for those aged less than 17 years (Figure 6). The proportion of Indigenous mothers aged less than 20 years declined slightly from 27.0% in 1991 to 23.4% in 1993.

Figure 5: Maternal age distribution, Australia, 1991-1993

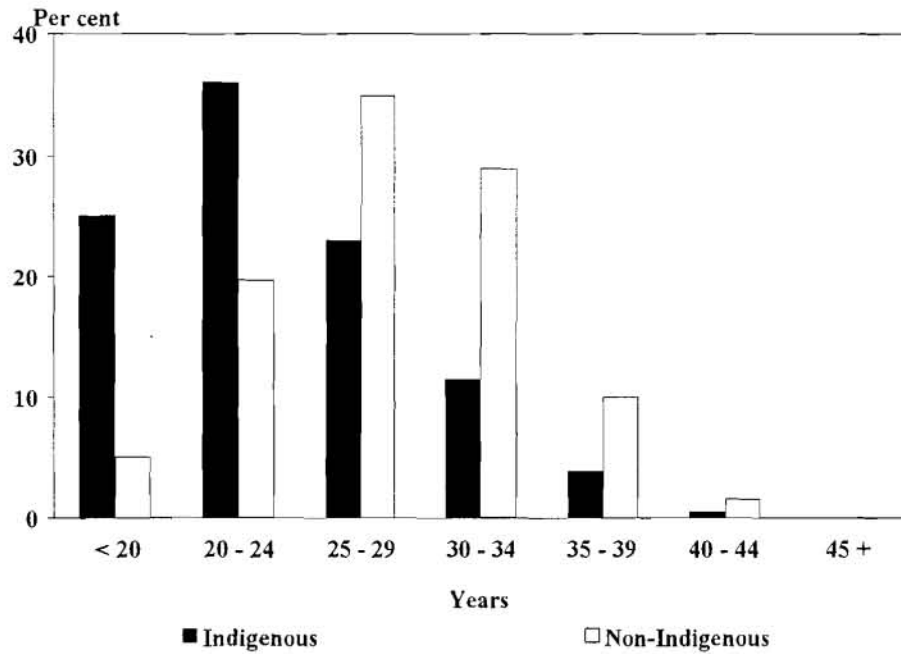
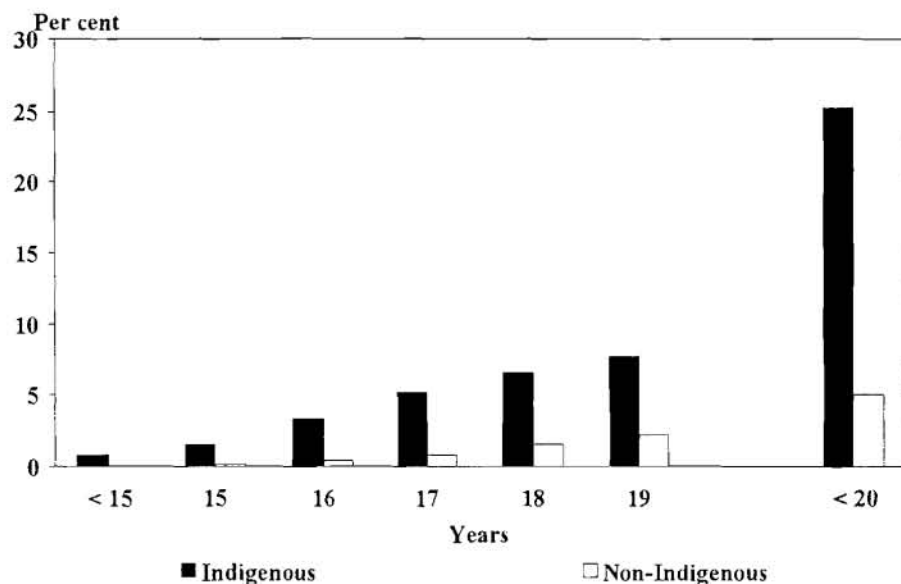


Figure 6: Teenage mothers, Australia, 1991-1993



There were relatively more teenage Indigenous mothers in the Northern Territory (31.1%) and Western Australia (28.8%) than in the other States and the Australian Capital Territory (Table 8, Figure 7). More than half (51.8%) of the teenage mothers in the Northern Territory were aged 17 years or less (Figure 8).

Figure 7: Proportion of Indigenous confinements to teenage mothers, States and Territories, 1991-1993

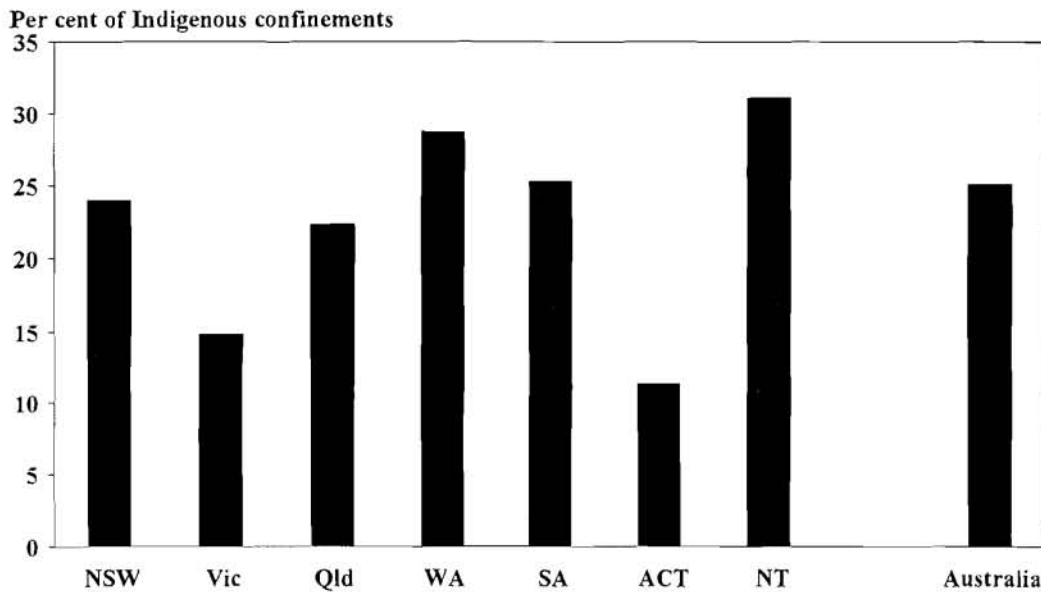
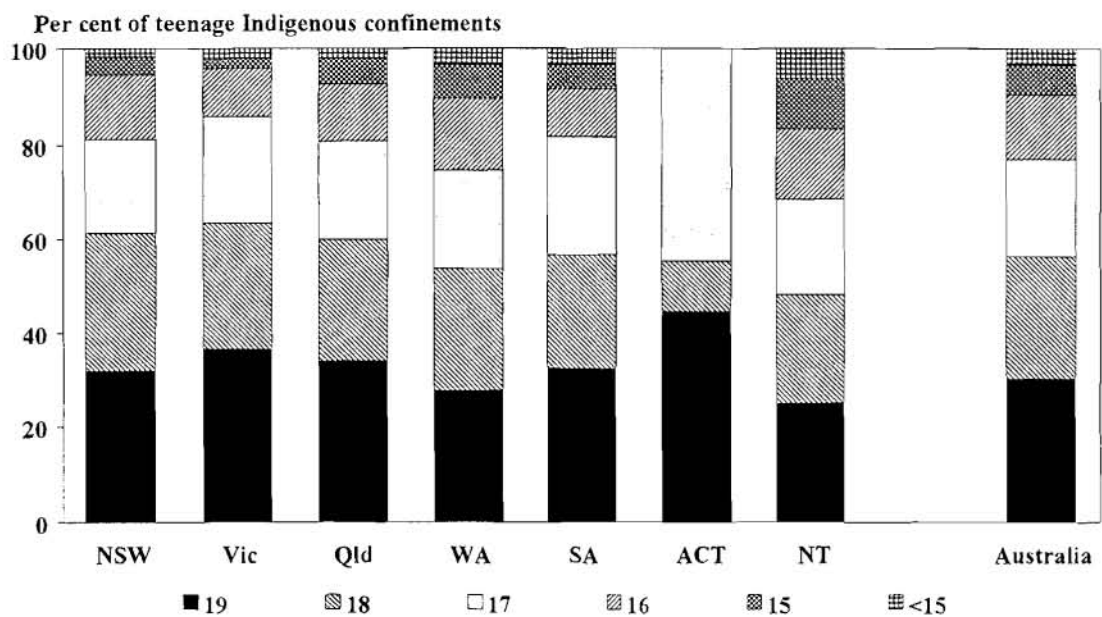
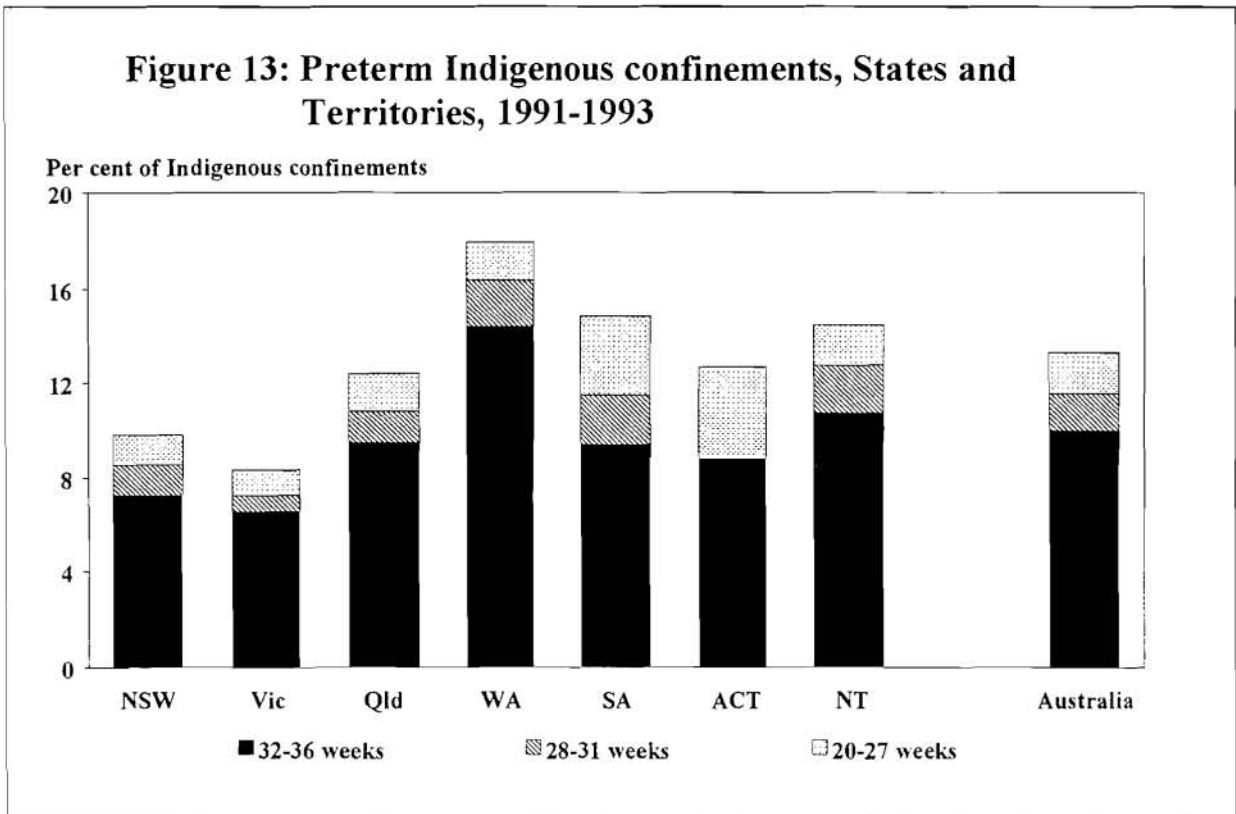
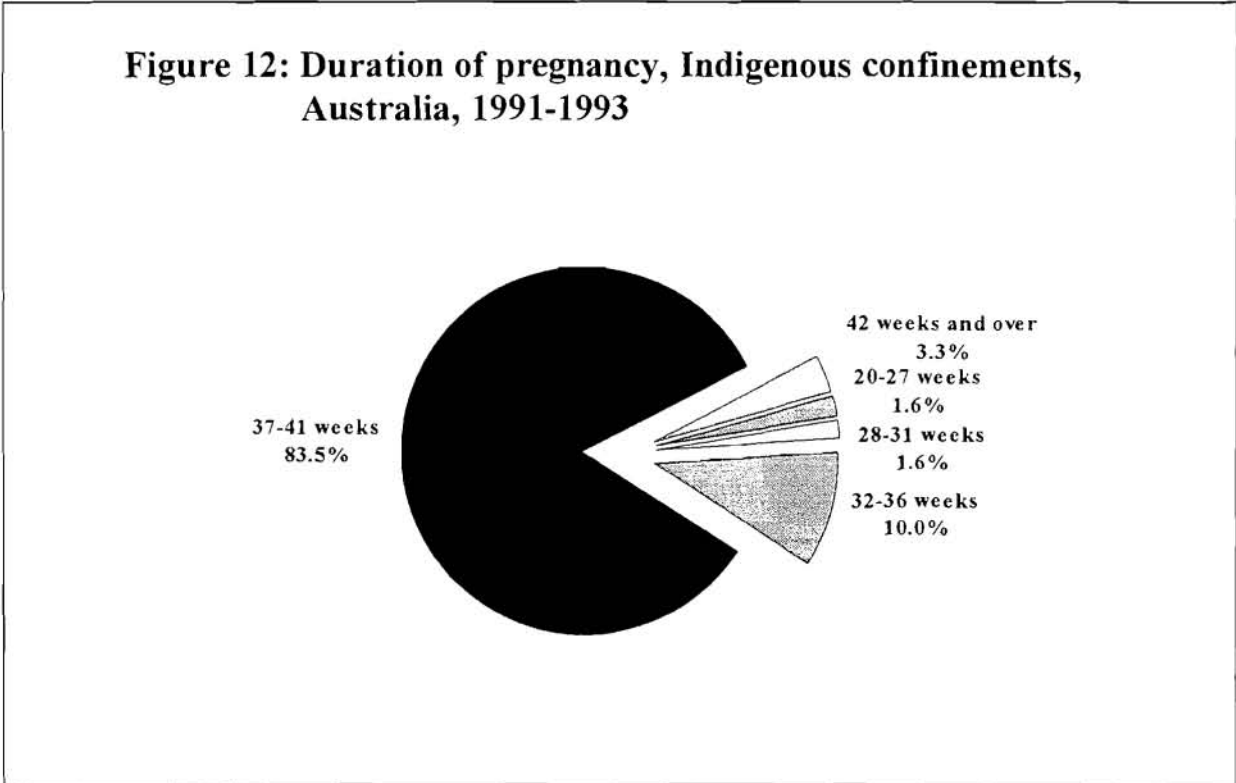


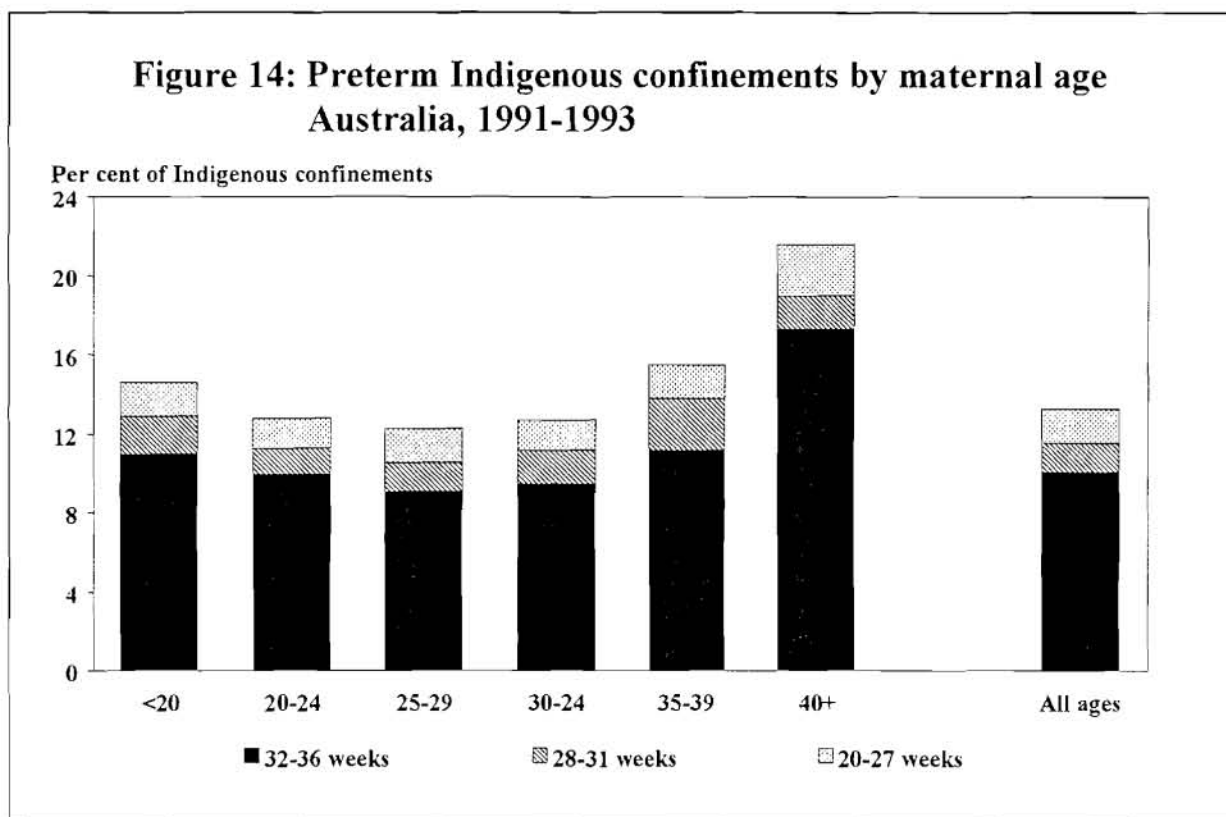
Figure 8: Age distribution of Indigenous teenage mothers, States and Territories, 1991-1993



Preterm birth (20-36 completed weeks' gestation) occurred in 13.2% of all Indigenous confinements (Table 14, Figure 12), more than double the incidence of 6.5% for other mothers. The mean duration of pregnancy was 38.5 weeks for Indigenous mothers, shorter than that of 39.2 weeks for other mothers. Indigenous mothers in Western Australia (17.9%), South Australia (14.8%) and the Northern Territory (14.5%) were more likely to have preterm confinements than those in the other States and Territories (Figure 13). About 1 in 4 preterm Indigenous confinements occurred at gestational ages of less than 32 weeks.



Preterm confinements were more likely for teenage mothers (14.5%) and for mothers aged 35-39 years (15.5%) or 40 years and over (21.5%) than for those in other age groups (Table 15, Figure 14).



2.10 Multiple births

In the perinatal data collections, multiple births are based on the number of fetuses that remain in utero at 20 weeks' gestation and are subsequently delivered as separate births. If gestational age is unknown, only fetuses weighing 400g or more are counted.

In 1991-1993, 204 Indigenous mothers had multiple births, including 199 pairs of twins and 5 sets of triplets (Table 16). Multiple births were less likely among Indigenous mothers (0.9%) than among other mothers (1.3%). Because multiple births are more common with advancing maternal age, differences in age distribution between Indigenous and other mothers partly account for the relatively lower incidence of multiple births among Indigenous mothers. Indigenous women are probably less likely to be treated with fertility drugs, which have been an important factor contributing to the higher rate of multiple births in Australia in recent years. The incidence of multiple births was similar for Indigenous and non-Indigenous mothers aged less than 20 and 20-24 years, but was lower for Indigenous mothers in all other age groups (Figure 15).

2.11 Onset of labour

The onset of labour was spontaneous for 78.3% of Indigenous births (Table 17), compared with 69.7% for all other births. The incidence of spontaneous onset of labour among Indigenous mothers differed little in the States and Territories (Figure 16). Labour was less likely to be induced for Indigenous mothers (13.9%) than for all other mothers (20.1%).

2.12 Presentation at delivery

For most births, the head (vertex) is the presenting part during labour. Breech presentation occurred in 4.2% of Indigenous births (Table 18), similar to the incidence of 4.3% among all other births.

