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Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ART	Assisted reproduction technology
ASCCSS	Australian Standard Classification of Countries for Social Statistics
ASGC	Australian Standard Geographical Classification
g	gram
IPPR	intermittent positive pressure respiration
LMP	first day of the last menstrual period
METeOR	metadata online registry
NHDD	National Health Data Dictionary
NHISSC	National Health Information Standards and Statistics Committee
NICU	neonatal intensive care unit
NMDS	National Minimum Data Set
NPDC	National Perinatal Data Collection
NPDDC	National Perinatal Data Development Committee
NPSU	AIHW National Perinatal Statistics Unit
NSW	New South Wales
NT	Northern Territory
PSANZ-PDC	Perinatal Society of Australia and New Zealand Perinatal Death Classification
Qld	Queensland
SA	South Australia
SACC	Standard Australian Classification of Countries
SCN	special care nursery
Tas	Tasmania
UNSW	University of New South Wales
Vic	Victoria
WA	Western Australia
WHO	World Health Organization
n.a.	not available
n.p.	not published

Summary

More births

Australia's mothers and babies 2007 is the 17th annual report on pregnancy and childbirth in Australia providing national information on women who gave birth and the characteristics and outcomes of their babies. In 2007, 289,496 women gave birth to 294,205 babies in Australia. This included 292,027 live births and 2,177 fetal deaths. The baby boom continued, with 12,036 more births (4.3%) than reported in 2006 and 14.4% more than in 2004.

Older mothers

The average age of women who gave birth in 2007 was 29.9 years, compared with 28.9 years in 1998. Women aged 35 years or older accounted for 22.3%, up from 15.7% in 1998. The first data from four jurisdictions on the use of assisted reproduction technology (ART) showed that 3.1% of women who gave birth received ART treatment. The average age of women who received ART treatment was 34.1 years compared to 29.8 years for other women.

Birth centre births

Of women who gave birth during 2005–2007, 2.0% gave birth in birth centres. Women giving birth in birth centres are a highly selected population. The 16,969 babies born in birth centres had low rates of adverse perinatal outcomes including: preterm birth (0.7%), low birthweight (0.8% of liveborn babies) and admission to neonatal intensive care unit or a special care nursery (3.7% of liveborn babies).

Labour and delivery

New data on pain relief showed that of women who laboured, 74.8% had analgesia administered. The most common type of analgesia for labour was nitrous oxide (49.7%), followed by epidural or caudal analgesia (28.2%). The most common method of administration of anaesthesia for instrumental deliveries was epidural or caudal anaesthesia (49.7%), and for caesarean sections, spinal anaesthesia (60.6%). This is the first year that the rate of caesarean section has not significantly increased with a 0.1% rise from 30.8% in 2006 to 30.9% in 2007. The primary caesarean section rate was 21.2% in 2007; 32.1% for first-time mothers and 10.3% for multiparous mothers. Around 83.3% of those who had previously had a caesarean section had a further caesarean section in 2007.

Baby outcomes

Of babies born in 2007, 6.2% of live births were of low birthweight (less than 2,500 grams). This rate of low birthweight was the lowest since 1998, when it was 6.1%. The perinatal death rate was 10.3 per 1,000 births. The fetal and neonatal death rates were 7.4 per 1,000 births and 2.9 per 1,000 live births respectively. Perinatal death rates varied by sociodemographic, maternal and pregnancy risk factors. Young maternal age, maternal Indigenous status and multiple gestation were associated with higher rates of perinatal deaths. The leading category of perinatal death was congenital abnormality (23.5%). For term singleton births the leading categories of perinatal death were unexplained antepartum death (25.3%), congenital abnormality (16.7%) and hypoxic peripartum death (14.0%).

1 Introduction

Australia's mothers and babies 2007 is the 17th in the annual series prepared by the Australian Institute of Health and Welfare's (AIHW) National Perinatal Statistics Unit (NPSU). The report provides national information on the pregnancy and childbirth of mothers, and the characteristics and outcomes of their babies. It is a collaborative effort of the NPSU and states and territories, and can be used by researchers, academics, students, policy makers and health service planners, and those providing services in reproductive health. The report is based on data from the National Perinatal Data Collection (NPDC).

Purpose of this report

The purpose of *Australia's mothers and babies 2007* is to provide information on the women who gave birth to liveborn or stillborn babies in 2007, and on their babies.

This is achieved through:

- reporting against the Perinatal National Minimum Data Set
- providing national information on women who gave birth in 2007, including demographics, risk factors and characteristics relating to the pregnancy, childbirth and puerperium
- providing national information on the characteristics and perinatal outcomes of babies born in 2007
- providing information for state and territory comparison
- providing information for international comparison.

National Perinatal Data Collection

The 2007 national data on births are based on notifications to the perinatal data collection in each state and territory. Midwives and other staff, using information obtained from mothers and from hospital or other records, complete notification forms for each birth in each jurisdiction. Information is included in the NPDC for all live births and stillbirths of at least 400 grams birthweight or at least 20 weeks gestation. Figure 1.1 shows the pathway of perinatal data to the NPSU for national collation.

Each state and territory collects more information than is specified on the Perinatal National Minimum Data Set (NMDS), and the NPSU requests some of these additional items. The information includes characteristics of the mother, such as previous pregnancies and perineal status after vaginal birth, and characteristics of the baby, such as resuscitation and admission to a special care nursery or neonatal intensive care unit. New data items were requested for 2007: *whether pregnancy was the result of assisted reproduction technology (ART)*, *gestational age at first antenatal visit* and *total number of antenatal visits*.

The state and territory health authorities undertake data processing, analysis and publication of reports. Each state and territory provided data in an electronic format to the NPSU. Due to data editing and subsequent updates of state and territory databases, the numbers in this report may differ slightly from those in reports published by the states and territories. See

Appendix 1 for a list of state and territory reports on the 2007 data and Appendix 2 for state and territory contact details.

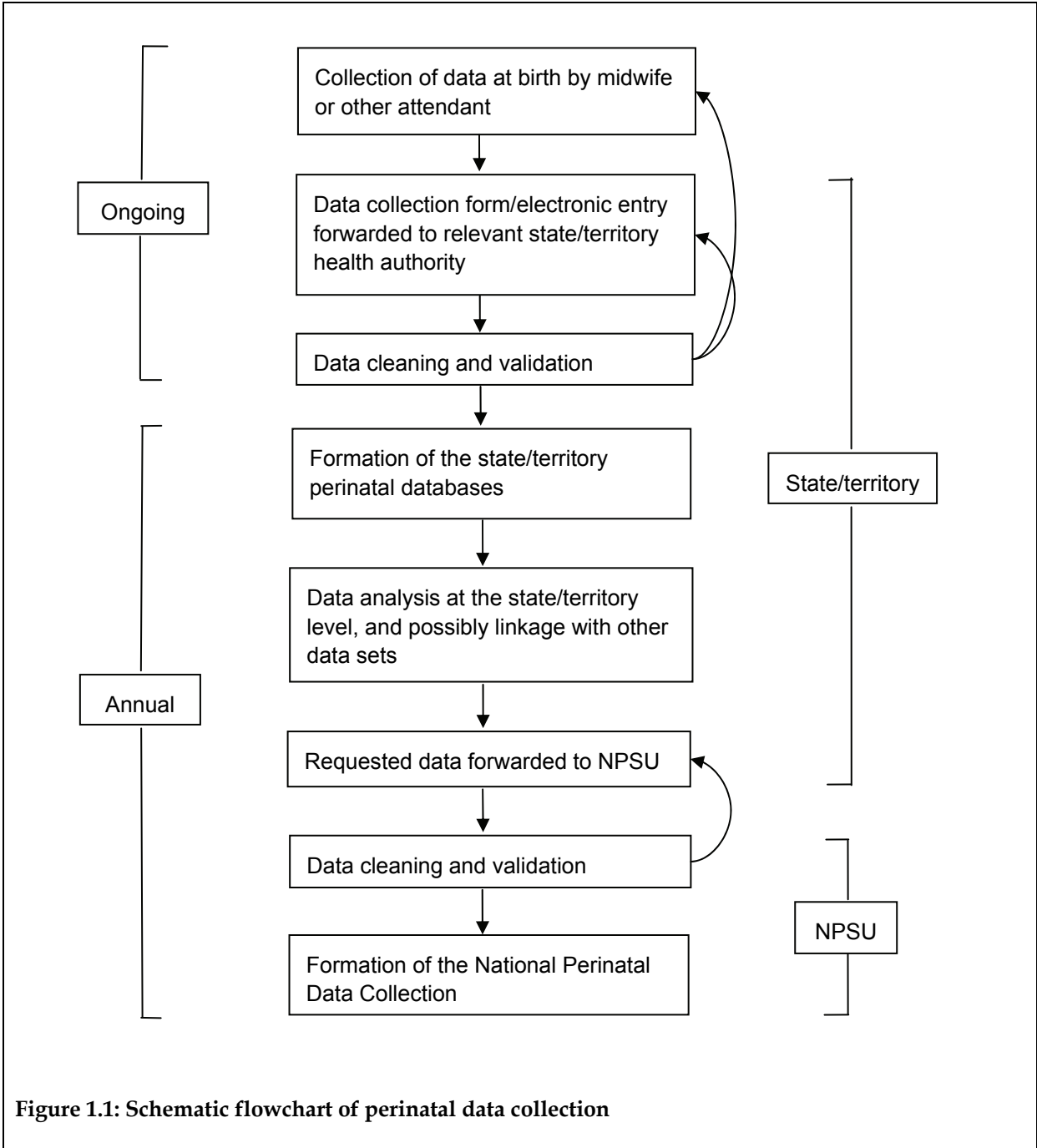


Figure 1.1: Schematic flowchart of perinatal data collection

The Perinatal National Minimum Data Set

An NMDS is a core set of data elements endorsed by the National Health Information Standards and Statistics Committee (NHISSC) for mandatory collection and reporting at a national level. An NMDS includes agreement on specified data elements as well as the scope

of the application of those data elements and the statistical units for collection. Definitions of all data elements that are included in National Minimum Data Sets are included in the AIHW's online metadata registry, 'METeOR'.

The Perinatal NMDS is a specification for data collected on all births in Australia in hospitals, birth centres and the community. Data are collected from perinatal administrative and clinical record systems and forwarded regularly to the relevant state or territory health authority. Data for the year ending 31 December are then provided annually to the NPSU for national collation.

The Perinatal NMDS was first specified in 1997. It includes data items relating to the mother, including demographic characteristics and factors relating to the pregnancy, labour and birth, and data items relating to the baby, including birth status, sex and birthweight. A recent evaluation of compliance with the Perinatal NMDS specifications showed improvement for 2005 data, available at www.preru.unsw.edu.au/PRERUWeb.nsf/page/ps21 (Laws 2008).

Current definitions are available in the *National health data dictionary* (NHDD) Version 14 (HDSC 2008) and on METeOR online at www.meteor.aihw.gov.au. A list of the current Perinatal NMDS data elements can be found in Appendix 3. Version 13 of the NHDD was current at the time of collection of the 2007 data (HDSC 2006).

In 2009, a program for national data development was completed to add nationally agreed data items on smoking during pregnancy to the Perinatal NMDS from 2010. Work is also underway to develop data elements for the collection of antenatal care information, risk factors during pregnancy including alcohol and drug use, and Indigenous status of the baby. Enhancement of perinatal data is a priority for the Council of Australian Governments (COAG).

The National Perinatal Data Development Committee

The primary role of the National Perinatal Data Development Committee (NPDDC) is to undertake perinatal data development. New data items and changes to existing items that are agreed to by the Committee are submitted to NHISSC for endorsement for inclusion in METeOR and the Perinatal NMDS. The NPDDC is comprised of representatives from each state and territory health authority, the Australian Bureau of Statistics (ABS) and the NPSU, with temporary members invited on a transitory basis as their expertise is required. The Committee works in consultation with clinical reference groups.

A program of perinatal data development has led to improvements in data provision and reporting. The program of data development involves revision of existing Perinatal NMDS items, data development work on existing perinatal METeOR items and the development of new perinatal items.

Data quality, presentation and interpretation

This report presents perinatal data that can largely be compared with data presented in *Australia's mothers and babies 2006* (Laws & Hilder 2008). There are 18 new tables as well as a special chapter on birth centre births (Chapter 5).

Tabulated data in this report are based on births in each state and territory in 2007 meeting the criteria for inclusion in the NPDC. Each state and territory has its own form and/or electronic system for collecting perinatal data. Unless otherwise stated, the data in this report relate to the state or territory of occurrence of births in 2007 rather than to the state or territory of usual residence of the mother.

Data are presented for all states and territories where available. Although the perinatal collections are based on the NMDS, in some jurisdictions the data are collected in different categories. Where data are not available from all states and territories in the required format or data have not been published for other reasons, this is indicated in the footnotes of tables or figures.

The data received from states and territories are checked for completeness, validity and logical errors. Changes are made as necessary in consultation with the state and territory perinatal data providers.

All states and territories have a data item to record Indigenous status on their perinatal form, although there are some differences among the jurisdictions. According to the NHDD, Indigenous status is a measure of whether a person identifies as being of Aboriginal or Torres Strait Islander origin (HDSC 2008). This separately identifies mothers as those of Aboriginal and Torres Strait Islander origin, and non-Indigenous mothers. No information is collected about the father's or baby's Indigenous status.

Since 2005, all jurisdictions collect information on Indigenous status of the mother in accordance with the NMDS. All jurisdictions are working towards improving the ascertainment of Indigenous status in their perinatal collections. In 2007, the NPSU, in collaboration with the AIHW's Aboriginal and Torres Strait Islander Health and Welfare Unit, released a report on Indigenous mothers and their babies. This project included an assessment of Indigenous status data quality (Leeds et al. 2007).

There are a small number of Aboriginal and Torres Strait Islander mothers who give birth in the Australian Capital Territory, and the proportion fluctuates from year to year, making this jurisdiction less comparable to other jurisdictions. In 2007, 24.1% of Aboriginal or Torres Strait Islander women who gave birth in the Australian Capital Territory were not Australian Capital Territory residents.

The Australian Capital Territory data contain a relatively high proportion of New South Wales residents who gave birth in the Australian Capital Territory. The proportion of non-residents who gave birth in the Australian Capital Territory was 16.1% in 2007. When interpreting the data it is important to note that these births to non-residents may include a disproportionate number of high risk and multi-fetal pregnancies associated with poorer perinatal outcomes. Therefore, percentages or rates such as those for preterm birth and perinatal deaths may be inflated for births that occur in the Australian Capital Territory. Reporting by state or territory of usual residence of the mother assists in addressing this issue.

The Perinatal NMDS does not include neonatal or perinatal death data items or information on cause of death. However this information is collected as part of the NPDC. The data are incomplete. In some jurisdictions, neonatal deaths for babies transferred to another hospital or readmitted to hospital and those dying at home may not be included. Neonatal deaths for the Northern Territory are considered to be incomplete for 2007 as data do not include deaths occurring outside of the Northern Territory. Due to the small number of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

The number of babies is marginally higher than the number of mothers because of multiple births. The terms 'mothers' or 'women who gave birth' have been used in this report when referring to maternal characteristics, whereas 'births' refers to babies.

Cell sizes of less than five in state and territory tables have not been published in line with AIHW guidelines for protecting privacy of individuals (SIMC 2007). Exceptions to this are small numbers in 'Other' and 'Not stated' categories. Where n.p. (not published) has been used to protect confidentiality, the suppressed numbers are included in the totals.

For multiple pregnancies, items presented for mothers which may be different for each baby, such as place of birth, are classified according to the characteristics of the first born baby. Where these items are presented for babies, each baby of a multiple birth is assigned the value of the first born baby. The exceptions are gestational age, presentation at birth and method of birth, for which the value for each baby of a multiple birth is presented.

Throughout the report, for totals, percentages may not add up to 100.0, and for subtotals, they may not add up to the sum of the percentages for the categories. This is due to rounding.

Structure of this report

The remainder of this report is divided into the following chapters:

- Chapter 2: Summary data
- This chapter contains summary data on the number of women who gave birth and the number of babies born in 2007.
- Chapter 3: Mothers
- This chapter contains information on women who gave birth in 2007, including their demographic profile (e.g. maternal age), maternal characteristics (e.g. parity), and characteristics of the labour, birth and puerperium (e.g. onset of labour, method of birth, perineal status). The chapter contains 12 new tables presenting maternal age by state and territory of usual residence and method of birth data, as well as new data on antenatal visits, pain relief and whether the mother received ART treatment.
- Chapter 4: Babies
- This chapter contains information on the characteristics and outcomes of babies born in 2007, including birth status, gestational age, birthweight and sex ratios. The chapter contains two new tables presenting month of birth and method of birth for singleton term babies with breech presentations.
- Chapter 5: Birth centre births
- This chapter focuses on selected characteristics of women who gave birth in birth centres and outcomes of their babies.
- Chapter 6: Perinatal mortality
- This chapter includes data from the NPDC on fetal, neonatal and perinatal deaths. It also presents deaths from some jurisdictions classified using the Perinatal Society of Australia and New Zealand Perinatal Death Classification (PSANZ-PDC). The chapter contains four new tables presenting PSANZ-PDC data and perinatal deaths by state and territory of the mother's usual residence.

Appendix 4 presents the underlying data for the figures in the report.

2 Summary data

Women who gave birth and births

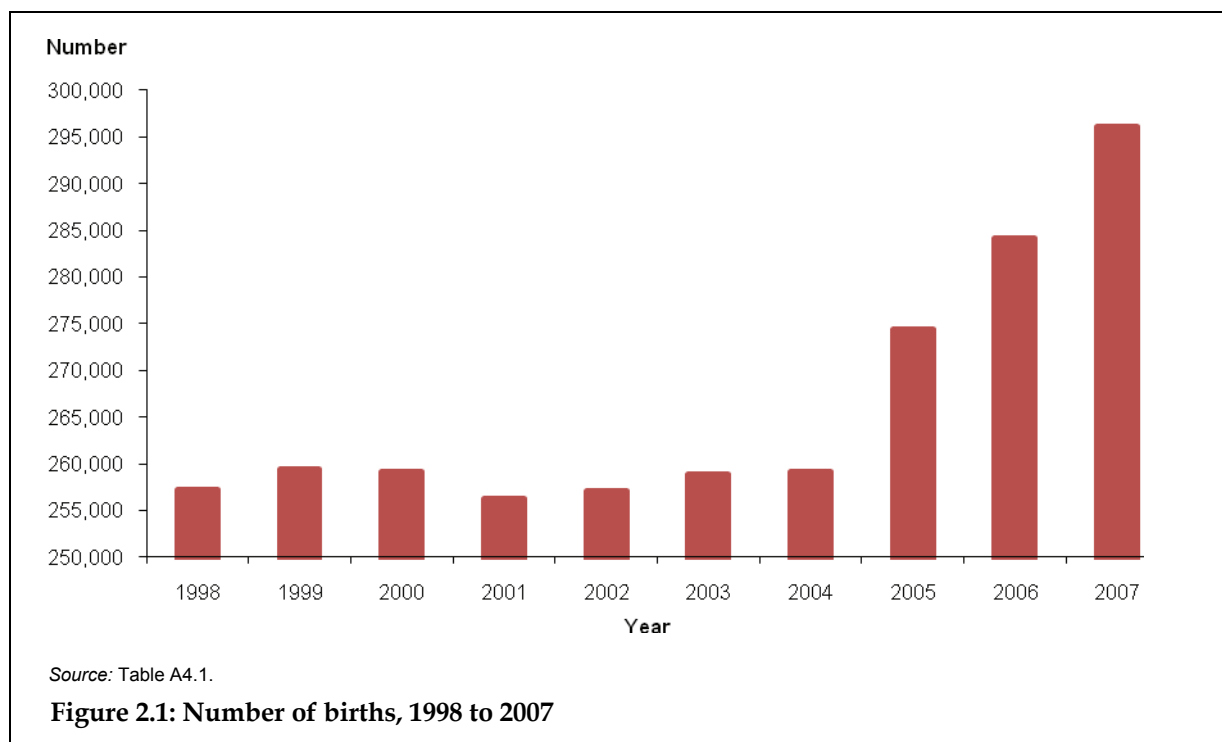
There were 289,496 women who gave birth in 2007 reported to the NPDC, resulting in a total of 294,205 births. Of these, 2,177 were fetal deaths (Table 2.1). This showed an increase of 12,036 births (4.3%) from the 282,169 reported in 2006, and a 14.4% increase since 2004.

Table 2.1: Women who gave birth and births, by state and territory, 2007

	NSW	Vic	Qld	WA	SA ^(a)	Tas	ACT	NT	Australia
Mothers	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Fetal deaths	629	694	417	189	130	44	40	34	2,177
Live births	95,387	71,778	59,827	29,885	19,620	6,268	5,495	3,767	292,027
Not stated	—	—	—	—	1	—	—	—	1
All births	96,016	72,472	60,244	30,074	19,751	6,312	5,535	3,801	294,205

(a) In SA, there was one perinatal death for which it is not known whether it was a stillbirth or a live birth (neonatal death).

Ten years earlier, in 1998, there were 255,522 births. The number of births has been increasing since 2001, when the lowest number of births during the past decade was reported (254,326) (Figure 2.1).



There were 292,027 live births in 2007 reported to the NPDC (Table 2.1). This was 6,814 more than the 285,213 live births registered in Australia in 2007 (ABS 2008a). For further information about the differences between these data collections, see *Australia's mothers and babies 2005* (Laws et al. 2007).

As a proportion of females of reproductive age (15–44 years) in the population, the crude rate of women who gave birth was 60.2 per 1,000 in 1998. This rate decreased to 58.5 per 1,000 in 2004 and increased again to 64.9 per 1,000 females aged 15–44 years in 2007. The age-adjusted rates were similar (Figure 2.2).



3 Mothers

Demographic profile

Maternal age

Maternal age is an important risk factor for both obstetric and perinatal outcome. Adverse outcomes are more likely to occur in younger and older mothers (Gortzak-Uzan et al. 2001; Joseph et al. 2005). The age of mothers ranged from less than 15 years to 56 years in 2007. The average age of women who gave birth in Australia has increased gradually in recent years. The mean age in 2007 was 29.9 years, compared with 28.9 years in 1998, while the median age in 2007 was 30.0 years. The trend in delayed childbearing can be attributed to a number of factors including social, educational and economic factors, and increased access to assisted reproduction technology (Carolan 2003; Cleary-Goldman et al. 2005).

In 2007, the average age of mothers was higher in women who gave birth in Victoria and the Australian Capital Territory (30.7 and 30.6 years respectively) and lower in the Northern Territory (27.5 years) than the national average of 29.9 years (Table 3.1). Nationally, the number of teenage mothers (less than 20 years) dropped from 12,920 in 1998 to 11,912 in 2007, a decline of 7.8% over the decade. The proportion of women who gave birth in 2007 who were teenagers was 4.1%, and ranged from a low of 2.5% in the Australian Capital Territory to 11.7% in the Northern Territory (Table 3.1).

The proportion of mothers aged 20–24 years fell from 16.5% in 1998 to 14.6% in 2007 (42,233 mothers). The proportion of older mothers, aged 35 years and over, has continued to increase from 15.7% in 1998 to 22.3% in 2007. Mothers aged 40 and over made up 3.6% of women giving birth in 2007 compared with 2.3% in 1998. There were 485 women aged 45 years and over who gave birth in 2007, accounting for 0.2%.

Table 3.1: Women who gave birth by maternal age and state and territory, 2007

Maternal age (years)	State/territory of birth								Australia
	NSW	Vic ^(a)	Qld	WA	SA ^(b)	Tas	ACT ^(c)	NT	
Mean	30.1	30.7	29.1	29.5	29.6	28.6	30.6	27.5	29.9
	Number								
Less than 20	3,362	1,888	3,260	1,512	897	420	133	440	11,912
20–24	13,147	8,095	10,390	4,832	2,999	1,277	611	882	42,233
25–29	25,358	18,039	16,565	7,976	5,391	1,692	1,458	1,002	77,481
30–34	31,122	24,912	17,609	9,094	6,242	1,729	1,891	815	93,414
35–39	18,043	15,357	9,643	5,265	3,287	911	1,106	526	54,138
40 and over	3,539	2,892	1,761	951	650	187	218	94	10,292
Not stated	17	6	—	—	1	—	2	—	26
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
	Per cent								
Less than 20	3.6	2.7	5.5	5.1	4.6	6.8	2.5	11.7	4.1
20–24	13.9	11.4	17.5	16.3	15.4	20.5	11.3	23.5	14.6
25–29	26.8	25.3	28.0	26.9	27.7	27.2	26.9	26.7	26.8
30–34	32.9	35.0	29.7	30.7	32.1	27.8	34.9	21.7	32.3
35–39	19.1	21.6	16.3	17.8	16.9	14.7	20.4	14.0	18.7
40 and over	3.7	4.1	3.0	3.2	3.3	3.0	4.0	2.5	3.6
Not stated	0.0	0.0	—	—	0.0	—	0.0	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For Vic, maternal ages presented here may differ from that produced by the Perinatal Data Collection Unit.

(b) For SA, the mean maternal age presented here may differ from that produced by the Pregnancy Outcome Statistics Unit, that uses maternal age to four decimal places for this calculation. The National Perinatal Data Collection contains maternal age in completed years.

(c) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

When compared to Table 3.1, Table 3.2 excludes 0.14% of mothers not usually resident in Australia or whose state or territory of usual residence was 'Not stated'. There was minimal impact on the age of women accessing services outside of their state of usual residence with only South Australia and the Australian Capital Territory showing a marginal decline of 0.1 year in their mean maternal ages.

Table 3.2: Women who gave birth by maternal age and state and territory of usual residence, 2007

Maternal age (years)	State/territory of usual residence								Australia
	NSW	Vic ^(a)	Qld	WA	SA ^(b)	Tas	ACT ^(c)	NT	
Mean	30.1	30.7	29.1	29.5	29.5	28.6	30.5	27.5	29.9
	Number								
Less than 20	3,444	1,783	3,277	1,521	900	421	122	427	11,895
20–24	13,362	7,846	10,485	4,853	3,007	1,280	505	840	42,178
25–29	25,731	17,671	16,667	7,985	5,379	1,695	1,258	967	77,353
30–34	31,647	24,522	17,658	9,098	6,224	1,735	1,625	792	93,301
35–39	18,386	15,164	9,643	5,269	3,280	915	906	513	54,076
40 and over	3,590	2,858	1,761	955	648	188	184	90	10,274
Not stated	15	1	2	—	1	—	2	1	22
Total	96,175	69,845	59,493	29,681	19,439	6,234	4,602	3,630	289,099
	Per cent								
Less than 20	3.6	2.6	5.5	5.1	4.6	6.8	2.7	11.8	4.1
20–24	13.9	11.2	17.6	16.4	15.5	20.5	11.0	23.1	14.6
25–29	26.8	25.3	28.0	26.9	27.7	27.2	27.3	26.6	26.8
30–34	32.9	35.1	29.7	30.7	32.0	27.8	35.3	21.8	32.3
35–39	19.1	21.7	16.2	17.8	16.9	14.7	19.7	14.1	18.7
40 and over	3.7	4.1	3.0	3.2	3.3	3.0	4.0	2.5	3.6
Not stated	0.0	0.0	0.0	—	0.0	—	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Excludes mothers not usually resident in Australia and those whose state or territory of usual residence was 'Not stated'.

Aboriginal and Torres Strait Islander mothers

The data presented on Indigenous status are influenced by the quality and completeness of Indigenous identification, which may vary among jurisdictions. Further detail about the collection and reporting of Indigenous status data are presented in the report *Indigenous mothers and their babies, Australia 2001–2004* (Leeds et al. 2007).

In 2007, 10,883 women who identified as being Aboriginal or Torres Strait Islander gave birth in Australia, representing 3.8% of all women who gave birth (Table 3.3). Aboriginal or Torres Strait Islander mothers accounted for a much greater proportion of all mothers in the Northern Territory (39.5%) than in other jurisdictions. There were also high proportions of Aboriginal or Torres Strait Islander mothers in Western Australia (5.9%) and Queensland (5.4%). Because of their larger overall populations, there were more Aboriginal or Torres Strait Islander women who gave birth in Queensland (3,170), New South Wales (2,887) and Western Australia (1,752) than in the Northern Territory (1,484) (Table 3.3).

Table 3.3: Women who gave birth by Indigenous status and state and territory, 2007

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Australia
Number									
Aboriginal or Torres Strait Islander	2,887	694	3,170	1,752	578	231	87	1,484	10,883
Non-Indigenous	91,506	70,462	56,018	27,878	18,889	5,985	5,324	2,269	278,331
Not stated	195	33	40	—	—	—	8	6	282
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Per cent									
Aboriginal or Torres Strait Islander	3.1	1.0	5.4	5.9	3.0	3.7	1.6	39.5	3.8
Non-Indigenous	96.7	99.0	94.6	94.1	97.0	96.3	98.2	60.4	96.1
Not stated	0.2	0.0	0.1	—	—	—	0.1	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 24.1% of Aboriginal or Torres Strait Islander women who gave birth in the ACT in 2007 were non-ACT residents.

More Aboriginal or Torres Strait Islander mothers have their babies at a younger age compared with non-Indigenous mothers. The average age of Aboriginal or Torres Strait Islander women who gave birth in 2007 was 25.2 years, compared with 30.1 years for non-Indigenous mothers. One in five (19.5%) Aboriginal or Torres Strait Islander mothers were teenagers, compared with 3.5% of non-Indigenous mothers.

Geographical location of the mother's usual residence

State and territory of the mother's usual residence

Of women who gave birth in the Australian Capital Territory, 16.1% lived outside of the Australian Capital Territory. For the remaining jurisdictions, the proportion of women who gave birth outside their state or territory of usual residence ranged from 0.1% in both Western Australia and Tasmania, to 2.8% in the Northern Territory (Table 3.4).

Table 3.4: Women who gave birth by state and territory of usual residence and state and territory of birth, 2007

State/ territory of usual residence	State/territory of birth								Total
	NSW	Vic	Qld	WA	SA	Tas	ACT ^(b)	NT	
	Number								
NSW	93,524	1,316	430	<5	23	—	871	n.p.	96,175
Vic	31	69,737	16	<5	52	—	3	<5	69,845
Qld	739	42	58,698	<5	<5	—	—	8	59,493
WA	8	26	12	29,594	9	—	—	32	29,681
SA	n.p.	15	6	<5	19,356	—	—	55	19,439
Tas	<5	17	<5	—	<5	6,210	—	—	6,234
ACT	54	<5	<5	—	—	—	4,545	—	4,602
NT	<5	n.p.	24	7	20	—	—	3,570	3,630
Non- resident ^(a)	221	24	39	5	—	6	—	—	295
Not stated	2	4	—	13	—	—	—	83	102
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
	Per cent								
NSW	98.9	1.8	0.7	n.p.	0.1	—	16.1	n.p.	33.2
Vic	0.0	98.0	0.0	n.p.	0.3	—	0.1	n.p.	24.1
Qld	0.8	0.1	99.1	n.p.	n.p.	—	—	0.2	20.6
WA	0.0	0.0	0.0	99.9	0.0	—	—	0.9	10.3
SA	n.p.	0.0	0.0	n.p.	99.4	—	—	1.5	6.7
Tas	n.p.	0.0	n.p.	—	n.p.	99.9	—	—	2.2
ACT	0.1	n.p.	n.p.	—	—	—	83.9	—	1.6
NT	n.p.	n.p.	0.0	0.0	0.1	—	—	95.0	1.3
Non- resident ^(a)	0.2	0.0	0.1	0.0	—	0.1	—	—	0.1
Not stated	0.0	0.0	—	0.0	—	—	—	2.2	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Not usually resident in Australia.

(b) ACT requested and approved reporting of all data including cell sizes that would normally be suppressed.

n.p. Data not published to maintain confidentiality of small numbers.

Remoteness Area of the mother's usual residence

Data on the geographical location of the usual residence of the mother were provided as state and Statistical Local Area (a small unit within the ABS's Australian Standard Geographical Classification (ASGC)) and/or postcode. These data have been mapped to levels of remoteness using the ASGC remoteness structure.

The distribution of Remoteness Area of mothers varied by state and territory of usual residence. In Queensland, 59.6% of women resided in major cities compared with around 70.0% or more in the other populous states. The Northern Territory and Australian Capital Territory presented different profiles of Remoteness Area, with almost all Australian Capital Territory resident mothers living in a major city compared with Northern Territory women who lived in outer regional, remote and very remote areas (Table 3.5).

Table 3.5: Women who gave birth by Remoteness Area of usual residence and state and territory of usual residence, 2007

Remoteness Area	State/territory of usual residence								Total
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	
	Number								
Major cities	72,745	53,869	35,437	20,707	14,126	—	4,595	—	201,479
Inner regional	17,153	12,983	11,981	3,538	2,280	4,064	7	—	52,006
Outer regional	5,609	2,955	9,602	2,917	2,288	2,042	—	1,958	27,371
Remote	552	34	1,498	1,599	517	103	—	720	5,023
Very remote	113	—	972	893	225	25	—	945	3,173
Total	96,172	69,841	59,490	29,654	19,436	6,234	4,602	3,623	289,052
	Per cent								
Major cities	75.6	77.1	59.6	69.8	72.7	—	99.8	—	69.7
Inner regional	17.8	18.6	20.1	11.9	11.7	65.2	0.2	—	18.0
Outer regional	5.8	4.2	16.1	9.8	11.8	32.8	—	54.0	9.5
Remote	0.6	0.0	2.5	5.4	2.7	1.7	—	19.9	1.7
Very remote	0.1	—	1.6	3.0	1.2	0.4	—	26.1	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Excludes mothers not usually resident in Australia and those whose state or territory of usual residence was 'Not stated'.

Remoteness Area of mother's usual residence also varied by Indigenous status. Of non-Indigenous women who gave birth in 2007, 71.4% lived in major cities, followed by 17.9% in inner regional areas. Aboriginal and Torres Strait Islander women were more evenly spread across Remoteness Areas, with 26.9% living in major cities and 26.0% in outer regional areas. Few non-Indigenous women who gave birth lived in very remote areas compared with Indigenous mothers (0.5% compared with 16.8%) (Table 3.6).

Table 3.6: Women who gave birth by Remoteness Area of usual residence and Indigenous status, 2007

Remoteness Area	Indigenous	Non-Indigenous	Not stated	Total
Number				
Major cities	2,920	198,365	198	201,483
Inner regional	2,125	49,828	53	52,006
Outer regional	2,824	24,522	25	27,371
Remote	1,172	3,928	—	5,100
Very remote	1,830	1,342	1	3,173
Total	10,871	277,985	277	289,133
Per cent				
Major cities	26.9	71.4	71.5	69.7
Inner regional	19.5	17.9	19.1	18.0
Outer regional	26.0	8.8	9.0	9.5
Remote	10.8	1.4	—	1.8
Very remote	16.8	0.5	0.4	1.1
Total	100.0	100.0	100.0	100.0

Note: Excludes mothers not usually resident in Australia.

Maternal country of birth

The country of birth of the mother may be an important risk factor for outcomes such as low birthweight and perinatal mortality. For 2007, seven of the jurisdictions used the four-digit ABS Standard Australian Classification of Countries (SACC) (ABS 1998) to classify countries of birth and one jurisdiction used the ABS Australian Standard Classification of Countries for Social Statistics (ASCCSS).

Of women who gave birth in Australia in 2007, 24.3% were born in countries other than Australia. Mothers born in the United Kingdom constituted 3.0% of all mothers and accounted for a relatively high proportion of all mothers in Western Australia (7.3%). New Zealand-born mothers constituted 2.8% of all women who gave birth. Almost 1 in 10 women who gave birth was born in an Asian country (9.6%). Larger proportions of mothers born in non-English speaking countries gave birth in the more populous states, New South Wales and Victoria (Table 3.7).

Table 3.7: Women who gave birth by country of birth and state and territory, 2007

Country of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Number								
Australia	66,514	52,253	48,550	21,166	16,294	5,829	4,367	2,708	217,681
New Zealand	2,450	1,367	2,839	953	191	41	71	54	7,966
United Kingdom	2,493	1,783	1,481	2,151	581	67	94	52	8,702
Former Yugoslavia	247	552	33	76	39	—	n.p.	<5	956
Other Europe and former USSR	2,396	1,737	959	755	376	54	142	46	6,465
Lebanon	1,505	445	25	30	40	<5	n.p.	—	2,057
Other Middle East and North Africa	2,261	1,957	332	402	225	31	59	10	5,277
China and Hong Kong	2,746	1,245	352	210	140	11	98	5	4,807
India	1,580	1,431	260	209	146	16	76	5	3,723
Philippines	1,359	648	481	164	133	19	37	42	2,883
Vietnam	1,752	1,659	382	307	320	<5	55	n.p.	4,492
Other Asia	4,926	3,464	1,389	1,319	567	64	210	79	12,018
Northern America	659	428	348	199	85	18	60	21	1,818
South and Central America and the Caribbean	793	441	236	126	66	10	32	7	1,711
Africa (excluding North Africa)	1,176	1,264	638	851	214	34	48	32	4,257
Other countries	1,542	515	897	67	49	19	47	20	3,156
Not stated	189	—	26	645	1	—	4	662	1,527
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496

(continued)

Table 3.7 (continued): Women who gave birth by country of birth and state and territory, 2007

Country of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Per cent								
Australia	70.3	73.4	82.0	71.4	83.7	93.8	80.6	72.0	75.2
New Zealand	2.6	1.9	4.8	3.2	1.0	0.7	1.3	1.4	2.8
United Kingdom	2.6	2.5	2.5	7.3	3.0	1.1	1.7	1.4	3.0
Former Yugoslavia	0.3	0.8	0.1	0.3	0.2	—	n.p.	n.p.	0.3
Other Europe and former USSR	2.5	2.4	1.6	2.5	1.9	0.9	2.6	1.2	2.2
Lebanon	1.6	0.6	0.0	0.1	0.2	n.p.	n.p.	—	0.7
Other Middle East and North Africa	2.4	2.7	0.6	1.4	1.2	0.5	1.1	0.3	1.8
China and Hong Kong	2.9	1.7	0.6	0.7	0.7	0.2	1.8	0.1	1.7
India	1.7	2.0	0.4	0.7	0.7	0.3	1.4	0.1	1.3
Philippines	1.4	0.9	0.8	0.6	0.7	0.3	0.7	1.1	1.0
Vietnam	1.9	2.3	0.6	1.0	1.6	n.p.	1.0	n.p.	1.6
Other Asia	5.2	4.9	2.3	4.5	2.9	1.0	3.9	2.1	4.2
Northern America	0.7	0.6	0.6	0.7	0.4	0.3	1.1	0.6	0.6
South and Central America and the Caribbean	0.8	0.6	0.4	0.4	0.3	0.2	0.6	0.2	0.6
Africa (excluding North Africa)	1.2	1.8	1.1	2.9	1.1	0.5	0.9	0.9	1.5
Other countries	1.6	0.7	1.5	0.2	0.3	0.3	0.9	0.5	1.1
Not stated	0.2	—	0.0	2.2	0.0	—	0.1	17.6	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

n.p. Data not published to maintain confidentiality of small numbers.

Maternal characteristics

Parity

Parity is the number of a woman's previous pregnancies that resulted in a birth. In 2007, 41.6% of mothers had their first baby and 33.5% had their second baby. One in six mothers (15.4%) had given birth twice previously and 9.3% had given birth three or more times (Table 3.8).

A parity of three or more was more common in mothers in the Northern Territory than mothers in the other jurisdictions. In the Northern Territory, 9.0% of mothers had given birth three times previously and 6.7% four or more times, compared with 5.5% and 3.8% respectively for Australia (Table 3.8).

In 2007, 30.7% of Aboriginal or Torres Strait Islander mothers were having their first baby and 69.1% had given birth previously. More than one-quarter (27.1%) of Indigenous women had given birth three or more times previously.

Table 3.8: Women who gave birth by parity and state and territory, 2007

Parity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
None	39,184	30,701	23,732	12,435	8,175	2,445	2,375	1,428	120,475
One	31,655	24,367	19,076	9,922	6,739	2,077	1,894	1,147	96,877
Two	14,596	10,615	9,610	4,433	2,926	1,028	774	591	44,573
Three	5,273	3,452	3,773	1,590	963	382	238	340	16,011
Four or more	3,348	2,054	3,037	1,250	664	284	137	253	11,027
Not stated	532	—	—	—	—	—	1	—	533
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Per cent									
None	41.4	43.1	40.1	42.0	42.0	39.3	43.8	38.0	41.6
One	33.5	34.2	32.2	33.5	34.6	33.4	35.0	30.5	33.5
Two	15.4	14.9	16.2	15.0	15.0	16.5	14.3	15.7	15.4
Three	5.6	4.8	6.4	5.4	4.9	6.1	4.4	9.0	5.5
Four or more	3.5	2.9	5.1	4.2	3.4	4.6	2.5	6.7	3.8
Not stated	0.6	—	—	—	—	—	0.0	—	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The average age of first-time mothers increased from 27.0 years in 1998 to 28.2 years in 2007. The median age of first-time mothers was 28.0 years in 2007. Nevertheless, in 2007 57.3% of first-time mothers were aged less than 30 years. The average age of women giving birth for the second time was 30.4 years.

The average age of first-time Aboriginal and Torres Strait Islander mothers was 21.1 years in 2007. This was significantly lower than for first-time non-Indigenous mothers (28.4 years).

Figure 3.1 shows the increase in the proportion of first-time mothers in the older age groups between 1998 and 2007. Of women aged 35–39 years, 27.2% were first-time mothers compared with 23.6% in 1998. Of women aged 40 years and over, one-quarter (25.2%) had their first baby in 2007, compared with 21.6% in 1998. Of all first-time mothers, 14.4% were aged 35 years or older in 2007, compared with 9.1% in 1998. The proportion of mothers who had given birth at least twice previously increased with maternal age from 2.2% for teenagers to 42.8% for mothers aged 40 years and over (Table 3.9).

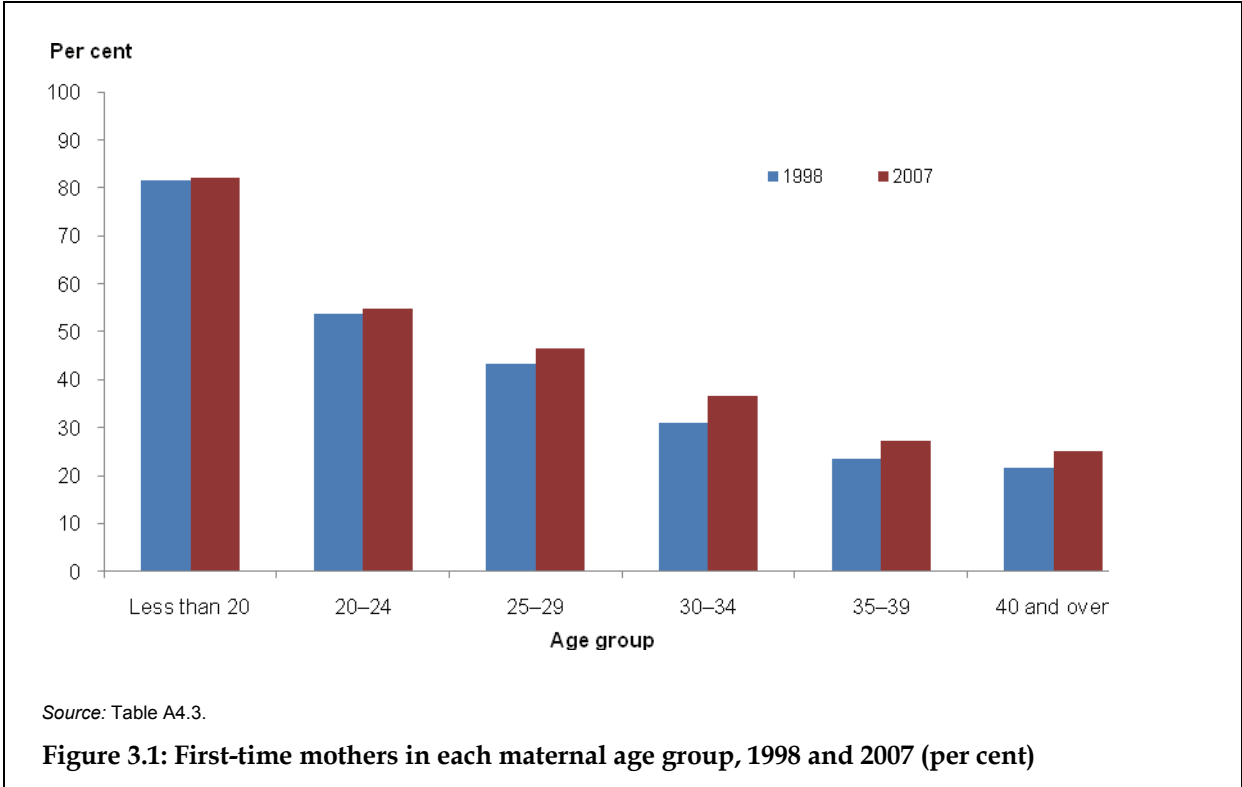


Table 3.9: Women who gave birth by parity and maternal age, 2007

Parity	Less than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
Number								
None	9,784	23,130	36,093	34,135	14,726	2,596	11	120,475
One	1,845	13,197	24,707	34,154	19,703	3,265	6	96,877
Two	244	4,369	10,577	15,709	11,594	2,076	4	44,573
Three	18	1,109	3,805	5,451	4,527	1,100	1	16,011
Four or more	1	359	2,138	3,813	3,487	1,227	2	11,027
Not stated	20	69	161	152	101	28	2	533
Total	11,912	42,233	77,481	93,414	54,138	10,292	26	289,496
Per cent								
None	82.1	54.8	46.6	36.5	27.2	25.2	42.3	41.6
One	15.5	31.2	31.9	36.6	36.4	31.7	23.1	33.5
Two	2.0	10.3	13.7	16.8	21.4	20.2	15.4	15.4
Three	0.2	2.6	4.9	5.8	8.4	10.7	3.8	5.5
Four or more	0.0	0.9	2.8	4.1	6.4	11.9	7.7	3.8
Not stated	0.2	0.2	0.2	0.2	0.2	0.3	7.7	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Previous caesarean sections

In 2007, 26.9% of multiparous women who gave birth in Australia had a history of previous caesarean section. This proportion ranged from 22.3% in the Australian Capital Territory to 29.2% in South Australia (Table 3.10). Of those women who had a history of previous caesarean section (excluding Western Australia), 21.8% had had the procedure more than once.

Table 3.10: Multiparous women who gave birth by number of previous caesarean sections and state and territory, 2007

Previous caesarean sections	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Total
	Number								
None	38,550	29,159	25,395	12,252	7,999	2,853	2,087	1,717	120,012
At least one	13,488	11,328	10,099	4,943	3,293	918	679	614	45,362
One	10,612	8,899	7,755	n.a.	2,628	702	560	464	31,620
Two	2,369	1,986	1,845	n.a.	531	183	100	109	7,123
Three or more	507	443	499	n.a.	134	33	19	41	1,676
Not stated	2,834	1	2	—	—	—	277	—	3,114
Total	54,872	40,488	35,496	17,195	11,292	3,771	3,043	2,331	168,488
	Per cent								
None	70.3	72.0	71.5	71.3	70.8	75.7	68.6	73.7	71.2
At least one	24.6	28.0	28.5	28.7	29.2	24.3	22.3	26.3	26.9
One	19.3	22.0	21.8	n.a.	23.3	18.6	18.4	19.9	18.8
Two	4.3	4.9	5.2	n.a.	4.7	4.9	3.3	4.7	4.2
Three or more	0.9	1.1	1.4	n.a.	1.2	0.9	0.6	1.8	1.0
Not stated	5.2	0.0	0.0	—	—	—	9.1	—	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Care must be taken when interpreting percentages as 9.1% of data were not stated for previous caesarean sections.

n.a. Data not available.

Assisted reproduction technology

This is the first time that data on whether the pregnancy resulted from assisted reproduction technology (ART) have been presented in *Australia's mothers and babies*. Data were available for Victoria, Queensland, Tasmania and the Australian Capital Territory. Of women who gave birth in these four jurisdictions in 2007, 3.1% received ART treatment, ranging from 1.4% in the Australian Capital Territory to 3.7% in Tasmania (Table 3.11).

The average age of women who received ART was 34.1 years. This was higher than the average age of women who did not receive ART treatment (29.8 years). In 2007, 62.7% of mothers who received ART treatment were having their first baby and 37.3% had given birth previously.

Table 3.11: Women who gave birth by whether pregnancy was the result of assisted reproduction technology (ART) and state and territory, 2007

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
	Number								
ART	n.a.	1,979	2,145	n.a.	n.a.	230	74	n.a.	4,428
Not ART	n.a.	69,209	57,080	n.a.	n.a.	5,986	5,342	n.a.	137,617
Not stated	n.a.	1	3	n.a.	n.a.	—	3	n.a.	7
Total	n.a.	71,189	59,228	n.a.	n.a.	6,216	5,419	n.a.	142,052
	Per cent								
ART	n.a.	2.8	3.6	n.a.	n.a.	3.7	1.4	n.a.	3.1
Not ART	n.a.	97.2	96.4	n.a.	n.a.	96.3	98.6	n.a.	96.9
Not stated	n.a.	0.0	0.0	n.a.	n.a.	—	0.1	n.a.	0.0
Total	n.a.	100.0	100.0	n.a.	n.a.	100.0	100.0	n.a.	100.0

n.a. Data not available.

Antenatal period

Antenatal visits

This is the first time that data on antenatal visits have been presented in *Australia's mothers and babies*. Data on the number of antenatal visits during pregnancy were available for Queensland, South Australia and the Northern Territory. Table 3.12 shows that 98.1% of women who gave birth in these jurisdictions had at least one antenatal visit, with 91.9% having five or more visits. Only 0.3% had no antenatal visits.

When only women who gave birth at 32 weeks gestation or more were included, thus excluding the very preterm births, 98.3% had at least one visit. Women who attended five or more visits accounted for 92.6%.

Aboriginal or Torres Strait Islander mothers attended fewer antenatal visits compared with non-Indigenous mothers. Of Indigenous mothers who gave birth at 32 weeks or more 77.0% attended five or more visits, compared with 93.7% of non-Indigenous mothers.

Table 3.12: Women who gave birth by number of antenatal visits and state and territory, 2007

Antenatal visits	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
None	n.a.	n.a.	170	n.a.	40	n.a.	n.a.	68	278
At least one	n.a.	n.a.	59,028	n.a.	18,235	n.a.	n.a.	3,659	80,922
One	n.a.	n.a.	518	n.a.	59	n.a.	n.a.	71	648
Two to four	n.a.	n.a.	3,663	n.a.	477	n.a.	n.a.	354	4,494
Five or more	n.a.	n.a.	54,847	n.a.	17,699	n.a.	n.a.	3,234	75,780
Not stated	n.a.	n.a.	30	n.a.	1,192	n.a.	n.a.	32	1,254
Total	n.a.	n.a.	59,228	n.a.	19,467	n.a.	n.a.	3,759	82,454
Per cent									
None	n.a.	n.a.	0.3	n.a.	0.2	n.a.	n.a.	1.8	0.3
At least one	n.a.	n.a.	99.7	n.a.	93.7	n.a.	n.a.	97.3	98.1
One	n.a.	n.a.	0.9	n.a.	0.3	n.a.	n.a.	1.9	0.8
Two to four	n.a.	n.a.	6.2	n.a.	2.5	n.a.	n.a.	9.4	5.5
Five or more	n.a.	n.a.	92.6	n.a.	90.9	n.a.	n.a.	86.0	91.9
Not stated	n.a.	n.a.	0.1	n.a.	6.1	n.a.	n.a.	0.9	1.5
Total	n.a.	n.a.	100.0	n.a.	100.0	n.a.	n.a.	100.0	100.0

n.a. Data not available.

Data on gestational age at first antenatal visit were available for New South Wales, South Australia and the Northern Territory. Data development is underway to add an item on this to the Perinatal NMDS.

Smoking during pregnancy

Smoking is a risk factor for pregnancy complications, and is associated with poorer perinatal outcomes such as low birthweight, preterm birth, small for gestational age babies and perinatal death (Laws et al. 2006).

For 2007, data on smoking status were available for seven states and territories: New South Wales, Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. The proportion of women who smoked while pregnant ranged from 12.8% in both New South Wales and the Australian Capital Territory to 28.0% in Tasmania. Overall, 16.6% of women in these states and territories smoked during pregnancy (Table 3.13). This proportion has changed little over the previous five years.

Table 3.13: Women who gave birth by tobacco smoking status during pregnancy and state and territory, 2007^(a)

Smoking status	NSW	Vic	Qld	WA	SA ^(b)	Tas	ACT	NT ^(c)	Total
Number									
Smoked	12,066	n.a.	11,696	4,885	4,038	1,738	695	1,026	36,144
Did not smoke	82,117	n.a.	47,283	24,745	15,155	4,420	4,724	2,433	180,877
Not stated	405	n.a.	249	—	274	58	—	300	1,286
Total	94,588	n.a.	59,228	29,630	19,467	6,216	5,419	3,759	218,307
Per cent									
Smoked	12.8	n.a.	19.7	16.5	20.7	28.0	12.8	27.3	16.6
Did not smoke	86.8	n.a.	79.8	83.5	77.8	71.1	87.2	64.7	82.9
Not stated	0.4	n.a.	0.4	—	1.4	0.9	—	8.0	0.6
Total	100.0	n.a.	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions.

(b) For SA, 'Smoked' includes women who quit before the first antenatal visit.

(c) For NT, smoking status was recorded at the first antenatal visit.

n.a. Data not available.

Note: Mother's tobacco smoking status during pregnancy is self-reported.

The average age of mothers who smoked during pregnancy was 26.9 years compared with 30.2 years for those who did not smoke. Teenage mothers accounted for 11.4% of all mothers who reported smoking during pregnancy and 3.2% of mothers who did not smoke. Of all teenagers, 41.1% reported smoking.

Aboriginal or Torres Strait Islander mothers accounted for 14.6% of mothers who smoked during pregnancy in the jurisdictions which provided smoking data. Over half of the Aboriginal and Torres Strait Islander mothers reported smoking during pregnancy (51.8%), compared with 14.8% of non-Indigenous women who gave birth.

Labour and birth characteristics

Place of birth

Actual place of birth

Almost all births in Australia occur in hospitals, in conventional labour-ward settings. There were 280,674 women who gave birth in hospitals (97.0%) in 2007 (Table 3.14). A further 6,424 women gave birth in birth centres (2.2%) and this proportion was highest in South Australia (6.2%). Planned homebirths and other births, such as those occurring unexpectedly before arrival in hospital or in other settings, were the two categories accounting for the smallest proportion of women who gave birth (2,341 women, 0.8%).

Table 3.14: Women who gave birth by actual place of birth and state and territory, 2007

Place of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Hospital	91,240	69,129	58,306	28,996	18,082	6,141	5,152	3,628	280,674
Birth centre	2,665	1,468	504	307	1,211	15	238	16	6,424
Home	144	253	81	200	107	36	10	39	870
Other	483	339	337	127	66	24	19	^(a) 76	1,471
Not stated	56	—	—	—	1	—	—	—	57
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Per cent									
Hospital	96.5	97.1	98.4	97.9	92.9	98.8	95.1	96.5	97.0
Birth centre	2.8	2.1	0.9	1.0	6.2	0.2	4.4	0.4	2.2
Home	0.2	0.4	0.1	0.7	0.5	0.6	0.2	1.0	0.3
Other	0.5	0.5	0.6	0.4	0.3	0.4	0.4	^(a) 2.0	0.5
Not stated	0.1	—	—	—	0.0	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) The majority of these births occurred in remote community health centres.