Figure 15: Maternal age-specific multiple birth rates, Australia, 1991-1993

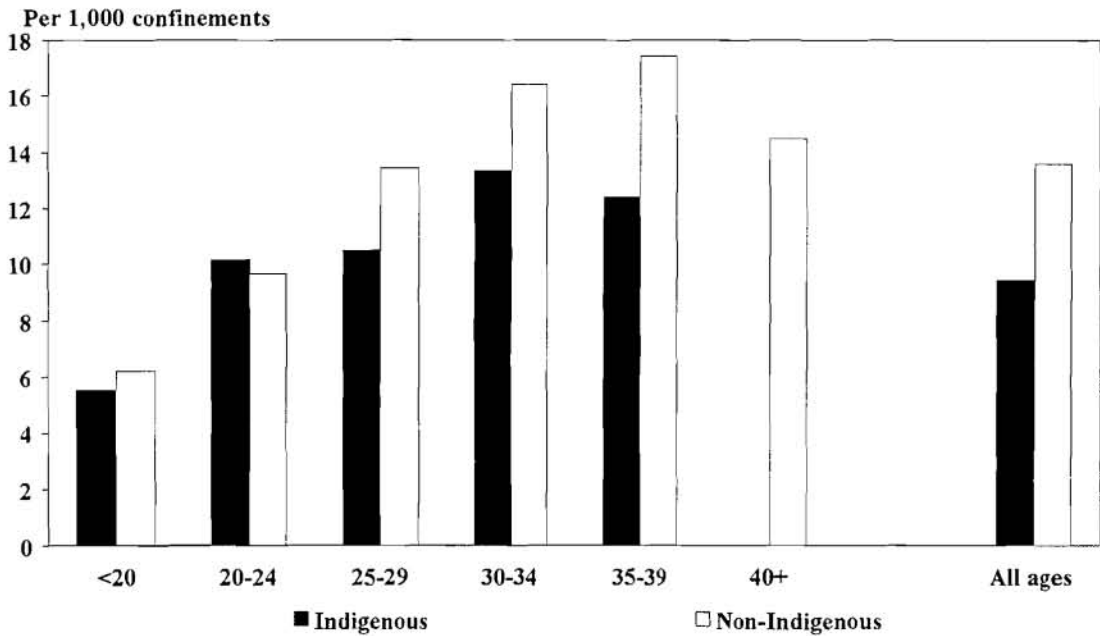
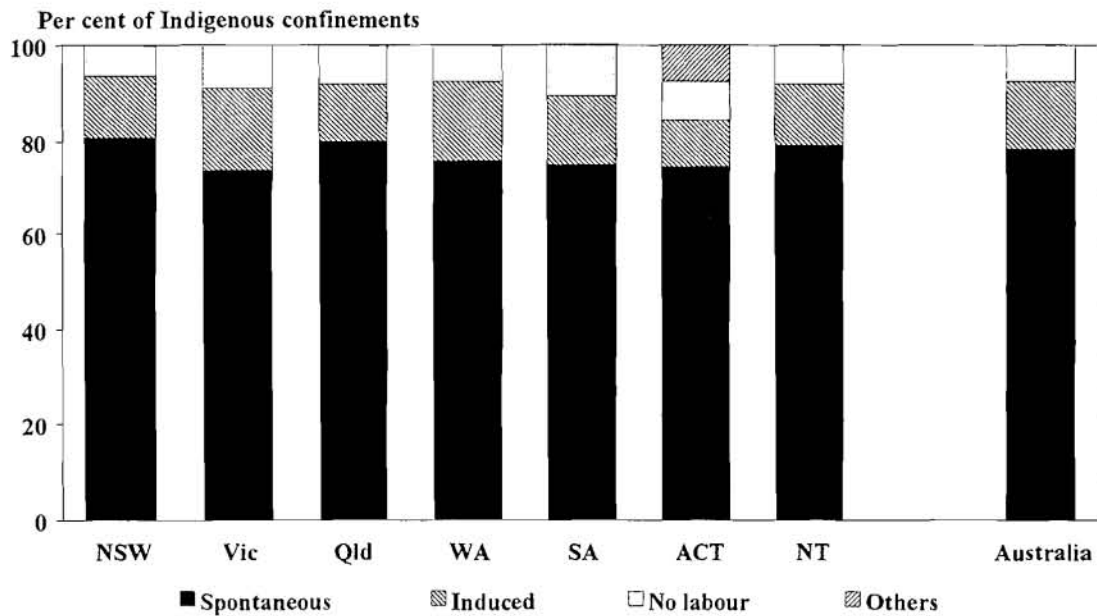


Figure 16: Onset of labour, Indigenous confinements, States and Territories, 1991-1993



2.13 Type of delivery

Indigenous mothers experienced less intervention in giving birth than did other mothers. The majority (75.2%) of Indigenous births were spontaneous vertex (Table 19, Figure 17), higher than the incidence of 67.9% for all other births. Forceps delivery occurred in 4.0% of Indigenous births and in 9.6% of all other births, vacuum extraction in 2.0% and 2.8% respectively, and vaginal breech delivery in 1.6% and 1.1%, respectively (Figure 18).

Figure 17: Type of delivery, Indigenous confinements, Australia, 1991-1993

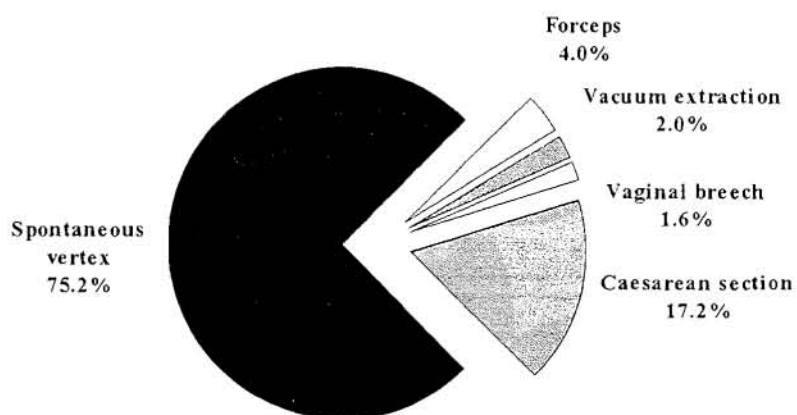
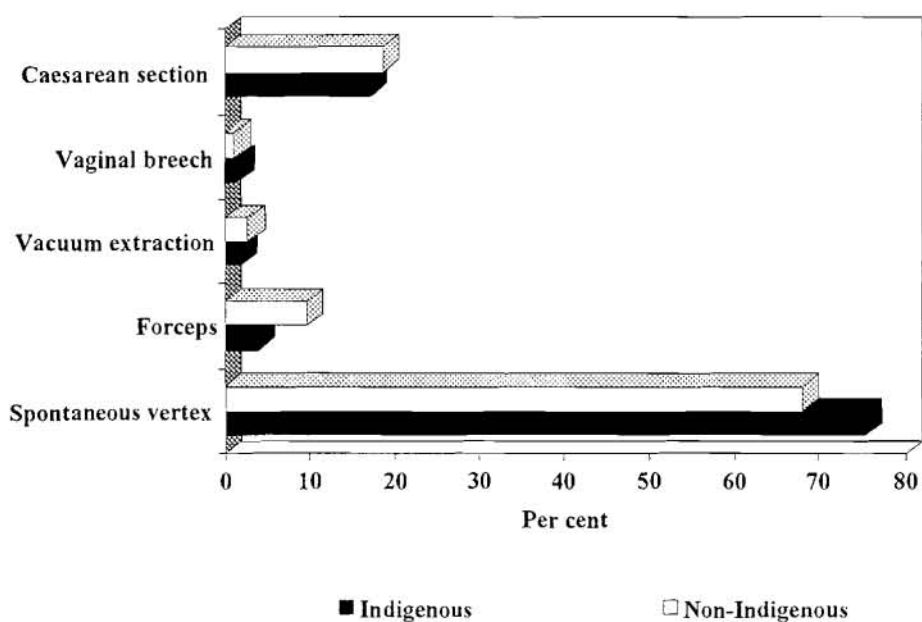
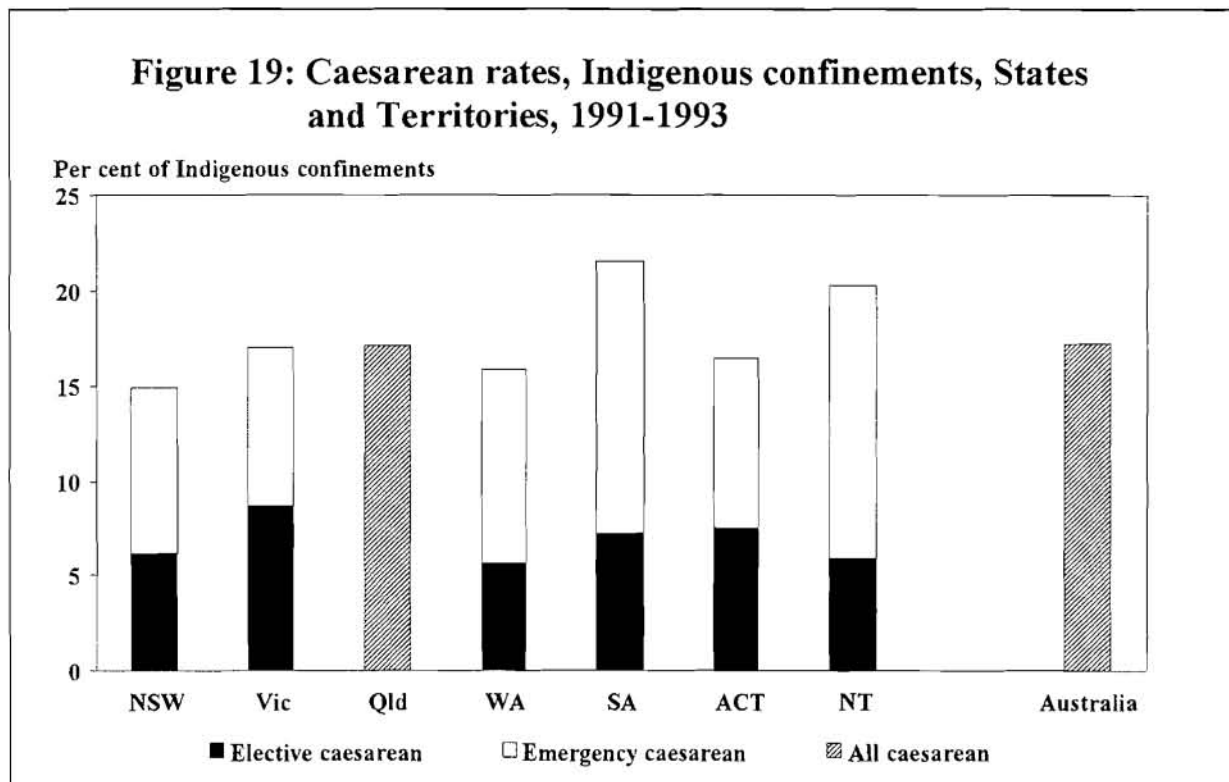


Figure 18: Type of delivery, Indigenous and non-Indigenous confinements, Australia, 1991-1993



In 1991-1993, the caesarean rate for Indigenous mothers was 17.2%, slightly less than the rate of 18.5% for all other mothers (Table 20). The caesarean rate for Indigenous mothers increased from 16.6% in 1991 to 17.8% in 1993 and, for all other mothers, from 18.0% in 1991 to 19.0% in 1993.

The highest caesarean rates for Indigenous mothers were in South Australia (21.5%) and the Northern Territory (20.2%); the lowest rates were in New South Wales (14.9%) and Western Australia (15.8%) (Figure 19).



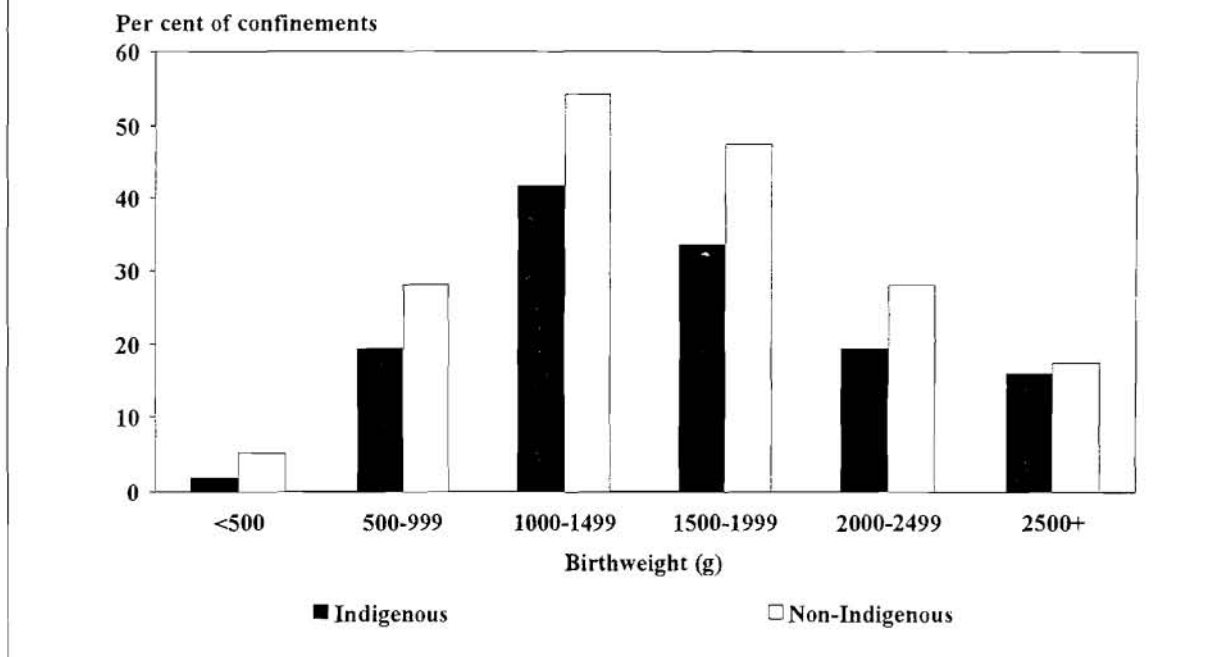
Caesarean rates in Australia are consistently higher for mothers in private accommodation in hospital than for those in public accommodation. In 1991-1993, the caesarean rates for Indigenous mothers in these two categories were 25.5% and 16.3%, respectively (Table 21). Although there were relatively small numbers in some maternal age groups, these differences in rates were apparent for most age groups and for each State and Territory.

Among Indigenous mothers in public accommodation, the caesarean rate increased with advancing maternal age, from 11.9% for those aged less than 15 years to 28.2% at 40-44 years (Table 22). Mothers having their first baby generally had higher rates than those with previous children. More than 1 in 3 Indigenous mothers in their 30s having their first baby gave birth by caesarean section. The caesarean rates of 37.7% at 30-34 years and 36.4% at 35-39 years for Indigenous mothers were higher than the rates of 24.7% and 32.2%, respectively, for non-Indigenous mothers in the same age groups.

Among all Indigenous mothers, caesarean rates were higher for those having their first baby (19.3%) than for those with previous births (16.3%) (Table 23). The usual pattern of higher caesarean rates for multiple births and breech presentation in singleton births was also evident for Indigenous mothers.

Infants of low birthweight from singleton pregnancies, especially those weighing between 1000 and 1999g, were more likely to be born by caesarean section than heavier infants (Table 23, Figure 20).

Figure 20: Caesarean rates by birthweight, singleton births, Australia, 1991-1993



Indigenous mothers whose singleton babies weighed 2500g and over had higher caesarean rates than did non-Indigenous mothers. For these mothers in public accommodation in hospital, the caesarean rates were 15.1% for Indigenous mothers and 14.8% for all other mothers; for those in private accommodation, the rates were 24.2% and 21.3%, respectively. In the low birthweight categories (less than 2500g), Indigenous mothers had lower caesarean rates than did non-Indigenous mothers.

2.14 Mother's length of stay in hospital

The majority of Indigenous mothers (82.8%) had an antenatal stay in hospital of 1 day or less (Table 24). Longer antenatal stays of 2 days and over were more than twice as likely for Indigenous mothers (17.2%) than for all other mothers (7.5%). Indigenous mothers in Western Australia, the Northern Territory and Queensland were more likely to have antenatal stays of more than 6 days than mothers in Victoria and South Australia. These differences may reflect higher rates of transfer in late pregnancy to larger regional hospitals.

Indigenous mothers had an average postnatal stay in hospital of 4.7 days, slightly shorter than the average of 5.1 days for all other mothers. This postnatal stay was longer for Indigenous mothers in the Northern Territory (6.0 days) than for those in the other States and Territories (Table 25). Almost 1 in 5 Indigenous mothers (18.6%) were in hospital postnatally for 7 days or more and 2.1% were in hospital for 14 days or more. In the Northern Territory, these proportions were 33.2% (7 days or more) and 5.0% (14 days or more), again considerably higher than elsewhere. Varying policies of early discharge of mothers from hospital may affect comparisons between the States and Territories.

For Indigenous mothers, factors associated with relatively long postnatal stays of 7 days or more were younger and older maternal ages, no previous births, private accommodation in hospital, birth by caesarean section, and giving birth in medium-sized hospitals of 501-1,000 births per year (Table 26). Among mothers aged less than 20 years, 23.1% were in hospital for 7 days or more, compared with 15.4% of those aged 20-24 years and 30.8% of those aged 40 years and over.

2.15 Mother's mode of separation from hospital

About twice as many Indigenous mothers (5.5%) as non-Indigenous mothers (2.8%) were transferred to another hospital from the hospital of birth. Relatively more Indigenous mothers in New South Wales

(6.6%), Queensland (6.3%) and Western Australia (6.9%) were transferred than in the other States and Territories (Table 27).

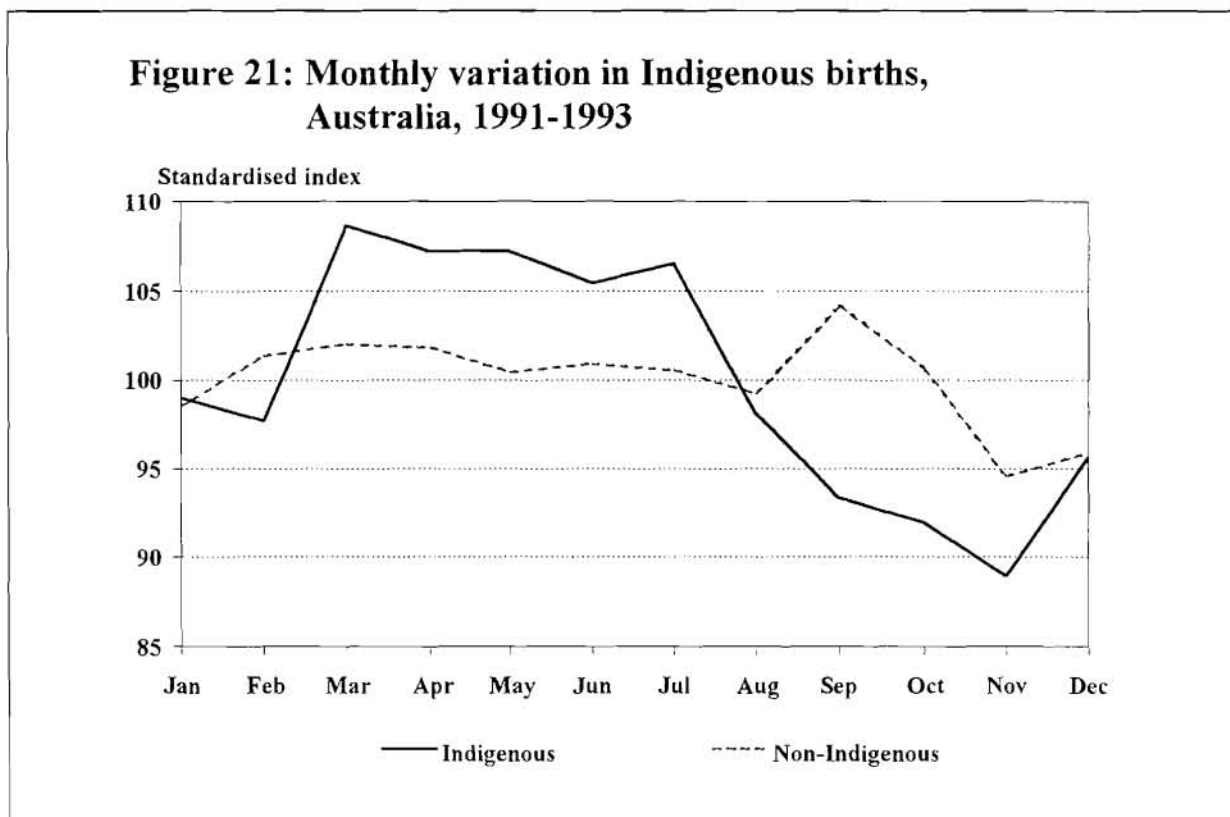
In the most recent report on maternal deaths from the National Health and Medical Research Council (1993), Aboriginal women were overrepresented among maternal deaths in the years 1988 to 1990. Whilst the overall death rate for Australian women was 12.7 per 100,000 pregnancies, the rate for Aboriginal women was 90 per 100,000 pregnancies. The latter made up nearly one-third of deaths directly associated with pregnancy and birth (11 of 37) and nearly half the deaths that may have been avoidable (5 of 12).

In New South Wales from 1982 to 1990, there were five maternal deaths of Aboriginal women; the maternal mortality rate was 47 per 100,000 births, which was about six times higher than the rate for non-Aboriginal women. The maternal mortality rate for direct maternal deaths in Aboriginal women was about seven times that of non-Aboriginal women at 38 per 100,000 births (NSW Health Department, 1994).

Among 21,539 confinements of Indigenous mothers in 1991-1993, five deaths were recorded in the perinatal data collections (Table 27), compared with 33 deaths among 686,921 confinements of all other mothers. Information on all maternal deaths, including those occurring in early pregnancy or after discharge from hospital, is incomplete in the perinatal collections, so maternal death rates cannot be derived from these figures. Nevertheless, recorded maternal deaths were substantially higher among Indigenous mothers (1 in 4,350 confinements) than among non-Indigenous mothers (1 in 20,816 confinements).