Note: For multiple births, the place of birth of the first born baby was used.

Intended place of birth

The jurisdictions collect intended place of birth at different times during the pregnancy. Victoria, South Australia and Tasmania collect this item at the time of booking, while the remaining states and territories collect the intended place of birth at the onset of labour. Care must be taken when comparing data across the jurisdictions.

In 2007, the intended place of birth was hospital for 95.8% of mothers and birth centres for 3.6%. Only 0.6% intended to give birth at home or in other settings (Table 3.15).

Around 4.1% of mothers intended to give birth outside of a conventional labour ward setting in 2007 (Table 3.15). Only 3.0% of mothers actually did so, giving birth in places such as birth centres or at home.

Table 3.15: Women who gave birth by intended place of birth and state and territory, 2007

Place of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
Hospital	90,004	68,502	58,454	28,588	17,054	6,157	5,023	3,650	277,432
Birth centre	3,916	2,324	648	743	2,260	19	380	22	10,312
Home	175	296	106	243	116	40	16	52	1,044
Other	490	—	15	56	37	—	—	^(a) 15	613
Not stated	3	67	5	—	—	—	—	20	95
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Per cent									
Hospital	95.2	96.2	98.7	96.5	87.6	99.1	92.7	97.1	95.8
Birth centre	4.1	3.3	1.1	2.5	11.6	0.3	7.0	0.6	3.6
Home	0.2	0.4	0.2	0.8	0.6	0.6	0.3	1.4	0.4
Other	0.5	—	0.0	0.2	0.2	—	—	^(a) 0.4	0.2
Not stated	0.0	0.1	0.0	—	—	—	—	0.5	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes remote community health centres.

Note: Intended place of birth at time of booking for Vic, SA and Tas. Intended place of birth at onset of labour for NSW, Qld, WA, ACT and NT.

Duration of pregnancy

Different methods may be used for estimating the duration of a pregnancy, which is reported as the number of completed weeks of gestation. Estimates may be made based on the calculated interval between the first day of the last menstrual period (LMP) and the baby's date of birth. For the majority of pregnancies, the gestational age derived from the known menstrual dates provides a good estimate of the duration of pregnancy. When the date of LMP is not known or is uncertain, gestational age can be estimated using ultrasound measurements taken in early pregnancy (before the 20th week of gestation). Estimates of gestational age may be revised if there is a discrepancy between gestational ages calculated from dates and ultrasounds, as most pregnant women have at least one ultrasound examination in early pregnancy.

Preterm birth (less than 37 completed weeks of gestation) occurred for 7.4% of all mothers in 2007. The average duration of pregnancy in Australia was 38.8 weeks. A small proportion of mothers gave birth at 20–27 weeks (0.8%) or 28–31 weeks (0.7%), while 5.9% gave birth at 32–36 weeks. There was a higher proportion of preterm birth in the Northern Territory (10.1%) than elsewhere (Table 3.16). This is likely to be associated with the different age structure of the population and higher proportion of births to Indigenous mothers (Tables 3.1 and 3.3).

Of women who gave birth in 2007, 91.7% gave birth at 37–41 completed weeks of gestation (term) and 0.9% gave birth at 42 or more weeks gestation (post-term). Post-term births were least common in South Australia (0.4%) and most common in Victoria and the Australian Capital Territory (1.3% and 1.4% respectively) (Table 3.16).

The numbers reported here are based on the duration of pregnancies of mothers, and so differ from the figures on gestational age in Chapter 4, which are based on the gestational age of their babies. The numbers differ because the lower gestational age associated with multiple births is applied once for the duration of pregnancy data, while the gestational age of each individual baby in a multiple birth is used for the data presented in Chapter 4.

Table 3.16: Women who gave birth by duration of pregnancy and state and territory, 2007

Duration of pregnancy (weeks)	NSW	Vic^(a)	Qld	WA	SA	Tas	ACT^(b)	NT	Australia
Mean	38.9	38.8	38.8	38.7	38.8	39.0	38.9	38.6	38.8
	Number								
20–27 ^(c)	647	777	445	234	167	46	49	41	2,406
28–31	568	471	464	211	145	55	43	49	2,006
32–36	5,112	4,077	3,734	1,850	1,197	350	335	290	16,945
37–41	87,326	64,881	54,159	27,140	17,875	5,701	4,914	3,352	265,348
42 and over	907	960	415	195	83	64	74	22	2,720
Not stated	28	23	11	—	—	—	4	5	71
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
	Per cent								
20–27 ^(c)	0.7	1.1	0.8	0.8	0.9	0.7	0.9	1.1	0.8
28–31	0.6	0.7	0.8	0.7	0.7	0.9	0.8	1.3	0.7
32–36	5.4	5.7	6.3	6.2	6.1	5.6	6.2	7.7	5.9
37–41	92.3	91.1	91.4	91.6	91.8	91.7	90.7	89.2	91.7
42 and over	1.0	1.3	0.7	0.7	0.4	1.0	1.4	0.6	0.9
Not stated	0.0	0.0	0.0	—	—	—	0.1	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Preterm birth rates may be higher as the majority of late terminations for psychosocial indications are undertaken in Vic.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of ACT resident women who gave birth at 20–27 weeks gestation was 0.7% and at 28–31 weeks gestation was 0.5%.

(c) Includes 4 pregnancies of less than 20 weeks duration.

Note: For multiple births, the gestational age of the first born baby was used.

Multiple pregnancy

There has been an increasing number of multiple births in the last two decades. This can be attributed largely to the increased use of ART, delay in childbearing and the growing number of older mothers (Tough et al. 2000; Tough et al. 2002).

In the perinatal collections, multiple pregnancies are based on the number of fetuses that remain in utero at 20 weeks gestation and are subsequently delivered. In 2007, there were 4,634 multiple pregnancies (1.6% of all mothers) (Table 3.17), consisting of 4,558 twin pregnancies and 76 triplet pregnancies. There were no quadruplet pregnancies.

Table 3.17: Women who gave birth by plurality and state and territory, 2007

Plurality	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Australia
Number									
Singleton	93,180	69,922	58,231	29,196	19,189	6,121	5,305	3,718	284,862
Multiple	1,408	1,267	997	434	278	95	114	41	4,634
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Per cent									
Singleton	98.5	98.2	98.3	98.5	98.6	98.5	97.9	98.9	98.4
Multiple	1.5	1.8	1.7	1.5	1.4	1.5	2.1	1.1	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of multiple pregnancies for ACT residents who gave birth in the ACT was 1.6%.

There were 16.0 multiple pregnancies per 1,000 mothers in 2007. The twinning rate was 15.7 per 1,000 mothers. In 1998, there were 3,751 multiple pregnancies (14.9 per 1,000 mothers), with a twinning rate of 14.5 per 1,000 mothers. Triplet and higher order multiple pregnancies have remained fairly stable with a rate of 0.3 to 0.4 per 1,000 mothers since 1998. The rate was 0.3 per 1,000 mothers in 2007.

Of women who gave birth in the four jurisdictions where data were available on whether the pregnancy resulted from ART (Table 3.11), 13.8% of women who had ART had a multiple pregnancy. Of the women who had multiple births, 13.5% had twins and 0.4% had triplets. This compared with 1.3% for twins and 0.02% for triplets for non-ART mothers.

Onset and type of labour

Onset of labour is categorised as spontaneous, induced or no labour, where a caesarean section was performed before labour had started. In 2007, the onset of labour was spontaneous for 56.6% of all women who gave birth, and there was no labour for 18.1% of mothers. Labour was induced for 25.3% of mothers (Table 3.18).

The proportion of mothers with spontaneous onset of labour was highest in the Northern Territory (64.2%) and lowest in Western Australia (52.3%). Western Australia and Queensland reported the highest proportions of mothers with no labour (20.2% and 20.4% respectively), and Tasmania reported the lowest (14.4%) (Table 3.18).

The percentage of induced labour was higher in South Australia (29.8%) than in the other states and territories. Overall, combined medical and surgical induction of labour was more common than either type alone.

Once labour has started it may be necessary to intervene to speed up or augment the labour. In 2007, labour was augmented for 20.0% of all mothers, representing 35.3% of mothers with spontaneous onset of labour. There was considerable variation among the states and territories in whether labour was augmented, ranging from 16.8% of all women who gave birth in New South Wales to 25.9% in the Australian Capital Territory (Table 3.18).

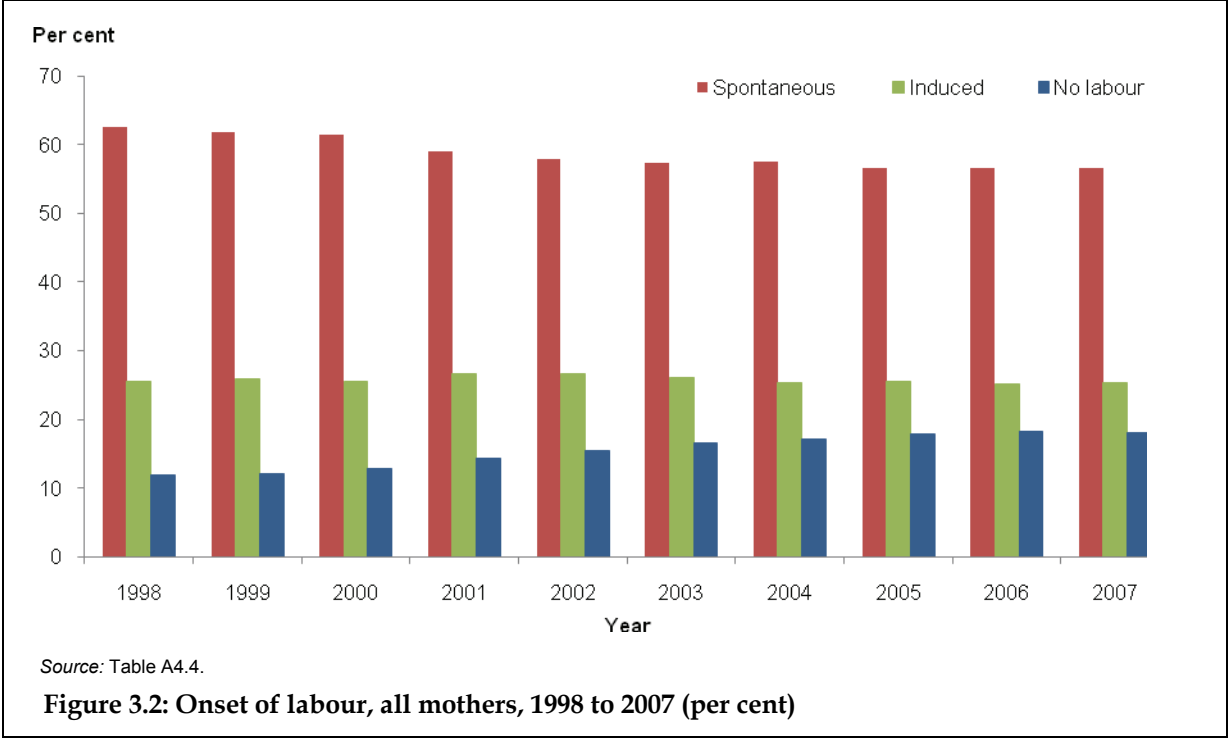
Table 3.18: Women who gave birth by onset of labour and state and territory, 2007

Onset of labour/type of augmentation or induction	NSW	Vic	Qld	WA	SA	Tas	ACT^(a)	NT	Total
	Number								
Spontaneous	54,174	40,759	33,584	15,496	10,297	3,686	3,321	2,412	163,729
No augmentation	38,260	26,382	19,840	9,082	6,198	2,473	1,915	1,378	105,528
Medical only ^(b)	5,420	3,970	3,369	1,842	1,082	294	366	195	16,538
Surgical only	7,334	7,929	8,834	3,028	2,369	713	795	401	31,403
Combined	3,133	2,477	1,534	1,539	648	206	245	119	9,901
Other/not stated	27	1	7	5	—	—	—	319	359
Induced	24,487	17,770	13,553	8,158	5,807	1,637	1,122	760	73,294
Medical only ^(b)	7,563	5,577	5,003	1,505	1,711	729	235	254	22,577
Surgical only	1,647	1,150	1,661	529	751	197	104	73	6,112
Combined	15,044	11,041	6,817	6,056	3,345	676	766	425	44,170
Other/not stated	233	2	72	68	—	35	17	8	435
No labour	15,877	12,660	12,091	5,976	3,363	893	975	587	52,422
Not stated	50	—	—	—	—	—	1	—	51
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
	Per cent								
Spontaneous	57.3	57.3	56.7	52.3	52.9	59.3	61.3	64.2	56.6
No augmentation	40.4	37.1	33.5	30.7	31.8	39.8	35.3	36.7	36.5
Medical only ^(b)	5.7	5.6	5.7	6.2	5.6	4.7	6.8	5.2	5.7
Surgical only	7.8	11.1	14.9	10.2	12.2	11.5	14.7	10.7	10.8
Combined	3.3	3.5	2.6	5.2	3.3	3.3	4.5	3.2	3.4
Other/not stated	0.0	0.0	0.0	0.0	—	—	—	8.5	0.1
Induced	25.9	25.0	22.9	27.5	29.8	26.3	20.7	20.2	25.3
Medical only ^(b)	8.0	7.8	8.4	5.1	8.8	11.7	4.3	6.8	7.8
Surgical only	1.7	1.6	2.8	1.8	3.9	3.2	1.9	1.9	2.1
Combined	15.9	15.5	11.5	20.4	17.2	10.9	14.1	11.3	15.3
Other/not stated	0.2	0.0	0.1	0.2	—	0.6	0.3	0.2	0.2
No labour	16.8	17.8	20.4	20.2	17.3	14.4	18.0	15.6	18.1
Not stated	0.1	—	—	—	—	—	0.0	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Multiple sources of data were used in the ACT to identify the types of augmentation and induction and improve ascertainment.

(b) Includes use of oxytocin and/or prostaglandins.

Figure 3.2 presents the trends in type of onset of labour over the period from 1998 to 2007. In line with the increase in caesarean sections, spontaneous onset of labour generally decreased during this time, from 62.6% of all women giving birth in 1998 to 56.6% in 2007. The proportion of women giving birth without labour gradually increased, from 11.9% in 1998 to 18.1% in 2007. The proportion of women having induction of labour has remained constant over recent years.



Data on the main reason for induction of labour are presented in Table 3.19. These data are not part of the Perinatal NMDS and are not standard across jurisdictions. The data presented in this table should be examined independently for each state and territory, as the data are not comparable across jurisdictions. This is because of variability in data collection methods and reporting by individual jurisdictions. Where the main reason for induction of labour was prolonged pregnancy or psychosocial, data have been reported in the 'Other' category due to variability among states.

In New South Wales the data were collected using tick boxes and psychosocial reasons was not an option. In Victoria, Queensland and South Australia the information was collected as text therefore these categories have been included in 'Other'. The review of these data describing the main reason given for induction of labour highlights the need for further work to enable consistent reporting.

Table 3.19 shows similar results for medical and fetal conditions or complications for New South Wales, Victoria, Queensland and South Australia. In these states, hypertension or pre-eclampsia (range 8.2% to 12.7%) and diabetes (range 6.0% to 6.8%) were leading reasons for induction.

Table 3.19: Women who gave birth and had an induction by main reason for induction and state and territory, 2007^(a)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	Number							
Hypertension/pre-eclampsia	1,938	1,965	1,445	n.a.	740	227	n.a.	66
Premature rupture of membranes	2,809	2,101	1,748	n.a.	191	62	n.a.	13
Diabetes	1,421	1,214	840	n.a.	373	80	n.a.	83
Intrauterine growth restriction	957	763	442	n.a.	282	57	n.a.	208
Fetal death	282	187	136	n.a.	45	n.p.	n.a.	10
Fetal distress	410	413	83	n.a.	15	41	n.a.	—
Isoimmunisation	47	49	40	n.a.	n.p.	<5	n.a.	—
Chorioamnionitis	45	41	15	n.a.	<5	—	n.a.	—
Other ^(b)	15,618	11,037	8,804	n.a.	4,149	740	n.a.	197
Not stated	—	—	—	n.a.	—	415	n.a.	183
Total	23,527	17,770	13,553	n.a.	5,807	1,637	n.a.	760
	Per cent							
Hypertension/pre-eclampsia	8.2	11.1	10.7	n.a.	12.7	13.9	n.a.	8.7
Premature rupture of membranes	11.9	11.8	12.9	n.a.	3.3	3.8	n.a.	1.7
Diabetes	6.0	6.8	6.2	n.a.	6.4	4.9	n.a.	10.9
Intrauterine growth restriction	4.1	4.3	3.3	n.a.	4.9	3.5	n.a.	27.4
Fetal death	1.2	1.1	1.0	n.a.	0.8	n.p.	n.a.	1.3
Fetal distress	1.7	2.3	0.6	n.a.	0.3	2.5	n.a.	—
Isoimmunisation	0.2	0.3	0.3	n.a.	n.p.	n.p.	n.a.	—
Chorioamnionitis	0.2	0.2	0.1	n.a.	n.p.	—	n.a.	—
Other ^(b)	66.4	62.1	65.0	n.a.	71.4	45.2	n.a.	25.9
Not stated	—	—	—	n.a.	—	25.4	n.a.	24.1
Total	100.0	100.0	100.0	n.a.	100.0	100.0	n.a.	100.0

(a) Because of differences in definitions and methods used for data collection these data are not comparable across jurisdictions.

(b) Includes prolonged pregnancy, psychosocial reasons and other reasons.

n.a. Data not available.

n.p. Data not published to maintain confidentiality of small numbers.

Pain relief for labour and operative delivery

The type of analgesia or anaesthesia used for labour or delivery determines the effectiveness of pain relief, the extent to which a woman is able to actively participate in the birth and her mobility immediately after birth. This is the first time that data have been available for all states and territories on whether analgesia was administered to relieve pain for labour and whether anaesthesia was administered for an operative delivery. Information on the type or types of analgesic or anaesthetic is also available and more than one type could be recorded for each woman. For the purposes of reporting, epidural or caudal, spinal and combined spinal-epidural analgesia or anaesthesia have been grouped into the category of regional analgesia or anaesthesia. The data are presented both individually and grouped for use in comparison with other modes of analgesia or anaesthesia.

Table 3.20 shows that, of all women who laboured (defined as spontaneous or induced onset of labour), 74.8% had analgesia administered. This proportion ranged from 70.2% in the Australian Capital Territory to 79.5% in Western Australia.

Table 3.20: Women who gave birth by whether analgesia was administered to relieve pain for labour and state and territory, 2007^(a)

Analgesia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
None	19,133	15,763	12,687	4,856	3,699	1,500	1,325	731	59,694
Analgesia administered	59,523	42,766	34,450	18,798	12,405	3,823	3,118	2,435	177,318
Not stated	5	—	—	—	—	—	—	6	11
Total	78,661	58,529	47,137	23,654	16,104	5,323	4,443	3,172	237,023
Per cent									
None	24.3	26.9	26.9	20.5	23.0	28.2	29.8	23.0	25.2
Analgesia administered	75.7	73.1	73.1	79.5	77.0	71.8	70.2	76.8	74.8
Not stated	0.0	—	—	—	—	—	—	0.2	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Only women who had a spontaneous or induced labour are included.

Of first-time mothers who laboured, 85.3% had analgesia administered for labour. This was higher than the proportion in multiparous women (66.2%).

Table 3.21 shows the method of analgesia administration for labour. As more than one type may be recorded for each woman, the individual categories add up to more than the number of women who laboured. Nitrous oxide (inhaled) was used by half of all women who laboured (49.7%) with the highest proportion of use in the Northern Territory (54.6%). Regional analgesia was used for 31.7% of women; epidural or caudal method for 28.2% and a spinal or combined spinal-epidural to a further 3.5% of women. Systemic opioids were administered to one-quarter of women who laboured (24.9%).

Table 3.21: Types of analgesia administered to relieve pain for labour by state and territory, 2007^(a)

Type of analgesia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
	Number								
Nitrous oxide	40,960	29,628	24,301	9,635	7,197	2,649	1,716	1,733	117,819
Systemic opioids	16,207	17,261	11,989	5,418	4,126	1,762	1,532	673	58,968
Regional	22,466	19,506	13,352	10,896	6,187	1,242	1,080	436	75,165
Epidural or caudal	21,141	^(b) 15,845	11,811	9,538	6,027	1,125	1,035	415	66,937
Spinal	696	—	1,297	452	144	117	n.p.	n.p.	2,757
Combined spinal-epidural	629	3,661	244	906	16	—	<5	n.p.	5,471
Other	6,041	439	369	532	160	111	140	140	7,932
Total women	78,661	58,529	47,137	23,654	16,104	5,323	4,443	3,172	237,023
	Rate per 100 women who gave birth								
Nitrous oxide	52.1	50.6	51.6	40.7	44.7	49.8	38.6	54.6	49.7
Systemic opioids	20.6	29.5	25.4	22.9	25.6	33.1	34.5	21.2	24.9
Regional	28.6	33.3	28.3	46.1	38.4	23.3	24.3	13.7	31.7
Epidural or caudal	26.9	^(b) 27.1	25.1	40.3	37.4	21.1	23.3	13.1	28.2
Spinal	0.9	—	2.8	1.9	0.9	2.2	n.p.	n.p.	1.2
Combined spinal-epidural	0.8	6.3	0.5	3.8	0.1	—	n.p.	n.p.	2.3
Other	7.7	0.8	0.8	2.2	1.0	2.1	3.2	4.4	3.3

(a) Only women who had a spontaneous or induced labour are included.

(b) Includes spinal as this type was not collected separately.

n.p. Data not published to maintain confidentiality of small numbers.

Note: More than one type of analgesia could be recorded, therefore the sums of individual categories are greater than the total numbers of women who gave birth and percentages add to more than 100%.

Of all women who gave birth in 2007 and had a forceps, vacuum extraction or caesarean section delivery, 94.5% had anaesthesia administered. This proportion ranged from 89.3% in Tasmania to 96.8% in Western Australia (Table 3.22).

Table 3.22: Women who gave birth and had caesarean section or instrumental vaginal deliveries^(a) by whether anaesthetic was administered for the operative delivery and state and territory, 2007

Anaesthesia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
None	1,394	2,219	1,815	442	335	256	165	60	6,686
Anaesthesia administered	36,103	29,378	22,757	13,161	8,142	2,141	2,071	1,307	115,060
Not stated	—	—	—	—	—	—	—	1	1
Total	37,497	31,597	24,572	13,603	8,477	2,397	2,236	1,368	121,747
Per cent									
None	3.7	7.0	7.4	3.2	4.0	10.7	7.4	4.4	5.5
Anaesthesia administered	96.3	93.0	92.6	96.8	96.0	89.3	92.6	95.5	94.5
Not stated	—	—	—	—	—	—	—	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Instrumental vaginal deliveries include forceps and vacuum extraction.

Table 3.23 presents method of administration of anaesthesia in 2007 for women giving birth by caesarean section. As more than one type may be recorded for each woman, the totals in the table add up to more than the number of women who had caesarean delivery. Although this data element specifies method of delivery of anaesthetic for caesarean delivery, some states and territories may include anaesthetics administered for labour or administered after birth under this item, and this may be reflected in the differences reported among the states and territories.

In 2007, 60.6% of women who had a caesarean section had a spinal anaesthetic, while 44.2% had an epidural or caudal anaesthetic and 9.8% had a combined spinal-epidural anaesthetic. The data on regional anaesthesia suggest that a combination of types may be administered for each woman who has a caesarean section, noting that more than one type can be reported.

A general anaesthetic was administered for 8.2% of caesarean sections (Table 3.23). There was variability in the proportion of women having a general anaesthetic for caesarean section by state and territory, from 4.4% in Western Australia to 11.9% in New South Wales.

Table 3.23: Types of anaesthetic administered for caesarean sections by state and territory, 2007^(a)

Type of anaesthetic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
	Number								
Regional	24,606	37,482	18,734	11,606	5,983	1,615	1,443	1,001	102,470
Epidural or caudal	6,721	20,552	3,937	5,949	1,544	289	385	146	39,523
Spinal	14,394	15,686	12,378	4,237	4,392	1,326	1,046	704	54,163
Combined spinal-epidural	3,491	1,244	2,419	1,420	47	—	12	151	8,784
General	3,270	1,366	1,371	423	443	161	165	106	7,305
Total women	27,447	21,918	19,592	9,695	6,296	1,743	1,567	1,113	89,371
	Rate per 100 women who gave birth								
Regional	89.6	171.0	95.6	119.7	95.0	92.7	92.1	89.9	114.7
Epidural or caudal	24.5	93.8	20.1	61.4	24.5	16.6	24.6	13.1	44.2
Spinal	52.4	71.6	63.2	43.7	69.8	76.1	66.8	63.3	60.6
Combined spinal-epidural	12.7	5.7	12.3	14.6	0.7	—	0.8	13.6	9.8
General	11.9	6.2	7.0	4.4	7.0	9.2	10.5	9.5	8.2

(a) Table excludes 250 cases of local anaesthetic to perineum, pudendal anaesthetic and other types of anaesthetic.

Note: More than one type of anaesthetic could be recorded, therefore the sums of individual categories are greater than the total numbers of women who gave birth.

Of the 7,305 women who had a general anaesthetic for caesarean section, 51.8% had an intrapartum caesarean section and 48.2% a caesarean section without labour. Of the women who had an intrapartum caesarean section and a general anaesthetic, 64.9% had a spontaneous onset of labour and 35.1% had an induction of labour. Of the women who had a regional anaesthetic for caesarean section 40.5% had an intrapartum caesarean section and 59.5% a caesarean section without labour.

The method of anaesthetic administration varied between states and territories. Half of all women who had an instrumental delivery had a regional anaesthetic (53.9%). Administration of a general anaesthetic was rare at 3 per 1,000 women having an instrumental vaginal birth. A local anaesthetic to the perineum was administered in 27.0% and a pudendal block in 6.5% of instrumental deliveries (Table 3.24).

Table 3.24: Types of anaesthetic administered for instrumental vaginal deliveries^(a) by state and territory, 2007

Type of anaesthetic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
Local anaesthetic to perineum	4,069	2,004	1,140	720	443	137	138	84	8,735
Pudendal	652	799	194	191	163	39	61	19	2,118
Regional	4,642	5,809	2,102	2,856	1,373	250	333	85	17,450
Epidural or caudal	4,288	5,314	1,931	2,617	1,338	229	304	82	16,103
Spinal	262	321	134	n.p.	31	n.p.	29	<5	877
Combined spinal-epidural	92	174	37	162	<5	—	—	<5	470
General	63	21	16	<5	<5	<5	5	—	111
Other	196	—	9	59	22	—	—	17	303
Total women	10,050	9,679	4,981	3,908	2,181	654	669	255	32,377
Rate per 100 women who gave birth									
Local anaesthetic to perineum	40.5	20.7	22.9	18.4	20.3	20.9	20.6	32.9	27.0
Pudendal	6.5	8.3	3.9	4.9	7.5	6.0	9.1	7.5	6.5
Regional	46.2	60.0	42.2	73.1	63.0	38.2	49.8	33.3	53.9
Epidural or caudal	42.7	54.9	38.8	67.0	61.3	35.0	45.4	32.2	49.7
Spinal	2.6	3.3	2.7	n.p.	1.4	n.p.	4.3	n.p.	2.7
Combined spinal-epidural	0.9	1.8	0.7	4.1	n.p.	—	—	n.p.	1.5
General	0.6	0.2	0.3	n.p.	n.p.	n.p.	0.7	—	0.3
Other	2.0	—	0.2	1.5	1.0	—	—	6.7	0.9

(a) Instrumental vaginal deliveries include forceps and vacuum extraction.

n.p. Data not published to maintain confidentiality of small numbers.

Note: More than one type of anaesthetic could be recorded, therefore, the sums of individual categories are greater than the total numbers of women who gave birth and percentages add to more than 100%.