2.16 Births to Indigenous mothers

The perinatal data collections include fetal deaths and live births of infants of at least 20 weeks' gestation or at least 400g birthweight. There were 21,750 births to Indigenous mothers in 1991-1993; there were larger numbers of births in Queensland (6,769), Western Australia (4,364), New South Wales (4,313) and the Northern Territory (3,704) than in the other States and the Australian Capital Territory (Table 28).



The monthly distribution of Indigenous births in 1991-1993 differed from the pattern of bimodal peaks in autumn and spring observed for all Australian births in recent years. After adjusting for the number of days in the month to derive a standardised index, there were relatively more Indigenous births between March and July and relatively fewer between August and December (Figure 21). The peak month was March, while there were relatively fewer births in November. The variation from the baseline of the peak and trough months was greater for Indigenous than for all births. The second peak in September observed for non-Indigenous births was not apparent for Indigenous births.

2.17 Infant's sex

Following the pattern of all births in Australia, there were more Indigenous male births than female births (Table 29). The Indigenous sex ratio of 106.0 male births per 100 female births was similar to the sex ratio of 106.2 for all other births.

2.18 Infant's birthweight

The infant's birthweight is a key indicator of health status and inequalities in health. Infants are defined as low birthweight if they weigh less than 2500g at birth. Those weighing less than 1500g are designated as very low birthweight and those less than 1000g as extremely low birthweight.

In 1991-1993, the mean birthweight of Indigenous infants was 3,145g, 216g less than the mean of 3,361g for all other births. There were marked regional differences in the mean birthweight of Indigenous infants, ranging from 3,028g in the Northern Territory and 3,084g in South Australia to 3,310g in Victoria. Low birthweight occurred in 12.6% of Indigenous infants, 1.7% were extremely low birthweight, and 3.1% were very low birthweight (Table 30). There were higher proportions of low birthweight infants in the Northern Territory (15.3%), South Australia (15.0%) and Western Australia (13.3%) than in the other States and Territories (Figure 22). In South Australia, 8.5% of Indigenous infants were very low birthweight, considerably higher than elsewhere in Australia. In Queensland, the data item on the mother's Aboriginality gives separate options for recording Aboriginal and Torres Strait Islander mothers. In 1992, the proportion of low birthweight infants was 13.6% among 1,894 births to Aboriginal mothers, considerably higher than the proportion of 7.1% among 505 births to Torres Strait Islander mothers (Queensland Health 1995).

Low birthweight among Indigenous births (12.6%) was more than double that among non-Indigenous births (6.1%). Very low birthweight occurred in 3.1% of Indigenous births and 1.3% of all other births, and extremely low birthweight in 1.7% and 0.7%, respectively. There was a higher proportion of Indigenous than non-Indigenous infants in all birthweight categories below 3000g (Table 31, Figure 23).

Of 345 Indigenous fetal deaths, 79.2% were low birthweight (Table 32), higher than the proportion of 70.8% among non-Indigenous births. Almost half (48.1%) of the Indigenous fetal deaths were infants weighing less than 1000g.

The proportion of low birthweight was higher for twins (63.5%) and other multiple births (100.0%) than for singleton Indigenous births (11.6%) (Table 33). Female infants (13.5%) were more likely to be low birthweight than were male infants (11.6%) (Table 34).

Other factors associated with a higher occurrence of low birthweight were younger and older maternal ages, first births, single marital status, public accommodation in hospital, and births outside hospital (Table 35). Low birthweight occurred among 13.5% of infants whose mothers were aged 15-19 years and 15.9% of those whose mothers were less than 15 years. Infants of older mothers of 35-39 years had an incidence of low birthweight of 15.3% and, among those whose mothers were 40 years and over, low birthweight occurred in 16.2%. Almost 1 in 20 Indigenous infants born to mothers aged less than 15 years or 35 and over were very low birthweight.

Figure 22: Proportion of low birthweight infants, births to Indigenous mothers, States and Territories, 1991-1993

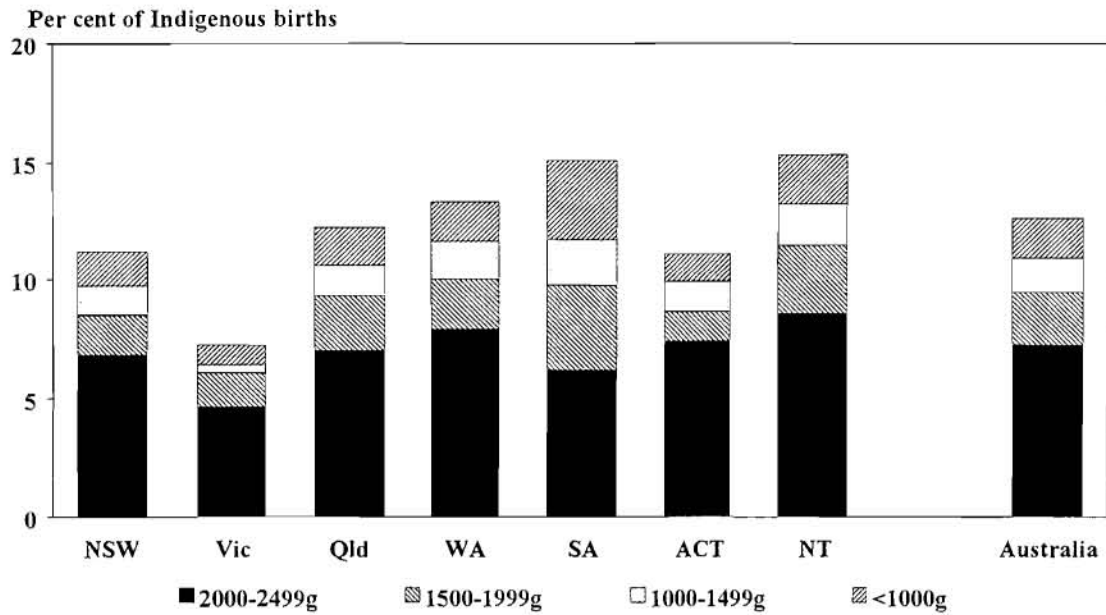
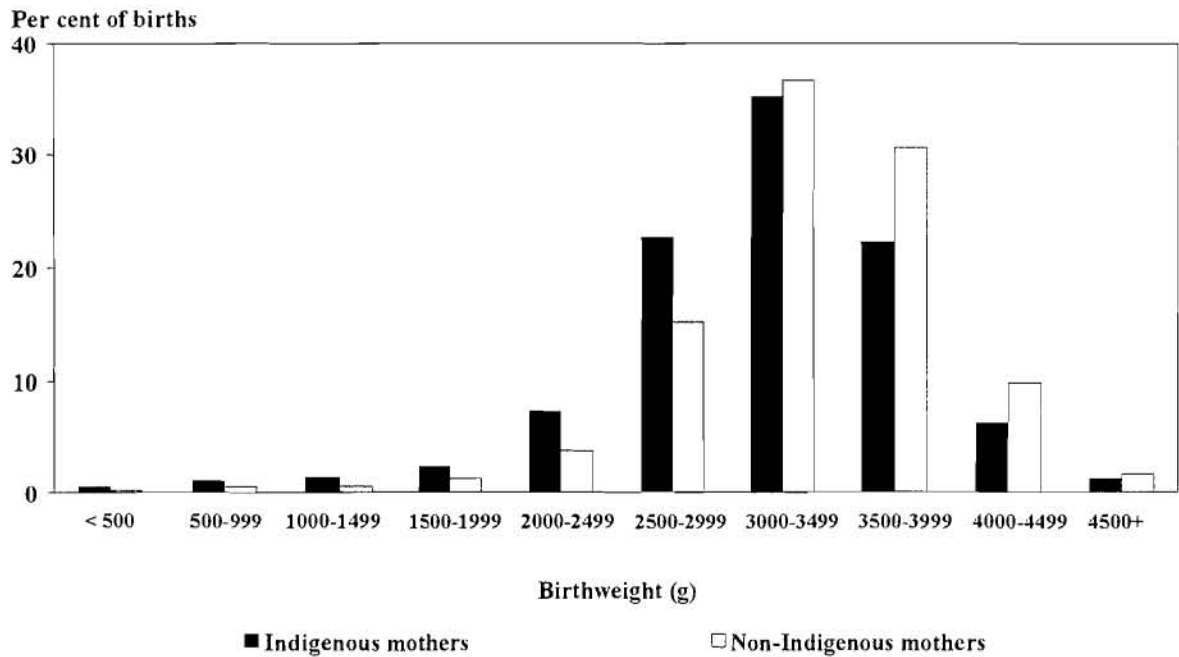


Figure 23: Infant's birthweight distribution, 1991-1993



Although relatively few Indigenous infants were born before arrival in hospital, or in remote locations, almost 1 in 3 of these infants were low birthweight (Table 35).

As many Indigenous mothers live in rural or remote areas, there may be inadequate access to larger hospitals that have adequate staffing and facilities for care of high-risk low birthweight infants. About 1 in 4 (24.2%) liveborn infants weighing 500-999g were born in hospitals with fewer than 1,000 confinements per year (Table 36). About 1 in 6 (15.6%) of those weighing 1000-1499g, and 1 in 4 (27.6%) infants of those weighing 1500-1999g, were born in hospitals of this size. The proportion of non-Indigenous infants born in hospitals with fewer than 1,000 confinements were 9.2% for those of 500-999g, 7.0% for those of 1000-1499g, and 17.5% for those weighing 1500-1999g.

Many factors influence an infant's birthweight, including maternal nutrition, smoking and complications of pregnancy. There is evidence that Indigenous infants who have no non-Aboriginal ancestors have lower birthweight than those who do have with a non-Aboriginal ancestor (Sayers & Powers 1993). Babies without a non-Aboriginal ancestor had a lower mean birthweight and at term were significantly smaller than babies with a non-Aboriginal ancestor as assessed by mean birthweight, length and head circumference.

2.19 Apgar scores

Apgar scores are clinical indicators of the infant's condition shortly after birth, based on assessment of the heart rate, breathing, colour, muscle tone, and reflex irritability. Between 0 and 2 points are given for each of these five characteristics, so the total score may vary between 0 and 10. The Apgar score is usually assessed at 1 and 5 minutes after birth, and subsequently at 5-minute intervals if it is still low, indicating a poorer condition.

Lighter babies are more likely to have low Apgar scores than heavier babies. More than half (56.7%) of liveborn Indigenous infants of less than 1,000g had Apgar scores of less than 4 at 1 minute, this proportion decreased to 3.6% for infants weighing 2500g or more (Table 37). The 5-minute Apgar scores in these birthweight groups were 38.8% and 0.4%, respectively.

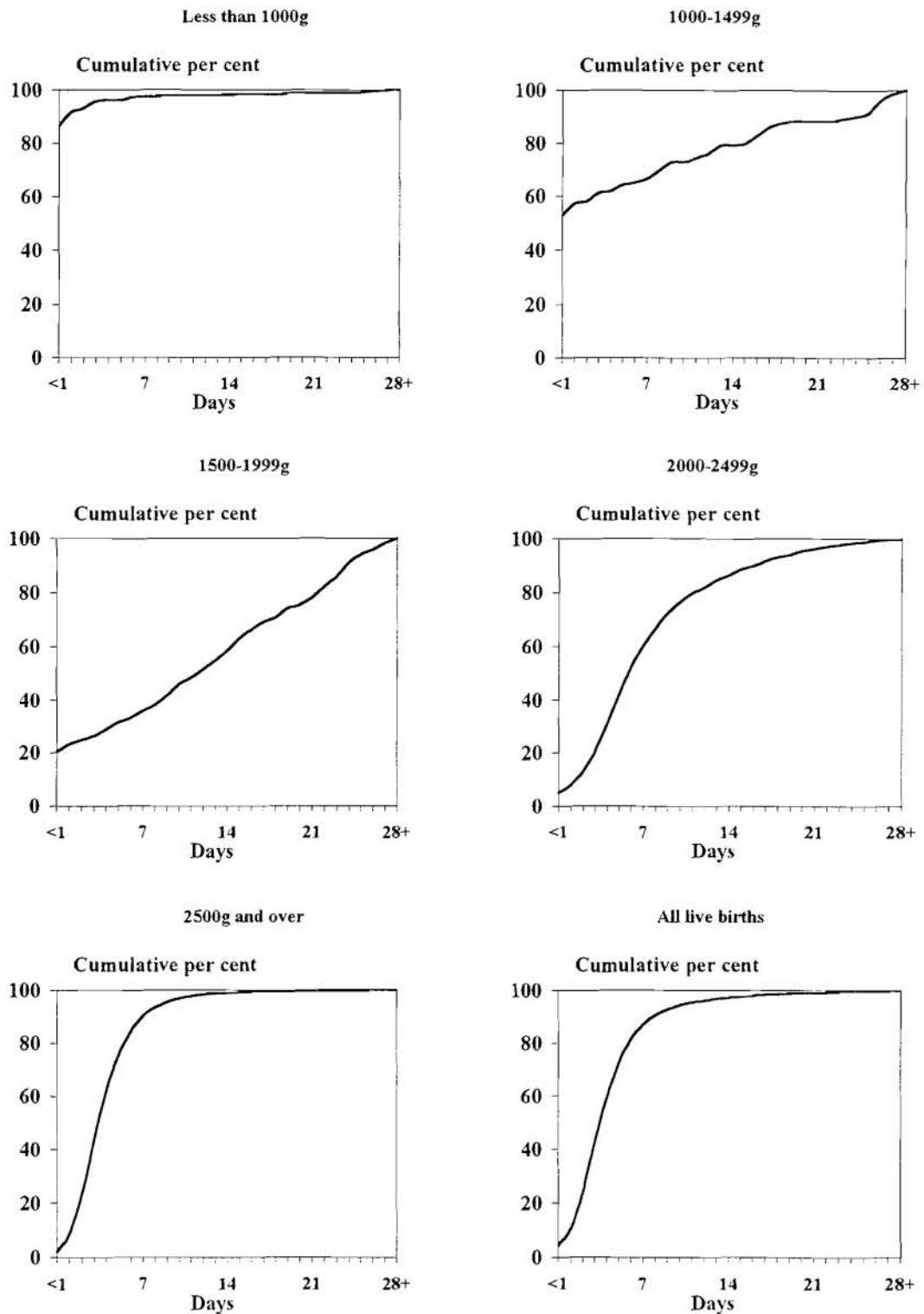
2.20 Infant's length of stay in hospital

Factors influencing how long infants stay in hospital after birth include the infant's gestational age and birthweight, whether or not there are significant clinical problems, and sometimes local policies concerning transfer of infants to other hospitals, especially for those infants born in smaller hospitals.

After excluding infants who were transferred to another hospital or who died, 1 in 5 (20.1%) Indigenous infants had hospital stays of less than 3 days, about 1 in 3 (36.5%) were in hospital for 3 or 4 days, and another 22.9% had stays of 5 or 6 days (Table 38). The proportion of Indigenous infants having short stays of less than 3 days (20.1%) was almost double that of all other infants (10.8%). On the other hand, the proportion of Indigenous infants staying in hospital for more than two weeks (4.5%) was greater than for all other infants (2.5%) (Table 39).

Longer periods of hospitalisation of 4 weeks or more were more likely for multiple births, infants of 28-31 weeks' gestation and infants weighing 1000-1499g (Table 40, Figure 24). Because of the much greater risk of death for infants with very short gestational ages (20-27 weeks) or extremely low birthweight (less than 1000g), relatively fewer of these infants than those in the next highest categories survived more than 4 weeks.

Figure 24: Length of infant's stay in hospital by birthweight, Indigenous births, Australia, 1991-1993



2.21 Infant's mode of separation from hospital

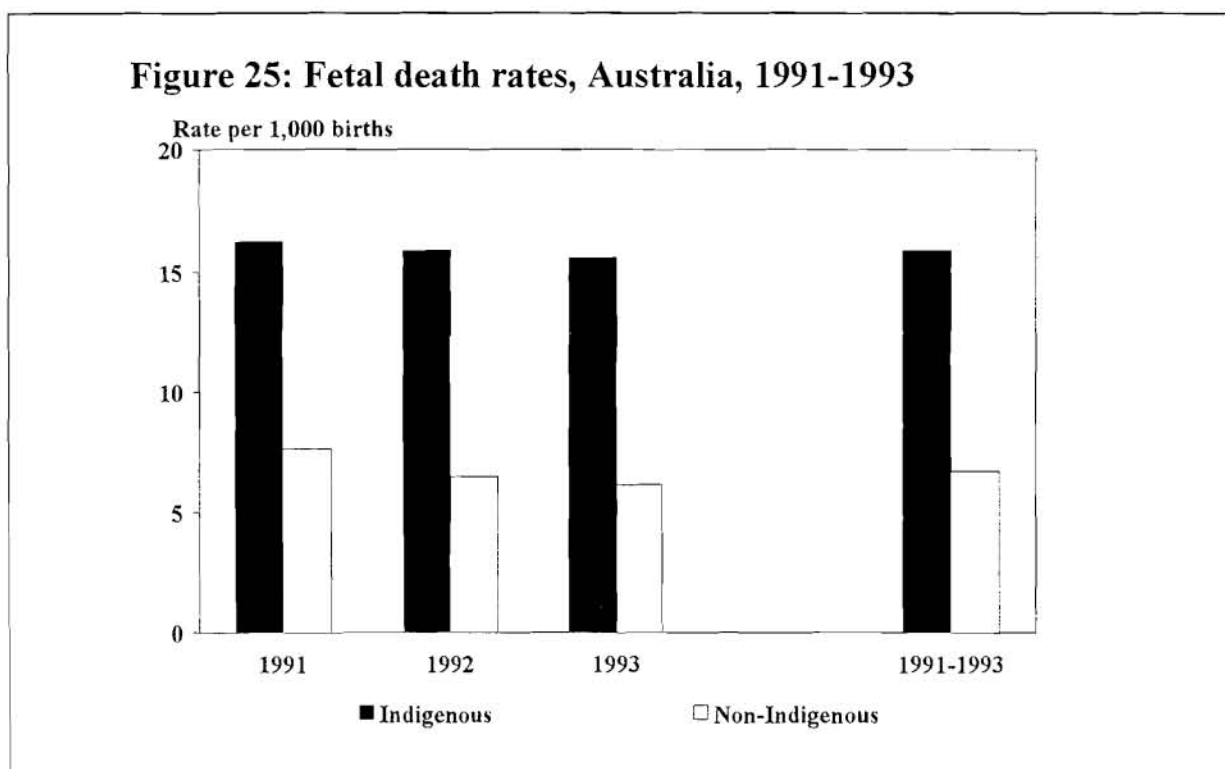
The proportion of Indigenous infants transferred to another hospital (6.9%) was higher than for all other infants (3.8%). Hospital transfers of Indigenous infants were more likely in Western Australia, New South Wales and Queensland than in the other States and Territories (Table 41).

If an infant dies at home or after being transferred to another hospital, this death may not be included in the perinatal collection unless a registered neonatal death has been linked to its perinatal form. The data on mode of separation of the infant is thus an incomplete source of information on neonatal deaths and cannot be used to determine neonatal death rates.

2.22 Fetal deaths

There are different legal and statistical definitions in Australia for registering and reporting fetal, neonatal and perinatal deaths. In the State and Territory perinatal collections, data on neonatal deaths are likely to be incomplete unless registered neonatal deaths are linked to birth notifications. Fetal, neonatal and perinatal death rates in this report are based on deaths of infants of at least 20 weeks' gestation or at least 400g birthweight. It should be noted that these criteria differ from those for data on perinatal deaths published by the Australian Bureau of Statistics, which are based on a lower limit of 500g for birthweight. Also, data in this report are based on the year and State or Territory of birth, whereas ABS reports are based on the year of registration and State or Territory of residence.

The fetal death rate of 15.9 per 1,000 total births among births to Indigenous mothers was more than double the rate of 6.7 per 1,000 for non-Indigenous births (Table 42, Figure 25). This pattern was consistent for each of the three years from 1991 to 1993. The highest Indigenous fetal death rate in this period was in South Australia (21.8 per 1,000 births) and there were also relatively high rates in the Northern Territory (19.2 per 1,000) and New South Wales (16.9 per 1,000) (Table 43, Figure 26).



Maternal age is an important risk factor for Indigenous fetal deaths. Fetal death rates of infants born to mothers aged 35-39 years (30.8 per 1,000 births) and 40 years and over (42.7 per 1,000) were much higher than for infants whose mothers were 30-34 years (11.6 per 1,000) (Table 44, Figure 27). There were relatively small numbers of fetal deaths in the 35-39 and 40 years and over age groups, 25 and 5, respectively. The differences in fetal death rates for Indigenous and non-Indigenous mothers were most

pronounced in the older maternal age groups. Infants of Indigenous teenage mothers had fetal death rates similar to those of infants born to mothers in their 20s.

Figure 26: Fetal death rates, States and Territories, 1991-1993

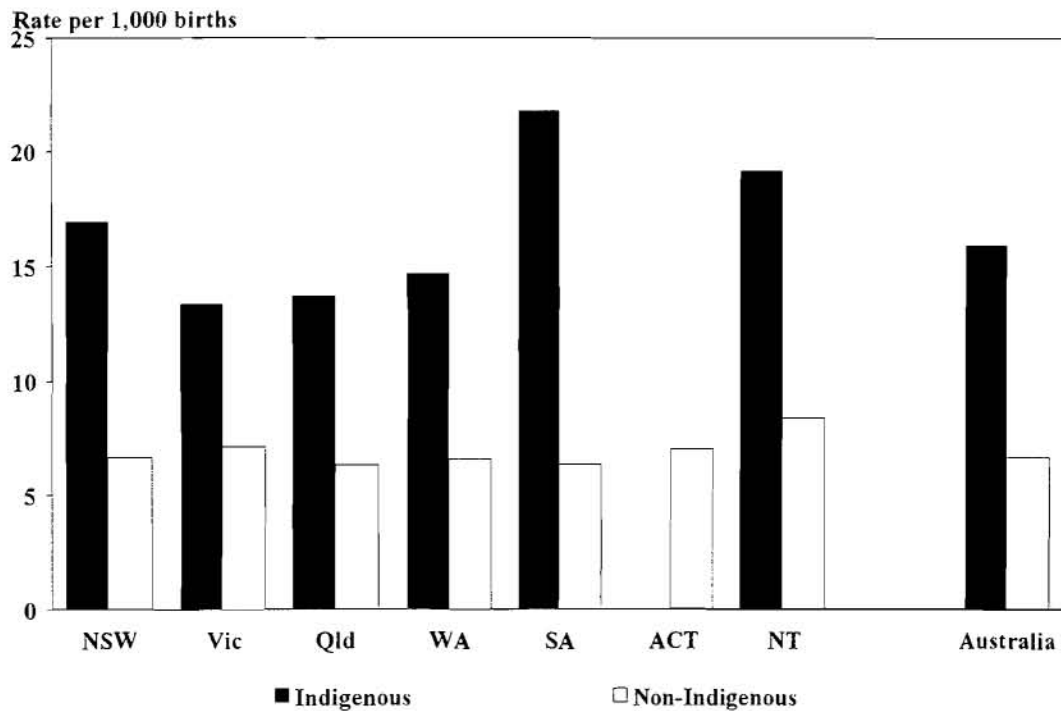
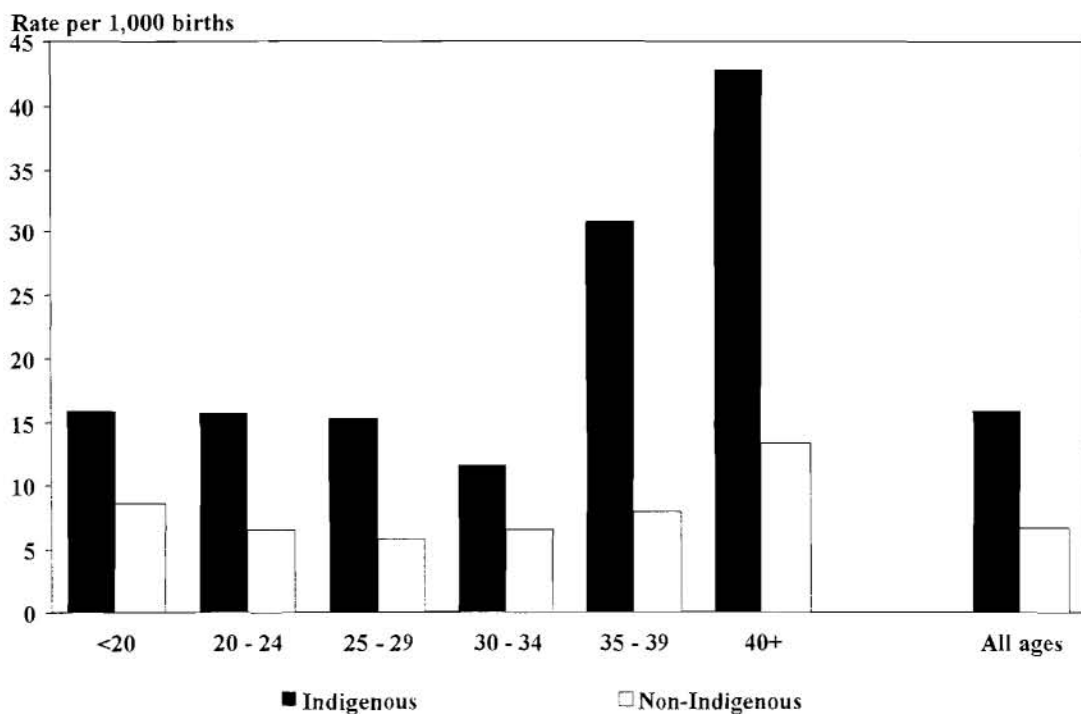
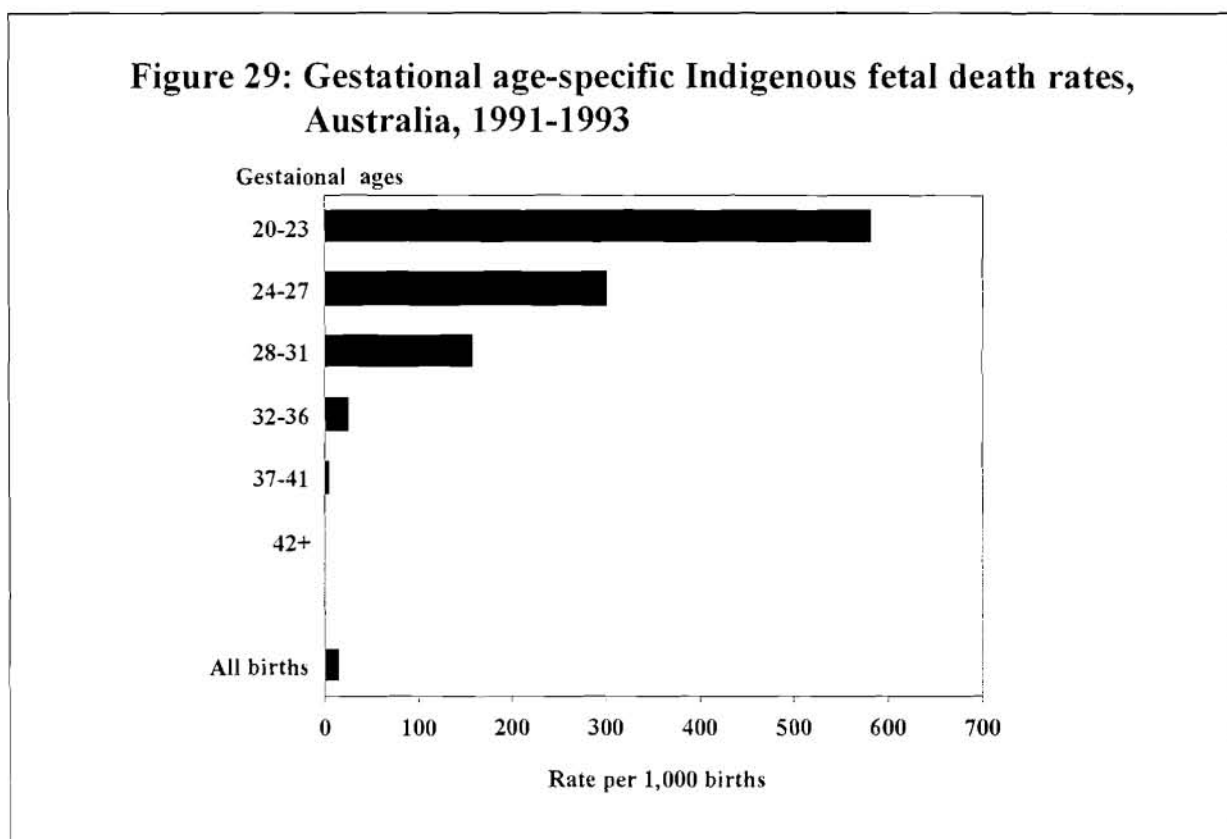
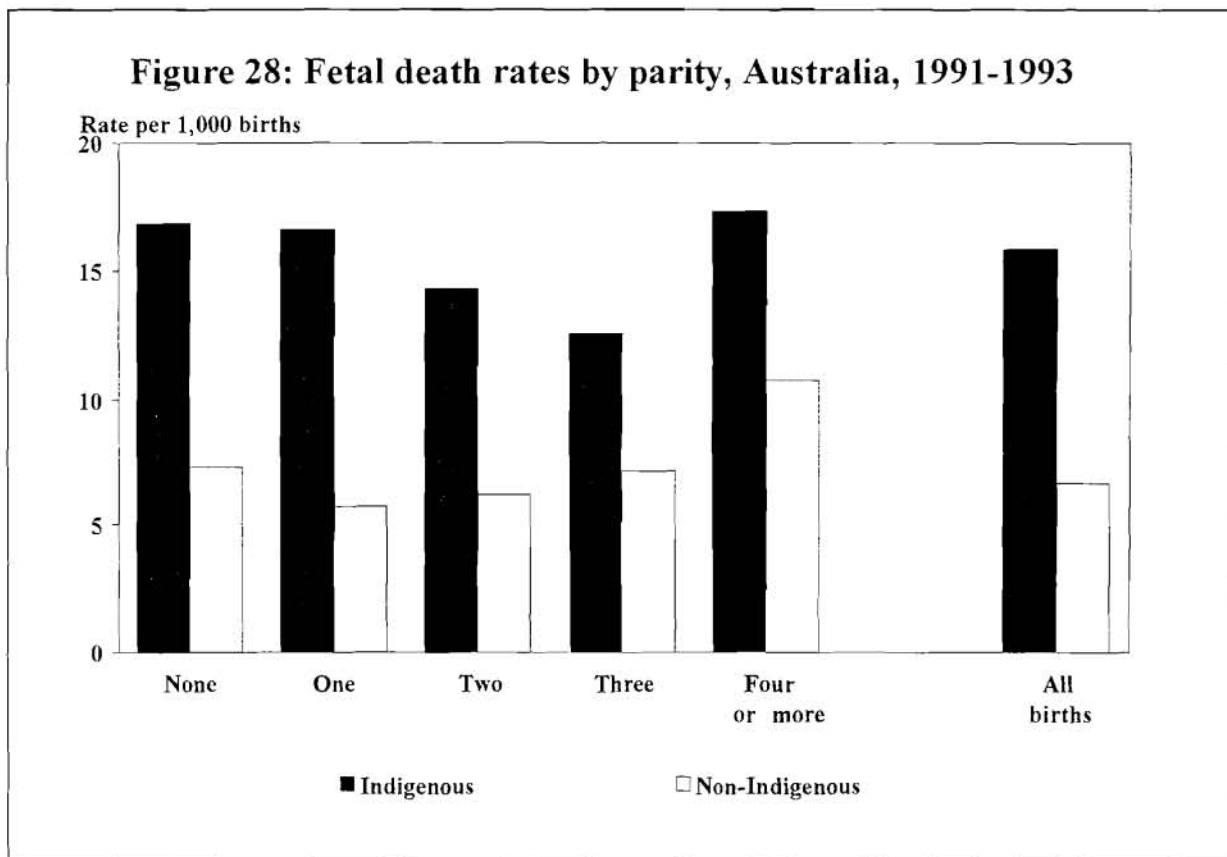


Figure 27: Fetal death rates by maternal age, Australia, 1991-1993

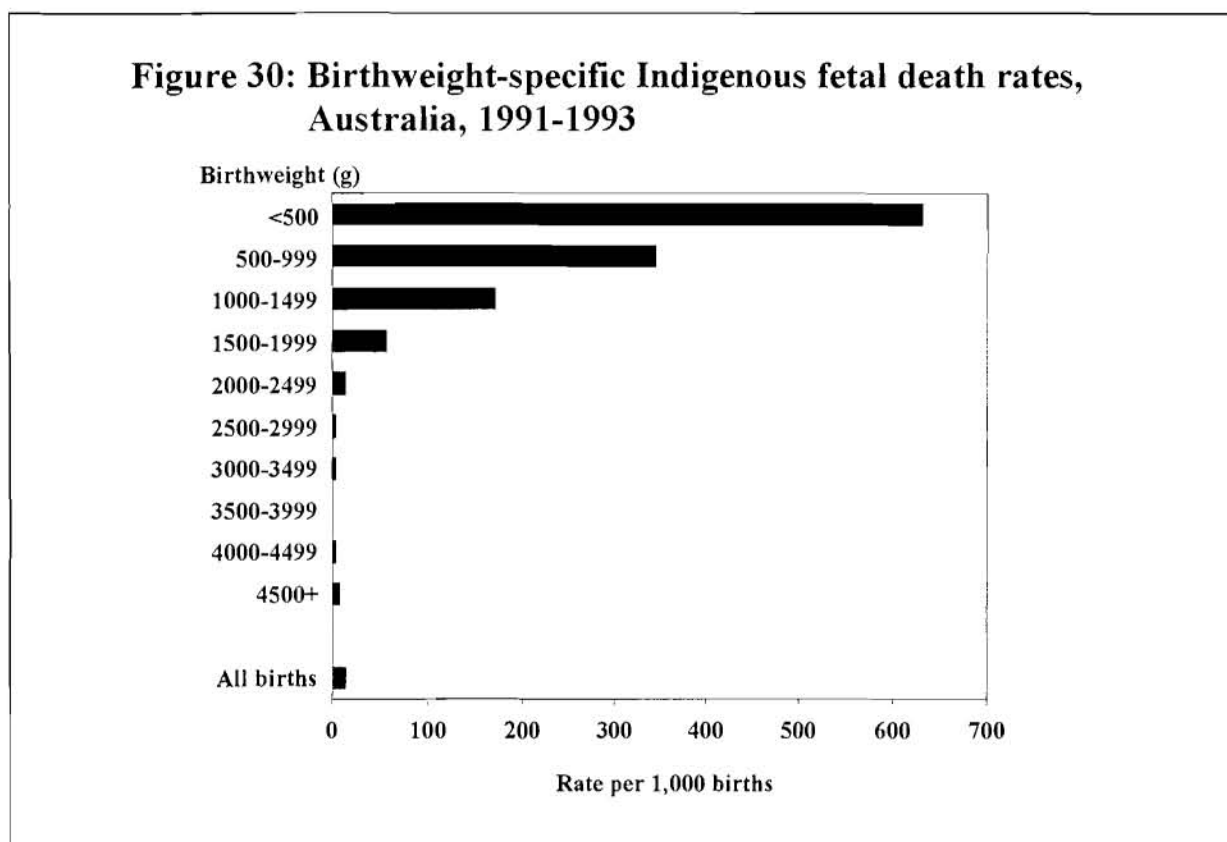


Fetal death rates of infants of Indigenous mothers did not vary markedly with parity, but they were highest for mothers having their first baby and for those who had 4 or more previous children (Table 45, Figure 28). This was similar to the pattern observed for non-Indigenous mothers.



Fetal death rates of infants born preterm at very early gestational ages are much higher than for those born at term. Indigenous fetal death rates varied from 583.9 per 1,000 births at 20-23 weeks and 300.9 per 1,000 at 24-27 weeks to 3.4 per 1,000 at 37-41 weeks and 2.8 per 1,000 at 42 weeks and over (Table 46, Figure 29). Indigenous fetal death rates tended to be higher than non-Indigenous rates in most gestational age groups, especially for infants born at term (37-41 weeks).

There were also marked variations in fetal death rates according to the infant's birthweight, from a high of 631.1 per 1,000 births for Indigenous infants weighing less than 500g to a low of 2.3 per 1,000 for infants of 3500-3999g (Table 47, Figure 30). Indigenous infants weighing 4000g or more had higher fetal death rates than those in the optimal birthweight group of 3500-3999g. The differences in fetal death rates between Indigenous and non-Indigenous infants were most pronounced in the two heaviest birthweight groups.



2.23 Neonatal deaths

Neonatal death rates of infants born to Indigenous and non-Indigenous mothers were compared in Queensland, Western Australia, South Australia and the Northern Territory. Linked data were not available from the other States and the Australian Capital Territory. Indigenous neonatal death rates were consistently higher than the non-Indigenous rates, especially in South Australia. The neonatal death rate of Indigenous infants was more than twice that of non-Indigenous infants in Queensland (Tables 48, 49) and Western Australia (Tables 50, 51). In South Australia, the Indigenous neonatal death rate was almost 6 times higher than the non-Indigenous rate (Tables 52, 53); in the Northern Territory, it was more than twice as high (Tables 54, 55).

2.24 Perinatal deaths

Indigenous perinatal death rates were between 2 and 4 times higher than non-Indigenous rates in the three regions. In Queensland, the rates were 23.9 per 1,000 live births and 10.7 per 1,000, respectively (Tables 48, 49); in Western Australia, 22.9 per 1,000 and 9.9 per 1,000, respectively (Tables 50, 51); in South Australia, 40.3 per 1,000 and 9.6 per 1,000, respectively (Tables 52, 53); and in the Northern Territory, 33.5 per 1,000 and 14.6 per 1,000, respectively (Tables 54, 55).

3 References

- Aboriginal and Torres Strait Islander Commission 1994, *Indigenous Australia today: a statistical focus by ATSIC regions*, Strategic Development Unit, ATSIC, Canberra.
- Australian Bureau of Statistics 1993, *Australia's Aboriginal and Torres Strait Islander population: census of population and housing, August 1991*, Catalogue No. 2740.0, ABS, Canberra.
- Australian Bureau of Statistics 1994a, *Experimental estimates of the Aboriginal and Torres Strait Islander population, June 1986 to June 1991*, Catalogue No. 3230.0, ABS, Canberra.
- Australian Bureau of Statistics 1994b, *Births Australia 1993*, Catalogue No. 3301.0, ABS, Canberra.
- Australian Bureau of Statistics 1994c, *National Aboriginal and Torres Strait Islander survey 1994*, Catalogue No. 4190.0, ABS, Canberra.
- Australian Bureau of Statistics 1995, *Births Australia 1994*, Catalogue No. 3301.0, ABS, Canberra.
- Australian Institute of Health and Welfare 1996, *Australia's health 1996: the fifth biennial report the Australian Institute of Health and Welfare*, AGPS, Canberra.
- Bastian H 1993, *Aboriginal maternal mortality: whose problem ?* Med J Aust 159:571-572.
- Bower C, Stanley F, Connell AF, Gent CR & Massey MS 1992, *Birth defects in the infants of Aboriginal and non-Aboriginal mother with diabetes in Western Australia*, Med J Aust 156:520-524.
- Brooks J 1995, *Australia hopes new strategy will improve health services for Aboriginal population*, Canadian Med Assoc J 152:1509-1511.
- Burbank V 1995, *Gender hierarchy and adolescent sexuality: the control of female reproduction in an Australian Aboriginal community*, Ethos 23:33-46.
- Carter B, Hussen E, Abbott L, Liddle M, Wighton M, McCormack M, Duncan P & Nathan P 1987, *Borning: Pmere Laltyeke Anwerne Ampe Mpwaretyeke; Congress Alukura by the Grandmother's Law: a report prepared by the Central Australian Aboriginal Congress*, Australian Aboriginal Studies, No. 1.
- Chan A, Scott J, McCaul K & Keane R 1994, *Pregnancy outcome in South Australia 1993*, Pregnancy Outcome Unit, Epidemiology Branch, South Australian Health Commission, Adelaide.
- Cranny C 1994, *The Shearman report: a health planner's perspective: or what will it cost*, Aust NZ J Obstet Gynaecol 34:376.
- Dugbaza T 1994, *Recent trends and differentials in Aboriginal fertility, 1981-1991*, ABS Demography Working Paper No. 1994/1, Canberra.
- Durling G 1992, *Northern Territory maternal and child health collection 1989: an analysis of stillbirths, neonatal deaths and infant mortality by ethnicity*, Northern Territory Department of Health and Community Services, 4th ed., Darwin.
- Ellis R (ed.) 1994, *Indigenous health promotion resources: a national guide for Aboriginal and Torres Strait Islander health workers*, The Aboriginal and Islander Health Worker Journal, Commonwealth Department of Human Services and Health, Canberra.