Presentation at birth

Data are included in this section by mother. Women who gave birth to more than one baby are categorised according to the presentation at birth of the first born baby. Table 4.11 provides the presentation for each individual baby by plurality.

In 2007, the predominant presentation at birth was cephalic (94.6%) which included presentation of any part (vertex, face, or brow) of the fetal head in labour. Vertex presentation, where the crown (vertex) of the fetal head is the presenting part, occurred for

94.4% of all women who gave birth while face or brow presentation occurred for 0.2% of mothers. Breech presentation, the presentation of the baby's buttocks or feet in labour, occurred for 4.0% of mothers. Summary data for breech presentation are presented; data was not available on complete, incomplete and frank breech presentations (Table 3.25). Of the 11,664 women with a breech presentation, 92.0% were singleton pregnancies and 7.8% were twin pregnancies.

Table 3.25: Women who gave birth by presentation at birth and state and territory, 2007

Presentation	NSW	Vic	Qld	WA	SA	Tas ^(a)	ACT ^(b)	NT	Australia
Number									
Vertex	90,241	67,192	56,085	28,172	18,454	4,463	5,123	3,565	273,295
Breech	3,525	3,074	2,666	1,191	797	—	253	158	11,664
Face	123	84	62	37	17	<5	10	<5	337
Brow	95	97	54	43	42	<5	9	n.p.	349
Other ^(c)	541	669	344	187	133	6	24	25	1,929
Not stated	63	73	17	—	24	1,744	—	1	1,922
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Per cent									
Vertex	95.4	94.4	94.7	95.1	94.8	71.8	94.5	94.8	94.4
Breech	3.7	4.3	4.5	4.0	4.1	—	4.7	4.2	4.0
Face	0.1	0.1	0.1	0.1	0.1	n.p.	0.2	n.p.	0.1
Brow	0.1	0.1	0.1	0.1	0.2	n.p.	0.2	n.p.	0.1
Other ^(c)	0.6	0.9	0.6	0.6	0.7	0.1	0.4	0.7	0.7
Not stated	0.1	0.1	0.0	—	0.1	28.1	—	0.0	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For Tas, presentations were only recorded for vaginal births. Where a caesarean section occurred the presentation was recorded as 'Not stated'.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of breech presentation for ACT residents who gave birth in the ACT was 4.4% and 6.2% for non-ACT residents who gave birth in the ACT.

(c) Includes shoulder/transverse and compound presentations.

n.p. Data not published to maintain confidentiality of small numbers.

Note: For multiple births, the presentation of the first born baby was used.

Method of birth

Data are presented in this section by mother; for multiple births, women are categorised according to the method of birth for the first born baby. Table 4.12 presents method of birth data for each individual baby by plurality.

From 2007, changes to the Perinatal NMDS item for method of birth were implemented. 'Spontaneous vaginal' was changed to 'Non-instrumental vaginal', and 'Vaginal breech' was no longer a category. Therefore, care must be taken when looking at time series data. Vaginal breech births would be recorded as either 'Non-instrumental vaginal' or 'Forceps' for 2007 with breech as the presentation. Four of the eight jurisdictions were able to provide data in this way, therefore, the 'Non-instrumental vaginal' category for 2007 may include women who had breech births where instruments were used for New South Wales, Victoria, Western Australia and the Northern Territory.

Tables 4.13 and 4.14 present information on method of birth for babies with breech presentations.

Vaginal births

Of all women who gave birth in 2007, 57.9% had a non-instrumental vaginal birth. The proportion of non-instrumental vaginal births ranged from 54.1% in Western Australia to 63.6% in the Northern Territory (Table 3.26).

Approximately 1 in 9 mothers (11.2%) had an instrumental vaginal delivery where either forceps or vacuum extraction was used. The proportions of these instrumental deliveries varied among the states and territories, from 6.8% in the Northern Territory to 13.6% in Victoria. Forceps delivery occurred for 3.6% of mothers and was most common in the Australian Capital Territory (6.2%). Deliveries by vacuum extraction accounted for 7.5% of women who gave birth nationally, ranging from 4.9% in the Northern Territory to 10.7% in Western Australia (Table 3.26).

Table 3.26: Women who gave birth by method of birth and state and territory, 2007

Method of birth	NSW ^(a)	Vic ^(a)	Qld	WA ^(a)	SA	Tas	ACT ^(b)	NT ^(a)	Australia
Number									
Non-instrumental vaginal	57,020	39,592	34,654	16,027	10,990	3,819	3,183	2,391	167,676
Forceps	3,273	3,995	1,159	728	793	198	338	71	10,555
Vacuum extraction	6,777	5,684	3,822	3,180	1,388	456	331	184	21,822
Caesarean section	27,447	21,918	19,592	9,695	6,296	1,743	1,567	1,113	89,371
Labour	11,553	9,258	7,502	3,719	2,933	850	592	526	36,933
No labour	15,877	12,660	12,090	5,976	3,363	893	975	587	52,421
Not stated	17	—	—	—	—	—	—	—	17
Not stated	71	—	1	—	—	—	—	—	72
Total	94,588	71,189	59,228	29,630	19,467	6,216	5,419	3,759	289,496
Per cent									
Non-instrumental vaginal	60.3	55.6	58.5	54.1	56.5	61.4	58.7	63.6	57.9
Forceps	3.5	5.6	2.0	2.5	4.1	3.2	6.2	1.9	3.6
Vacuum extraction	7.2	8.0	6.5	10.7	7.1	7.3	6.1	4.9	7.5
Caesarean section	29.0	30.8	33.1	32.7	32.3	28.0	28.9	29.6	30.9
Labour	12.2	13.0	12.7	12.6	15.1	13.7	10.9	14.0	12.8
No labour	16.8	17.8	20.4	20.2	17.3	14.4	18.0	15.6	18.1
Not stated	0.0	—	—	—	—	—	—	—	0.0
Not stated	0.1	—	0.0	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For these four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 27.5% of ACT resident women had a caesarean section compared with 36.4% of non-ACT residents who gave birth in the ACT.

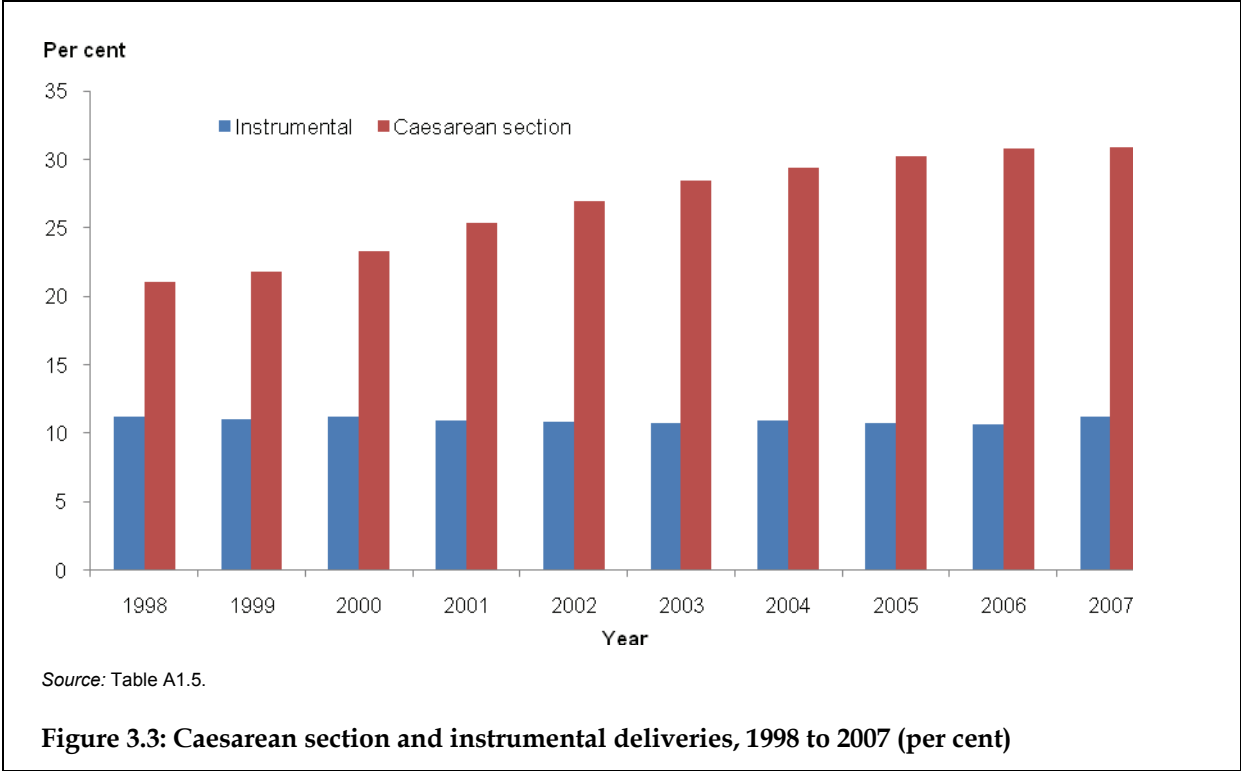
Note: For multiple births, the method of birth of the first born baby was used.

Caesarean sections

There were 89,371 caesarean sections performed in 2007, accounting for 30.9% of women who gave birth. The rate has remained stable from 2006, where the rate was 30.8%. Of all women who gave birth, 18.1% had a caesarean section without labour, while 12.8% had a caesarean section with labour.

The proportion of caesarean section deliveries varied by state and territory, and ranged from 28.0% in Tasmania to 33.1% in Queensland. Three states, Queensland, Western Australia and South Australia, recorded caesarean section rates (percentage) above 32.0% (Table 3.26).

The caesarean section rate has shown an overall upward trend over the last 10 years, although it did not increase significantly from 2006 to 2007. The proportion of women having caesarean sections has increased from 21.1% in 1998 to 30.9% in 2007. In contrast, the proportion of instrumental deliveries has remained stable at around 11.0% throughout this period (Figure 3.3).



Directly age-standardised rates of caesarean section were calculated for states and territories for 2007, using as the standard, all women who gave birth in 2007 (Table 3.27). The age-standardised rates of caesarean section varied by state and territory, ranging from 28.2% in the Australian Capital Territory to 34.1% in Queensland.

Table 3.27: Women who gave birth by caesarean section by age and state and territory, 2007

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Less than 20	585	293	581	255	185	71	23	101	2,094
20–24	2,611	1,567	2,375	1,074	712	272	115	214	8,940
25–29	6,265	4,776	4,931	2,317	1,564	437	375	284	20,949
30–34	9,650	8,077	6,601	3,280	2,202	537	563	277	31,187
35–39	6,758	5,887	4,227	2,311	1,340	353	404	194	21,474
40 and over	1,574	1,318	877	458	293	73	87	43	4,723
Not stated	4	—	—	—	—	—	—	—	4
Total	27,447	21,918	19,592	9,695	6,296	1,743	1,567	1,113	89,371
Per cent									
Less than 20	2.1	1.3	3.0	2.6	2.9	4.1	1.5	9.1	2.3
20–24	9.5	7.1	12.1	11.1	11.3	15.6	7.3	19.2	10.0
25–29	22.8	21.8	25.2	23.9	24.8	25.1	23.9	25.5	23.4
30–34	35.2	36.9	33.7	33.8	35.0	30.8	35.9	24.9	34.9
35–39	24.6	26.9	21.6	23.8	21.3	20.3	25.8	17.4	24.0
40 and over	5.7	6.0	4.5	4.7	4.7	4.2	5.6	3.9	5.3
Not stated	0.0	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Age-standardised rate^(a)									
Rate	28.8	29.8	34.1	33.3	32.7	29.4	^(b) 28.2	31.6	—

(a) Directly age-standardised using the Australian population of women who gave birth in 2007.

(b) The ACT rate includes non-ACT residents who gave birth in the ACT. Therefore the rate is a health service population rate rather than an ACT population rate.

Note: For multiple births, the method of birth of the first born baby was used.

Information about the main reason for carrying out a caesarean section are presented in Table 3.28 for five states and territories: Victoria, Queensland, South Australia, Tasmania and the Northern Territory. The table shows that data were not available or coded to the 'Other' category for a substantial proportion of caesarean sections. A history of repeat/previous caesarean section was the leading reason reported for caesarean section. There was no separate category for patient choice in the data presented.

It is important when interpreting the data presented in this table that each state and territory is examined independently. Data are not comparable across jurisdictions since the methods for collecting these data were different in each jurisdiction. The data are presented as a baseline to promote discussion and to assist in development of consistency across jurisdictions, so that in the future more comprehensive information will be available.

Table 3.28: Women who gave birth by caesarean section by main reason for caesarean section and state and territory, 2007^(a)

	NSW	Vic ^(b)	Qld	WA	SA	Tas	ACT	NT
	Number							
Previous caesarean section	n.p.	8,084	7,024	n.a.	2,103	630	n.a.	373
Fetal distress	n.p.	2,630	1,930	n.a.	816	90	n.a.	226
Malpresentation	n.p.	2,653	1,965	n.a.	636	174	n.a.	136
Antepartum haemorrhage	n.p.	636	536	n.a.	135	81	n.a.	28
Hypertension/ pre-eclampsia	n.p.	505	506	n.a.	177	66	n.a.	—
Multiple pregnancy	n.p.	399	275	n.a.	92	8	n.a.	—
Intrauterine growth restriction	n.p.	130	190	n.a.	45	20	n.a.	—
Other ^(c)	n.p.	6,881	7,161	n.a.	2,292	412	n.a.	307
Not stated	n.p.	—	—	n.a.	—	262	n.a.	43
Total	n.p.	21,918	19,592	n.a.	6,296	1,743	n.a.	1,113
	Per cent							
Previous caesarean section	n.p.	36.9	35.9	n.a.	33.4	36.1	n.a.	33.5
Fetal distress	n.p.	12.0	9.9	n.a.	13.0	5.2	n.a.	20.3
Malpresentation	n.p.	12.1	10.0	n.a.	10.1	10.0	n.a.	12.2
Antepartum haemorrhage	n.p.	2.9	2.7	n.a.	2.1	4.6	n.a.	2.5
Hypertension/ pre-eclampsia	n.p.	2.3	2.6	n.a.	2.8	3.8	n.a.	—
Multiple pregnancy	n.p.	1.8	1.4	n.a.	1.5	0.5	n.a.	—
Intrauterine growth restriction	n.p.	0.6	1.0	n.a.	0.7	1.1	n.a.	—
Other ^(c)	n.p.	31.4	36.6	n.a.	36.4	23.6	n.a.	27.6
Not stated	n.p.	—	—	n.a.	—	15.0	n.a.	3.9
Total	n.p.	100.0	100.0	n.a.	100.0	100.0	n.a.	100.0

(a) Because of differences in definitions used and methods of data collection these data are not comparable across jurisdictions.

(b) Vic collects up to four indications for caesarean section. To obtain the main reason, the following hierarchy was used: 1) Previous/repeat caesarean, 2) Malpresentation, 3) Multiple pregnancy, 4) Antepartum haemorrhage, 5) Pre-eclampsia/hypertension, 6) Intrauterine growth retardation, 7) Fetal distress, 8) Cephalopelvic disproportion/failure to progress/obstructed labour and 9) Other. In cases of multiple births the reason refers to the first-born baby. Patient choice for repeat caesarean is coded under 'Previous caesarean section'.

(c) Includes Failure to progress/cephalopelvic disproportion, psychosocial/elective/patient choice and other reasons.

n.a. Data not available.

n.p. Data not published as complete data were not available in a comparable format.

Method of birth and maternal age

Table 3.29 presents methods of birth by maternal age groups. Non-instrumental vaginal birth declined progressively with increasing maternal age. These were most common in women aged less than 20 years (71.3%) and least common in the oldest age group (45.6%). The proportion of instrumental vaginal births was highest in the 25–29 years and 30–34 years age groups (both 12.0%).

Caesarean section rates increased with maternal age. In 2007, caesarean section rates ranged from 17.6% for mothers aged less than 20 years to 45.9% for mothers aged 40 years and older (Table 3.29).

Table 3.29: Method of birth by maternal age, 2007

Method of birth	Less than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
Number								
Non-instrumental vaginal ^(a)	8,497	28,969	47,215	50,976	27,302	4,698	19	167,676
Forceps	385	1,289	3,044	3,725	1,804	305	3	10,555
Vacuum extraction	931	3,023	6,259	7,502	3,542	565	—	21,822
Caesarean section	2,094	8,940	20,949	31,187	21,474	4,723	4	89,371
Not stated	5	12	14	24	16	1	—	72
Total	11,912	42,233	77,481	93,414	54,138	10,292	26	289,496
Per cent								
Non-instrumental vaginal ^(a)	71.3	68.6	60.9	54.6	50.4	45.6	73.1	57.9
Forceps	3.2	3.1	3.9	4.0	3.3	3.0	11.5	3.6
Vacuum extraction	7.8	7.2	8.1	8.0	6.5	5.5	—	7.5
Caesarean section	17.6	21.2	27.0	33.4	39.7	45.9	15.4	30.9
Not stated	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

Note: For multiple births, the method of birth of the first born baby was used.

Method of birth and Indigenous status

Mothers who identified as being of Aboriginal or Torres Strait Islander origin had a higher proportion of non-instrumental vaginal births compared with non-Indigenous mothers (70.6% compared with 57.4%) and a lower proportion of instrumental vaginal deliveries (forceps or vacuum extraction). The caesarean section rate of 24.2% for mothers who identified as Aboriginal or Torres Strait Islander was less than that for non-Indigenous mothers (31.1%) (Table 3.30). This may be partially explained by the younger age of Indigenous mothers, which averaged 25.2 years.

Table 3.30: Women who gave birth by Indigenous status, method of birth and state and territory, 2007

Indigenous status^(a)/ method of birth	NSW^(b)	Vic^(b)	Qld	WA^(b)	SA	Tas	ACT^(c)	NT^(b)	Australia
Indigenous									
	Number								
Non-instrumental vaginal	2,042	478	2,263	1,275	375	158	57	1,032	7,680
Instrumental vaginal ^(d)	163	63	131	102	31	14	6	59	569
Caesarean section	679	153	775	375	172	59	24	393	2,630
Not stated	3	—	1	—	—	—	—	—	4
Total	2,887	694	3,170	1,752	578	231	87	1,484	10,883
	Per cent								
Non-instrumental vaginal	70.7	68.9	71.4	72.8	64.9	68.4	65.5	69.5	70.6
Instrumental vaginal ^(d)	5.6	9.1	4.1	5.8	5.4	6.1	6.9	4.0	5.2
Caesarean section	23.5	22.0	24.4	21.4	29.8	25.5	27.6	26.5	24.2
Not stated	0.1	—	0.0	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Non-Indigenous									
	Number								
Non-instrumental vaginal	54,865	39,093	32,367	14,752	10,615	3,661	3,124	1,355	159,832
Instrumental vaginal ^(d)	9,872	9,606	4,849	3,806	2,150	640	662	196	31,781
Caesarean section	26,701	21,763	18,802	9,320	6,124	1,684	1,538	718	86,650
Not stated	68	—	—	—	—	—	—	—	68
Total	91,506	70,462	56,018	27,878	18,889	5,985	5,324	2,269	278,331
	Per cent								
Non-instrumental vaginal	60.0	55.5	57.8	52.9	56.2	61.2	58.7	59.7	57.4
Instrumental vaginal ^(d)	10.8	13.6	8.7	13.7	11.4	10.7	12.4	8.6	11.4
Caesarean section	29.2	30.9	33.6	33.4	32.4	28.1	28.9	31.6	31.1
Not stated	0.1	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Indigenous status 'Not stated' not included.

(b) For these four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(c) 24.1% of Aboriginal and Torres Strait Islander women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of caesarean sections for Aboriginal and Torres Strait Islander ACT residents who gave birth in the ACT was 25.8%.

(d) Instrumental vaginal birth includes forceps and vacuum extraction.

Note: For multiple births, the method of birth of the first born baby was used.

Age-specific rates of caesarean section were calculated by Indigenous status for 2007 (Table 3.31). The rate of caesarean section for Aboriginal and Torres Strait Islander mothers was higher than for non-Indigenous mothers in those aged less than 20 years and 20–24 years. Comparatively, for mothers aged 25 years and older, the rate of caesarean section was lower for Indigenous mothers than for non-Indigenous mothers (Table 3.31).

Table 3.31: Women who gave birth by caesarean section by Indigenous status and age, 2007

	Less than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
Number								
Indigenous	423	770	649	468	270	50	—	2,630
Non-Indigenous	1,670	8,154	20,278	30,700	21,180	4,665	3	86,650
Not stated	1	16	22	19	24	8	1	91
Total	2,094	8,940	20,949	31,187	21,474	4,723	4	89,371
Age-specific rate								
Indigenous	19.9	22.1	24.8	28.1	31.8	37.3	—	24.2
Non-Indigenous	17.1	21.1	27.1	33.5	39.8	46.0	—	31.1

Note: For multiple births, the method of birth of the first born baby was used.

Primary caesarean sections

The rate of primary caesarean section varied by parity with 32.1% of primiparous women giving birth by caesarean section compared with 10.3% of multiparous women. The rate of caesarean section for primiparous women ranged from 29.9% in Tasmania to 34.8% in Queensland. The overall rate for women without a history of previous caesarean section was 21.2% (Table 3.32).

Table 3.32: Primary caesarean sections by parity and state and territory, 2007

Parity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
Primiparas	12,101	9,568	8,268	4,058	2,810	731	712	454	38,702
Multiparas ^(a)	3,800	2,908	2,829	1,320	814	253	224	195	12,343
Total	15,901	12,476	11,097	5,378	3,624	984	936	649	51,045
Per cent									
Primiparas	30.9	31.2	34.8	32.6	34.4	29.9	30.0	31.8	32.1
Multiparas ^(a)	9.9	10.0	11.1	10.8	10.2	8.9	10.7	11.4	10.3
Total	20.5	20.8	22.6	21.8	22.4	18.6	21.0	20.6	21.2

(a) Only includes multiparous women who had not previously had a caesarean section.

Note: For multiple births, the method of birth of the first born baby was used.

Method of birth and previous caesarean section

In 2007, 13.5% of mothers who had previously had a caesarean section had a non-instrumental vaginal birth, and 3.2% had an instrumental vaginal birth. Repeat caesarean sections occurred for 83.3% of mothers with a history of caesarean section, and ranged from 75.6% in the Northern Territory to 87.3% in Western Australia (Table 3.33).

Table 3.33: Multiparous mothers who have had a previous caesarean section by current method of birth and state and territory, 2007

Method of birth	NSW ^(a)	Vic ^(a)	Qld	WA ^(a)	SA	Tas	ACT ^(b)	NT ^(a)	Total
Number									
Non-instrumental vaginal	1,961	1,421	1,380	475	490	135	114	132	6,108
Instrumental vaginal ^(c)	414	466	225	151	131	24	33	18	1,462
Caesarean section	11,110	9,442	8,494	4,317	2,672	759	532	464	37,790
Not stated	3	—	—	—	—	—	—	—	3
Total	13,488	11,329	10,099	4,943	3,293	918	679	614	45,363
Per cent									
Non-instrumental vaginal	14.5	12.5	13.7	9.6	14.9	14.7	16.8	21.5	13.5
Instrumental vaginal ^(c)	3.1	4.1	2.2	3.1	4.0	2.6	4.9	2.9	3.2
Caesarean section	82.4	83.3	84.1	87.3	81.1	82.7	78.4	75.6	83.3
Not stated	0.0	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For these four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(b) Care must be taken when interpreting ACT percentages as 9.1% of multiparous mothers have been excluded because no information was reported regarding previous caesarean section.

(c) Instrumental vaginal birth includes forceps and vacuum extraction.

Note: For multiple births, the method of birth of the first born baby was used.

In 2007, the rate of caesarean section for women giving birth to term singletons ranged from 17.3% at 40 weeks gestation to 47.7% at 38 weeks gestation, and was 29.6% overall (Table 3.34). Intrapartum caesarean section was most common at 41 weeks. The rate of no labour caesarean section peaked at 38 weeks at 37.8%.

Table 3.34: Women who gave birth to singleton term babies and had a caesarean section by gestational age and onset of labour, 2007

Gestational age	Labour	No labour	Total
Number			
37	2,459	4,118	6,578
38	5,318	20,415	25,737
39	6,597	15,954	22,552
40	10,335	3,730	14,069
41	7,626	1,352	8,982
Total	32,335	45,569	77,918
Per cent			
37	14.8	24.8	39.6
38	9.8	37.8	47.7
39	9.3	22.5	31.9
40	12.7	4.6	17.3
41	18.9	3.4	22.3
Total	12.3	17.3	29.6

Perineal status after vaginal birth

In 2007, approximately 1 in 3 mothers (34.3%) had an intact perineum following vaginal birth. A first or second degree laceration or graze was reported in 44.3% women after vaginal birth. In 1 in 100 vaginal births (1.5%), a third or fourth degree laceration of the perineum was reported. This proportion varied among the states and territories, from 1.3% in Queensland to 2.1% in the Australian Capital Territory. An episiotomy only was performed for 14.6% of vaginal births, with the highest rate being recorded in Victoria (20.3%). A combined laceration and episiotomy occurred in 2.4% of women who had a vaginal birth, giving a total of 17.0% of women who had a vaginal birth in 2007 having an episiotomy (Table 3.35).

Table 3.35: Women who gave birth vaginally by perineal status and state and territory, 2007

Perineal status	NSW	Vic	Qld	WA	SA	Tas ^(a)	ACT	NT	Total
	Number								
Episiotomy	9,086	10,001	4,611	2,605	1,729	583	396	203	29,214
Intact	17,714	20,361	14,118	7,633	3,859	2,240	1,358	1,383	68,666
1st degree laceration/ vaginal graze	19,264	6,179	7,016	3,172	3,369	720	636	485	40,841
2nd degree laceration	16,633	11,262	9,072	4,552	3,522	868	1,282	497	47,688
3rd/4th degree laceration	1,044	746	518	355	197	62	80	47	3,049
Combined laceration and episiotomy	1,966	722	673	850	478	—	97	30	4,816
Other	^(b) 1,339	—	^(c) 3,624	^(c) 768	16	—	—	1	5,748
Not stated	24	—	3	—	1	—	3	—	31
Total	67,070	49,271	39,635	19,935	13,171	4,473	3,852	2,646	200,053
	Per cent								
Episiotomy	13.5	20.3	11.6	13.1	13.1	13.0	10.3	7.7	14.6
Intact	26.4	41.3	35.6	38.3	29.3	50.1	35.3	52.3	34.3
1st degree laceration/ vaginal graze	28.7	12.5	17.7	15.9	25.6	16.1	16.5	18.3	20.4
2nd degree laceration	24.8	22.9	22.9	22.8	26.7	19.4	33.3	18.8	23.8
3rd/4th degree laceration	1.6	1.5	1.3	1.8	1.5	1.4	2.1	1.8	1.5
Combined laceration and episiotomy	2.9	1.5	1.7	4.3	3.6	—	2.5	1.1	2.4
Other	^(b) 2.0	—	^(c) 9.1	^(c) 3.9	0.1	—	—	0.0	2.9
Not stated	0.0	—	0.0	—	0.0	—	0.1	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For Tas, cases where both a laceration and episiotomy occurred were coded as Episiotomy.

(b) Includes unspecified perineal tear and vulval or perineal haematoma.

(c) Includes cases where the perineum was intact but a graze was reported.

Note: For multiple births, the perineal status after the birth of the first born baby was used.

Pre-existing and pregnancy-related medical conditions

This section presents state and territory data on selected pre-existing conditions and complications arising in pregnancy. The collection of comprehensive and reliable information on risk factors and complications arising in pregnancy continues to be a challenging area of data development. The development of nationally consistent scope, collection methods and classifications of these conditions and complications is progressing in line with the overall priorities of perinatal data development.