- Gee V 1994, *Perinatal statistics in Western Australia: eleventh annual report of the Western Australian midwives' notification system, 1993*, Health Department of Western Australia, Perth.
- Gee V 1995, *The 1993 Western Australian birth cohort: perinatal and infant mortality identified by maternal race*, Health Department of Western Australia, Perth.
- Glover J & Woollacott A 1992, *A social health atlas of Australia, Volume 1*, South Australian Health Commission, Australian Bureau of Statistics, Catalogue No. 4385.0, Adelaide.
- Gray A 1990, *Aboriginal fertility: trends and prospects*, J Aust Pop Assoc 7:57-77.
- Gray A, Trompf P & Houston S 1991, *The decline and rise of Aboriginal families*. In: Reid J & Trompf P, eds. *The health of Aboriginal Australia*. Harcourt Brace Jovanovich, Sydney.
- How JHY & Bowditch JDP 1994, *Syphilis in pregnancy: experience from a rural Aboriginal community*, Aust NZ J Obstet Gynaecol 34:383-389.
- Lancaster PAL, Huang J & Lin M 1996, *Australia's mothers and babies 1993*. Australian Institute of Health and Welfare National Perinatal Statistics Unit, Sydney.
- McComb J & Woods M 1996, *Northern Territory perinatal collection statistical report 1993*, Epidemiology Branch, Territory Health Services, Darwin.
- National Aboriginal Health Strategy Evaluation Report 1994*
- National Aboriginal Health Strategy Working Party 1989, *A national Aboriginal health strategy*, Australian Government Publishing Service, Canberra.
- National Health and Medical Research Council 1993, *Report on maternal deaths in Australia 1988-90*, Australian Government Publishing Service, Canberra.
- National Health and Medical Research Council 1996, *Options for effective care in childbirth*, Australian Government Publishing Service, Canberra.
- National Health Data Committee 1996, *National health data dictionary. Version 5.0*, Australian Institute of Health and Welfare, Canberra.
- Northern Territory Department of Health and Community Services 1994, *The Strong Women, Strong Babies, Strong Culture program : how the program works*, Pamphlet.
- NSW Department of Health 1989, *Maternity services in New South Wales. The final report of the Ministerial Taskforce on Obstetric Services in New South Wales*. NSW Department of Health, Sydney.
- NSW Department of Health 1994, *Review of Aboriginal perinatal and maternal morbidity and mortality in New South Wales 1986-1991*, Public Health Bulletin Supplement, Number S3.
- Perinatal Data Collection Unit 1994, *Births in Victoria 1983-1992*, The Consultative Council on Obstetric and Paediatric Mortality and Morbidity, Melbourne.
- Pym M, Nguyen R, Taylor L & Delpech V 1994, *New South Wales midwives data collection 1993*, Public Health Bulletin Supplement, Number 6, NSW Health Department, Sydney.
- Queensland Health 1995, *Perinatal statistics 1992*, Epidemiology and Health Information Branch, Queensland Health, Brisbane.

Robertson H 1994, *How midwives identify women as Aboriginal or Torres Strait Islanders*, Perinatal Data Collection Unit/ Koori Health Unit, Public Health Branch, Health and Community Services, Melbourne.

Sayers SM & Powers JR 1993, *Birth size of Australian aboriginal babies*, Med J Aust 159 :586-91.

Somerford P, FitzGerald P, Gattorna L, Ridolfo B, Serafino S, Unwin E & Thomson N 1995, *Our State of Health, 1995: an overview of the health of the Western Australian population*, Health Department of Western Australia, Perth.

Thomson N 1991, *A review of Aboriginal health status*. In: Reid J & Trompf P, eds. *The health of Aboriginal Australia*. Harcourt Brace Jovanovich, Sydney.

World Health Organization 1977, *International classification of diseases: ninth edition, Volume 1*: Geneva.

Zhang B & Chan A 1991, *Teenage pregnancy in South Australia, 1986-1988*, Aust NZ J Obstet Gynaecol 31:291-298.

Table 1: Age-specific birth rates of Indigenous and non-Indigenous women, Australia, 1991

Maternal age (years)	Indigenous			Non-Indigenous		
	Live births	Women	Birth rate*	Live births	Women	Birth rate*
15 - 19 ^a	1,871	14,696	127.3	13,000	650,043	20.0
20 - 24	2,551	14,489	176.1	48,742	674,690	72.2
25 - 29	1,539	12,407	124.0	89,050	684,156	130.2
30 - 34	739	10,251	72.1	69,904	701,326	99.7
35 - 39	236	8,335	28.6	23,338	655,544	35.6
40 - 44 ^b	33	6,473	5.1	3,623	632,441	5.7
All ages	6,969	66,651		247,657	3,998,200	
Total fertility rate			2,666			1,817

Note: Data for Indigenous women and live births exclude Tasmania.

* Per 1,000 women in same age group. Total fertility rate expressed per 1,000 women aged 15-44 years.

^a Includes live births to mothers aged less than 15 years: Indigenous - 64; non-Indigenous - 62

^b Includes live births to mothers aged more than 44 years: Indigenous - 1; non-Indigenous - 122

Table 2: Indigenous and non-Indigenous confinements and births, Australia, 1991-1993

	Indigenous				Non-Indigenous			
	1991	1992	1993	1991-93	1991	1992	1993	1991-93
Confinements	7,027	7,257	7,255	21,539	246,114	251,899	249,701	747,714
Fetal deaths	115	116	114	345	1,893	1,646	1,551	5,090
Live births	6,971	7,213	7,221	21,405	247,657	253,746	251,692	753,095
All births	7,086	7,329	7,335	21,750	249,550	255,397	253,243	758,190

Table 3: Indigenous confinements and births, States and Territories, 1991-1993

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Confinements	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
Fetal deaths	73	17	93	64	27	-	-	71	345
Live births	4,240	1,250	6,676	4,300	1,213	12	81	3,633	21,405
All births	4,313	1,267	6,769	4,364	1,240	12	81	3,704	21,750

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 4 : Place of birth, Indigenous confinements, States and Territories, 1991-1993

Place of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Hospital	4,166	1,249	6,629	4,244	1,218	11	74	3,437	21,028
Birth centre	32	-	-	-	2	-	5	-	39
Home	6	2	1	2	1	1	-	2	15
Born before arrival	58	9	68	74	7	-	-	-	216
Other	-	-	-	-	-	-	-	233	233
Not stated	7	-	-	-	-	-	-	1	8
All places of birth	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
Per cent									
Hospital	97.7	99.1	99.0	98.2	99.2	91.7	93.7	93.6	97.7
Birth centre	0.8	-	-	-	0.2	-	6.3	-	0.2
Home	0.1	0.2	0.0	0.0	0.1	8.3	-	0.1	0.1
Born before arrival	1.4	0.7	1.0	1.7	0.6	-	-	-	1.0
Other	-	-	-	-	-	-	-	6.3	1.1
All places of birth	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 5: Distribution of Indigenous and non-Indigenous confinements by size of maternity unit, Australia, 1991-1993

Number of confinements	Indigenous				Non-Indigenous			
	1991	1992	1993	1991-93	1991	1992	1993	1991-93
Number								
1 - 100	709	694	665	2,068	8,962	8,687	8,223	25,872
101 - 500	2,026	1,980	1,976	5,982	32,224	32,824	34,255	99,303
501 - 1000	1,334	1,385	1,317	4,036	52,898	52,087	53,651	158,636
1001 - 2000	1,830	2,009	2,024	5,863	62,904	69,657	59,028	191,589
2001 and over	1,003	1,096	1,189	3,288	87,760	87,591	93,635	268,986
Not stated	28	18	-	46	-	117	-	117
All hospitals	6,930	7,182	7,171	21,283	244,748	250,963	248,792	744,503
Per cent								
1 - 100	10.3	9.7	9.3	9.7	3.7	3.5	3.3	3.5
101 - 500	29.4	27.6	27.6	28.2	13.2	13.1	13.8	13.3
501 - 1000	19.3	19.3	18.4	19.0	21.6	20.8	21.6	21.3
1001 - 2000	26.5	28.0	28.2	27.6	25.7	27.8	23.7	25.7
2001 and over	14.5	15.3	16.6	15.5	35.9	34.9	37.6	36.1
All hospitals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6: Distribution of Indigenous confinements by size of maternity unit, States and Territories, 1991-1993

Number of confinements	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Number								
1 - 100	567	75	636	475	197	-	-	118	2,068
101 - 500	1,099	301	1,427	1,851	430	3	5	866	5,982
501 - 1000	902	471	906	504	65	2	-	1,186	4,036
1001 - 2000	654	247	3,071	288	321	1	14	1,267	5,863
2001 and over	1,034	164	657	1,154	214	5	60	-	3,288
Not stated	-	-	-	46	-	-	-	-	46
All hospitals	4,256	1,258	6,697	4,318	1,227	11	79	3,437	21,283
	Per cent								
1 - 100	13.3	6.0	9.5	11.1	16.1	-	-	3.4	9.7
101 - 500	25.8	23.9	21.3	43.3	35.0	27.3	6.3	25.2	28.2
501 - 1000	21.2	37.4	13.5	11.8	5.3	18.2	-	34.5	19.0
1001 - 2000	15.4	19.6	45.9	6.7	26.2	9.1	17.7	36.9	27.6
2001 and over	24.3	13.0	9.8	27.0	17.4	45.5	75.9	-	15.5
All hospitals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 7: Maternal age, Indigenous and non-Indigenous confinements, Australia, 1991-1993

Maternal age (years)	Indigenous				Non-Indigenous			
	1991	1992	1993	1991-93	1991	1992	1993	1991-93
Mean age (years)	23.4	23.7	23.9	23.7	28.1	28.2	28.3	28.2
	Number							
Less than 15	64	67	51	182	64	55	85	204
15	123	109	107	339	252	248	274	774
16	243	242	244	729	929	891	904	2,724
17	384	380	356	1,120	2,294	2,123	2,150	6,567
18	502	461	444	1,407	3,900	3,729	3,373	11,002
19	581	570	495	1,646	5,583	5,521	5,139	16,243
Less than 20	1,897	1,829	1,697	5,423	13,022	12,567	11,925	37,514
20 - 24	2,564	2,604	2,606	7,774	48,544	49,831	48,483	146,858
25 - 29	1,546	1,660	1,743	4,949	88,181	87,518	85,066	260,765
30 - 34	736	838	889	2,463	69,135	72,829	74,225	216,189
35 - 39	243	277	281	801	23,080	24,842	25,675	73,597
40 - 44	34	40	34	108	3,496	3,831	3,994	11,321
45 and over	2	5	2	9	119	170	148	437
Not stated	5	4	3	12	537	311	185	1,033
All ages	7,027	7,257	7,255	21,539	246,114	251,899	249,701	747,714
	Per cent							
Less than 15	0.9	0.9	0.7	0.8	0.0	0.0	0.0	0.0
15	1.8	1.5	1.5	1.6	0.1	0.1	0.1	0.1
16	3.5	3.3	3.4	3.4	0.4	0.4	0.4	0.4
17	5.5	5.2	4.9	5.2	0.9	0.8	0.9	0.9
18	7.1	6.4	6.1	6.5	1.6	1.5	1.4	1.5
19	8.3	7.9	6.8	7.6	2.3	2.2	2.1	2.2
Less than 20	27.0	25.2	23.4	25.2	5.3	5.0	4.8	5.0
20 - 24	36.5	35.9	35.9	36.1	19.8	19.8	19.4	19.7
25 - 29	22.0	22.9	24.0	23.0	35.9	34.8	34.1	34.9
30 - 34	10.5	11.6	12.3	11.4	28.2	28.9	29.7	29.0
35 - 39	3.5	3.8	3.9	3.7	9.4	9.9	10.3	9.9
40 - 44	0.5	0.6	0.5	0.5	1.4	1.5	1.6	1.5
45 and over	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Not stated								
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 8 : Maternal age, Indigenous confinements, States and Territories, 1991-1993

Maternal age (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Mean age (years)	23.6	25.4	24.0	23.1	23.7	26.3	25.8	23.0	23.7
	Number								
Less than 15	16	4	34	44	10	-	-	74	182
15	38	4	80	84	16	-	-	117	339
16	142	19	175	190	32	-	-	171	729
17	202	41	309	257	76	1	4	230	1,120
18	299	51	395	321	76	-	1	264	1,407
19	329	68	510	347	101	1	4	286	1,646
Less than 20	1,026	187	1,503	1,243	311	2	9	1,142	5,423
20 - 24	1,585	414	2,440	1,609	433	5	23	1,265	7,774
25 - 29	1,024	362	1,601	904	284	1	27	746	4,949
30 - 34	472	230	824	416	142	1	16	362	2,463
35 - 39	128	59	292	127	52	3	4	136	801
40 - 44	22	8	34	21	5	-	-	18	108
45 and over	2	-	4	-	-	-	-	3	9
Not stated	10	-	-	-	1	-	-	1	12
All ages	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
	Per cent								
Less than 15	0.4	0.3	0.5	1.0	0.8	-	-	2.0	0.8
15	0.9	0.3	1.2	1.9	1.3	-	-	3.2	1.6
16	3.3	1.5	2.6	4.4	2.6	-	-	4.7	3.4
17	4.7	3.3	4.6	5.9	6.2	8.3	5.1	6.3	5.2
18	7.0	4.0	5.9	7.4	6.2	-	1.3	7.2	6.5
19	7.7	5.4	7.6	8.0	8.2	8.3	5.1	7.8	7.6
Less than 20	24.1	14.8	22.4	28.8	25.3	16.7	11.4	31.1	25.2
20 - 24	37.2	32.9	36.4	37.2	35.3	41.7	29.1	34.4	36.1
25 - 29	24.0	28.7	23.9	20.9	23.1	8.3	34.2	20.3	23.0
30 - 34	11.1	18.3	12.3	9.6	11.6	8.3	20.3	9.9	11.4
35 - 39	3.0	4.7	4.4	2.9	4.2	25.0	5.1	3.7	3.7
40 - 44	0.5	0.6	0.5	0.5	0.4	-	-	0.5	0.5
45 and over	0.0	-	0.1	-	-	-	-	0.1	0.0
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 9 : Mother's parity, Indigenous confinements, States and Territories, 1991-1993

Parity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Number								
None	1,300	395	1,937	1,268	390	2	26	1,203	6,521
One	1,101	363	1,586	1,021	322	4	29	876	5,302
Two	811	255	1,251	828	203	4	14	656	4,022
Three	507	136	819	551	141	1	5	446	2,606
Four or more	523	111	1,057	652	172	1	5	492	3,013
Not stated	27	-	48	-	-	-	-	-	75
All parities	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
	Per cent								
None	30.6	31.3	29.1	29.4	31.8	16.7	32.9	32.8	30.4
One	26.0	28.8	23.8	23.6	26.2	33.3	36.7	23.8	24.7
Two	19.1	20.2	18.8	19.2	16.5	33.3	17.7	17.9	18.7
Three	12.0	10.8	12.3	12.8	11.5	8.3	6.3	12.1	12.1
Four or more	12.3	8.8	15.9	15.1	14.0	8.3	6.3	13.4	14.0
All parities	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 10: Distribution of Indigenous confinements by maternal age and parity, Australia, 1991-1993

Parity	Maternal age (years)							All ages
	Less than 20	20-24	25-29	30-34	35-39	40 and over	Not stated	
	Number							
None	3,684	1,963	605	207	49	9	4	6,521
One	1,387	2,532	910	371	85	15	2	5,302
Two	304	1,964	1,151	465	131	6	1	4,022
Three	28	923	1,076	428	127	22	2	2,606
Four or more	3	366	1,193	980	405	65	1	3,013
Not stated	17	26	14	12	4	-	2	75
All parities	5,423	7,774	4,949	2,463	801	117	12	21,539
	Per cent							
None	68.1	25.3	12.3	8.4	6.1	7.7	40.0	30.4
One	25.7	32.7	18.4	15.1	10.7	12.8	20.0	24.7
Two	5.6	25.3	23.3	19.0	16.4	5.1	10.0	18.7
Three	0.5	11.9	21.8	17.5	15.9	18.8	20.0	12.1
Four or more	0.1	4.7	24.2	40.0	50.8	55.6	10.0	14.0
All parities	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 11 : Distribution of non-Indigenous confinements by maternal age and parity, Australia, 1991-199

Parity	Maternal age (years)							All ages
	Less than 20	20-24	25-29	30-34	35-39	40 and over	Not stated	
Number								
None	310	855	1,335	1,211	569	125	11	4,416
One	327	1,025	1,635	1,388	611	120	14	5,120
Two	2,244	7,477	12,800	11,038	4,555	812	48	38,974
Three	32,279	129,091	232,172	193,429	65,166	10,322	911	663,370
Four or more	2,095	7,699	12,116	8,583	2,466	320	42	33,321
Not stated	259	711	707	540	230	59	7	2,513
All parities	37,514	146,858	260,765	216,189	73,597	11,758	1,033	747,714
Per cent								
None	5.7	11.0	27.1	49.4	71.4	106.8	110.0	20.6
One	6.0	13.2	33.1	56.6	76.7	102.6	140.0	23.9
Two	41.5	96.5	259.4	450.3	571.5	694.0	480.0	181.6
Three	597.1	1,666.1	4,704.6	7,891.8	8,176.4	8,822.2	9,110.0	3,090.6
Four or more	38.8	99.4	245.5	350.2	309.4	273.5	420.0	155.2
All parities	689.1	1,886.3	5,269.7	8,798.4	9,205.4	9,999.1	10,260.0	3,471.9

Table 12: Marital status, Indigenous confinements, States and Territories, 1991-1993

Marital status	NSW	Vic	Qld	WA	SA	Tas*	ACT	NT	Australia
Number									
Married/de facto	2,148	789	3,677	2,759	708	5	55	2,280	12,421
Single	1,955	454	2,875	1,527	478	6	21	1,353	8,669
Widowed, divorced, or separated	77	14	100	34	40	1	3	37	306
Not stated	89	3	46	-	2	-	-	3	143
All marital status	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
Per cent									
Married/de facto	51.4	62.8	55.3	63.9	57.7	41.7	69.6	62.1	58.1
Single	46.8	36.1	43.2	35.3	39.0	50.0	26.6	36.9	40.5
Widowed, divorced, or separated	1.8	1.1	1.5	0.8	3.3	8.3	3.8	1.0	1.4
All marital status	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* De facto coded with single marital status

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 13: Maternal accommodation status in hospital, Indigenous confinements, selected States and Territories, 1991-1993

Accommodation status	NSW	Qld	WA	SA	Tas	ACT
	Number					
Public	4,123	6,418	4,024	1,174	9	64
Private	136	260	63	54	3	15
Not stated/other	10	20	233	-	-	-
All classifications	4,269	6,698	4,320	1,228	12	79
	Per cent					
Public	96.8	96.1	98.5	95.6	75.0	81.0
Private	3.2	3.9	1.5	4.4	25.0	19.0
All classifications	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 14: Duration of pregnancy, Indigenous confinements, States and Territories, 1991-1993

Duration of pregnancy (weeks)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Mean (weeks)	38.8	38.9	38.6	38.2	38.2	39.6	38.4	38.4	38.5
	Number								
20 - 27	54	14	109	68	40	-	3	62	350
28 - 31	57	8	91	83	26	-	-	72	337
32 - 36	307	83	631	604	115	-	7	392	2,139
37 - 41	3,709	1,092	5,623	3,259	1,029	12	67	3,024	17,815
42 and over	132	63	213	196	16	-	2	85	707
Not stated	10	-	31	110	2	-	-	38	191
All confinements	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
	Per cent								
20 - 27	1.3	1.1	1.6	1.6	3.3	-	3.8	1.7	1.6
28 - 31	1.3	0.6	1.4	2.0	2.1	-	-	2.0	1.6
32 - 36	7.2	6.6	9.5	14.3	9.4	-	8.9	10.8	10.0
37 - 41	87.1	86.7	84.3	77.4	83.9	100.0	84.8	83.2	83.5
42 and over	3.1	5.0	3.2	4.7	1.3	-	2.5	2.3	3.3
All confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 15: Duration of pregnancy by maternal age, Indigenous confinements, Australia, 1991-1993

Duration of pregnancy (weeks)	Maternal age (years)							All ages
	Less than 20	20-24	25-29	30-34	35-39	40 and over	Not stated	
Confinements	Number							
20 - 27	93	119	83	38	14	3	-	350
28 - 31	103	98	74	40	20	2	-	337
32 - 36	586	766	445	232	89	20	1	2,139
37 - 41	4,430	6,434	4,134	2,068	652	87	10	17,815
42 and over	157	288	169	69	20	4	-	707
Not stated	54	69	44	16	6	1	1	191
All confinements	5,423	7,774	4,949	2,463	801	117	12	21,539
	Per cent							
20 - 27	1.7	1.5	1.7	1.6	1.8	2.6	-	1.6
28 - 31	1.9	1.3	1.5	1.6	2.5	1.7	-	1.6
32 - 36	10.9	9.9	9.1	9.5	11.2	17.2	9.1	10.0
37 - 41	82.5	83.5	84.3	84.5	82.0	75.0	90.9	83.5
42 and over	2.9	3.7	3.4	2.8	2.5	3.4	-	3.3
All confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 16: Multiple Indigenous confinements by maternal age, Australia, 1991-1993

Plurality	Maternal age (years)							All ages
	Less than 20	20-24	25-29	30-34	35-39	40 and over	Not stated	
	Number							
Singleton	5,393	7,695	4,897	2,430	791	117	12	21,335
Twin	30	77	51	32	9	-	-	199
Triplet	-	2	1	1	1	-	-	5
All confinements	5,423	7,774	4,949	2,463	801	117	12	21,539
	Per cent							
Singleton	99.4	99.0	98.9	98.7	98.8	100.0	100.0	99.1
Twin	0.6	1.0	1.0	1.3	1.1	-	-	0.9
Quintuplet	-	-	-	0.0	-	-	-	0.0
All confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 17: Onset of labour, Indigenous confinements, States and Territories, 1991-1993

Onset of labour	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Spontaneous	3,439	925	5,314	3,268	918	8	58	2,898	16,828
- no augmentation	2,347	810	na	na	697	7	49	2,616	6,526*
- augmentation	1,092	115	na	na	221	1	9	282	1,720*
Induced	564	225	800	726	180	3	8	477	2,983
- medical	157	98	na	na	72	2	na	na	329**
- surgical	392	127	na	na	101	1	na	na	621**
- combined	15	-	na	na	7	-	na	na	1,548**
No labour	262	110	534	326	130	1	6	292	1,661
Others	-	-	-	-	-	-	6	-	6
Not stated	4	-	50	-	-	-	1	6	61
All confinements	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
Per cent									
Spontaneous	80.6	73.4	79.9	75.6	74.8	66.7	74.4	79.0	78.3
- no augmentation	55.0	64.3	na	na	56.8	58.3	62.8	71.3	30.4*
- augmentation	25.6	9.1	na	na	18.0	8.3	11.5	7.7	8.0*
Induced	13.2	17.9	12.0	16.8	14.7	25.0	10.3	13.0	13.9
- medical	3.7	7.8	na	na	5.9	16.7	na	na	1.5**
- surgical	9.2	10.1	na	na	8.2	8.3	na	na	2.9**
- combined	0.4	-	na	na	0.6	-	na	na	7.2**
No labour	6.1	8.7	8.0	7.5	10.6	8.3	7.7	8.0	7.7
Others	-	-	-	-	-	-	7.7	-	0.0
All confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data exclude Qld and WA

** Data exclude Qld, WA, ACT, and NT

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 18: Presentation at delivery, Indigenous confinements, States and Territories, 1991-1993

Presentation	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Vertex	4,049	1,206	6,345	4,121	1,139	10	75	3,447	20,392
Breech	178	38	274	176	69	-	4	156	895
Other	31	10	40	18	15	-	-	-	114
Not stated	11	6	39	5	5	2	-	70	138
All confinements	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
Per cent									
Vertex	95.1	96.2	95.3	95.5	93.1	100.0	94.9	95.7	95.3
Breech	4.2	3.0	4.1	4.1	5.6	-	5.1	4.3	4.2
Other	0.7	0.8	0.6	0.4	1.2	-	-	-	0.5
All confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 19: Type of delivery, Indigenous confinements, States and Territories, 1991-1993

Type of delivery	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Spontaneous vertex	3,310	922	5,080	3,305	865	9	57	2,632	16,180
Forceps	177	98	205	143	53	1	8	176	861
Vacuum extraction	56	9	135	137	17	-	1	68	423
Vaginal breech	81	16	121	51	29	-	-	44	342
Caesarean section	636	214	1,145	684	264	2	13	742	3,700
- elective	262	110	na	246	89	-	6	215	928*
- emergency	374	104	na	438	175	1	7	527	1,626*
- other	-	-	na	-	-	1	-	-	1*
Other	-	-	-	-	-	-	-	6	6
Not stated	9	1	12	-	-	-	-	5	27
All types of delivery	4,269	1,260	6,698	4,320	1,228	12	79	3,673	21,539
Per cent									
Spontaneous vertex	77.7	73.2	76.0	76.5	70.4	75.0	72.2	71.8	75.2
Forceps	4.2	7.8	3.1	3.3	4.3	8.3	10.1	4.8	4.0
Vacuum extraction	1.3	0.7	2.0	3.2	1.4	-	1.3	1.9	2.0
Vaginal breech	1.9	1.3	1.8	1.2	2.4	-	-	1.2	1.6
Caesarean section	14.9	17.0	17.1	15.8	21.5	16.7	16.5	20.2	17.2
- elective	6.2	8.7	na	5.7	7.2	-	7.6	5.9	4.3*
- emergency	8.8	8.3	na	10.1	14.3	8.3	8.9	14.4	7.6*
- other	-	-	na	-	-	8.3	-	-	0.0*
Other	-	-	-	-	-	-	-	0.2	0.0
All types of delivery	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data exclude Queensland

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 20: Type of delivery, Indigenous and non-Indigenous confinements, Australia, 1991-1993

Type of delivery	Indigenous				Non-Indigenous			
	1991	1992	1993	1991-93	1991	1992	1993	1991-93
	Number							
Spontaneous vertex	5,314	5,418	5,448	16,180	167,708	170,772	169,028	507,508
Forceps	296	306	259	861	24,907	24,412	22,692	72,011
Vacuum extraction	132	142	149	423	6,243	6,984	7,658	20,885
Vaginal breech	114	133	95	342	2,770	3,149	2,492	8,411
Caesarean section	1,163	1,248	1,289	3,700	44,340	46,237	47,489	138,066
- elective*	311	293	324	928	18,545	19,144	19,633	57,322
- emergency*	492	556	578	1,626	16,692	17,475	17,990	52,157
- other*	1	-	-	1	429	445	429	1,303
Other	3	1	2	6	88	79	32	199
Not stated	5	9	13	27	58	266	310	634
All types of delivery	7,027	7,257	7,255	21,539	246,114	251,899	249,701	747,714
	Per cent							
Spontaneous vertex	75.7	74.8	75.2	75.2	68.2	67.9	67.8	67.9
Forceps	4.2	4.2	3.6	4.0	10.1	9.7	9.1	9.6
Vacuum extraction	1.9	2.0	2.1	2.0	2.5	2.8	3.1	2.8
Vaginal breech	1.6	1.8	1.3	1.6	1.1	1.3	1.0	1.1
Caesarean section	16.6	17.2	17.8	17.2	18.0	18.4	19.0	18.5
- elective*	4.4	4.0	4.5	4.3	7.5	7.6	7.9	7.7
- emergency*	7.0	7.7	8.0	7.6	6.8	6.9	7.2	7.0
- other*	0.0	-	-	0.0	0.2	0.2	0.2	0.2
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All types of delivery	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data are incomplete

Table 21: Caesarean rates by Indigenous maternal age and accommodation status, Indigenous mothers, States and Territories, 1991-1993

Accommodation status/ Maternal age (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Public*	Number								
Less than 20	126	na	208	148	58	-	1	na	541
20 - 24	229	na	353	248	83	-	4	na	917
25 - 29	142	na	277	140	53	-	4	na	616
30 - 34	76	na	155	73	37	1	-	na	342
35 - 39	28	na	65	28	17	-	-	na	138
40 and over	7	na	7	4	3	-	-	na	21
Not stated	1	na	-	-	-	-	-	na	1
All ages	609	na	1,065	641	251	1	9	na	2,576
Private*									
Less than 20	-	na	2	1	1	-	-	na	4
20 - 24	4	na	10	2	2	1	1	na	20
25 - 29	8	na	15	7	4	-	2	na	36
30 - 34	8	na	30	3	5	-	1	na	47
35 - 39	6	na	14	4	1	-	-	na	25
40 and over	-	na	2	1	-	-	-	na	3
Not stated	-	na	-	-	-	-	-	na	-
All ages	26	na	73	18	13	1	4	na	135
Public*	Caesarean rate (per cent)								
Less than 20	12.5	na	14.0	12.6	18.8	-	11.1	na	13.6
20 - 24	14.7	na	14.8	16.4	19.5	-	20.0	na	15.5
25 - 29	14.6	na	18.4	16.9	19.9	-	20.0	na	17.1
30 - 34	17.5	na	20.9	19.4	29.4	100.0	-	na	20.2
35 - 39	25.0	na	25.6	24.6	39.5	-	-	na	26.2
40 and over	30.4	na	20.0	26.7	75.0	-	-	na	27.3
All ages	14.8	na	16.6	15.9	21.4	11.1	14.1	na	16.3
Private*									
Less than 20	-	na	15.4	16.7	33.3	-	-	na	12.1
20 - 24	16.0	na	24.4	16.7	28.6	100.0	33.3	na	22.5
25 - 29	16.3	na	17.6	31.8	22.2	-	28.6	na	19.9
30 - 34	23.5	na	37.5	21.4	31.3	-	25.0	na	31.8
35 - 39	37.5	na	37.8	57.1	11.1	-	-	na	34.7
40 and over	-	na	66.7	50.0	-	-	-	na	42.9
All ages	19.1	na	28.2	28.6	24.1	33.3	26.7	na	25.5
All confinements									
Less than 20	12.3	14.4	14.0	12.3	19.0	-	11.1	21.5	15.2
20 - 24	14.8	15.9	15.0	16.0	19.6	20.0	21.7	19.2	16.2
25 - 29	14.6	17.7	18.4	16.9	20.1	-	22.2	19.7	17.6
30 - 34	17.8	17.4	22.6	19.7	29.6	100.0	6.3	19.9	20.6
35 - 39	26.6	27.1	27.4	25.2	34.6	-	-	21.3	26.1
40 and over	29.2	12.5	23.7	33.3	60.0	-	-	28.6	28.2
All ages	14.9	17.0	17.1	15.8	21.5	16.7	16.5	20.2	17.2

* Data exclude Victoria and Northern Territory

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 22: Caesarean rates by maternal age, parity and public accommodation in hospital, Indigenous mothers, Australia, 1991-1993

Maternal age (years)	Parity				Parity			
	None	One	Two +	Total	None	One	Two +	Total
	Number				Rate (per cent)			
Less than 15	12	-	-	12	12.2	-	-	11.9
15	32	-	-	32	15.6	-	-	15.0
16	65	10	-	75	14.1	17.5	-	14.3
17	90	19	4	113	14.2	10.9	20.0	13.6
18	99	28	9	136	14.3	9.2	12.9	12.8
19	92	63	18	173	15.1	13.4	10.2	13.8
15 - 19	378	120	31	529	14.5	11.8	11.2	13.6
20	102	77	38	217	19.2	15.6	12.8	16.4
21	72	69	67	208	19.9	14.4	15.0	16.2
22	44	69	55	168	18.2	17.6	10.5	14.5
23	48	53	71	172	25.5	15.7	12.1	15.5
24	31	39	82	152	22.5	16.5	12.5	14.8
20- 24	297	307	313	917	20.3	15.8	12.5	15.5
25	30	32	86	148	23.4	18.0	13.5	15.7
26	20	28	101	149	23.0	18.1	17.5	18.2
27	15	29	74	118	19.7	23.4	14.2	16.4
28	17	30	59	106	33.3	32.3	13.7	18.4
29	12	15	68	95	38.7	20.5	15.5	17.5
25 - 29	94	134	388	616	25.2	21.5	14.9	17.1
30	7	16	60	83	22.6	23.5	16.0	17.5
31	15	7	62	84	45.5	15.6	19.1	20.9
32	6	10	43	59	37.5	31.3	15.6	18.2
33	6	12	46	64	33.3	35.3	19.8	22.5
34	6	4	42	52	75.0	17.4	23.5	24.8
30 - 34	40	49	253	342	37.7	24.3	18.3	20.2
35	2	7	33	42	33.3	53.8	21.2	24.0
36	3	6	26	35	50.0	46.2	23.2	26.7
37	-	3	25	28	-	30.0	26.3	25.7
38	2	1	18	21	50.0	50.0	29.5	31.3
39	1	-	11	12	50.0	-	26.8	26.7
35 - 39	8	17	113	138	36.4	42.5	24.3	26.2
40	1	-	6	7	100.0	-	22.2	21.2
41	-	1	7	8	-	100.0	43.8	44.4
42	-	2	3	5	-	66.7	27.3	33.3
43	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-
40 - 44	1	3	16	20	25.0	33.3	27.6	28.2
45 and over	1	-	-	1	33.3	-	-	16.7
Not stated	1	-	-	1	33.3	-	-	9.1
Total	832	630	1,114	2,576	17.8	16.4	15.2	16.3

Data exclude Victoria and Northern Territory

Table 23: Caesarean rates by parity, plurality, breech presentation, and birthweight, Indigenous mothers, States and Territories, 1991-1993

Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Parity	Number								
Primipara	235	77	356	207	95	-	2	285	1,257
Multipara	396	137	785	477	169	2	11	457	2,434
Not stated	5	-	4	-	-	-	-	-	9
All parity	636	214	1,145	684	264	2	13	742	3,700
Plurality									
Singleton	618	210	1,121	665	257	2	12	728	3,613
Twin	18	4	21	19	6	-	1	13	82
Other multiple	-	-	3	-	1	-	-	1	5
All confinements	636	214	1,145	684	264	2	13	742	3,700
Breech presentation in singleton births	90	22	139	92	39	-	4	88	474
Birthweight (singleton births)									
Less than 500 g	1	-	-	-	-	-	-	1	2
500 - 999 g	10	-	11	8	10	-	-	4	43
1000 - 1499 g	19	-	26	25	11	-	-	27	108
1500 - 1999 g	11	7	60	17	12	-	-	35	142
2000 - 2499 g	51	16	94	46	17	-	2	53	279
2500 g and over *	526	187	927	569	206	2	10	607	3,034
- public	504	-	853	535	194	1	7	-	2,094
- private	21	-	67	15	12	1	3	-	119
- other	1	187	7	19	-	-	-	607	821
Not stated	-	-	3	-	1	-	-	1	5
All singleton births	618	210	1,121	665	257	2	12	728	3,613
Parity	Caesarean rate (per cent)								
Primipara	18.1	19.5	18.4	16.3	24.4	-	7.7	23.7	19.3
Multipara	13.5	15.8	16.7	15.6	20.2	20.0	20.8	18.5	16.3
All parity	14.9	17.0	17.1	15.8	21.5	16.7	16.5	20.2	17.2
Plurality									
Singleton	14.6	16.8	16.9	15.6	21.1	16.7	15.6	20.0	16.9
Twin	40.9	57.1	33.3	43.2	60.0	-	50.0	44.8	41.2
Other multiple	-	-	100.0	-	100.0	-	-	-	100.0
All confinements	14.9	17.0	17.1	15.8	21.5	16.7	16.5	20.2	17.2
Breech presentation in singleton births	55.6	59.5	57.7	59.0	60.0	-	100.0	59.9	58.4
Birthweight (singleton births)									
Less than 500 g	5.9	-	-	-	-	-	-	4.0	1.9
500 - 999 g	28.6	-	15.9	20.5	40.0	-	-	8.5	19.3
1000 - 1499 g	41.3	-	35.1	44.6	50.0	-	-	49.1	41.9
1500 - 1999 g	19.0	41.2	44.1	22.4	30.8	-	-	35.4	33.4
2000 - 2499 g	19.2	30.2	21.7	14.1	24.6	-	50.0	17.7	19.2
2500 g and over *	13.9	16.0	15.8	15.1	19.7	16.7	14.1	19.5	16.1
- public	13.7	-	15.2	15.2	19.5	11.1	12.3	-	15.1
- private	17.2	-	27.3	25.9	24.0	33.3	21.4	-	24.2
All singleton births	14.6	16.8	16.9	15.6	21.1	16.7	15.6	20.0	16.9

* Data include accommodation status 'not stated' and 'other'

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 24: Length of antenatal stay in hospital, Indigenous mothers, selected States and Territories, 1991-1993

Length of stay	Vic	Qld	WA	SA	Tas	ACT	NT	Australia*
Mean length of stay (days)	0.9	2.0	2.0	1.2	0.4	0.5	1.9	1.8
	Number							
Less than 1 day	747	3,649	2,045	690	7	51	1,752	8,941
1 day	376	1,801	1,266	389	4	22	961	4,819
2 - 6 days	96	612	439	104	-	5	423	1,679
7 - 13 days	20	237	166	18	-	1	162	604
14 - 20 days	3	126	84	9	-	-	74	296
21 - 27 days	5	71	48	3	-	-	31	158
28 or more days	2	62	37	7	-	-	19	127
Not stated	-	71	159	-	-	-	15	245
Indigenous confinements	1,249	6,629	4,244	1,220	11	79	3,437	16,869
	Per cent							
Less than 1 day	59.8	55.6	50.1	56.6	63.6	64.6	51.2	53.8
1 day	30.1	27.5	31.0	31.9	36.4	27.8	28.1	29.0
2 - 6 days	7.7	9.3	10.7	8.5	-	6.3	12.4	10.1
7 - 13 days	1.6	3.6	4.1	1.5	-	1.3	4.7	3.6
14 - 20 days	0.2	1.9	2.1	0.7	-	-	2.2	1.8
21 - 27 days	0.4	1.1	1.2	0.2	-	-	0.9	1.0
28 or more days	0.2	0.9	0.9	0.6	-	-	0.6	0.8
Indigenous confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data exclude New South Wales

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 25 : Length of postnatal stay in hospital of Indigenous mothers, selected States and Territories, 1991-1993

Length of stay	Vic	Qld	WA	SA	Tas	ACT	NT	Australia*
Mean length of stay (days)	4.4	4.4	4.2	4.4	4.5	4.2	6.0	4.7
	Number							
Less than 1 day	9	59	62	27	-	1	23	181
1 day	69	394	274	89	1	11	101	939
2 days	131	958	659	188	2	12	280	2,230
3 days	219	1,372	738	234	-	9	451	3,023
4 days	250	1,207	646	218	1	15	549	2,886
5 days	214	818	572	176	2	8	475	2,265
6 days	130	540	319	89	5	9	374	1,466
7 - 13 days	188	764	524	185	-	13	953	2,627
14 - 20 days	2	64	34	14	-	-	121	235
21 - 27 days	-	19	3	5	-	-	38	65
28 or more days	-	24	1	2	-	-	10	37
Not stated	-	56	204	-	-	-	-	260
All hospital confinements	1,212	6,275	4,036	1,227	11	78	3,375	16,214
	Per cent							
Less than 1 day	0.7	0.9	1.6	2.2	-	1.3	0.7	1.1
1 day	5.7	6.3	7.2	7.3	9.1	14.1	3.0	5.9
2 days	10.8	15.4	17.2	15.3	18.2	15.4	8.3	14.0
3 days	18.1	22.1	19.3	19.1	-	11.5	13.4	18.9
4 days	20.6	19.4	16.9	17.8	9.1	19.2	16.3	18.1
5 days	17.7	13.2	14.9	14.3	18.2	10.3	14.1	14.2
6 days	10.7	8.7	8.3	7.3	45.5	11.5	11.1	9.2
7 - 13 days	15.5	12.3	13.7	15.1	-	16.7	28.2	16.5
14 - 20 days	0.2	1.0	0.9	1.1	-	-	3.6	1.5
21 - 27 days	-	0.3	0.1	0.4	-	-	1.1	0.4
28 or more days	-	0.4	0.0	0.2	-	-	0.3	0.2
All hospital confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data exclude New South Wales

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 26: Length of postnatal stay in hospital by mother's age, parity, accommodation status, type of delivery, and size of hospital, Indigenous mothers, Australia, 1991-1993

Characteristic	Confinements (n) *	0-2 days	3-4 days	5-6 days	7-8 days	9-10 days	11-13 days	14 or more days
		Per cent						
All confinements	15,954	21.0	37.0	23.4	10.1	4.1	2.3	2.1
Maternal age								
Less than 20	4,036	15.2	36.0	25.7	11.2	5.7	3.3	2.9
20-24	5,707	23.6	38.5	22.4	8.5	3.1	2.2	1.6
25-29	3,648	24.0	38.0	21.2	10.0	3.3	1.8	1.7
30-34	1,851	20.9	35.3	25.0	11.2	4.2	1.4	2.2
35-39	630	17.9	31.0	25.4	13.3	6.7	2.1	3.7
40 and over	81	21.0	24.7	23.5	14.8	9.9	1.2	4.9
Not stated	1	-	100.0	-	-	-	-	-
Parity								
None	4,818	8.7	33.8	30.7	13.9	6.1	3.5	3.3
One	3,876	23.8	39.4	21.1	9.0	3.4	1.8	1.6
Two or three	4,921	27.2	38.3	20.3	8.1	2.9	1.8	1.5
Four or more	2,293	28.7	37.2	18.7	8.2	3.7	1.6	1.8
Not stated	46	30.4	41.3	19.6	4.3	4.3	-	-
Accommodation status								
Public	10,935	24.4	39.5	22.0	8.0	3.0	1.6	1.5
Private	389	11.3	28.3	32.9	22.1	3.9	1.3	0.3
Other	4,630	13.9	31.9	25.8	13.9	6.8	3.9	3.7
Type of delivery								
Spontaneous cephalic	11,923	26.3	43.1	19.4	6.4	2.4	1.3	1.1
Caesarean section	2,802	1.5	12.9	37.8	24.7	10.7	6.2	6.2
Other	1,229	14.2	33.4	28.7	12.6	5.5	3.3	2.3
Size of hospital								
1-100	1,299	28.6	42.6	19.4	6.0	1.7	0.7	0.9
101-500	4,496	15.3	38.9	26.2	11.6	4.5	2.4	1.2
501-1000	3,034	16.2	33.5	25.2	13.3	6.3	2.7	2.8
1001-2000	4,940	25.9	35.3	21.4	8.3	3.5	2.6	3.1
2001 and over	2,156	22.9	39.1	22.1	9.0	3.3	1.8	1.7
Not stated	29	-	-	-	-	-	-	-

Table excludes confinements in New South Wales

* Data exclude length of stay 'not stated'

Table 27: Mode of separation of Indigenous mothers, hospital confinements, selected States and Territories, 1991-1993

Mode of separation	NSW	Vic	Qld	WA	Tas	ACT	NT	Australia*
	Number							
Discharge home	3,966	1,211	6,232	3,806	11	78	3,374	18,678
Transfer to another hospital	279	46	422	282	-	1	62	1,092
Died	1	1	2	-	-	-	1	5
Not stated	4,246	1,258	6,656	4,088	11	79	3,437	19,775
All confinements	8,492	2,516	13,312	8,176	22	158	6,874	39,550
	Per cent							
Discharge home	93.4	96.3	93.6	93.1	100.0	98.7	98.2	94.5
Transfer to another hospital	6.6	3.7	6.3	6.9	-	1.3	1.8	5.5
Died	0.0	0.1	0.0	-	-	-	0.0	0.0
All confinements	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data exclude South Australia