Table 3.36 provides the numbers and rates of pre-existing medical conditions, selected conditions arising during pregnancy and conditions arising during birth for women who gave birth in each state and territory. It is important when interpreting the data presented in this table that each state and territory is examined independently. Data are not currently comparable across jurisdictions. No national estimates or totals are provided.

The way in which data are collected varies. Data on these conditions and complications are generally collected using a tick box on the perinatal form of each state and territory. However, for some jurisdictions, a tick box is not available for some of these conditions and complications, so the condition or complication may be recorded using free text. The scope of the selected conditions may vary between jurisdictions – a higher rate may reflect a broader definition of the condition or a lower rate may reflect different practices in collection of the data or different inclusion criteria for the conditions.

Despite these limitations there was a remarkable homogeneity in the rates of several conditions, notably the pre-existing epilepsy, diabetes mellitus and hypertension, antepartum haemorrhage, gestational diabetes, cord prolapse and retained placenta. For the remaining three conditions the rates varied considerably between jurisdictions. Pregnancy-induced hypertension may be subject to broader definitions in some jurisdictions. Fetal distress in labour and post-partum haemorrhage rates may reflect the relevant definitions as well as variability in the practices and protocols used to assess the conditions.

Table 3.36: Women who gave birth by selected maternal medical and obstetric conditions and state and territory, 2007^(a)

Medical condition or complication	NSW	Vic	Qld	WA	SA	Tas	ACT^(b)	NT
	Number							
Essential hypertension	721	762	433	395	225	99	79	28
Diabetes mellitus	546	399	320	254	119	20	92	44
Epilepsy	n.a.	415	288	138	112	70	26	22
Antepartum haemorrhage	n.a.	2,203	1,467	1,041	699	145	266	52
Placenta praevia	n.a.	564	406	189	110	24	59	n.a.
Abruptio placenta	n.a.	277	295	108	94	15	27	n.a.
Other	n.a.	1,362	766	744	495	106	180	n.a.
Pregnancy-induced hypertension	5,515	3,462	3,231	149	1,361	336	209	136
Gestational diabetes	4,091	3,626	3,072	1,369	947	173	305	268
Fetal distress	n.a.	13,146	11,216	3,721	2,339	66	353	387
Cord prolapse	n.a.	116	100	40	28	<5	6	8
Postpartum haemorrhage	1,120	7,843	2,729	3,528	1,836	218	430	473
Retained placenta	n.a.	1,026	764	375	291	n.a.	116	19
	Rate per 1,000 women who gave birth							
Essential hypertension	7.6	10.7	7.3	13.3	11.6	15.9	14.6	7.4
Diabetes mellitus	5.8	5.6	5.4	8.6	6.1	3.2	17.0	11.7
Epilepsy	n.a.	5.8	4.9	4.7	5.8	11.3	4.8	5.9
Antepartum haemorrhage	n.a.	30.9	24.8	35.1	35.9	23.3	49.1	13.8
Placenta praevia	n.a.	7.9	6.9	6.4	5.7	3.9	10.9	n.a.
Abruptio placenta	n.a.	3.9	5.0	3.6	4.8	2.4	5.0	n.a.
Other	n.a.	19.1	12.9	25.1	25.4	17.1	33.2	n.a.
Pregnancy-induced hypertension	58.3	48.6	54.6	5.0	69.9	54.1	38.6	36.2
Gestational diabetes	43.3	50.9	51.9	46.2	48.6	27.8	56.3	71.3
Fetal distress	n.a.	184.7	189.4	125.6	120.2	10.6	65.1	103.0
Cord prolapse	n.a.	1.6	1.7	1.3	1.4	n.p.	1.1	2.1
Postpartum haemorrhage	11.8	110.2	46.1	119.1	94.3	35.1	79.4	125.8
Retained placenta	n.a.	14.4	12.9	12.7	14.9	n.a.	21.4	5.1

(a) Because of differences in definitions and methods used for data collection these data are not comparable across jurisdictions.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting rates. The ACT uses broader inclusion criteria for these conditions and data are collected from multiple sources.

n.a. Data not available.

n.p. Data not published to maintain confidentiality of small numbers.

Women who gave birth in hospitals

Hospitals and birth centres

Hospitals and birth centres were categorised by the number of women who gave birth in them in 2007. The categories vary from those with very few births each year to those with more than 2,000 births, and are affected by geographical location, the population of the region and policies regarding maternity services. Table 3.37 presents the number of hospitals or birth centres in each category by state and territory. In 2007, 38.1% of the hospitals or birth centres had 100 or fewer women who gave birth, and 11.2% had in excess of 2,000 women who gave birth (Table 3.37). There has been a decrease in the number of hospitals or birth centres with 1–100 and 101–500 women who gave birth. In 1998, there were 254 and 155 hospitals or birth centres in these groups respectively.

Table 3.37: Hospitals and birth centres by number of women who gave birth and state and territory, 2007

Number of women who gave birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Number								
1–100	24	26	60	19	23	3	—	1	156
101–500	35	20	23	10	12	1	—	2	103
501–1,000	19	13	8	6	5	3	1	2	57
1,001–2,000	13	13	11	3	2	2	2	1	47
2,001 and over	18	11	11	2	3	—	1	—	46
Total	109	83	113	40	45	9	4	6	409
	Per cent								
1–100	22.0	23.9	53.1	47.5	51.1	33.3	—	16.7	38.1
101–500	32.1	18.3	20.4	25.0	26.7	11.1	—	33.3	25.2
501–1,000	17.4	11.9	7.1	15.0	11.1	33.3	25.0	33.3	13.9
1,001–2,000	11.9	11.9	9.7	7.5	4.4	22.2	50.0	16.7	11.5
2,001 and over	16.5	10.1	9.7	5.0	6.7	—	25.0	—	11.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: In some jurisdictions, a birth centre and co-located hospital labour ward would be considered as one maternity unit.

Hospital sector

'Hospital sector' indicates whether a patient was admitted to a public or a private hospital. Of women who gave birth in hospitals in 2007, the proportion in private hospitals was 29.8%, and ranged from 19.7% in the Northern Territory to 41.1% in Western Australia (Table 3.38).

Table 3.38: Women who gave birth in hospital by hospital sector and state and territory, 2007

Hospital sector	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Public	68,201	47,974	40,397	17,066	12,915	4,153	3,339	2,915	196,960
Private	23,038	21,155	17,909	11,930	5,167	1,988	1,813	713	83,713
Not stated	1	—	—	—	—	—	—	—	1
Total	91,240	69,129	58,306	28,996	18,082	6,141	5,152	3,628	280,674
Per cent									
Public	74.7	69.4	69.3	58.9	71.4	67.6	64.8	80.3	70.2
Private	25.2	30.6	30.7	41.1	28.6	32.4	35.2	19.7	29.8
Not stated	0.0	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Admitted patient elected accommodation status

'Admitted patient elected accommodation status' is the accommodation chargeable status elected by a patient on admission to hospital. Of women who gave birth in hospitals in 2007, the proportion who elected private status (i.e. elected to be treated as a private patient) was 33.6%, and ranged from 22.4% in the Northern Territory to 38.5% in the Australian Capital Territory (Table 3.39).

Table 3.39: Women who gave birth in hospital by admitted patient elected accommodation status and state and territory, 2007

Admitted patient elected accommodation status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
Public	59,621	44,676	39,082	18,195	11,867	4,445	3,167	2,815	183,868
Private	29,032	24,453	19,223	10,773	6,215	1,696	1,985	813	94,190
Not stated	2,587	—	1	28	—	—	—	—	2,616
Total	91,240	69,129	58,306	28,996	18,082	6,141	5,152	3,628	280,674
Per cent									
Public	65.3	64.6	67.0	62.8	65.6	72.4	61.5	77.6	65.5
Private	31.8	35.4	33.0	37.2	34.4	27.6	38.5	22.4	33.6
Not stated	2.8	—	0.0	0.1	—	—	—	—	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Method of birth and hospital sector

Method of birth for women who gave birth in hospitals was compared by hospital sector and state and territory (Table 3.40). Women who gave birth in public hospitals reported higher levels of non-instrumental vaginal birth than those in private hospitals (62.2% compared with 43.6%). Private hospital patients had higher proportions than public hospital patients of vaginal births requiring forceps (5.0% compared with 3.2%) or vacuum extraction (10.0% compared with 6.8%) (Table 3.40).

Of women who gave birth in public hospitals, the highest rate of forceps deliveries occurred in the Australian Capital Territory (6.1%), and of those in private hospitals, the highest rate of forceps deliveries occurred in Victoria (7.9%). Vacuum extraction was most common for both public and private hospitals in Western Australia.

Of women who gave birth in hospitals in Australia in 2007, 31.8% had a caesarean section delivery. The caesarean section rate of 41.5% for women who were in private hospitals was higher than the rate of 27.8% for those in public hospitals. The highest rate of caesarean section deliveries in private hospitals was in Queensland (47.5%), followed by South Australia (43.8%) and the Northern Territory (43.6%) (Table 3.40).

Table 3.40: Women who gave birth in hospital by method of birth, hospital sector and state and territory, 2007

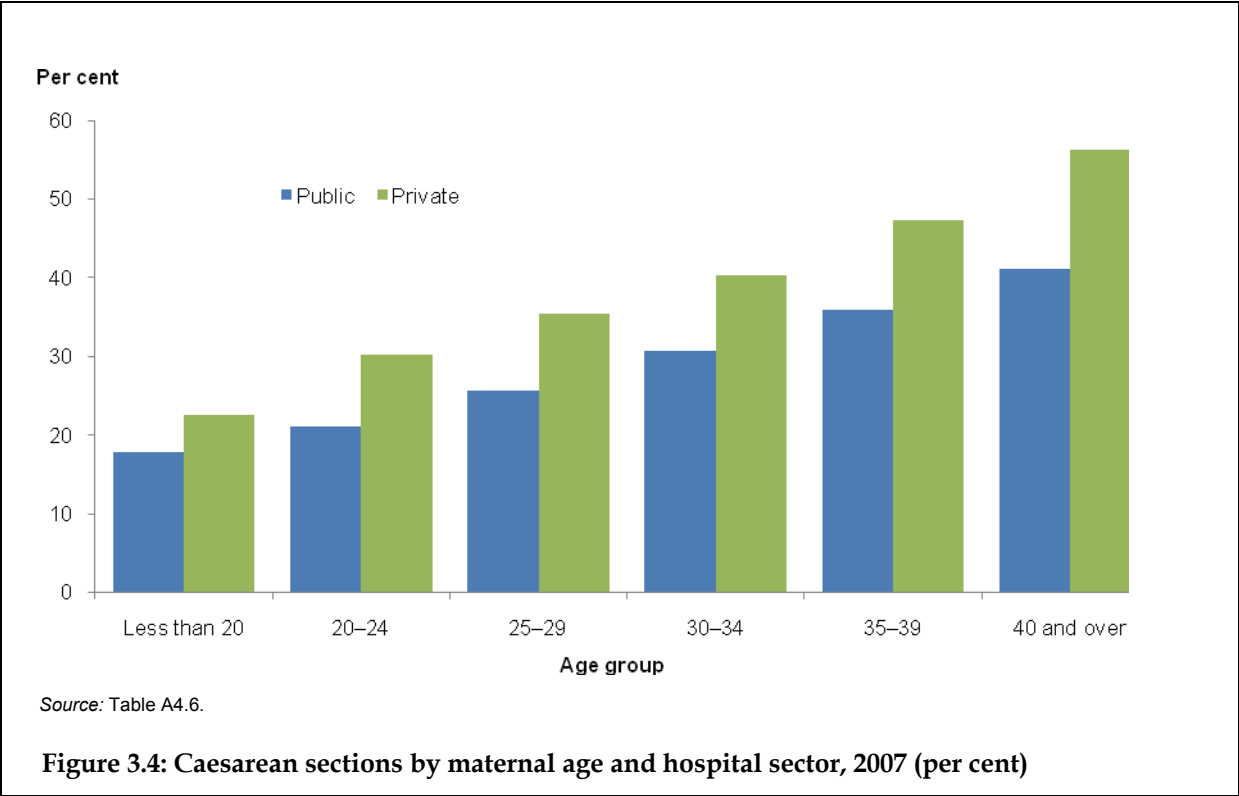
Hospital sector/ method of birth	NSW ^(a)	Vic ^(a)	Qld	WA ^(a)	SA	Tas	ACT ^(b)	NT ^(a)	Australia
Public	Number								
Non-instrumental vaginal	43,042	28,409	26,414	10,473	7,404	2,641	2,104	1,949	122,436
Forceps	2,190	2,310	636	421	476	99	203	47	6,382
Vacuum extraction	4,480	3,518	2,262	1,552	1,000	317	183	117	13,429
Caesarean section	18,446	13,737	11,085	4,620	4,035	1,096	849	802	54,670
Not stated	43	—	—	—	—	—	—	—	43
Total	68,201	47,974	40,397	17,066	12,915	4,153	3,339	2,915	196,960
	Per cent								
Non-instrumental vaginal	63.1	59.2	65.4	61.4	57.3	63.6	63.0	66.9	62.2
Forceps	3.2	4.8	1.6	2.5	3.7	2.4	6.1	1.6	3.2
Vacuum extraction	6.6	7.3	5.6	9.1	7.7	7.6	5.5	4.0	6.8
Caesarean section	27.0	28.6	27.4	27.1	31.2	26.4	25.4	27.5	27.8
Not stated	0.1	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Private	Number								
Non-instrumental vaginal	10,640	9,142	7,322	4,920	2,240	1,103	814	311	36,492
Forceps	1,080	1,681	523	307	306	99	135	24	4,155
Vacuum extraction	2,293	2,151	1,558	1,628	360	139	146	67	8,342
Caesarean section	9,001	8,181	8,506	5,075	2,261	647	718	311	34,700
Not stated	24	—	—	—	—	—	—	—	24
Total	23,038	21,155	17,909	11,930	5,167	1,988	1,813	713	83,713
	Per cent								
Non-instrumental vaginal	46.2	43.2	40.9	41.2	43.4	55.5	44.9	43.6	43.6
Forceps	4.7	7.9	2.9	2.6	5.9	5.0	7.4	3.4	5.0
Vacuum extraction	10.0	10.2	8.7	13.6	7.0	7.0	8.1	9.4	10.0
Caesarean section	39.1	38.7	47.5	42.5	43.8	32.5	39.6	43.6	41.5
Not stated	0.1	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For these four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

Note: For multiple births, the method of birth of the first born baby was used.

Caesarean section rates were higher in private hospitals compared with public hospitals across all age groups. Figure 3.4 shows the differences by age group and hospital sector. The caesarean section rate for mothers aged 35–39 years who gave birth in private hospitals was 47.3% compared with 35.9% for those in public hospitals. Of mothers aged 40 years or more, 56.2% in private hospitals had a caesarean section compared with 41.1% of those in public hospitals.



Length of stay in hospital

Antenatal length of stay

Two-thirds of women (67.2%) gave birth within a day of admission to hospital. The proportion of women who gave birth within two days of admission was 94.0%. Only 0.9% of mothers were hospitalised for seven days or more immediately before giving birth (Table 3.41).

Table 3.41: Women who gave birth in hospital by length of antenatal stay and state and territory, 2007

Length of stay	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Number								
Less than 1 day	59,134	48,534	40,452	19,193	11,332	4,207	3,317	2,400	188,569
1 day	25,086	17,474	14,818	8,241	5,548	1,614	1,493	909	75,183
2–6 days	4,687	2,480	2,669	1,302	956	297	295	267	12,953
7–13 days	558	317	238	147	124	n.p.	n.p.	32	1,466
14 or more days	372	324	129	85	122	<5	n.p.	20	1,072
Not stated	1,403	—	—	28	—	—	—	—	1,431
Total	91,240	69,129	58,306	28,996	18,082	6,141	5,152	3,628	280,674
	Per cent								
Less than 1 day	64.8	70.2	69.4	66.2	62.7	68.5	64.4	66.2	67.2
1 day	27.5	25.3	25.4	28.4	30.7	26.3	29.0	25.1	26.8
2–6 days	5.1	3.6	4.6	4.5	5.3	4.8	5.7	7.4	4.6
7–13 days	0.6	0.5	0.4	0.5	0.7	n.p.	n.p.	0.9	0.5
14 or more days	0.4	0.5	0.2	0.3	0.7	n.p.	n.p.	0.6	0.4
Not stated	1.5	—	—	0.1	—	—	—	—	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

n.p. Data not published to maintain confidentiality of small numbers.

Postnatal length of stay

The length of the mother's postnatal stay in hospital may be influenced by factors such as the method of birth, maternal medical and obstetric complications, neonatal morbidity and specific hospital policies on early discharge. In 2007, the median postnatal hospital stay for mothers was 3.0 days. Western Australia and South Australia reported a longer median length of stay of 4.0 days (Table 3.42).

The trend towards shorter postnatal stays in hospital is reflected by the higher proportion of mothers who were discharged less than five days after giving birth. In 2007, 13.6% of mothers were discharged less than two days after giving birth, and 64.0% of mothers were discharged between two and four days after giving birth. This compares with 10.7% and 52.6% respectively in 1998. Relatively more mothers in Queensland (84.3%) and Victoria (80.2%) had stays of less than five days in 2007. Longer lengths of stay (of five or more days) were relatively more common in Western Australia (32.3%) and the Northern Territory (31.5%).

Table 3.42: Women who gave birth in hospital^(a) by length of postnatal stay and state and territory, 2007

Length of stay	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Median (days)	3.0	3.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0
	Number								
Less than 1 day	2,098	1,377	2,104	671	418	208	198	153	7,227
1 day	9,982	4,880	9,421	2,688	1,427	678	638	288	30,002
2 days	16,895	14,736	12,547	4,578	2,934	1,118	937	595	54,340
3 days	19,222	13,179	12,755	5,267	3,489	1,236	1,086	674	56,908
4 days	19,165	19,618	11,724	5,982	4,456	1,116	1,052	606	63,719
5 days	12,191	10,273	6,367	4,496	3,258	822	783	525	38,715
6 days	4,918	1,896	1,626	2,643	1,124	382	256	227	13,072
7–13 days	2,621	1,095	986	1,966	651	n.p.	n.p.	286	7,962
14 or more days	89	31	37	36	11	n.p.	<5	29	249
Not stated	1,367	—	—	—	—	—	—	—	1,367
Total	88,548	67,085	57,567	28,327	17,768	5,801	5,082	3,383	273,561
	Per cent								
Less than 1 day	2.4	2.1	3.7	2.4	2.4	3.6	3.9	4.5	2.6
1 day	11.3	7.3	16.4	9.5	8.0	11.7	12.6	8.5	11.0
2 days	19.1	22.0	21.8	16.2	16.5	19.3	18.4	17.6	19.9
3 days	21.7	19.6	22.2	18.6	19.6	21.3	21.4	19.9	20.8
4 days	21.6	29.2	20.4	21.1	25.1	19.2	20.7	17.9	23.3
5 days	13.8	15.3	11.1	15.9	18.3	14.2	15.4	15.5	14.2
6 days	5.6	2.8	2.8	9.3	6.3	6.6	5.0	6.7	4.8
7–13 days	3.0	1.6	1.7	6.9	3.7	n.p.	n.p.	8.5	2.9
14 or more days	0.1	0.0	0.1	0.1	0.1	n.p.	n.p.	0.9	0.1
Not stated	1.5	—	—	—	—	—	—	—	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Only includes mothers who were discharged home.

n.p. Data not published to maintain confidentiality of small numbers.

Note: For multiple births, the length of stay after the birth of the first born baby was used.

Mothers in private hospitals had a median postnatal length of stay of 4.0 days in 2007, compared with 3.0 days for those in public hospitals. The proportion of women who gave birth in hospital with a postnatal stay of less than five days was 56.8% for those in private hospitals, compared with 86.6% in public hospitals.

Women who had a caesarean section or forceps delivery had a longer median length of stay (4.0 days) compared with women who had a non-instrumental vaginal birth (2.0 days). The median length of stay for women who had a vacuum extraction delivery was 3.0 days. Of women who had a caesarean section, 6.2% had a postnatal length of stay of seven days or longer (Table 3.43).

Table 3.43: Women who gave birth in hospital^(a) by length of postnatal stay and method of birth, 2007

Length of stay	Non-instrumental vaginal ^(b)	Forceps	Vacuum extraction	Caesarean section	Not stated	Australia
Median (days)	2.0	4.0	3.0	4.0	—	3.0
Number						
Less than 1 day	6,867	97	186	75	2	7,227
1 day	27,805	394	1,277	513	13	30,002
2 days	43,406	1,727	4,014	5,184	9	54,340
3 days	34,206	2,428	5,127	15,134	13	56,908
4 days	29,653	3,463	6,456	24,129	18	63,719
5 days	8,056	1,313	2,549	26,792	5	38,715
6 days	2,515	496	932	9,129	—	13,072
7–13 days	1,803	348	597	5,213	1	7,962
14 or more days	57	12	7	173	—	249
Not stated	814	54	120	377	2	1,367
Total	155,182	10,332	21,265	86,719	63	273,561
Per cent						
Less than 1 day	4.4	0.9	0.9	0.1	3.2	2.6
1 day	17.9	3.8	6.0	0.6	20.6	11.0
2 days	28.0	16.7	18.9	6.0	14.3	19.9
3 days	22.0	23.5	24.1	17.5	20.6	20.8
4 days	19.1	33.5	30.4	27.8	28.6	23.3
5 days	5.2	12.7	12.0	30.9	7.9	14.2
6 days	1.6	4.8	4.4	10.5	—	4.8
7–13 days	1.2	3.4	2.8	6.0	1.6	2.9
14 or more days	0.0	0.1	0.0	0.2	—	0.1
Not stated	0.5	0.5	0.6	0.4	3.2	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Only includes mothers who were discharged home.

(b) For four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used.

Note: For multiple births, the length of stay after the birth of the first born baby and the method of birth of the first born baby were used.

Mode of separation from hospital

Nearly all women who gave birth in hospital were discharged to their homes (97.5%). Around 2.4% of mothers were transferred to another hospital (Table 3.44). This usually occurs for continuing care in a hospital located nearer to the mother's place of residence or sometimes for further treatment of complications. The transfers to another hospital occurred more in Tasmania (5.5%) than in the other jurisdictions.

Table 3.44: Women who gave birth in hospital by mode of separation and state and territory, 2007

Mode of separation	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
Discharge home	88,548	67,085	57,567	28,327	17,768	5,801	5,082	3,383	273,561
Transfer to another hospital	2,661	2,040	739	508	313	340	67	55	6,723
Died	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	7
Other ^(a)	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	320
Not stated	31	—	—	28	—	—	3	1	63
Total	91,240	69,129	58,306	28,996	18,082	6,141	5,152	3,628	280,674
Per cent									
Discharge home	97.0	97.0	98.7	97.7	98.3	94.5	98.6	93.2	97.5
Transfer to another hospital	2.9	3.0	1.3	1.8	1.7	5.5	1.3	1.5	2.4
Died	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.0
Other ^(a)	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.1
Not stated	0.0	—	—	0.1	—	—	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Other includes statistical discharges and transfers to accommodation other than acute hospitals, such as hostels and prisons, and mothers discharged against medical advice.

n.p. Data not published to maintain confidentiality of small numbers. Note that in this table <5 cells and some blank cells have been presented as 'n.p.'.

Homebirths

In 2007, 870 planned homebirths, representing 0.3% of all women who gave birth, were reported nationally. The highest proportion of homebirths occurred in Western Australia (0.7%) (Table 3.14). It is probable that not all homebirths are reported to the perinatal data collections.

The mean age of mothers who gave birth at home in 2007 was 32.1 years (Table 3.45). The proportion of mothers aged less than 20 years was 0.8%, and the proportion aged 35 years and over was 32.9%. The proportion of mothers who gave birth at home who identified as being of Aboriginal or Torres Strait Islander origin was 0.6%. The largest proportion of women who had a homebirth lived in major cities (56.8%) (Table 3.45).

Of mothers who gave birth at home, one-quarter had their first baby (24.9%), and 74.3% were multiparous. The method of birth was non-instrumental vaginal for 99.5% of women who gave birth at home (Table 3.45), and the presentation was vertex for 97.6% of women who gave birth at home.

Of babies born at home in 2007, 99.7% were liveborn. The mean birthweight of these liveborn babies was 3,678 grams (Table 3.45). The proportion of liveborn babies of low birthweight born at home was 0.5%, and the proportion of babies born at home that were preterm was 1.4%.

Table 3.45: Selected characteristics of women who gave birth at home, 2007

Characteristic	Number	Per cent
Women who gave birth	870	—
Mean maternal age	32.1	—
Parity		
None	217	24.9
One	321	36.9
Two	200	23.0
Three	73	8.4
Four or more	52	5.9
Remoteness Area of mother's usual residence^(a)		
Major cities	494	56.8
Inner regional	251	28.9
Outer regional	88	10.1
Remote	20	2.3
Very remote	4	0.5
Method of birth		
Non-instrumental vaginal ^(b)	866	99.5
Other	1	0.1
Births	874	—
Birth status		
Live births	871	99.7
Fetal deaths	3	0.3
Sex		
Males	444	50.8
Females	429	49.1
Mean birthweight of live births (g)	3,678	—

(a) Excludes mothers not usually resident in Australia and those whose state or territory of usual residence was 'Not stated'.

(b) For four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

4 Babies

Demographic profile

Birth status

Babies are recorded as liveborn or stillborn (fetal deaths) on perinatal notification forms. A live birth is defined as the complete expulsion or extraction from the mother of a baby which, after such separation, breathes or shows any other evidence of life. A fetal death is defined as a death occurring prior to the complete expulsion or extraction from the mother of a product of conception of 20 or more completed weeks gestation or 400 grams or more birthweight (HDSC 2008). In the NPDC, the same criteria are applied to live births, that is, live births must also be at least 20 weeks gestation or at least 400 grams birthweight.

There were 292,027 live births and 2,177 fetal deaths in Australia in 2007, with a total of 294,205 births reported to the NPDC (Table 2.1). This equates to a stillbirth rate of 7.4 per 1,000 births.

Month of birth

In 2007, most births occurred in March (8.7%), August and October (both 8.6%). March births ranged from 8.6% in South Australia to 9.8% in the Northern Territory (Table 4.1).

Table 4.1: Births by month of birth, 2007

Month	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number									
January	8,022	6,071	5,071	2,553	1,635	539	461	305	24,657
February	7,434	5,630	4,669	2,382	1,622	487	386	297	22,907
March	8,339	6,331	5,309	2,644	1,700	549	488	373	25,733
April	7,833	5,721	4,987	2,383	1,509	479	452	343	23,707
May	8,333	5,981	5,221	2,549	1,630	556	454	326	25,050
June	7,910	5,871	4,887	2,517	1,653	470	459	293	24,060
July	8,110	6,160	5,242	2,531	1,710	586	461	311	25,111
August	8,206	6,348	5,259	2,545	1,766	525	478	320	25,447
September	8,056	6,131	5,115	2,466	1,578	563	484	297	24,690
October	8,325	6,458	5,073	2,546	1,744	530	459	300	25,435
November	7,812	5,991	4,650	2,447	1,545	526	480	331	23,782
December	7,636	5,779	4,761	2,511	1,659	502	473	305	23,626
Total	96,016	72,472	60,244	30,074	19,751	6,312	5,535	3,801	294,205
Per cent									
January	8.4	8.4	8.4	8.5	8.3	8.5	8.3	8.0	8.4
February	7.7	7.8	7.8	7.9	8.2	7.7	7.0	7.8	7.8
March	8.7	8.7	8.8	8.8	8.6	8.7	8.8	9.8	8.7
April	8.2	7.9	8.3	7.9	7.6	7.6	8.2	9.0	8.1
May	8.7	8.3	8.7	8.5	8.3	8.8	8.2	8.6	8.5
June	8.2	8.1	8.1	8.4	8.4	7.4	8.3	7.7	8.2
July	8.4	8.5	8.7	8.4	8.7	9.3	8.3	8.2	8.5
August	8.5	8.8	8.7	8.5	8.9	8.3	8.6	8.4	8.6
September	8.4	8.5	8.5	8.2	8.0	8.9	8.7	7.8	8.4
October	8.7	8.9	8.4	8.5	8.8	8.4	8.3	7.9	8.6
November	8.1	8.3	7.7	8.1	7.8	8.3	8.7	8.7	8.1
December	8.0	8.0	7.9	8.3	8.4	8.0	8.5	8.0	8.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sex

Male births exceeded female births in all states and territories, and accounted for 51.4% of all live births nationally in 2007. This proportion was similar across the states and territories. In 2007, the sex ratio for Australia, defined as the number of male liveborn babies per 100 female liveborn babies, was 105.6 (Table 4.2).