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 28: Infant's month of birth, Indigenous births, States and Territories, 1991-1993

Month of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
January	364	116	585	370	90	2	7	294	1,828
February	282	92	580	322	89	2	4	277	1,648
March	409	105	634	395	125	-	5	332	2,005
April	353	82	591	385	109	1	6	387	1,914
May	371	114	623	368	128	1	7	366	1,978
June	384	108	556	384	89	1	9	351	1,882
July	438	141	576	393	115	2	7	293	1,965
August	388	93	559	370	93	1	7	299	1,810
September	318	100	509	374	98	1	6	261	1,667
October	334	117	517	332	108	-	10	279	1,697
November	302	94	493	313	97	1	6	283	1,589
December	370	105	546	358	99	-	7	281	1,766
All births	4,313	1,267	6,769	4,364	1,240	12	81	3,704	21,750
Per cent									
January	8.4	9.2	8.6	8.5	7.3	16.7	8.6	7.9	8.4
February	6.5	7.3	8.6	7.4	7.2	16.7	4.9	7.5	7.6
March	9.5	8.3	9.4	9.1	10.1	-	6.2	9.0	9.2
April	8.2	6.5	8.7	8.8	8.8	8.3	7.4	10.5	8.8
May	8.6	9.0	9.2	8.4	10.3	8.3	8.6	9.9	9.1
June	8.9	8.5	8.2	8.8	7.2	8.3	11.1	9.5	8.7
July	10.2	11.1	8.5	9.0	9.3	16.7	8.6	7.9	9.0
August	9.0	7.3	8.3	8.5	7.5	8.3	8.6	8.1	8.3
September	7.4	7.9	7.5	8.6	7.9	8.3	7.4	7.0	7.7
October	7.7	9.2	7.6	7.6	8.7	-	12.3	7.5	7.8
November	7.0	7.4	7.3	7.2	7.8	8.3	7.4	7.6	7.3
December	8.6	8.3	8.1	8.2	8.0	-	8.6	7.6	8.1
All births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 29: Infant's sex by plurality, Indigenous births, States and Territories, 1991-1993

Infant's sex	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
All births									
Male	2,206	655	3,462	2,257	660	8	33	1,906	11,187
Female	2,102	612	3,307	2,105	579	4	47	1,794	10,550
Indeterminate	1	-	-	2	1	-	-	2	6
Not stated	4	-	-	-	-	-	1	2	7
All births	4,313	1,267	6,769	4,364	1,240	12	81	3,704	21,750
Sex ratio	104.9	107.0	104.7	107.2	114.0	200.0	70.2	106.2	106.0
Singletons									
Male	2,167	643	3,394	2,207	649	8	29	1,872	10,969
Female	2,054	610	3,238	2,067	568	4	47	1,768	10,356
Indeterminate	-	-	-	2	-	-	-	2	4
Not stated	4	-	-	-	-	-	1	1	6
Sex ratio	105.5	105.4	104.8	106.8	114.3	200.0	61.7	105.9	105.9
Twins									
Male	39	12	64	50	11	-	4	34	214
Female	48	2	62	38	9	-	-	23	182
Indeterminate	1	-	-	-	-	-	-	-	1
Not stated	-	-	-	-	-	-	-	1	1
Sex ratio	81.3	600.0	103.2	131.6	122.2	-	-	147.8	117.6
Per cent									
All births									
Male	51.2	51.7	51.1	51.7	53.2	66.7	41.3	51.5	51.5
Female	48.8	48.3	48.9	48.2	46.7	33.3	58.8	48.5	48.5
Indeterminate	0.0	-	-	0.0	0.1	-	-	0.1	0.0
All births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Singletons									
Male	51.3	51.3	51.2	51.6	53.3	66.7	38.2	51.4	51.4
Female	48.7	48.7	48.8	48.3	46.7	33.3	61.8	48.5	48.6
Twins									
Male	44.3	85.7	50.8	56.8	55.0	-	100.0	59.6	53.9
Female	54.5	14.3	49.2	43.2	45.0	-	-	40.4	45.8

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 30: Infant's birthweight, Indigenous births, States and Territories, 1991-1993

Birthweight (g)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Mean birthweight (g)	3,184	3,310	3,179	3,122	3,084	3,213	3,207	3,028	3,145
	Number								
Less than 500	20	2	28	27	16	-	-	29	122
500 - 999	39	8	78	47	25	-	1	48	246
1000 - 1499	54	5	83	69	24	-	1	65	301
1500 - 1999	75	18	158	91	45	-	1	107	495
2000 - 2499	292	58	473	346	76	-	6	316	1,567
2500 - 2999	928	217	1,388	1,004	281	5	22	1,053	4,898
3000 - 3499	1,545	470	2,397	1,573	402	4	18	1,235	7,644
3500 - 3999	1,005	357	1,603	917	265	2	27	647	4,823
4000 - 4499	293	109	460	242	88	1	5	167	1,365
4500 and over	55	20	84	48	17	-	-	29	253
Not stated	7	3	17	-	1	-	-	8	36
All births	4,313	1,267	6,769	4,364	1,240	12	81	3,704	21,750
Less than 1000	59	10	106	74	41	-	1	77	368
Less than 1500	113	15	189	143	65	-	2	142	669
Less than 2500	480	91	820	580	186	-	9	565	2,731
	Per cent								
Less than 500	0.5	0.2	0.4	0.6	1.3	-	-	0.8	0.6
500 - 999	0.9	0.6	1.2	1.1	2.0	-	1.2	1.3	1.1
1000 - 1499	1.3	0.4	1.2	1.6	1.9	-	1.2	1.8	1.4
1500 - 1999	1.7	1.4	2.3	2.1	3.6	-	1.2	2.9	2.3
2000 - 2499	6.8	4.6	7.0	7.9	6.1	-	7.4	8.5	7.2
2500 - 2999	21.6	17.2	20.6	23.0	22.7	41.7	27.2	28.5	22.6
3000 - 3499	35.9	37.2	35.5	36.0	32.4	33.3	22.2	33.4	35.2
3500 - 3999	23.3	28.2	23.7	21.0	21.4	16.7	33.3	17.5	22.2
4000 - 4499	6.8	8.6	6.8	5.5	7.1	8.3	6.2	4.5	6.3
4500 and over	1.3	1.6	1.2	1.1	1.4	-	-	0.8	1.2
All births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 1000	1.4	0.8	1.6	1.7	3.3	-	1.2	2.1	1.7
Less than 1500	2.6	1.2	2.8	3.3	5.2	-	2.5	3.8	3.1
Less than 2500	11.1	7.2	12.1	13.3	15.0	-	11.1	15.3	12.6

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 31: Infant's birthweight, Indigenous and non-Indigenous births, Australia, 1991-1993

Birthweight (g)	Indigenous				Non-Indigenous			
	1991	1992	1993	1991-93	1991	1992	1993	1991-93
Mean birthweight (g)	3,130	3,150	3,154	3,145	3,355	3,362	3,364	3,361
	Number							
Less than 500	30	54	38	122	435	535	555	1,525
500 - 999	85	81	80	246	1,209	1,283	1,245	3,737
1000 - 1499	96	87	118	301	1,507	1,567	1,498	4,572
1500 - 1999	150	199	146	495	3,017	2,919	2,951	8,887
2000 - 2499	562	521	484	1,567	9,181	9,247	9,259	27,687
2500 - 2999	1,672	1,552	1,674	4,898	38,550	38,467	37,962	114,979
3000 - 3499	2,453	2,600	2,591	7,644	91,949	93,597	92,279	277,825
3500 - 3999	1,519	1,690	1,614	4,823	75,771	78,256	77,672	231,699
4000 - 4499	438	436	491	1,365	23,673	24,972	25,244	73,889
4500 and over	73	97	83	253	4,031	4,293	4,257	12,581
Not stated	8	12	16	36	225	261	321	807
All births	7,086	7,329	7,335	21,750	249,548	255,397	253,243	758,188
	Per cent							
Less than 500	0.4	0.7	0.5	0.6	0.2	0.2	0.2	0.2
500 - 999	1.2	1.1	1.1	1.1	0.5	0.5	0.5	0.5
1000 - 1499	1.4	1.2	1.6	1.4	0.6	0.6	0.6	0.6
1500 - 1999	2.1	2.7	2.0	2.3	1.2	1.1	1.2	1.2
2000 - 2499	7.9	7.1	6.6	7.2	3.7	3.6	3.7	3.7
2500 - 2999	23.6	21.2	22.9	22.6	15.5	15.1	15.0	15.2
3000 - 3499	34.7	35.5	35.4	35.2	36.9	36.7	36.5	36.7
3500 - 3999	21.5	23.1	22.1	22.2	30.4	30.7	30.7	30.6
4000 - 4499	6.2	6.0	6.7	6.3	9.5	9.8	10.0	9.8
4500 and over	1.0	1.3	1.1	1.2	1.6	1.7	1.7	1.7
All births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 32 : Indigenous infant's birthweight, live births and fetal deaths, Australia, 1991-1993

Birthweight (g)	Live births		Fetal deaths	
	Number	Per cent	Number	Per cent
Less than 500	45	0.2	77	22.8
500 - 999	161	0.8	85	25.2
1000 - 1499	249	1.2	52	15.4
1500 - 1999	466	2.2	29	8.6
2000 - 2499	1,543	7.2	24	7.1
2500 - 2999	4,874	22.8	24	7.1
3000 - 2499	7,618	35.6	26	7.7
3500 - 3999	4,812	22.5	11	3.3
4000 - 4499	1,358	6.4	7	2.1
4500 and over	251	1.2	2	0.6
Not stated	28		8	
All births	21,405	100.0	345	100.0
Less than 1000	206	1.0	162	48.1
Less than 1500	455	2.1	214	63.5
Less than 2500	2,464	11.5	267	79.2
Mean birthweight (g)	3,172		1,443	

Table 33: Infant's birthweight by plurality, Indigenous births, Australia, 1991-1993

Birthweight (g)	Singletons		Twins		Other Multiple births		All births	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Less than 500	106	0.5	12	3.0	4	23.5	122	0.6
500 - 999	223	1.0	23	5.8	-	-	246	1.1
1000 - 1499	258	1.2	40	10.1	3	17.6	301	1.4
1500 - 1999	425	2.0	63	15.9	7	41.2	495	2.3
2000 - 2499	1,450	6.8	114	28.7	3	17.6	1,567	7.2
2500 - 2999	4,788	22.5	110	27.7	-	-	4,898	22.6
3000 - 3499	7,616	35.8	28	7.1	-	-	7,644	35.2
3500 - 3999	4,816	22.6	7	1.8	-	-	4,823	22.2
4000 - 4499	1,365	6.4	-	-	-	-	1,365	6.3
4500 and over	253	1.2	-	-	-	-	253	1.2
Not stated	35		1		-		36	
All births	21,335	100.0	398	100.0	17	100.0	21,750	100.0
Less than 1000	329	1.5	35	8.8	4	33.3	368	1.7
Less than 1500	587	2.8	75	18.9	7	41.2	669	3.1
Less than 2500	2,462	11.6	252	63.5	17	100.0	2,731	12.6
Mean birthweight (g)	3,165		2,155		1,415		3,145	

Table 34: Infant's birthweight by sex, Indigenous births, Australia, 1991-1993

Birthweight (g)	Male		Female		Indeterminate / Not stated	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than 500	57	0.5	64	0.6	1	9.1
500 - 999	132	1.2	113	1.1	1	9.1
1000 - 1499	179	1.6	121	1.1	1	9.1
1500 - 1999	228	2.0	267	2.5	-	-
2000 - 2499	704	6.3	861	8.2	2	18.2
2500 - 2999	2,227	19.9	2,671	25.4	-	-
3000 - 3499	3,853	34.5	3,789	36.0	2	18.2
3500 - 3999	2,756	24.7	2,065	19.6	2	18.2
4000 - 4499	861	7.7	502	4.8	2	18.2
4500 and over	173	1.5	80	0.8	-	-
Not stated	17		17		2	
All births	11,187	100.0	10,550	100.0	13	100.0
Less than 1000	189	1.7	177	1.7	2	18.2
Less than 1500	368	3.3	298	2.8	3	27.3
Less than 2500	1,300	11.6	1,426	13.5	5	45.5
Mean birthweight (g)	3,199		3,088		2,667	

Table 35: Distribution of birthweight of Indigenous infants by maternal age, parity, marital status, accommodation status, and place of birth, Australia, 1991-1993

Characteristic	Less than 1000g		Less than 1500g		Less than 2500g		2500g and over	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Maternal age								
Less than 15	6	3.3	8	4.4	29	15.9	153	84.1
15-19	86	1.6	161	3.1	710	13.5	4,554	86.5
20-24	122	1.6	238	3.0	968	12.3	6,875	87.7
25-29	96	1.9	152	3.0	572	11.5	4,423	88.5
30-34	37	1.5	65	2.6	306	12.3	2,185	87.7
35-39	17	2.1	39	4.8	124	15.3	687	84.7
40 and over	4	3.4	6	5.1	19	16.2	98	83.8
Not stated	-	-	-	-	3	-	8	-
Parity								
None	128	2.0	220	3.4	925	14.1	5,632	85.9
One	84	1.6	165	3.1	651	12.2	4,702	87.8
Two	61	1.5	108	2.7	462	11.4	3,592	88.6
Three	38	1.4	72	2.7	295	11.2	2,332	88.8
Four or more	56	1.8	99	3.2	390	12.8	2,658	87.2
Not stated	1	-	5	-	8	-	67	-
Marital status								
Married / de facto	190	1.5	345	2.8	1,431	11.4	11,100	88.6
Single	149	1.8	272	3.3	1,159	14.1	7,038	85.9
Other	29	2.9	52	5.3	141	14.3	845	85.7
Accommodation status*								
Public	260	1.6	477	3.0	1,973	12.4	13,967	87.6
Private	7	1.3	13	2.4	44	8.0	503	92.0
Place of birth								
Hospital	328	1.5	610	2.9	2,578	12.2	18,630	87.8
Birth centre	-	-	-	-	1	2.6	38	97.4
Home	-	-	-	-	-	-	15	100.0
Born before arrival	19	8.8	29	13.5	64	29.8	151	70.2
Other	21	9.2	28	12.3	84	36.8	144	63.2
Not stated	-	-	2	-	4	-	5	-

* Data exclude Victoria and Northern Territory

Table 36 : Proportion of liveborn low birthweight infants born in hospitals of different sizes, Indigenous births, States and Territories, 1991-1993

Low birthweight category/Hospital size	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Birthweight: 500 - 999g									
Number of births	25	3	52	33	19	-	1	28	161
	Per cent								
1-100 confinements	4.0	-	5.8	15.2	10.5	-	-	-	6.8
101-500 confinements	20.0	33.3	5.8	9.1	5.3	-	-	3.6	8.7
501-1000 confinements	16.0	33.3	13.5	-	-	-	-	7.1	8.7
1001-2000 confinements	-	33.3	46.2	-	10.5	-	-	64.3	28.0
2001 and over confinements	60.0	-	28.8	75.8	73.7	-	100.0	-	43.5
Other births	-	-	-	-	-	-	-	25.0	4.3
All births: 500 - 999g	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0
Birthweight: 1000 - 1499g									
Number of births	40	4	61	63	22	-	1	58	249
	Per cent								
1-100 confinements	7.5	-	4.9	4.8	-	-	-	1.7	4.0
101-500 confinements	7.5	25.0	3.3	6.5	4.5	-	-	5.2	5.6
501-1000 confinements	12.5	25.0	3.3	-	-	-	-	12.1	6.0
1001-2000 confinements	10.0	25.0	60.7	3.2	4.5	-	-	72.4	35.1
2001 and over confinements	57.5	25.0	27.9	85.5	90.9	-	100.0	-	46.4
Other births	5.0	-	-	-	-	-	-	8.6	2.8
All births: 1000 - 1499g	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0
Birthweight: 1500 - 1999g									
Number of births	68	18	151	84	42	-	1	102	466
	Per cent								
1-100 confinements	7.4	5.6	9.9	7.4	11.9	-	-	1.0	7.1
101-500 confinements	14.7	5.6	3.3	14.8	9.5	-	-	7.8	8.6
501-1000 confinements	17.6	27.8	11.3	4.9	-	-	-	16.7	11.9
1001-2000 confinements	19.1	33.3	57.0	1.2	21.4	-	-	61.8	38.4
2001 and over confinements	41.2	27.8	18.5	71.6	57.1	-	100.0	-	31.1
Other births	-	-	-	-	-	-	-	12.7	2.8
All births: 1500 - 1999g	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 37 : Apgar scores at 1 and 5 minutes, by birthweight, Indigenous live births, Australia, 1991-1993

Apgar score	Less than 1000g	1000-1499g	1500-1999g	2000-2499g	2500g and over	Not stated
Apgar score: 1 minute						
Live births (n)	171	206	381	1,227	14,394	17
	Per cent					
0	4.1	-	-	0.2	0.1	-
1-3	52.6	23.3	9.2	4.7	3.5	-
4-6	26.3	36.4	32.5	18.4	13.7	11.8
7-10	17.0	40.3	58.3	76.7	82.8	88.2
Apgar score: 5 minutes						
Live births (n)	188	238	456	1,525	18,802	21
	Per cent					
0	12.2	1.7	-	0.1	0.0	-
1-3	26.6	4.6	1.3	0.9	0.4	4.8
4-6	22.3	13.4	6.4	2.8	2.0	4.8
7-10	38.8	80.3	92.3	96.3	97.6	90.5

Table excludes Apgar scores 'not stated'

Table 38: Length of infant's stay in hospital, Indigenous live births, States and Territories, 1991-1993

Length of stay	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Less than 1 day	24	9	69	39	30	-	1	31	203
1 day	60	53	331	259	64	1	12	88	868
2 days	98	126	896	654	173	2	10	263	2,222
3 days	113	213	1,337	742	221	-	9	434	3,069
4 days	94	245	1,179	650	203	1	15	533	2,920
5 days	61	204	790	582	170	2	8	458	2,275
6 days	45	127	524	333	81	5	9	355	1,479
7 - 13 days	62	186	746	526	168	-	15	905	2,608
14 - 20 days	4	13	112	43	27	-	-	118	317
21 - 27 days	3	4	49	19	16	-	-	48	139
28 or more days	8	7	100	39	59	-	1	79	293
Not stated	3,282	-	66	-	-	-	-	-	3,348
All births	3,854	1,187	6,199	3,886	1,212	11	80	3,312	19,741
Per cent									
Less than 1 day	4.2	0.8	1.1	1.0	2.5	-	1.3	0.9	1.2
1 day	10.5	4.5	5.4	6.7	5.3	9.1	15.0	2.7	5.3
2 days	17.1	10.6	14.6	16.8	14.3	18.2	12.5	7.9	13.6
3 days	19.8	17.9	21.8	19.1	18.2	-	11.3	13.1	18.7
4 days	16.4	20.6	19.2	16.7	16.7	9.1	18.8	16.1	17.8
5 days	10.7	17.2	12.9	15.0	14.0	18.2	10.0	13.8	13.9
6 days	7.9	10.7	8.5	8.6	6.7	45.5	11.3	10.7	9.0
7 - 13 days	10.8	15.7	12.2	13.5	13.9	-	18.8	27.3	15.9
14 - 20 days	0.7	1.1	1.8	1.1	2.2	-	-	3.6	1.9
21 - 27 days	0.5	0.3	0.8	0.5	1.3	-	-	1.4	0.8
28 or more days	1.4	0.6	1.6	1.0	4.9	-	1.3	2.4	1.8
All births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 39: Length of infant's stay in hospital, live births, Australia, 1991-1993

Length of stay	Indigenous				Non-Indigenous			
	1991*	1992*	1993	1991-93	1991*	1992*	1993	1991-93
	Number							
Less than 1 day	52	66	85	203	969	1,178	2,131	4,278
1 day	170	285	413	868	3,416	4,595	8,172	16,183
2 days	563	734	925	2,222	7,838	10,636	17,465	35,939
3 days	942	958	1,169	3,069	17,335	20,006	29,611	66,952
4 days	967	940	1,013	2,920	28,021	29,239	37,125	94,385
5 days	781	777	717	2,275	32,057	31,397	37,723	101,177
6 days	499	489	491	1,479	25,785	24,251	27,653	77,689
7 - 13 days	943	833	832	2,608	38,557	36,236	37,039	111,832
14 - 20 days	112	99	106	317	1,577	1,593	2,068	5,238
21 - 27 days	51	47	41	139	886	857	1,000	2,743
28 or more days	83	100	110	293	1,615	1,629	2,162	5,406
All births	5,163	5,352	6,642	17,157	158,207	161,888	240,797	560,892
	Per cent							
Less than 1 day	1.0	1.2	1.4	1.2	0.6	0.7	1.1	0.8
1 day	3.3	5.3	7.0	5.3	2.2	2.8	4.0	3.1
2 days	10.9	13.8	15.7	13.6	5.0	6.6	8.6	6.9
3 days	18.2	18.0	19.8	18.7	11.0	12.4	14.6	12.8
4 days	18.7	17.6	17.2	17.8	17.7	18.1	18.4	18.1
5 days	15.1	14.6	12.1	13.9	20.3	19.4	18.7	19.4
6 days	9.7	9.2	8.3	9.0	16.3	15.0	13.7	14.9
7 - 13 days	18.3	15.6	14.1	15.9	24.4	22.4	18.3	21.4
14 - 20 days	2.2	1.9	1.8	1.9	1.0	1.0	1.0	1.0
21 - 27 days	1.0	0.9	0.7	0.8	0.6	0.5	0.5	0.5
28 or more days	1.6	1.9	1.9	1.8	1.0	1.0	1.1	1.0
All births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data exclude New South Wales

Table 40: Length of infant's stay in hospital by plurality, gestational age, and birthweight, Indigenous live births, Australia, 1991-1993

Characteristic	Infants (n)*	0-2 days	3-4 days	5-6 days	7-13 days	14-20 days	21-27 days	28 or more days
Plurality		Per cent						
Singleton	16,786	23.1	35.2	21.8	15.4	1.8	0.9	1.8
Twin	301	13.3	6.6	19.3	23.6	14.6	8.0	14.6
Other multiple birth	17	23.5	-	-	-	23.5	-	52.9
Gestational age								
20-27 weeks	276	73.2	3.6	1.1	1.8	0.7	0.4	19.2
28-31 weeks	275	28.7	6.5	4.0	6.9	3.3	6.9	43.6
32-36 weeks	1,844	17.0	18.5	18.0	23.3	10.4	5.6	7.2
37-41 weeks	13,970	22.3	38.0	23.0	15.1	1.0	0.3	0.3
42 or more weeks	572	24.8	37.9	21.5	15.0	0.5	-	0.2
Not stated	167	37.7	24.6	19.2	10.8	2.4	1.8	3.6
Birthweight								
Less than 1000g	272	75.4	2.6	1.1	0.7	0.7	1.1	18.4
1000-1499g	234	29.1	2.1	1.3	5.1	5.1	5.6	51.7
1500-1999g	392	17.1	2.6	3.3	15.6	14.8	15.8	30.9
2000-2499g	1,226	12.4	17.5	21.3	31.6	10.8	4.4	2.0
2500g and over	14,960	22.8	38.0	23.0	14.7	1.0	0.3	0.2
Not stated	20	55.0	25.0	5.0	10.0	5.0	-	-

Table excludes New South Wales

* Data exclude length of stay 'not stated'

Table 41: Mode of separation of Indigenous infants born in hospitals or births centres, States and Territories, 1991-1993

Mode of separation	NSW	Vic	Qld	WA	Tas	ACT	NT	Australia*
Number								
Discharge home	3,830	1,180	6,089	3,849	11	79	3,477	18,515
Transfer to another hospital	366	59	476	404	-	1	113	1,419
Fetal death / Died	99	23	154	92	-	1	111	480
Others	-	3	-	17	-	-	-	20
Not stated	12	-	49	-	-	-	1	62
All births	4,307	1,265	6,768	4,362	11	81	3,702	20,496
Per cent								
Discharge home	89.2	93.3	90.6	88.2	100.0	97.5	93.9	90.6
Transfer to another	8.5	4.7	7.1	9.3	-	1.2	3.1	6.9
Fetal death / Died	2.3	1.8	2.3	2.1	-	1.2	3.0	2.3
Others	-	0.2	-	0.4	-	-	-	0.1
All births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Data exclude South Australia

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 42: Fetal death rates, Australia, 1991-1993

Year	Indigenous		Non-Indigenous	
	Number	Rate per 1,000 births	Number	Rate per 1,000 births
1991	115	16.2	1,893	7.6
1992	116	15.8	1,646	6.4
1993	114	15.5	1,551	6.1
1991-1993	345	15.9	5,090	6.7

Table 43: Indigenous and non-Indigenous fetal deaths, State and Territory of birth, 1991-1993

State/Territory	Indigenous			Non-Indigenous		
	Fetal deaths	Total births	Fetal death rate	Fetal deaths	Total births	Fetal death rate
	Number	Per 1,000 births	Number	Per 1,000 births	Number	Per 1,000 births
New South Wales	73	4,313	16.9	1,727	259,470	6.7
Victoria	17	1,267	13.4	1,373	194,959	7.0
Queensland	93	6,769	13.7	831	132,078	6.3
Western Australia	64	4,364	14.7	469	71,303	6.6
South Australia	27	1,240	21.8	371	58,628	6.3
Tasmania	-	12	-	153	20,827	7.3
Australian Capital Territory	-	81	-	98	13,952	7.0
Northern Territory	71	3,704	19.2	58	6,971	8.3
Australia	345	21,750	15.9	5,080	758,188	6.7

Note: Data on births to Indigenous mothers in Tasmania are incomplete

Table 44: Indigenous and non-Indigenous fetal deaths by maternal age, Australia, 1991-1993

Maternal age (years)	Indigenous			Non-Indigenous		
	Fetal deaths	Total births	Fetal death rate	Fetal deaths	Total births	Fetal death rate
	Number	Per 1,000 births	Number	Per 1,000 births	Number	Per 1,000 births
Less than 20	87	5,453	16.0	324	37,746	8.6
20 - 24	123	7,855	15.7	985	148,297	6.6
25 - 29	76	5,002	15.2	1,531	264,379	5.8
30 - 34	29	2,499	11.6	1,460	219,861	6.6
35 - 39	25	812	30.8	606	74,930	8.1
40 and over	5	117	42.7	159	11,931	13.3
Not stated	-	12	-	15	1,044	14.4
All ages	345	21,750	15.9	5,080	758,188	6.7

Table 45: Indigenous and non-Indigenous fetal deaths by parity, Australia, 1991-1993

Parity	Indigenous			Non-Indigenous		
	Fetal deaths	Total births	Fetal death rate	Fetal deaths	Total births	Fetal death rate
	Number		Per 1,000 births	Number		Per 1,000 births
None	111	6,573	16.9	2,221	302,883	7.3
One	89	5,359	16.6	1,442	252,847	5.7
Two	58	4,059	14.3	789	127,779	6.2
Three	33	2,632	12.5	337	47,000	7.2
Four or more	53	3,052	17.4	261	24,290	10.7
Not stated	1	75	13.3	30	3,389	8.9
All parities	345	21,750	15.9	5,080	758,188	6.7

Table 46: Indigenous and non-Indigenous fetal deaths by gestational age, Australia, 1991-1993

Gestational age (weeks)	Indigenous			Non-Indigenous		
	Fetal deaths	Total births	Fetal death rate	Fetal deaths	Total births	Fetal death rate
	Number		Per 1,000 births	Number		Per 1,000 births
20 - 23	87	149	583.9	1,288	2,008	641.4
24 - 27	65	216	300.9	806	2,923	275.7
28 - 31	57	360	158.3	600	5,846	102.6
32 - 36	57	2,239	25.5	961	42,935	22.4
37 - 41	60	17,888	3.4	1,252	668,564	1.9
42 and over	2	707	2.8	100	33,348	3.0
Not stated	17	191	89.0	73	2,564	28.5
All births	345	21,750	15.9	5,080	758,188	6.7

Table 47: Indigenous and non-Indigenous fetal deaths by birthweight, Australia, 1991-1993

Birthweight (g)	Indigenous			Non-Indigenous		
	Fetal deaths	Total births	Fetal death rate	Fetal deaths	Total births	Fetal death rate
	Number		Per 1,000 births	Number		Per 1,000 births
Less than 500	77	122	631.1	1,046	1,525	685.9
500 - 999	85	246	345.5	1,193	3,737	319.2
1000 - 1499	52	301	172.8	489	4,572	107.0
1500 - 1999	29	495	58.6	437	8,887	49.2
2000 - 2499	24	1,567	15.3	418	27,687	15.1
2500 - 2999	24	4,898	4.9	489	114,979	4.3
3000 - 3499	26	7,644	3.4	443	277,825	1.6
3500 - 3999	11	4,823	2.3	250	231,699	1.1
4000 - 4499	7	1,365	5.1	84	73,889	1.1
4500 and over	2	253	7.9	30	12,581	2.4
Not stated	8	36	222.2	201	807	249.1
All births	345	21,750	15.9	5,080	758,188	6.7

Table 48: Indigenous fetal, neonatal and perinatal deaths, Queensland, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	13	464.3	14	933.3	27	964.3	15
500-999	26	333.3	29	557.7	55	705.1	52
1000-1499	22	265.1	3	49.2	25	301.2	61
1500-1999	7	44.3	5	33.1	12	75.9	151
2000-2499	5	10.6	6	12.8	11	23.3	468
2500-2999	7	5.0	4	2.9	11	7.9	1,381
3000-3499	7	2.9	6	2.5	13	5.4	2,390
3500-3999	2	1.2	2	1.2	4	2.5	1,601
4000-4499	3	6.5	-	-	3	6.5	457
4500 and over	-	-	-	-	-	-	84
Not stated	1	58.8	-	-	1	58.8	16
Total births	93	13.7	69	10.3	162	23.9	6,676

Table 49: Non-Indigenous fetal, neonatal and perinatal deaths, Queensland, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births*
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	191	654.1	88	871.3	279	955.5	101
500-999	208	276.2	186	341.3	394	523.2	545
1000-1499	89	98.7	49	60.3	138	153.0	813
1500-1999	73	42.3	47	28.5	120	69.6	1,652
2000-2499	52	10.7	41	8.6	93	19.2	4,795
2500-2999	76	3.9	50	2.6	126	6.5	19,289
3000-3499	76	1.6	76	1.6	152	3.2	47,640
3500-3999	39	1.0	21	0.5	60	1.5	40,725
4000-4499	12	0.9	8	0.6	20	1.5	13,103
4500 and over	8	3.4	3	1.3	11	4.7	2,316
Not stated	7	25.5	12	44.8	19	69.1	268
Total births	831	6.3	581	4.4	1,412	10.7	131,247

* Live births include 1 infant's outcome 'unknown' but birth status as 'live birth'.

Table 50: Indigenous fetal, neonatal and perinatal deaths, Western Australia, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	18	666.7	8	888.9	26	963.0	9
500-999	14	297.9	12	363.6	26	553.2	33
1000-1499	6	87.0	2	31.7	8	115.9	63
1500-1999	7	76.9	-	-	7	76.9	84
2000-2499	4	11.6	6	17.5	10	28.9	342
2500-2999	6	6.0	3	3.0	9	9.0	999
3000-3499	4	2.5	5	3.2	9	5.7	1,575
3500-3999	3	3.3	-	-	3	3.3	918
4000-4499	1	4.1	-	-	1	4.1	242
4500 and over	1	20.8	-	-	1	20.8	47
Total births	64	14.6	36	8.3	100	22.9	4,312

Table 51: Non-Indigenous fetal, neonatal and perinatal deaths, Western Australia, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	143	790.1	37	973.7	180	994.5	38
500-999	81	278.4	61	290.5	142	488.0	210
1000-1499	45	105.1	20	52.2	65	151.9	383
1500-1999	37	46.6	19	25.1	56	70.5	757
2000-2499	43	16.2	25	9.6	68	25.7	2,604
2500-2999	39	3.6	27	2.5	66	6.1	10,759
3000-3499	43	1.6	28	1.1	71	2.7	26,419
3500-3999	26	1.2	13	0.6	39	1.8	21,855
4000-4499	8	1.2	4	0.6	12	1.8	6,738
4500 and over	4	3.8	2	1.9	6	5.6	1,059
Total births	469	6.6	236	3.3	705	9.9	70,822

Table 52: Indigenous fetal, neonatal and perinatal deaths, South Australia, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	11	687.5	5	1,000.0	16	1,000.0	5
500-999	6	240.0	8	421.1	14	560.0	19
1000-1499	2	83.3	6	272.7	8	333.3	22
1500-1999	3	66.7	-	-	3	66.7	42
2000-2499	2	26.3	1	13.5	3	39.5	74
2500-2999	-	-	1	3.6	1	3.6	281
3000-3499	1	2.5	1	2.5	2	5.0	401
3500-3999	1	3.8	1	3.8	2	7.5	264
4000-4499	-	-	-	-	-	-	88
4500 and over	-	-	-	-	-	-	17
Not stated	1	1,000.0	-	-	1	1,000.0	-
Total births	27	21.8	23	19.0	50	40.3	1,213

Table 53: Non-Indigenous fetal, neonatal and perinatal deaths, South Australia, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	79	681.0	36	973.0	115	991.4	37
500-999	97	356.6	61	348.6	158	580.9	175
1000-1499	33	85.7	16	45.5	49	127.3	352
1500-1999	45	56.4	10	13.3	55	68.9	753
2000-2499	37	16.5	18	8.2	55	24.5	2,204
2500-2999	28	3.1	13	1.4	41	4.5	9,031
3000-3499	31	1.4	23	1.1	54	2.5	21,488
3500-3999	13	0.7	11	0.6	24	1.4	17,601
4000-4499	5	0.9	3	0.5	8	1.4	5,652
4500 and over	2	2.1	2	2.1	4	4.1	963
Not stated	1	500.0	-	-	1	500.0	1
Total births	371	6.3	193	3.3	564	9.6	58,257

Table 54: Indigenous fetal, neonatal and perinatal deaths, Northern Territory, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births*
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	18	620.7	7	636.4	25	862.1	11
500-999	20	416.7	15	535.7	35	729.2	28
1000-1499	7	107.7	5	86.2	12	184.6	58
1500-1999	5	46.7	2	19.6	7	65.4	102
2000-2499	3	9.5	3	9.6	6	19.0	313
2500-2999	6	5.7	11	10.5	17	16.1	1,047
3000-3499	4	3.2	4	3.2	8	6.5	1,231
3500-3999	2	3.1	4	6.2	6	9.3	645
4000-4499	2	12.0	2	12.1	4	24.0	165
4500 and over	1	34.5	-	-	1	34.5	28
Not stated	3	375.0	-	-	3	375.0	5
Total births	71	19.2	53	14.6	124	33.5	3,633

* Live births include 1 infant's outcome 'unknown' but birth status as 'live birth'.

Table 55: Non-Indigenous fetal, neonatal and perinatal deaths, Northern Territory, 1991-1993

Birthweight (g)	Fetal deaths		Neonatal deaths		Perinatal deaths		Live births*
	Number	Rate	Number	Rate	Number	Rate	Number
Less than 500	15	714.3	3	500.0	18	857.1	6
500-999	13	295.5	18	580.6	31	704.5	31
1000-1499	2	50.0	7	184.2	9	225.0	38
1500-1999	3	30.0	7	72.2	10	100.0	97
2000-2499	7	21.4	-	-	7	21.4	320
2500-2999	8	6.6	1	0.8	9	7.4	1,206
3000-3499	3	1.1	5	1.8	8	2.9	2,740
3500-3999	4	2.1	2	1.1	6	3.2	1,871
4000-4499	1	1.9	-	-	1	1.9	519
4500 and over	1	12.8	-	-	1	12.8	77
Not stated	1	111.1	1	125.0	2	222.2	8
Total births	58	8.3	44	6.4	102	14.6	6,913

* Live births include 6 infants' outcome 'unknown' but birth status as 'live birth'.

Appendix 1 Perinatal data items

The following data items were collected in all or some States and Territories in the period from 1991 to 1993:

Identifying information

- State/Territory of birth
- Maternity patient identifier

Place of birth

- Intended place of birth
- Actual place of birth
- Establishment (hospital/birth centre) identifier

Sociodemographic characteristics of mother

- Area of usual residence
- Date of birth (derived from maternal age)
- Patient accommodation status (public/private)
- Marital status
- Country of birth
- Aboriginal/Torres Strait Islander

Previous pregnancies

- Previous pregnancies

Current pregnancy

- First day of last menstrual period
- Gestational age
- Maternal medical conditions
- Complications of pregnancy

Labour, delivery and the puerperium (approximately six weeks after birth)

- Onset of labour
- Type of induction
- Type of augmentation
- Analgesia administered
- Anaesthesia administered
- Presentation at birth
- Method of birth
- Perineal status
- Complications of labour and birth
- Postpartum complications
- Length of mothers stay in hospital around the time of birth
- Length of mothers stay in hospital after the birth
- Plurality
- Mode of separation

Infant

- Date of birth
- Birth order
- Status of the baby

- Sex
- Birthweight
- Apgar score (at 1 and 5 minutes after birth)
- Resuscitation of newborn baby
- Admission to special care/neonatal intensive care unit
- Length of stay in hospital
- Mode of separation of infant
- Neonatal morbidity
- Congenital malformations

Appendix 2 Definitions

Aboriginality: An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identified as an Aboriginal or Torres Strait Islander and is accepted as such by the community with which he or she is associated (Department of Aboriginal Affairs, Constitutional Section 1981).

Admission date: Date on which a pregnant women commences an episode of care as an admitted patient, resulting in confinement (delivery).

Age-specific birth rate: Number of live births to women in a specified age group in one year per 1,000 women in the same age group.

Antepartum fetal death: Fetal death occurring before the onset of labour.

Apgar score: Numerical score to evaluate the infant's condition at 1 minute and 5 minutes after birth.

Birth status: Status of the infant immediately after birth.

Birthweight: The first weight of the baby (stillborn or liveborn) obtained after birth (usually measured to the nearest five grams and obtained within one hour of birth).

Caesarean section: Operative birth through an abdominal incision.

Complications of labour and delivery: Medical and obstetric problems arising after the onset of labour and before the completed delivery of the infant and placenta.

Complications of puerperium: Medical and obstetric problems of the mother occurring during the postnatal period (up to 6 weeks after giving birth).

Confinement: Pregnancy resulting in at least one birth.

Congenital malformations: Structural or anatomical abnormalities that are present at birth, usually resulting from abnormal development in the first trimester of pregnancy.

Crude birth rate: Number of live births occurring in one year per 1,000 total population.

Discharge date: Date on which a woman completes an episode or care as an admitted patient after giving birth.

Early neonatal death: Death of a liveborn infant within 7 days of birth.

Elective caesarean section: Operative birth through an abdominal incision performed before the onset of labour.

Emergency caesarean section: Operative birth through an abdominal incision performed after the onset of labour.

Extremely low birthweight: Birthweight of less than 1000g.

Fetal death (stillbirth): Death prior to the complete expulsion or extraction from its mother of a product of conception of 20 or more completed weeks of gestation or of 400g or more birthweight; the death is indicated by the fact that after such separation the fetus does not breathe or show any other

evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles (Tables based on ABS data have a lower limit of 500g or, when birthweight is not available, of 22 weeks' gestation).

Forceps: Assisted birth using a metallic obstetric instrument.

Gestational age: The duration of pregnancy in completed weeks calculated from the date of the first day of a woman's last menstrual period and her infant's date of birth, or derived from clinical assessment during pregnancy or from examination of the infant after birth.

Hospital size: Number of confinements occurring annually in a hospital.

Infant's discharge date: Date on which a newborn infant completes an episode of care after birth.

Infant's length of stay: Number of days between date of birth and date of discharge from the hospital of birth (calculated by subtracting the date of birth from the date of discharge).

Intrapartum fetal death: Fetal death occurring during labour.

Late neonatal death: Death of a liveborn infant after 7 completed days and before 28 completed days.

Live birth: Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered liveborn (WHO definition).

Low birthweight: Birthweight of less than 2500g.

Marital status: Current marital status of a woman at the time of confinement. (Married and de facto are coded together.)

Maternal age: Mother's age at her child's birth.

Maternal medical conditions: Pre-existing maternal diseases and conditions, and other diseases, illnesses or conditions arising during pregnancy, that are not directly attributable to pregnancy but may significantly affect care during pregnancy and/or pregnancy outcome. Examples include essential hypertension, diabetes mellitus, epilepsy, cardiac disease, and chronic renal disease.

Mode of separation of mother: Status at separation of patient (discharge/transfer/death) and place to which patient is released (where applicable).

Mother's length of stay: Number of days between admission date (during the admission resulting in delivery) and discharge date (from the hospital where delivery occurred). The interval is calculated by subtracting the date of admission from the date of discharge.

Multipara: Pregnant women who has had at least one previous pregnancy resulting in a live birth or stillbirth.

Neonatal death: Death of a liveborn infant within 28 days of birth.

Neonatal morbidity: Any condition or disease of the infant diagnosed after birth and before separation from care.

Obstetric complications: Obstetric complications are conditions arising during pregnancy that are directly attributable to pregnancy and may significantly affect care during pregnancy and/or pregnancy outcome. Examples include threatened abortion, antepartum haemorrhage, pregnancy-induced hypertension and gestational diabetes.

Parity: Number of previous pregnancies resulting in live births or stillbirths.

Perinatal death: A perinatal death is a fetal or neonatal death.

Plurality: The number of births resulting from a pregnancy.

Presentation at delivery: Presenting part of the fetus (that is, at lower segment of uterus) at delivery.

Preterm birth: Birth before 37 completed weeks of gestation.

Primipara: Pregnant woman who has had no previous pregnancy resulting in a live birth or stillbirth.

Repair following delivery: Surgical suturing of perineal laceration or episiotomy incision.

Resuscitation of infant: Active measures taken shortly after birth to assist infant's ventilation and heart beat; or to treat depressed respiratory effort and to correct metabolic disturbances.

Spontaneous vertex: Birth without intervention in which the baby's head is the presenting part.

Stillbirth: See fetal death.

Total fertility rate: Number of children that women would have during their reproductive years if they experienced the prevailing birth rates of a particular year.

Vacuum extraction: Assisted birth using a suction cap applied to the baby's head.

Vaginal breech: Birth in which the baby's buttocks or lower limbs are the presenting parts.

Very low birthweight: Birthweight of less than 1500g.