Table 4.2: Live births by sex and state and territory, 2007

Sex	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Sex ratio (M:F)	105.7	105.6	106.1	105.7	103.7	104.5	105.5	109.2	105.6
	Number								
Males	48,982	36,861	30,800	15,359	9,986	3,203	2,820	1,966	149,977
Females	46,359	34,916	29,021	14,526	9,634	3,065	2,674	1,800	141,995
Indeterminate/ not stated	46	1	6	—	—	—	1	1	55
Total	95,387	71,778	59,827	29,885	19,620	6,268	5,495	3,767	292,027
	Per cent								
Males	51.4	51.4	51.5	51.4	50.9	51.1	51.3	52.2	51.4
Females	48.6	48.6	48.5	48.6	49.1	48.9	48.7	47.8	48.6
Indeterminate/ not stated	0.0	0.0	0.0	—	—	—	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

For singleton live births the sex ratio was 105.7 male births per 100 female births. The sex ratio for twins was 100.6 and for triplets, 123.8. The sex ratio for all live births was highest in the Northern Territory, at 109.2 male births per 100 female births, and lowest in South Australia, at 103.7.

Babies of Aboriginal and Torres Strait Islander mothers

The mothers reported to the NPDC for 2007, who identified as being Aboriginal or Torres Strait Islander, gave birth to 10,879 liveborn babies and 147 stillborn babies (fetal deaths). There were 278,331 non-Indigenous mothers who gave birth to 280,888 live births and 2,000 stillbirths (Table 4.3).

Table 4.3: Births by maternal Indigenous status and state and territory, 2007

Indigenous status ^(a)	NSW	Vic	Qld	WA	SA	Tas	ACT ^(b)	NT	Australia
Aboriginal or Torres Strait Islander									
Fetal deaths	41	12	39	20	10	—	—	25	147
Live births	2,884	692	3,165	1,755	580	236	91	1,476	10,879
All births	2,925	704	3,204	1,775	590	236	91	1,501	11,026
Non-Indigenous									
Fetal deaths	586	653	378	169	120	44	40	9	2,000
Live births	92,306	71,082	56,619	28,130	19,040	6,032	5,394	2,285	280,888
All births	92,892	71,735	56,997	28,299	(c)19,161	6,076	5,434	2,294	282,888

(a) Indigenous status 'Not stated' not included.

(b) 24.1% of Aboriginal and Torres Strait Islander women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 68 of the 91 babies were born in the ACT to ACT resident Aboriginal or Torres Strait Islander women in 2007.

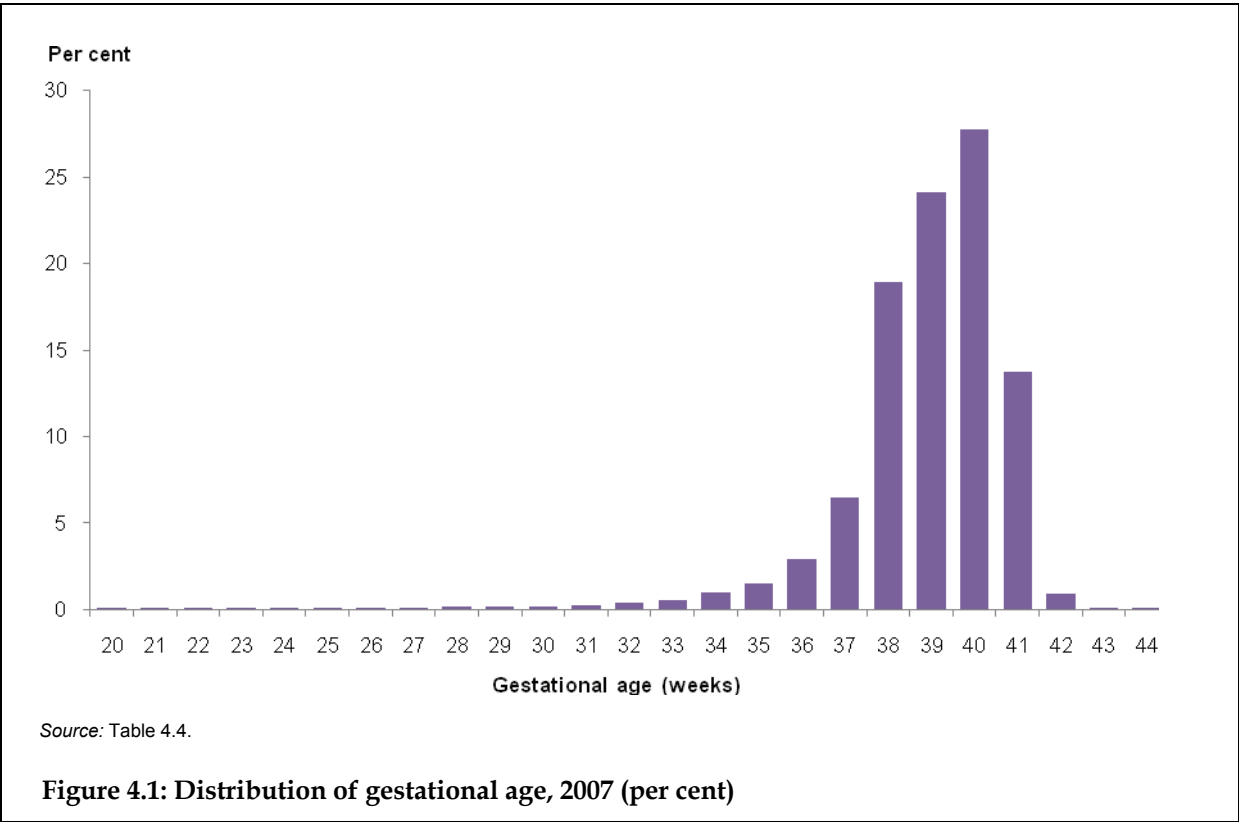
(c) Includes one perinatal death for which it is not known whether it was a stillbirth or a live birth (neonatal death).

Outcomes

Gestational age

In 2007, the mean gestational age for all babies was 38.8 weeks. The proportion of babies born at term (37–41 weeks gestation) was 90.9% (Table 4.4).

Preterm birth (before 37 completed weeks of gestation) is associated with a higher risk of neonatal problems that cause significant morbidity and mortality in newborn babies. Preterm births were classified according to the criteria of the WHO into groups of 20–27 weeks, 28–31 weeks and 32–36 weeks. Of all babies born in 2007, 8.1% were preterm, with most of the preterm births occurring at a gestational age of 32–36 completed weeks (Figure 4.1; Table 4.4).



The mean gestational age of stillborn babies was 27.4 weeks in 2007 compared with 38.9 weeks for liveborn babies. Preterm birth occurred in 80.8% of stillborn babies, compared with 7.6% of liveborn babies (Table 4.4).

Table 4.4: Births by gestational age and birth status, 2007

Gestational age (weeks)	Live births		Fetal deaths		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
20 ^(a)	73	0.0	302	13.9	375	0.1
21	93	0.0	278	12.8	371	0.1
22	122	0.0	237	10.9	359	0.1
23	135	0.0	164	7.5	299	0.1
24	183	0.1	129	5.9	312	0.1
25	177	0.1	73	3.4	250	0.1
26	235	0.1	76	3.5	311	0.1
27	286	0.1	46	2.1	332	0.1
28	401	0.1	43	2.0	444	0.2
29	421	0.1	54	2.5	475	0.2
30	583	0.2	59	2.7	642	0.2
31	750	0.3	33	1.5	783	0.3
32	1,233	0.4	58	2.7	1,291	0.4
33	1,625	0.6	41	1.9	1,666	0.6
34	2,880	1.0	42	1.9	2,922	1.0
35	4,410	1.5	49	2.3	4,459	1.5
36	8,587	2.9	75	3.4	8,662	2.9
37	18,894	6.5	85	3.9	18,979	6.5
38	55,495	19.0	105	4.8	55,600	18.9
39	70,908	24.3	84	3.9	70,992	24.1
40	81,481	27.9	72	3.3	81,554	27.7
41	40,293	13.8	42	1.9	40,335	13.7
42	2,660	0.9	6	0.3	2,666	0.9
43	47	0.0	1	0.0	48	0.0
44	7	0.0	—	—	7	0.0
Not stated	48	0.0	23	1.1	71	0.0
Total	292,027	100.00	2,177	100.0	294,205	100.0
20–36	22,194	7.6	1,759	80.8	23,953	8.1
Mean (weeks)	38.9		27.4		38.8	

(a) Includes 4 babies of less than 20 weeks gestation.

The mean gestational age for all preterm births in 2007 was 33.2 weeks (Table 4.5). Nationally, 0.9% of births were at 20–27 weeks gestation, 0.8% were at 28–31 weeks and 6.5% were at 32–36 weeks. The Northern Territory had the highest proportion of preterm births, at 10.4% of all births, and New South Wales had the lowest, at 7.4% of all births.

Table 4.5: Preterm births by gestational age and state and territory, 2007

Gestational age (weeks)	NSW	Vic^(a)	Qld	WA	SA	Tas	ACT^(b)	NT	Australia
Mean	33.3	32.8	33.2	33.3	33.2	33.1	32.9	33.0	33.2
	Number								
20–27 ^(c)	706	840	490	252	176	51	53	41	2,609
28–31	661	556	547	246	168	64	49	53	2,344
32–36	5,703	4,616	4,216	2,058	1,328	394	382	303	19,000
Total	7,070	6,012	5,253	2,556	1,672	509	484	397	23,953
	Per cent of total births								
20–27 ^(c)	0.7	1.2	0.8	0.8	0.9	0.8	1.0	1.1	0.9
28–31	0.7	0.8	0.9	0.8	0.9	1.0	0.9	1.4	0.8
32–36	5.9	6.4	7.0	6.8	6.7	6.2	6.9	8.0	6.5
Total	7.4	8.3	8.7	8.5	8.5	8.1	8.7	10.4	8.1

(a) Preterm birth rates may be higher as the majority of late terminations for psychosocial indications are undertaken in Vic.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of preterm births among babies of ACT residents who gave birth in the ACT was 6.7% compared with 19.1% of non-ACT residents who gave birth in the ACT.

(c) Includes 4 babies of less than 20 weeks gestation.

In 2007, 13.7% of babies of Aboriginal and Torres Strait Islander mothers were born preterm. This was greater than the proportion of 7.9% in babies of non-Indigenous mothers.

For singletons, the mean gestational age was 38.9 weeks, compared with 35.3 weeks for twins and 31.3 weeks for triplets. Preterm birth occurred in 53.7% of twins and in almost all triplets (99.6%), both much higher than the proportion of 6.6% found among singleton births (Table 4.6). The downward shift in the distributions of gestational age for babies born as multiples compared with singletons dramatically increased for babies of less than 32 weeks gestation, when the risks of subsequent complications are much higher. In 2007, birth before 32 weeks gestation occurred for 10.5% of twin births and 39.5% of triplets, but only 1 in 100 (1.4%) singleton births (Table 4.5).

Only 0.9% of babies were born post-term (at 42 weeks or more gestation). The duration of pregnancy by state and territory is detailed in Table 3.16.

Table 4.6: Births by gestational age and plurality, 2007

Gestational age (weeks)	Singletons		Twins		Triplets		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
20–27 ^(a)	2,216	0.8	363	4.0	30	13.2	2,609	0.9
28–31	1,686	0.6	598	6.6	60	26.3	2,344	0.8
32–36	14,925	5.2	3,938	43.2	137	60.1	19,000	6.5
37–41	263,245	92.4	4,214	46.2	1	0.4	267,460	90.9
42 and over	2,719	1.0	2	0.0	—	—	2,721	0.9
Not stated	71	0.0	—	—	—	—	71	0.0
Total	284,862	100.0	9,115	100.0	228	100.0	294,205	100.0
20–36	18,827	6.6	4,899	53.7	227	99.6	23,953	8.1
Mean (weeks)	38.9		35.3		31.3		38.8	

(a) Includes 4 babies of less than 20 weeks gestation.

Birthweight

A baby's birthweight is a key indicator of health status. Babies are defined as low birthweight if their weight at birth is less than 2,500 grams. Within this category, those weighing less than 1,500 grams are defined as very low birthweight and those less than 1,000 grams as extremely low birthweight (WHO 1992).

Low birthweight babies have a greater risk of poor health and dying, require a longer period of hospitalisation after birth, and are more likely to develop significant disabilities (Goldenberg & Culhane 2007). A baby may be small due to being born early (preterm), or may be small for its gestational age (intrauterine growth retardation). Some factors contributing to low birthweight include socioeconomic status, size of parents, age of mother, number of babies previously born, mother's nutritional status, smoking and alcohol intake, and illness during pregnancy (Ashdown-Lambert 2005; Mohsin et al. 2003).

In 2007, 92.1% of liveborn babies had a birthweight in the range 2,500–4,499 grams. The average birthweight of liveborn babies in Australia in 2007 was 3,374 grams and ranged from 3,290 grams in the Northern Territory to 3,395 grams in Tasmania (Table 4.7).

In 2007, there were 17,976 (6.2%) liveborn babies of low birthweight. This rate was the lowest since 1998, when it was 6.1%. The 2,956 very low birthweight babies constituted 1.0% of all live births in 2007, and the 1,288 extremely low birthweight babies constituted 0.4% (Table 4.7).

Table 4.7: Live births by birthweight and state and territory, 2007

Birthweight (g)	NSW	Vic	Qld	WA	SA	Tas	ACT^(a)	NT	Australia
Mean	3,382	3,370	3,385	3,357	3,359	3,395	3,365	3,290	3,374
	Number								
Less than 1,000	361	369	257	132	90	25	33	21	1,288
1,000–1,499	462	417	387	159	125	46	32	40	1,668
1,500–1,999	1,080	935	783	401	220	88	103	54	3,664
2,000–2,499	3,500	2,805	2,355	1,208	816	261	229	182	11,356
2,500–2,999	14,217	10,998	8,601	4,629	3,086	875	803	716	43,925
3,000–3,499	34,729	25,626	20,958	10,949	7,073	2,126	1,915	1,344	104,720
3,500–3,999	29,623	22,038	18,927	9,124	5,966	1,977	1,674	1,019	90,348
4,000–4,499	9,709	7,258	6,414	2,823	1,954	739	595	337	29,829
4,500 and over	1,649	1,317	1,136	460	289	130	110	54	5,145
Not stated	57	15	9	—	1	1	1	—	84
Total	95,387	71,778	59,827	29,885	19,620	6,268	5,495	3,767	292,027
<i>Less than 1,500</i>	<i>823</i>	<i>786</i>	<i>644</i>	<i>291</i>	<i>215</i>	<i>71</i>	<i>65</i>	<i>61</i>	<i>2,956</i>
<i>Less than 2,500</i>	<i>5,403</i>	<i>4,526</i>	<i>3,782</i>	<i>1,900</i>	<i>1,251</i>	<i>420</i>	<i>397</i>	<i>297</i>	<i>17,976</i>
	Per cent								
Less than 1,000	0.4	0.5	0.4	0.4	0.5	0.4	0.6	0.6	0.4
1,000–1,499	0.5	0.6	0.6	0.5	0.6	0.7	0.6	1.1	0.6
1,500–1,999	1.1	1.3	1.3	1.3	1.1	1.4	1.9	1.4	1.3
2,000–2,499	3.7	3.9	3.9	4.0	4.2	4.2	4.2	4.8	3.9
2,500–2,999	14.9	15.3	14.4	15.5	15.7	14.0	14.6	19.0	15.0
3,000–3,499	36.4	35.7	35.0	36.6	36.0	33.9	34.8	35.7	35.9
3,500–3,999	31.1	30.7	31.6	30.5	30.4	31.5	30.5	27.1	30.9
4,000–4,499	10.2	10.1	10.7	9.4	10.0	11.8	10.8	8.9	10.2
4,500 and over	1.7	1.8	1.9	1.5	1.5	2.1	2.0	1.4	1.8
Not stated	0.1	0.0	0.0	—	0.0	0.0	0.0	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Less than 1,500</i>	<i>0.9</i>	<i>1.1</i>	<i>1.1</i>	<i>1.0</i>	<i>1.1</i>	<i>1.1</i>	<i>1.2</i>	<i>1.6</i>	<i>1.0</i>
<i>Less than 2,500</i>	<i>5.7</i>	<i>6.3</i>	<i>6.3</i>	<i>6.4</i>	<i>6.4</i>	<i>6.7</i>	<i>7.2</i>	<i>7.9</i>	<i>6.2</i>

(a) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of live births of ACT residents who gave birth in the ACT where the birthweight was less than 1,500 grams was 0.7% and where the birthweight was less than 2,500 grams the percentage was 5.0%.

The mean birthweight of stillborn babies was 1,174 grams in 2007 compared with 3,374 grams for liveborn babies. Low birthweight occurred in 79.0% of stillborn babies. More than half (62.5%) of the stillborn babies had a birthweight of less than 1,000 grams (Table 4.8).

A smaller proportion of male liveborn babies was low birthweight (5.7%) compared with female babies (6.7%). The average birthweight of liveborn male babies was 3,434 grams, 123 grams higher than that of females (3,311 grams).

Table 4.8: Births by birthweight and birth status, 2007

Birthweight (g)	Live births		Fetal deaths		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than 1,000	1,288	0.4	1,361	62.5	2,649	0.9
1,000–1,499	1,668	0.6	135	6.2	1,803	0.6
1,500–1,999	3,664	1.3	114	5.2	3,778	1.3
2,000–2,499	11,356	3.9	110	5.1	11,466	3.9
2,500–2,999	43,925	15.0	146	6.7	44,071	15.0
3,000–3,499	104,720	35.9	129	5.9	104,850	35.6
3,500–3,999	90,348	30.9	75	3.4	90,423	30.7
4,000–4,499	29,829	10.2	24	1.1	29,853	10.1
4,500 and over	5,145	1.8	10	0.5	5,155	1.8
Not stated	84	0.0	73	3.4	157	0.1
Total	292,027	100.0	2,177	100.0	295,205	100.0
<i>Less than 1,500</i>	<i>2,956</i>	<i>1.0</i>	<i>1,496</i>	<i>68.7</i>	<i>4,452</i>	<i>1.5</i>
<i>Less than 2,500</i>	<i>17,976</i>	<i>6.2</i>	<i>1,720</i>	<i>79.0</i>	<i>19,696</i>	<i>6.7</i>
Mean (g)	3,374		1,174		3,358	

For liveborn singletons, the mean birthweight was 3,406 grams, compared with 2,413 grams for twins and 1,701 grams for triplets. Low birthweight occurred in half of all liveborn twins (49.6%) and in most triplets (94.7%), which was markedly higher than the proportion of 4.7% found among singleton births (Table 4.9).

Table 4.9: Live births by birthweight and plurality, 2007

Birthweight (g)	Singletons		Twins		Triplets		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Less than 1,000	1,003	0.4	264	3.0	21	10.0	1,288	0.4
1,000–1,499	1,146	0.4	476	5.3	46	22.0	1,668	0.6
1,500–1,999	2,461	0.9	1,119	12.5	84	40.2	3,664	1.3
2,000–2,499	8,736	3.1	2,573	28.8	47	22.5	11,356	3.9
2,500–2,999	40,711	14.4	3,203	35.9	11	5.3	43,925	15.0
3,000–3,499	103,575	36.6	1,145	12.8	—	—	104,720	35.9
3,500–3,999	90,214	31.9	134	1.5	—	—	90,348	30.9
4,000–4,499	29,820	10.5	9	0.1	—	—	29,829	10.2
4,500 and over	5,145	1.8	—	—	—	—	5,145	1.8
Not stated	76	0.0	8	0.1	—	—	84	0.0
Total	282,887	100.0	8,931	100.0	209	100.0	292,027	100.0
<i>Less than 1,500</i>	<i>2,149</i>	<i>0.8</i>	<i>740</i>	<i>8.3</i>	<i>67</i>	<i>32.1</i>	<i>2,956</i>	<i>1.0</i>
<i>Less than 2,500</i>	<i>13,346</i>	<i>4.7</i>	<i>4,432</i>	<i>49.6</i>	<i>198</i>	<i>94.7</i>	<i>17,976</i>	<i>6.2</i>
Mean (g)	3,406		2,413		1,701		3,374	

In 2007, the average birthweight of liveborn babies of Aboriginal and Torres Strait Islander mothers was 3,182 grams. This was 200 grams lighter than the average of 3,382 grams for liveborn babies of non-Indigenous mothers. The proportion of low birthweight in liveborn babies of Aboriginal and Torres Strait Islander mothers was 12.5% (Table 4.10), twice that of babies of non-Indigenous mothers (5.9%). The mean birthweight of liveborn babies of mothers identified as Aboriginal or Torres Strait Islander, and the proportion with low birthweight, varied markedly among the states and territories.

Table 4.10: Live births of Aboriginal or Torres Strait Islander mothers by birthweight and state and territory, 2007

Birthweight (g)	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Australia
Mean	3,217	3,216	3,214	3,107	3,067	3,397	3,047	3,133	3,182
	Number								
Less than 1,500	53	12	62	37	n.p.	<5	6	39	230
1,500–2,499	271	71	293	248	74	16	11	146	1,130
2,500–2,999	608	147	646	399	158	47	15	370	2,390
3,000–3,499	995	234	1,104	580	166	61	32	511	3,683
3,500–3,999	673	163	775	363	123	78	19	290	2,484
4,000–4,499	232	51	241	110	37	23	8	100	802
4,500 and over	48	14	44	18	<5	n.p.	—	20	156
Not stated	4	—	—	—	—	—	—	—	4
Total	2,884	692	3,165	1,755	580	236	91	1,476	10,879
<i>Less than 2,500</i>	<i>324</i>	<i>83</i>	<i>355</i>	<i>285</i>	<i>94</i>	<i>17</i>	<i>17</i>	<i>185</i>	<i>1,360</i>
	Per cent								
Less than 1,500	1.8	1.7	2.0	2.1	n.p.	n.p.	6.6	2.6	2.1
1,500–2,499	9.4	10.3	9.3	14.1	12.8	6.8	12.1	9.9	10.4
2,500–2,999	21.1	21.2	20.4	22.7	27.2	19.9	16.5	25.1	22.0
3,000–3,499	34.5	33.8	34.9	33.0	28.6	25.8	35.2	34.6	33.9
3,500–3,999	23.3	23.6	24.5	20.7	21.2	33.1	20.9	19.6	22.8
4,000–4,499	8.0	7.4	7.6	6.3	6.4	9.7	8.8	6.8	7.4
4,500 and over	1.7	2.0	1.4	1.0	n.p.	n.p.	—	1.4	1.4
Not stated	0.1	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Less than 2,500</i>	<i>11.2</i>	<i>12.0</i>	<i>11.2</i>	<i>16.2</i>	<i>16.2</i>	<i>7.2</i>	<i>18.7</i>	<i>12.5</i>	<i>12.5</i>

(a) 24.1% of Aboriginal and Torres Strait Islander women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of liveborn babies born in the ACT to ACT resident Aboriginal or Torres Strait Islander women in 2007 where the birthweight was less than 2,500 grams was 11.8%.

n.p. Data not published to maintain confidentiality of small numbers.

Mothers aged 30–34 years had the lowest proportion of low birthweight liveborn babies (5.6%). The proportion was higher among babies of younger and older mothers (8.6% for mothers aged less than 20 years and 14.5% for mothers aged 45 years and older).

Of hospital births, the proportion of low birthweight liveborn babies was higher in babies of mothers who gave birth in public hospitals (7.1%) than in babies of mothers who gave birth in private hospitals (4.3%). Liveborn babies of mothers who reported smoking during

pregnancy had a higher proportion of low birthweight babies (10.9%) compared with mothers who did not smoke (5.1%).

Presentation at birth

In 2007, vertex presentations occurred for 93.8% of all babies. Breech presentation occurred for 4.6% of babies, and other presentations occurred for 1.0% of babies. Around 31.5% of twins and one-third of triplets (33.3%) had non-vertex presentations at birth (Table 4.11).

Table 4.11: Births by presentation at birth and plurality, 2007

Presentation	Singletons		Twins		Triplets		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Vertex	269,738	94.7	6,096	66.9	149	65.4	275,983	93.8
Breech	10,736	3.8	2,581	28.3	72	31.6	13,389	4.6
Other ^(a)	2,534	0.9	291	3.2	4	1.8	2,829	1.0
Not stated	1,854	0.7	147	1.6	3	1.3	2,004	0.7
Total	284,862	100.0	9,115	100.0	228	100.0	294,205	100.0

(a) Includes face, brow, shoulder/transverse and compound presentations.

Table 3.25 shows the presentation at birth for mothers, where the presentation at birth of the first born baby in multiple births is used.

Method of birth

Of all births in 2007, 31.5% of babies were delivered by caesarean section and 57.4% of babies had a non-instrumental vaginal birth. Approximately 1 in 9 babies was born by an instrumental vaginal delivery (11.1%). Two-thirds of all twins (68.8%) and the majority of triplets were delivered by caesarean section (85.5%) (Table 4.12).

Table 3.26 presents data for mothers, where the method of birth of the first born baby in multiple births is used.

Table 4.12: Births by method of birth and plurality, 2007

Method of birth	Singletons		Twins		Triplets		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Non-instrumental vaginal ^(a)	166,544	58.5	2,208	24.2	29	12.7	168,781	57.4
Instrumental vaginal ^(b)	32,039	11.2	635	7.0	4	1.8	32,678	11.1
Caesarean section	86,207	30.3	6,272	68.8	195	85.5	92,674	31.5
Not stated	72	0.0	—	—	—	—	72	0.0
Total	284,862	100.0	9,115	100.0	228	100.0	294,205	100.0

(a) For four jurisdictions, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(b) Instrumental vaginal birth includes forceps and vacuum extraction.

Method of birth for babies with breech presentations

Of babies with breech presentations at birth in 2007, 87.7% were born by caesarean section. This ranged from 83.5% in the Northern Territory to 89.9% in Queensland (Table 4.13). The remaining babies were born vaginally, with or without the use of instruments.

Table 4.13: Babies with breech presentations by method of birth and state and territory, 2007

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Total
Number									
Vaginal ^(b)	507	499	310	168	97	n.p.	39	29	1,649
Caesarean section	3,439	3,125	2,764	1,215	790	n.p.	258	147	11,738
Not stated	—	—	—	—	—	n.p.	—	—	—
Total	3,946	3,624	3,074	1,383	887	n.p.	297	176	13,387
Per cent									
Vaginal ^(b)	12.8	13.8	10.1	12.1	10.9	n.p.	13.1	16.5	12.3
Caesarean section	87.2	86.2	89.9	87.9	89.1	n.p.	86.9	83.5	87.7
Not stated	—	—	—	—	—	n.p.	—	—	—
Total	100.0	100.0	100.0	100.0	100.0	n.p.	100.0	100.0	100.0

(a) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of babies born in the ACT to ACT residents with a breech presentation by a vaginal birth was 9.6%.

(b) Includes instrumental vaginal births.

n.p. Data for Tas not published as presentations were only recorded for vaginal births.

Of singleton babies born at term with breech presentations, 95.9% were born by caesarean section. Of all term singleton births, 76.4% were delivered by caesarean section without labour (Table 4.14).

Table 4.14: Singleton and term babies with breech presentations by method of birth and state and territory, 2007

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Total
Number									
Vaginal ^(b)	125	88	74	24	20	n.p.	n.p.	<5	339
Caesarean section	2,548	1,999	1,821	830	533	n.p.	n.p.	n.p.	7,995
Labour	556	376	384	150	126	n.p.	n.p.	n.p.	1,630
No labour	1,992	1,623	1,437	680	407	n.p.	n.p.	n.p.	6,365
Not stated	—	—	—	—	—	n.p.	—	—	—
Total	2,673	2,087	1,895	854	553	n.p.	179	93	8,334
Per cent									
Vaginal ^(b)	4.7	4.2	3.9	2.8	3.6	n.p.	n.p.	n.p.	4.1
Caesarean section	95.3	95.8	96.1	97.2	96.4	n.p.	n.p.	n.p.	95.9
Labour	20.8	18.0	20.3	17.6	22.8	n.p.	n.p.	n.p.	19.6
No labour	74.5	77.8	75.8	79.6	73.6	n.p.	n.p.	n.p.	76.4
Not stated	—	—	—	—	—	n.p.	—	—	—
Total	100.0	100.0	100.0	100.0	100.0	n.p.	100.0	100.0	100.0

(a) 16.1% of women who gave birth in the ACT were non-ACT residents.

(b) Includes instrumental vaginal births.

n.p. Data not published to maintain confidentiality of small numbers. Data for Tas not published as presentations were only recorded for vaginal births.

Apgar scores

Apgar scores are clinical indicators of the baby'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, and the total score is between 0 and 10. An Apgar score of less than 7 at 5 minutes after birth is considered to be an indicator of complications and of compromise for the baby.

In 2007, 1.4% of liveborn babies had a low Apgar score (between 0 and 6) at 5 minutes. Scores of 0–3 were recorded at 5 minutes in 0.3% of all live births nationally, and scores of 4–6 were recorded in 1.1% of live births (Table 4.15). Among the states and territories, the distribution of low Apgar scores at 5 minutes ranged from 1.1% of all live births in Queensland, to 2.5% in the Northern Territory.

Table 4.15: Live births by Apgar score at 5 minutes and state and territory, 2007

Apgar score	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Australia
	Number								
0–3	308	246	174	64	53	26	29	21	921
4–6	1,065	881	497	297	211	60	70	74	3,155
7–10	93,685	70,557	59,106	29,493	19,324	6,181	5,393	3,670	287,409
Not stated	329	94	50	31	32	1	3	2	542
Total	95,387	71,778	59,827	29,885	19,620	6,268	5,495	3,767	292,027
<i>Less than 7</i>	<i>1,373</i>	<i>1,127</i>	<i>671</i>	<i>361</i>	<i>264</i>	<i>86</i>	<i>99</i>	<i>95</i>	<i>4,076</i>
	Per cent								
0–3	0.3	0.3	0.3	0.2	0.3	0.4	0.5	0.6	0.3
4–6	1.1	1.2	0.8	1.0	1.1	1.0	1.3	2.0	1.1
7–10	98.2	98.3	98.8	98.7	98.5	98.6	98.1	97.4	98.4
Not stated	0.3	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Less than 7</i>	<i>1.4</i>	<i>1.6</i>	<i>1.1</i>	<i>1.2</i>	<i>1.3</i>	<i>1.4</i>	<i>1.8</i>	<i>2.5</i>	<i>1.4</i>

(a) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

Resuscitation at birth

The types of active resuscitation measures given to babies immediately after birth are presented in Table 4.16. For these data, the type of resuscitation used is coded hierarchically, with suction being the lowest order and external cardiac massage and ventilation being the highest order. If more than one type of resuscitation was used, the highest order type in the hierarchy is coded.

Suction and oxygen therapy were the most common types of resuscitation used. Ventilatory assistance by intermittent positive pressure respiration (IPPR) through a bag and mask or after endotracheal intubation was performed for at least 7.2% of all live births in 2007. External cardiac massage was provided for a small proportion of babies (0.3%).

Table 4.16: Live births by active resuscitation measures at birth and state and territory, 2007

Resuscitation type ^(a)	NSW	Vic	Qld	WA	SA	Tas	ACT ^(b)	NT	Australia
	Number								
None	62,646	54,329	32,951	20,830	13,166	4,725	4,085	2,517	195,249
Suction	13,808	3,824	10,175	2,761	1,529	355	507	452	33,411
Oxygen therapy	12,181	8,004	11,598	3,189	3,422	750	387	394	39,925
IPPR through bag and mask	5,499	4,986	4,213	2,027	1,319	399	404	327	19,174
Endotracheal intubation and IPPR	533	436	522	224	127	24	70	35	1,971
External cardiac massage and ventilation	285	176	105	72	38	15	24	21	736
Other ^(c)	—	9	253	782	19	—	—	4	1,067
Not stated	435	14	10	—	—	—	18	17	494
Total	95,387	71,778	59,827	29,885	19,620	6,268	5,495	3,767	292,027
	Per cent								
None	65.7	75.7	55.1	69.7	67.1	75.4	74.3	66.8	66.9
Suction	14.5	5.3	17.0	9.2	7.8	5.7	9.2	12.0	11.4
Oxygen therapy	12.8	11.2	19.4	10.7	17.4	12.0	7.0	10.5	13.7
IPPR through bag and mask	5.8	6.9	7.0	6.8	6.7	6.4	7.4	8.7	6.6
Endotracheal intubation and IPPR	0.6	0.6	0.9	0.7	0.6	0.4	1.3	0.9	0.7
External cardiac massage and ventilation	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.6	0.3
Other ^(c)	—	0.0	0.4	2.6	0.1	—	—	0.1	0.4
Not stated	0.5	0.0	0.0	—	—	—	0.3	0.5	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) A hierarchical coding system is used for this item, starting with suction, up to external cardiac massage and ventilation. If more than one type of resuscitation was used, the highest order type in the hierarchy is coded.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

(c) Includes tactile stimulation for Qld.

Admission to special care nurseries or neonatal intensive care units

Babies are admitted to a special care nursery (SCN) or neonatal intensive care unit (NICU) if they require more specialised medical care and treatment than is available on the postnatal ward. Of liveborn babies in 2007, 14.5% were admitted to an SCN or NICU. This proportion appears lower in Western Australia because only babies who stayed in an SCN or NICU for one day or more were included. In the other states and territories, this ranged from 10.2% in Tasmania to 16.4% in Queensland (Table 4.17).

Table 4.17: Live births by admission to special care nursery or neonatal intensive care unit and state and territory, 2007

Admission to SCN or NICU	NSW	Vic	Qld	WA ^(a)	SA	Tas	ACT ^(b)	NT	Australia
Number									
Admitted	13,730	11,007	9,789	2,717	3,198	637	733	563	42,374
Not admitted	81,525	60,771	50,038	27,168	16,422	5,631	4,729	3,204	249,488
Not stated	132	—	—	—	—	—	33	—	165
Total	95,387	71,778	59,827	29,885	19,620	6,268	5,495	3,767	292,027
Per cent									
Admitted	14.4	15.3	16.4	9.1	16.3	10.2	13.3	14.9	14.5
Not admitted	85.5	84.7	83.6	90.9	83.7	89.8	86.1	85.1	85.4
Not stated	0.1	—	—	—	—	—	0.6	—	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For WA, babies were recorded as being admitted to an SCN or NICU only if the length of stay was one day or more.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of live babies born in the ACT to ACT resident women where there was an admission to a special care nursery or neonatal intensive care unit was 11.7%. Also, multiple sources were used for 2007 to improve the reporting of special care nursery or neonatal intensive care unit admissions.

Hospital births

Length of stay in hospital of birth

The majority of babies are discharged from hospital at the same time as their mothers, however, some ill babies require longer hospitalisation. A baby's gestation and birthweight are two factors that influence the duration of hospitalisation. Twins and higher order multiple births usually have longer stays in hospital than singleton babies.

In 2007, the median length of stay in hospital for babies born in hospital who were discharged home was 3.0 days. The majority of babies remained in their hospital of birth for less than six days (88.5%), and over half stayed in hospital for less than four days (52.1%). Relatively more babies born in Queensland had a length of stay of less than four days (61.2%). Babies hospitalised for 28 or more days accounted for 0.8% of babies born in hospital in 2007 (Table 4.18).

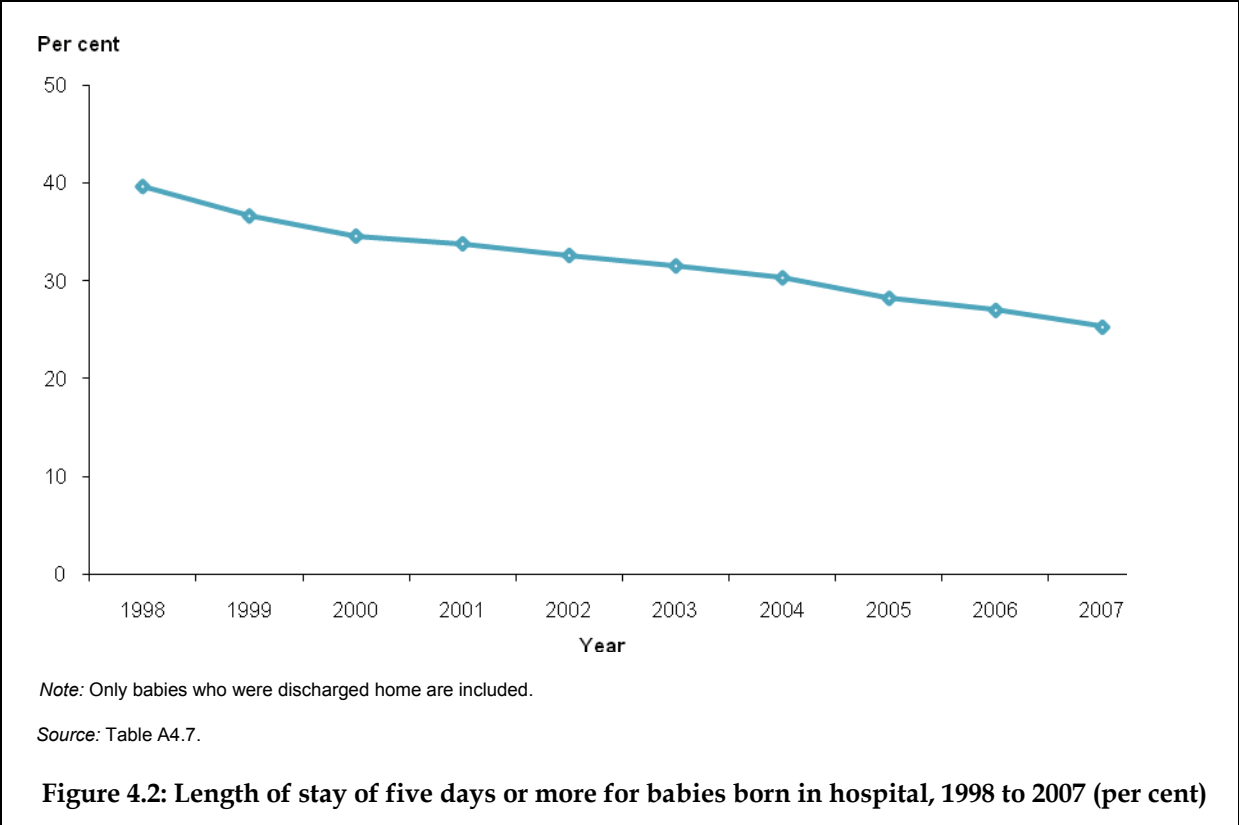
Table 4.18: Babies born in hospital^(a) by length of stay and state and territory, 2007

Length of stay (days)	NSW	Vic	Qld	WA	SA	Tas	ACT^(b)	NT	Australia
Median	3.0	4.0	3.0	4.0	4.0	3.0	3.0	4.0	3.0
	Number								
Less than 1 day	1,817	952	1,875	693	351	204	244	143	6,279
1 day	9,337	4,724	8,917	2,527	1,311	627	574	266	28,283
2 days	16,296	14,093	11,986	4,307	2,739	1,071	892	570	51,954
3 days	18,800	12,532	12,101	5,103	3,312	1,196	1,016	637	54,697
4 days	18,972	18,698	11,152	5,744	4,247	1,063	972	510	61,358
5 days	12,141	9,858	6,018	4,441	3,096	789	704	465	37,512
6 days	5,027	1,999	1,648	2,618	1,056	359	209	194	13,110
7–13 days	3,673	2,119	1,786	2,141	848	274	201	296	11,338
14–20 days	857	802	700	165	288	83	78	67	3,040
21–27 days	379	382	339	55	147	40	47	34	1,423
28 or more days	606	454	486	186	266	75	38	68	2,179
Not stated	7	—	—	—	—	—	—	—	7
Total	87,912	66,613	57,008	27,980	17,661	5,781	4,975	3,250	271,180
	Per cent								
Less than 1 day	2.1	1.4	3.3	2.5	2.0	3.5	4.9	4.4	2.3
1 day	10.6	7.1	15.6	9.0	7.4	10.8	11.5	8.2	10.4
2 days	18.5	21.2	21.0	15.4	15.5	18.5	17.9	17.5	19.2
3 days	21.4	18.8	21.2	18.2	18.8	20.7	20.4	19.6	20.2
4 days	21.6	28.1	19.6	20.5	24.0	18.4	19.5	15.7	22.6
5 days	13.8	14.8	10.6	15.9	17.5	13.6	14.2	14.3	13.8
6 days	5.7	3.0	2.9	9.4	6.0	6.2	4.2	6.0	4.8
7–13 days	4.2	3.2	3.1	7.7	4.8	4.7	4.0	9.1	4.2
14–20 days	1.0	1.2	1.2	0.6	1.6	1.4	1.6	2.1	1.1
21–27 days	0.4	0.6	0.6	0.2	0.8	0.7	0.9	1.0	0.5
28 or more days	0.7	0.7	0.9	0.7	1.5	1.3	0.8	2.1	0.8
Not stated	0.0	—	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Only babies who were discharged home are included. For multiple births, the place of birth of the first born baby was used for all subsequent babies.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages as babies of non-ACT residents were more likely to stay in hospital for 4 days or more, compared with babies of ACT residents (53.4% and 43.7%).

Over the 10-year period from 1998 to 2007, the proportion of hospital-born babies with a length of stay of less than five days increased from 60.3% to 74.7%, while the proportion of babies with a length of stay in hospital of five days or more decreased from 39.6% in 1998 to 25.3% in 2007 (Figure 4.2).



Mode of separation from hospital

In 2007, 95.0% of babies born in hospital were discharged home, varying from 88.6% in the Northern Territory to 96.2% in South Australia. A total of 3.8% of babies were transferred to another hospital from their hospital of birth (Table 4.19).

Babies dying at their hospital of birth accounted for 1.0% of separations. These data do not include babies born outside hospital, and may not include all babies who are transferred to another hospital and die, or babies discharged home who subsequently die.

Table 4.19: Babies born in hospital^(a) by mode of separation and state and territory, 2007

Mode of separation	NSW	Vic	Qld	WA	SA	Tas	ACT ^(b)	NT	Australia
Number									
Discharge home	87,912	66,613	57,008	27,980	17,661	5,781	4,975	3,250	271,180
Transfer to another hospital ^(c)	3,731	2,854	1,745	1,195	538	409	230	72	10,774
Fetal or neonatal death	841	880	557	230	167	44	62	43	2,824
Other ^(d)	—	^(e) 62	10	33	—	—	—	^(f) 293	398
Not stated	179	—	—	—	—	—	—	12	191
Total	92,663	70,409	59,320	29,438	18,366	6,234	5,267	3,670	285,367
Per cent									
Discharge home	94.9	94.6	96.1	95.0	96.2	92.7	94.5	88.6	95.0
Transfer to another hospital ^(c)	4.0	4.1	2.9	4.1	2.9	6.6	4.4	2.0	3.8
Fetal or neonatal death	0.9	1.2	0.9	0.8	0.9	0.7	1.2	1.2	1.0
Other ^(d)	—	^(e) 0.1	0.0	0.1	—	—	—	^(f) 8.0	0.1
Not stated	0.2	—	—	—	—	—	—	0.3	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) For multiple births, the place of birth of the first born baby was used for all subsequent babies.

(b) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of live babies born in the ACT to ACT residents who were transferred to another hospital was 2.9%.

(c) Includes babies who were transferred to another hospital and died.

(d) May include statistical discharges, transfers to health care accommodation other than acute hospitals and postneonatal deaths.

(e) These cases refer to postneonatal deaths (at 28 days or more after birth), regardless of the mode of separation.

(f) Includes mothers discharged with their babies against medical advice, babies transferred to accommodation hostels and statistical discharges.

5 Special topic: birth centre births

A birth centre is a midwifery-managed unit separate from a labour ward – but with established links to a referral service – offering both antenatal care and care during birth to women at low risk of medical complications. Birth centres are characterised by a commitment to normality of pregnancy and birth, and a homelike environment. The population of women giving birth in birth centres is highly selected with criteria for admission and transfer varying by jurisdiction and individual birth centre. Women intending to give birth in a birth centre may be transferred during pregnancy or labour depending on their risk factors (Laws et al. 2009).

Approximately 1 in 50 women (2.0%) gave birth in birth centres during the period 2005–2007. This proportion has changed very little over the previous 10 years. The women who actually gave birth in birth centres in 2005–2007 represented 60.1% of all women who intended, either at booking or at the onset of labour, to give birth in a birth centre (Tables 5.1 and 5.2).

Table 5.1: Women who gave birth and intended to give birth in a birth centre at booking by state and territory, 2005–2007

	Vic	SA	Tas	Total
Number intended	6,408	6,538	349	13,295
Total actual	3,986	3,505	155	7,646
Actual as per cent of intended	62.2	53.6	44.4	57.5

Table 5.2: Women who gave birth and intended to give birth in a birth centre at the onset of labour by state and territory, 2005–2007

	NSW	Qld	WA	ACT	NT	Total
Number intended	9,992	1,766	1,978	1,155	27	14,918
Total actual	6,365	1,419	815	707	16	9,322
Actual as per cent of intended	63.7	80.4	41.2	61.2	59.3	62.5

Selected characteristics of the 16,968 women reported as giving birth in birth centres during 2005–2007 are presented in Table 5.3. The mean age of mothers was 29.7 and ranged from 27.6 years to 31.6 years among the states and territories. Mothers aged 35 years and over accounted for 19.2% and teenage mothers only 3.2%. Three-quarters of the women were born in Australia (75.8%) and 90.2% lived in major cities.

Primiparous women represented a third of women giving birth in birth centres, and ranged from 23.8% in the Australian Capital Territory to 36.4% in Western Australia (Table 5.3). Of the multiparous women, 1.4% reported a previous caesarean section.

Induction of labour occurred in 4.8% of women and was highest in South Australia (10.0%). The instrumental delivery rate (0.9%) and third or fourth degree tear rate (1.8%) were low. Episiotomies were reported for 3.3% of women who gave birth in birth centres (Table 5.3).

Table 5.3: Selected characteristics and outcomes of women who gave birth in birth centres by state and territory, 2005–2007

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Total number	6,365	3,986	1,419	815	3,505	155	707	16	16,968
Mean age	29.8	30.8	30.2	30.3	27.6	30.2	31.6	n.p.	29.7
Mean postnatal length of stay (days) ^(a)	1.9	1.4	0.9	1.0	1.4	3.8	1.0	n.p.	1.5
	Per cent								
Australian-born	74.7	72.5	76.7	62.3	82.3	85.2	83.3	n.p.	75.8
Primiparas	33.6	34.4	26.7	36.4	35.4	31.0	23.8	n.p.	33.3
Smoking during pregnancy ^(b)	10.5	n.a.	7.1	5.6	26.6	9.0	6.5	n.p.	14.1
Induction of labour	5.4	1.5	2.8	—	10.0	5.2	1.6	n.p.	4.8
Non-vertex presentation	0.6	1.2	n.p.	0.6	0.3	n.p.	n.p.	n.p.	0.6
Instrumental delivery	0.7	1.1	n.p.	n.p.	1.9	n.p.	n.p.	n.p.	0.9
Episiotomy	2.9	3.3	2.1	2.0	5.3	n.p.	2.1	n.p.	3.3
3 rd /4 th degree tears	1.9	1.8	1.8	2.1	1.4	n.p.	2.0	n.p.	1.8

(a) Only includes mothers who were discharged home.

(b) Excludes Vic. For SA, 'Smoked' includes women who quit before the first antenatal visit. For NT, smoking status was recorded at the first antenatal visit. Mother's tobacco smoking status during pregnancy is self-reported.

n.a. Data not available.

n.p. Data not published to maintain confidentiality of small numbers.

The 16,969 babies born in birth centres in 2005–2007 had low rates of adverse perinatal outcomes. Preterm birth occurred in 0.7% of babies and post-term birth in 1.7% (Table 5.4).

Of liveborn babies, low birthweight was recorded for 0.8%. Around 3.7% were admitted to a special care nursery (SCN) or neonatal intensive care unit (NICU). The average length of stay of babies discharged home was 1.7 days and was longer in Tasmania (3.5 days) (Table 5.4).

The crude perinatal death rate of babies born in birth centres was 2.2 per 1,000 births. This is not adjusted for maternal risk and pregnancy factors, and is not able to take into account antepartum deaths or deaths from lethal congenital anomalies.

Table 5.4: Selected perinatal outcomes for babies of women who gave birth in birth centres by state and territory, 2005–2007

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Total number	6,365	3,987	1,419	815	3,505	155	707	16	16,969
Mean length of stay (days) ^(a)	2.1	1.4	0.8	1.0	1.6	3.5	1.1	n.p.	1.7
Per cent									
Gestational age (weeks)									
Less than 37	1.1	0.6	0.4	0.6	0.2	n.p.	n.p.	n.p.	0.7
37–41	96.2	98.2	97.7	98.8	99.3	93.5	97.9	n.p.	97.6
42 and over	2.7	1.2	1.9	0.6	0.5	5.2	1.8	n.p.	1.7
Birthweight (grams)^(b)									
Less than 2,500	0.9	0.6	0.6	0.6	1.1	n.p.	0.8	n.p.	0.8
2,500–4,499	96.7	96.7	95.4	97.8	97.0	94.2	96.7	n.p.	96.7
4,500 and over	2.3	2.7	4.0	1.6	1.9	4.5	2.4	n.p.	2.5
Apgar score at 5 minutes of less than 7 ^(b)	0.7	0.7	0.6	n.p.	0.7	n.p.	n.p.	n.p.	0.7
High level of resuscitation ^{(b)(c)}	0.3	0.3	0.4	—	0.3	—	n.p.	n.p.	0.3
Admitted to NICU/SCN ^(b)	4.4	2.8	—	2.9	4.7	n.p.	4.8	n.p.	3.7

(a) Only babies who were discharged home are included.

(b) Live births only.

(c) Includes endotracheal intubation and/or external cardiac massage and ventilation.

n.p. Data not published to maintain confidentiality of small numbers.

6 Perinatal mortality

Definitions

There are different definitions in Australia for reporting and registering perinatal deaths (Figure 6.1). The NPDC uses a definition of perinatal deaths to include all fetal and neonatal deaths of at least 400 grams birthweight or at least 20 weeks gestation.

In Australia, all fetal and neonatal deaths of at least 400 grams birthweight or, if birthweight is unavailable, a gestational age of at least 20 weeks should be registered (ABS 2008b).

Further information on these definitions and the issues surrounding the collection of data on perinatal deaths can be found in a previous edition of this report (Laws & Sullivan 2004).

Figure 6.1: Definitions of perinatal mortality

Institution	Perinatal deaths		
	Fetal deaths		Neonatal deaths
	Birthweight	Gestational age	
WHO – International comparisons	1,000 grams	28 weeks (only if birthweight is unavailable)	<7 days
– National reporting	500 grams	22 weeks (only if birthweight is unavailable)	<7 days
ABS	400 grams	20 weeks (only if birthweight is unavailable)	<28 days
NHDD & NPSU	400 grams	20 weeks	<28 days

Figure 6.2 shows the definitions of periods of perinatal and infant deaths used by the NPSU. Neonatal deaths are those occurring in live births up to 28 completed days after birth. Infant deaths are those occurring in live births at less than one year of age.

Figure 6.2: Perinatal and infant death periods

Labour		Birth	7 days	28 days	1 year
<i>At least 20 weeks or 400 grams</i>		<i>0–6 days</i>	<i>7–27 days</i>	<i>28 days–<1 year</i>	
Antepartum fetal deaths	Intrapartum fetal deaths	Early neonatal deaths	Late neonatal deaths	Postneonatal deaths	
Fetal deaths		Neonatal deaths			
Perinatal deaths					
Infant deaths					

The ABS definition of a perinatal death includes birthweight of at least 400 grams or, where birthweight is unknown, a gestational age of at least 20 weeks. Deaths where both the birthweight and gestational age are unknown, are included. The data on perinatal deaths published by the ABS are based on the year of registration of the death rather than on the year of birth or death. Data are presented in the *Causes of death Australia* report (e.g. ABS 2008b).

This report presents data on perinatal deaths from the NPDC. For vital statistics, refer to ABS data at: <www.abs.gov.au>.

Fetal deaths

As noted previously, fetal deaths are included in the NPDC if the birthweight is at least 400 grams or the gestational age is 20 weeks or more.

In 2007, there were 2,177 fetal deaths reported to the NPDC, resulting in a fetal death rate of 7.4 per 1,000 births. The state and territory fetal death rates ranged from 6.3 per 1,000 births in Western Australia to 9.6 per 1,000 births in Victoria (Table 6.1).

Table 6.1: Fetal, neonatal and perinatal deaths by state and territory, 2007

	State/territory of birth								Total
	NSW	Vic ^(a)	Qld	WA	SA ^(b)	Tas	ACT ^(c)	NT ^(d)	
	Number								
Live births ^(e)	95,387	71,778	59,827	29,885	19,620	6,268	5,495	3,767	292,027
Fetal deaths	629	694	417	189	130	44	40	34	2,177
Neonatal deaths ^(f)	238	241	202	59	51	17	24	14	846
<i>Perinatal deaths</i>	<i>867</i>	<i>935</i>	<i>619</i>	<i>248</i>	<i>182</i>	<i>61</i>	<i>64</i>	<i>48</i>	<i>3,024</i>
Total births	96,016	72,472	60,244	30,074	19,751	6,312	5,535	3,801	294,205
	Rate per 1,000 births^(g)								
Fetal deaths	6.6	9.6	6.9	6.3	6.6	7.0	7.2	8.9	7.4
Neonatal deaths ^(f)	2.5	3.4	3.4	2.0	2.6	2.7	4.4	3.7	2.9
<i>Perinatal deaths</i>	<i>9.0</i>	<i>12.9</i>	<i>10.3</i>	<i>8.2</i>	<i>9.2</i>	<i>9.7</i>	<i>11.6</i>	<i>12.6</i>	<i>10.3</i>

(a) Death rates may be higher as the majority of late terminations for psychosocial indications are undertaken in Vic.

(b) In SA, there was one perinatal death for which it is not known whether it was a stillbirth or a live birth (neonatal death).

(c) 16.1% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting rates. For example, for ACT residents who gave birth in the ACT, there were 6.9 fetal deaths per 1,000 births, 3.0 neonatal deaths per 1,000 live births and 10.0 perinatal deaths per 1,000 births.

(d) Neonatal deaths for NT may be an underestimate as deaths which occurred interstate are not included.

(e) Includes neonatal deaths.

(f) Except in WA, these may exclude neonatal deaths within 28 days of birth for babies transferred to another hospital or readmitted to hospital and those dying at home.

(g) Fetal and perinatal death rates were calculated using all births (live births and stillbirths). Neonatal death rates were calculated using all live births.

Table 6.2 presents fetal, neonatal and perinatal deaths by state or territory of the mother's usual residence, excluding women who were usually resident overseas. It shows that for 2007, the state and territory fetal death rates ranged from 6.9 per 1,000 births for babies of mothers who resided in New South Wales and South Australia, to 9.0 per 1,000 births to mothers who resided in the Northern Territory (Table 6.2). For the Australian Capital Territory, where 16.1% of women who gave birth were non-residents, the fetal death rate changed from 7.2 per 1,000 births by territory of birth (Table 6.1) to 7.0 per 1,000 births by territory of mother's usual residence (Table 6.2).

Table 6.2: Fetal, neonatal and perinatal deaths by state and territory of mother's usual residence, 2007

	State/territory of usual residence								Total
	NSW	Vic	Qld	WA	SA ^(a)	Tas	ACT	NT ^(b)	
	Number								
Live births ^(c)	96,998	70,531	60,053	29,913	19,581	6,285	4,648	3,642	291,651
Fetal deaths	673	573	446	212	136	45	33	33	2,151
Neonatal deaths ^(d)	255	239	195	59	48	18	14	16	844
<i>Perinatal deaths</i>	<i>928</i>	<i>812</i>	<i>641</i>	<i>271</i>	<i>185</i>	<i>63</i>	<i>47</i>	<i>49</i>	<i>2,995</i>
Total births	97,671	72,473	60,499	30,125	19,718	6,330	4,681	3,675	293,802
	Rate per 1,000 births^(e)								
Fetal deaths	6.9	7.9	7.4	7.0	6.9	7.1	7.0	9.0	7.3
Neonatal deaths ^(d)	2.6	3.4	3.2	2.0	2.5	2.9	3.0	4.4	2.9
<i>Perinatal deaths</i>	<i>9.5</i>	<i>11.2</i>	<i>10.6</i>	<i>9.0</i>	<i>9.4</i>	<i>10.0</i>	<i>10.0</i>	<i>13.3</i>	<i>10.2</i>

(a) In SA, there was one perinatal death for which it is not known whether it was a stillbirth or a live birth (neonatal death).

(b) Neonatal deaths for NT may be an underestimate as deaths which occurred interstate are not included.

(c) Includes neonatal deaths.

(d) These may exclude neonatal deaths within 28 days of birth for babies transferred to another hospital or readmitted to hospital and those dying at home.

(e) Fetal and perinatal death rates were calculated using all births (live births and stillbirths). Neonatal death rates were calculated using all live births.

Note: Excludes babies of mothers not usually resident in Australia and those whose state or territory of usual residence was 'Not stated'.

Fetal and neonatal death data were stratified by a number of demographic, pregnancy and risk factors in Table 6.3. Data did not include timing of fetal death (antepartum or intrapartum) or cause of death. Therefore data does not adjust for or discriminate between deaths due to lethal congenital anomalies or the underlying population risk profile for perinatal death.

There was variation in fetal and perinatal death rates according to maternal age with higher rates reported for teenage mothers. The age-group specific fetal death rates ranged from 6.2 per 1,000 births for babies of mothers aged 30–34 years to 15.6 per 1,000 births for babies of mothers aged less than 20 years (Table 6.3).

The fetal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 13.3 per 1,000 births. The fetal death rate was 7.1 per 1,000 births for non-Indigenous mothers. For Australian-born mothers the fetal death rate was 7.0 per 1,000 births, compared with 8.5 per 1,000 births for mothers born overseas (Table 6.3). For the four jurisdictions where data were available on whether the mother received ART treatment, the fetal death rate was 9.5 per 1,000 births for women giving birth after ART.

Fetal death rates were higher among babies of first-time mothers (8.5 per 1,000 births) than among babies whose mothers had at least one previous birth (6.6 per 1,000 births) (Table 6.3). However, for grand multiparous women (women who have had four or more previous pregnancies resulting in a live birth or stillbirth), the fetal death rate was higher at 10.3 per 1,000 births.

Fetal death rates were higher for babies of mothers who gave birth in public hospitals than in private hospitals (8.0% and 6.1%), and fetal deaths occurred more frequently in the lowest gestational age and birthweight groups (Table 6.3).

The fetal death rate of twins (19.6 per 1,000 births) and triplets (83.3 per 1,000 births) was higher than that of singleton babies (7.0 per 1,000 births) (Table 6.3). For singleton term babies the fetal death rate was 1.4 per 1,000 births.

Neonatal deaths

There were 846 neonatal deaths reported to the NPDC for 2007, giving a rate of 2.9 per 1,000 live births (Table 6.1). Ascertainment of neonatal deaths within 28 days of birth is likely to be incomplete. In particular, deaths occurring among babies transferred to another hospital, readmitted to hospital or dying at home may not be known to midwives who collect these data or staff who compile state and territory data. Neonatal deaths occurring in a different state or territory to which the birth occurred may also not be included.

The Perinatal NMDS did not include neonatal death or perinatal death data items. However this information is collected as part of the NPDC. Neonatal death rates based on NPDC data varied among the states and territories. The variation in rates may reflect differences in ascertainment practices of deaths by states and territories as well as absolute differences in mortality experienced in the state or territory. The neonatal death rates ranged from 2.0 per 1,000 live births in Western Australia to 4.4 per 1,000 live births in the Australian Capital Territory (Table 6.1).

Note that a significant proportion of women who gave birth in the Australian Capital Territory were New South Wales residents (16.1% in 2007). Many women from southern New South Wales with high-risk pregnancies gave birth in the Australian Capital Territory (Table 3.4), so death rates are likely to appear higher than for those based on births to residents of the Australian Capital Territory. Presenting the deaths by state or territory of usual residence of the mother addresses this issue. The neonatal death rate for mothers usually resident in the Australian Capital Territory was 3.0 per 1,000 live births (Table 6.2) compared with 4.4 per 1,000 live births to women who gave birth in this Territory (Table 6.1).

Higher neonatal death rates were reported for younger mothers. The age-group specific neonatal death rate was 5.2 per 1,000 live births for babies of teenage mothers (aged less than 20 years) and 3.4 per 1,000 live births for babies of mothers aged 20–24 years (Table 6.3).

The neonatal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 6.9 per 1,000 live births for 2006. The neonatal death rate for babies of non-Indigenous mothers was 2.7 per 1,000 live births (Table 6.3). The neonatal death rate was 7.6 per 1,000 births for women giving birth after ART treatment, where data were available.

Neonatal death rates were higher for babies of mothers who gave birth in public hospitals (3.6 per 1,000 live births) than for those of mothers who gave birth in private hospitals (1.3 per 1,000 live births) (Table 6.3).

The neonatal death rate of twins (14.5 per 1,000 births) and triplets (19.1 per 1,000 births) was higher than that of singleton babies (2.5 per 1,000 births) (Table 6.3). For singleton term babies the neonatal death rate was 0.7 per 1,000 live births.

Neonatal death rates decreased with increasing gestational age, from 398.0 per 1,000 live births for those born at 20–27 weeks gestation, to 0.7 per 1,000 live births for those born at term. Post-term babies had a higher rate of 1.5 per 1,000 live births. For babies of less than 1,500 grams birthweight the neonatal death rate was 188.9 per 1,000 live births compared to 0.4 per 1,000 live births for babies 4,000 grams or more (Table 6.3).

Table 6.3: Rates of fetal, neonatal and perinatal deaths by selected characteristics, 2007

Characteristic	Fetal deaths	Neonatal deaths ^(a)	Perinatal deaths ^(a)
	Rate per 1,000 births ^(b)		
Maternal age			
Less than 20	15.6	5.2	20.7
20–24	8.5	3.4	11.8
25–29	6.8	2.7	9.5
30–34	6.2	2.3	8.5
35–39	7.2	3.2	10.3
40 and over	9.1	3.6	12.7
Maternal Indigenous status			
Aboriginal or Torres Strait Islander	13.3	6.9	20.1
Non-Indigenous	7.1	2.7	9.8
Maternal country of birth			
Australia	7.0	2.9	9.9
Other	8.5	2.9	11.3
Hospital sector for hospital births			
Public	8.0	3.6	11.5
Private	6.1	1.3	7.4
Parity			
Primipara	8.5	3.2	11.6
Multipara	6.6	2.7	9.3
Plurality			
Singletons	7.0	2.5	9.5
Twins	19.6	14.5	33.8
Triplets	83.3	19.1	100.9

(continued)

Table 6.3 (continued): Rates of fetal, neonatal and perinatal deaths by selected characteristics, 2007

Characteristic	Fetal deaths	Neonatal deaths ^(a)	Perinatal deaths ^(a)
	Rate per 1,000 births ^(b)		
Gestational age			
20–27 ^(c)	500.2	398.0	699.1
28–31	80.6	30.6	108.8
32–36	13.9	4.3	18.2
37–41	1.5	0.7	2.1
42 and over	2.6	1.5	4.0
Birthweight			
Less than 1,500	334.1	188.9	459.9
1,500–2,499	14.6	6.1	20.6
2,500–2,999	3.3	1.3	4.6
3,000–3,999	1.0	0.6	1.6
4,000 and over	1.0	0.4	1.4

(a) Except in WA, these may exclude neonatal deaths within 28 days of birth for babies transferred to another hospital or readmitted to hospital, and those dying at home.

(b) Fetal and perinatal death rates were calculated using all births (live births and fetal deaths). Neonatal death rates were calculated using all live births.

(c) Includes 4 babies of less than 20 weeks gestation.

Perinatal deaths

In the NPDC there were 3,024 reported perinatal deaths in 2007, resulting in a perinatal death rate of 10.3 deaths per 1,000 births (Table 6.1). Of these perinatal deaths, 72.0% were fetal deaths.

For the Australian Capital Territory, where 16.1% of women who gave birth were non-residents, the crude rate of perinatal mortality changed from 11.6 per 1,000 births by territory of birth (Table 6.1) to 10.0 per 1,000 births by territory of mother's usual residence (Table 6.2).

Perinatal death data were stratified by a number of demographic, pregnancy and risk factors in Table 6.3. Perinatal death rates were highest in babies of teenage mothers (20.7 per 1,000 births), followed by babies of mothers aged 40 years and over (12.7 per 1,000 births). The perinatal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 20.1 per 1,000 births. The rate was 9.8 per 1,000 births in babies born to non-Indigenous mothers. Rates were also higher in overseas-born mothers compared with Australian-born mothers (11.3 and 9.9 per 1,000 births respectively) (Table 6.3).

Perinatal death rates were higher among babies of first-time mothers (11.6 per 1,000 births) than among babies whose mothers had at least one previous birth (9.3 per 1,000 births). Perinatal death rates were higher for babies of mothers who gave birth in public hospitals (11.5 per 1,000 births) than for those of mothers who gave birth in private hospitals (7.4 per 1,000 births) (Table 6.3).

Table 6.3 shows that perinatal death rates were higher for babies in the 20–27 week gestational age group (699.1 per 1,000 births) and lowest at 37–41 weeks (2.1 per 1,000 births). Babies weighing less than 1,500 grams at birth had the highest perinatal death rate (459.9 per 1,000 births) and babies weighing 4,000 grams or more had the lowest (1.4 per 1,000 births).

Causes of perinatal deaths

The majority of states and territories have implemented the Perinatal Society of Australia and New Zealand Perinatal Death Classification (PSANZ-PDC) to classify causes of perinatal deaths. Further details on these classifications can be found at <www.psanzpnmsig.org/>.

For the 2007 data, four jurisdictions provided causes of death according to the PSANZ-PDC: Victoria, Western Australia, South Australia and Tasmania. The main causes of perinatal deaths in these jurisdictions for 2007 were congenital abnormalities (anomalies) (23.5%), maternal conditions (13.8%) and unexplained antepartum death (12.6%). These three groups of causes accounted for half of all perinatal deaths in these states (49.9%) and the rates were 2.6, 1.5 and 1.4 respectively per 1,000 births in the four jurisdictions. Spontaneous preterm birth (10.8%) was also a commonly reported cause of perinatal death, with a rate of 1.2 per 1,000 births (Table 6.4).

Applying these classifications reveals considerable variability by jurisdiction in the leading causes of perinatal death. The largest apparent difference relates to the category of ‘maternal conditions’. This category includes late terminations undertaken for psychosocial indications. Differences in the rates of termination of pregnancy may reflect different provision of services, with the majority undertaken in Victoria (CCOPMM 2008). There may also be some differential assignment of the ranking related to jurisdictional differences in applying the classifications as well as small numbers in some categories.

Table 6.4: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and state and territory, 2007

Cause of death	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total	Rate ^(a)
	Number									
Congenital abnormality	n.a.	243	n.a.	12	61	19	n.a.	n.a.	335	2.6
Perinatal infection	n.a.	31	n.a.	<5	14	<5	n.a.	n.a.	52	0.4
Hypertension	n.a.	17	n.a.	8	<5	<5	n.a.	n.a.	32	0.2
Antepartum haemorrhage (APH)	n.a.	63	n.a.	n.p.	11	<5	n.a.	n.a.	84	0.7
Maternal conditions	n.a.	^(b) 179	n.a.	7	5	6	n.a.	n.a.	197	1.5
Specific perinatal conditions	n.a.	67	n.a.	11	16	5	n.a.	n.a.	99	0.8
Hypoxic peripartum death	n.a.	25	n.a.	8	<5	n.p.	n.a.	n.a.	42	0.3
Fetal growth restriction (FGR)	n.a.	47	n.a.	17	21	9	n.a.	n.a.	94	0.7
Spontaneous preterm	n.a.	123	n.a.	<5	24	<5	n.a.	n.a.	154	1.2
Unexplained antepartum death	n.a.	133	n.a.	24	n.p.	<5	n.a.	n.a.	179	1.4
No obstetric antecedent	n.a.	7	n.a.	<5	<5	<5	n.a.	n.a.	15	0.1
Not stated	n.a.	—	n.a.	143	—	—	n.a.	n.a.	143	1.1
Total	n.a.	935	n.a.	248	182	61	n.a.	n.a.	1,426	11.1
	Per cent									
Congenital abnormality	n.a.	26.0	n.a.	4.8	33.5	31.1	n.a.	n.a.	23.5	—
Perinatal infection	n.a.	3.3	n.a.	n.p.	7.7	n.p.	n.a.	n.a.	3.6	—
Hypertension	n.a.	1.8	n.a.	3.2	n.p.	n.p.	n.a.	n.a.	2.2	—
Antepartum haemorrhage (APH)	n.a.	6.7	n.a.	n.p.	6.0	n.p.	n.a.	n.a.	5.9	—
Maternal conditions	n.a.	^(b) 19.1	n.a.	2.8	2.7	9.8	n.a.	n.a.	13.8	—
Specific perinatal conditions	n.a.	7.2	n.a.	4.4	8.8	8.2	n.a.	n.a.	6.9	—
Hypoxic peripartum death	n.a.	2.7	n.a.	3.2	n.p.	n.p.	n.a.	n.a.	2.9	—
Fetal growth restriction (FGR)	n.a.	5.0	n.a.	6.9	11.5	14.8	n.a.	n.a.	6.6	—
Spontaneous preterm	n.a.	13.2	n.a.	n.p.	13.2	n.p.	n.a.	n.a.	10.8	—
Unexplained antepartum death	n.a.	14.2	n.a.	9.7	n.p.	n.p.	n.a.	n.a.	12.6	—
No obstetric antecedent	n.a.	0.7	n.a.	n.p.	n.p.	n.p.	n.a.	n.a.	1.1	—
Not stated	n.a.	—	n.a.	57.7	—	—	n.a.	n.a.	10.0	—
Total	n.a.	100.0	n.a.	100.0	100.0	100.0	n.a.	n.a.	100.0	—

(a) Rate per 1,000 births in Vic, WA, SA and Tas. The total number of births in the four jurisdictions was 128,609 in 2007.

(b) Includes 164 terminations of pregnancy for psychosocial indications.

n.a. Data not available.

n.p. Data not published to maintain confidentiality of small numbers.

Note: Data are based on state/territory of birth rather than the state/territory of the mother's usual residence.

Table 6.5 presents causes of perinatal deaths by gestational age group for four states. The main cause of perinatal death was congenital abnormalities at 20–21 weeks gestation (38.5%). The leading cause of death at 22–27 weeks gestation was the category of maternal conditions (21.5%). Perinatal deaths of babies at 28–31 weeks, 32–36 weeks and 37–41 weeks were most commonly due to unexplained antepartum death.

Table 6.5: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2007

Cause of death	Gestational age (weeks)							Total
	20–21	22–27	28–31	32–36	37–41	42 and over	Not stated	
	Number							
Congenital abnormality	151	96	16	30	40	—	2	335
Perinatal infection	13	11	3	5	20	—	—	52
Hypertension	3	13	5	4	4	—	—	29
Antepartum haemorrhage (APH)	13	26	14	17	14	—	—	84
Maternal conditions	43	116	3	6	7	—	19	194
Specific perinatal conditions	26	32	10	10	22	—	—	100
Hypoxic peripartum death	—	1	2	5	31	3	—	42
Fetal growth restriction (FGR)	7	30	14	20	19	—	—	90
Spontaneous preterm	53	98	6	2	—	—	—	159
Unexplained antepartum death	20	40	26	32	62	—	—	180
No obstetric antecedent	—	—	—	1	16	—	—	17
Not stated	63	77	1	—	3	—	—	144
Total	392	540	100	132	238	3	21	1,426
	Per cent							
Congenital abnormality	38.5	17.8	16.0	22.7	16.8	—	9.5	23.5
Perinatal infection	3.3	2.0	3.0	3.8	8.4	—	—	3.6
Hypertension	0.8	2.4	5.0	3.0	1.7	—	—	2.0
Antepartum haemorrhage (APH)	3.3	4.8	14.0	12.9	5.9	—	—	5.9
Maternal conditions	11.0	21.5	3.0	4.5	2.9	—	90.5	13.6
Specific perinatal conditions	6.6	5.9	10.0	7.6	9.2	—	—	7.0
Hypoxic peripartum death	—	0.2	2.0	3.8	13.0	100.0	—	2.9
Fetal growth restriction (FGR)	1.8	5.6	14.0	15.2	8.0	—	—	6.3
Spontaneous preterm	13.5	18.1	6.0	1.5	—	—	—	11.2
Unexplained antepartum death	5.1	7.4	26.0	24.2	26.1	—	—	12.6
No obstetric antecedent	—	—	—	0.8	6.7	—	—	1.2
Not stated	16.1	14.3	1.0	—	1.3	—	—	10.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	—	100.0

Notes

1. Excludes NSW, Qld, ACT and NT.

2. The total number of births in the four jurisdictions included in the table was 128,609 in 2007.

The causes of death differed for fetal and neonatal deaths. Congenital abnormality occurred in a higher proportion of neonatal deaths (31.3%) than fetal deaths (20.8%). Among neonatal deaths, congenital abnormalities accounted for 67.7% of babies at 32–36 weeks and 37.3% of babies at 37 weeks or more. The second most common cause of fetal deaths was maternal conditions (18.1%) and the proportion was highest among babies of 20–27 weeks (22.4%). Spontaneous preterm birth was a common cause of neonatal death for babies born at 20–27 and 28–31 weeks (Table 6.6).

Table 6.6: Fetal and neonatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2007

Cause of death	Fetal deaths					Total
	20–27	28–31	32–36	37 and over	Not stated	
	Number					
Congenital abnormality	189	11	9	9	2	220
Perinatal infection	13	2	5	15	—	35
Hypertension	12	4	3	4	—	23
Antepartum haemorrhage (APH)	19	6	14	14	—	53
Maternal conditions	157	3	6	6	19	191
Specific perinatal conditions	37	9	9	15	—	70
Hypoxic peripartum death	1	—	2	13	—	16
Fetal growth restriction (FGR)	35	13	19	17	—	84
Spontaneous preterm	65	2	1	—	—	68
Unexplained antepartum death	60	26	32	62	—	180
No obstetric antecedent	—	—	1	2	—	3
Not stated	113	1	—	—	—	114
Total	701	77	101	157	21	1,057
	Per cent					
Congenital abnormality	27.0	14.3	8.9	5.7	9.5	20.8
Perinatal infection	1.9	2.6	5.0	9.6	—	3.3
Hypertension	1.7	5.2	3.0	2.5	—	2.2
Antepartum haemorrhage (APH)	2.7	7.8	13.9	8.9	—	5.0
Maternal conditions	22.4	3.9	5.9	3.8	90.5	18.1
Specific perinatal conditions	5.3	11.7	8.9	9.6	—	6.6
Hypoxic peripartum death	0.1	—	2.0	8.3	—	1.5
Fetal growth restriction (FGR)	5.0	16.9	18.8	10.8	—	7.9
Spontaneous preterm	9.3	2.6	1.0	—	—	6.4
Unexplained antepartum death	8.6	33.8	31.7	39.5	—	17.0
No obstetric antecedent	—	—	1.0	1.3	—	0.3
Not stated	16.1	1.3	—	—	—	10.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

(continued)

Table 6.6 (continued): Fetal and neonatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2007

Cause of death	Neonatal deaths					Total
	20–27	28–31	32–36	37 and over	Not stated	
	Number					
Congenital abnormality	58	5	21	31	—	115
Perinatal infection	11	1	—	5	—	17
Hypertension	4	1	1	—	—	6
Antepartum haemorrhage (APH)	20	8	3	—	—	31
Maternal conditions	2	—	—	1	—	3
Specific perinatal conditions	21	1	1	7	—	30
Hypoxic peripartum death	—	2	3	21	—	26
Fetal growth restriction (FGR)	2	1	1	2	—	6
Spontaneous preterm	86	4	1	—	—	91
Unexplained antepartum death	—	—	—	—	—	—
No obstetric antecedent	—	—	—	13	—	13
Not stated	27	—	—	3	—	30
Total	231	23	31	83	—	368
	Per cent					
Congenital abnormality	25.1	21.7	67.7	37.3	—	31.3
Perinatal infection	4.8	4.3	—	6.0	—	4.6
Hypertension	1.7	4.3	3.2	—	—	1.6
Antepartum haemorrhage (APH)	8.7	34.8	9.7	—	—	8.4
Maternal conditions	0.9	—	—	1.2	—	0.8
Specific perinatal conditions	9.1	4.3	3.2	8.4	—	8.2
Hypoxic peripartum death	—	8.7	9.7	25.3	—	7.1
Fetal growth restriction (FGR)	0.9	4.3	3.2	2.4	—	1.6
Spontaneous preterm	37.2	17.4	3.2	—	—	24.7
Unexplained antepartum death	—	—	—	—	—	—
No obstetric antecedent	—	—	—	15.7	—	3.5
Not stated	11.7	—	—	3.6	—	8.2
Total	100.0	100.0	100.0	100.0	—	100.0

Notes

1. Excludes NSW, Qld, ACT and NT.

2. The total number of births in the four jurisdictions included in the table was 128,609 in 2007.

The most common cause of perinatal death in singletons was congenital abnormalities (25.2%). Deaths of twins and triplets were mostly due to spontaneous preterm birth and specific perinatal conditions (Table 6.7). Causes of death for singletons were examined by gestational age. This showed that 41.1% of 20–21 week babies had congenital abnormalities. The most common cause of death for 22–27 week babies was maternal conditions (23.5%), while the most common cause for babies of 28 weeks or more was unexplained antepartum death. For term singletons the leading categories were unexplained antepartum death (25.3%), congenital abnormality (16.7%) and hypoxic peripartum death (14.0%) (Table 6.8).

Table 6.7: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and plurality, 2007

Cause of death	Singletons	Twins	Triplets	Total
		Number		
Congenital abnormality	322	13	—	335
Perinatal infection	50	2	—	52
Hypertension	28	1	—	29
Antepartum haemorrhage (APH)	80	4	—	84
Maternal conditions	188	5	1	194
Specific perinatal conditions	57	40	3	100
Hypoxic peripartum death	41	1	—	42
Fetal growth restriction (FGR)	86	4	—	90
Spontaneous preterm	119	36	4	159
Unexplained antepartum death	163	17	—	180
No obstetric antecedent	16	1	—	17
Not stated	128	16	—	144
Total	1,278	140	8	1,426
		Per cent		
Congenital abnormality	25.2	9.3	—	23.5
Perinatal infection	3.9	1.4	—	3.6
Hypertension	2.2	0.7	—	2.0
Antepartum haemorrhage (APH)	6.3	2.9	—	5.9
Maternal conditions	14.7	3.6	12.5	13.6
Specific perinatal conditions	4.5	28.6	37.5	7.0
Hypoxic peripartum death	3.2	0.7	—	2.9
Fetal growth restriction (FGR)	6.7	2.9	—	6.3
Spontaneous preterm	9.3	25.7	50.0	11.2
Unexplained antepartum death	12.8	12.1	—	12.6
No obstetric antecedent	1.3	0.7	—	1.2
Not stated	10.0	11.4	—	10.1
Total	100.0	100.0	100.0	100.0

Notes

1. Excludes NSW, Qld, ACT and NT.
2. The total number of births in the four jurisdictions included in the table was 128,609 in 2007.

Table 6.8: Singleton perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2007

Cause of death	Gestational age (weeks)							Total
	20–21	22–27	28–31	32–36	37–41	42 and over	Not stated	
	Number							
Congenital abnormality	150	93	15	25	37	—	2	322
Perinatal infection	11	11	3	5	20	—	—	50
Hypertension	3	13	5	3	4	—	—	28
Antepartum haemorrhage (APH)	13	24	12	17	14	—	—	80
Maternal conditions	43	110	3	6	7	—	19	188
Specific perinatal conditions	17	15	6	2	17	—	—	57
Hypoxic peripartum death	—	1	2	4	31	3	—	41
Fetal growth restriction (FGR)	7	30	13	19	17	—	—	86
Spontaneous preterm	42	71	4	2	—	—	—	119
Unexplained antepartum death	18	37	25	27	56	—	—	163
No obstetric antecedent	—	—	—	1	15	—	—	16
Not stated	61	63	1	—	3	—	—	128
Total	365	468	89	111	221	3	21	1,278
	Per cent							
Congenital abnormality	41.1	19.9	16.9	22.5	16.7	—	9.5	25.2
Perinatal infection	3.0	2.4	3.4	4.5	9.0	—	—	3.9
Hypertension	0.8	2.8	5.6	2.7	1.8	—	—	2.2
Antepartum haemorrhage (APH)	3.6	5.1	13.5	15.3	6.3	—	—	6.3
Maternal conditions	11.8	23.5	3.4	5.4	3.2	—	90.5	14.7
Specific perinatal conditions	4.7	3.2	6.7	1.8	7.7	—	—	4.5
Hypoxic peripartum death	—	0.2	2.2	3.6	14.0	100.0	—	3.2
Fetal growth restriction (FGR)	1.9	6.4	14.6	17.1	7.7	—	—	6.7
Spontaneous preterm	11.5	15.2	4.5	1.8	—	—	—	9.3
Unexplained antepartum death	4.9	7.9	28.1	24.3	25.3	—	—	12.8
No obstetric antecedent	—	—	—	0.9	6.8	—	—	1.3
Not stated	16.7	13.5	1.1	—	1.4	—	—	10.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	—	100.0

Notes

1. Excludes NSW, Qld, ACT and NT.

2. The total number of births in the four jurisdictions included in the table was 128,609 in 2007.

Of perinatal deaths to mothers aged less than 20 years, almost half were due to maternal conditions (47.1%). In mothers aged 35–39 years, 32.7% of perinatal deaths were caused by congenital abnormalities. This figure was 25.5% in the 40 years and older group (Table 6.9).

Of perinatal deaths to women who gave birth in hospital, 23.9% were due to congenital abnormalities and this proportion was higher in public (26.1%) than in private hospitals

(18.6%). Maternal conditions occurred in 41.3% of perinatal deaths to women in private hospitals, compared with 2.7% in public hospitals (Table 6.10). Of all perinatal deaths in hospitals at 32 weeks gestation or more, 25.1% were unexplained antepartum deaths (26.4% in private hospitals and 24.6% in public hospitals), and 19.5% were due to congenital abnormalities (11.5% in private hospitals and 22.1% in public hospitals).

Table 6.9: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and maternal age, 2007

Cause of death	Maternal age (years)						Not stated	Total
	Less than 20	20–24	25–29	30–34	35–39	40 and over		
	Number							
Congenital abnormality	11	35	92	86	97	14	—	335
Perinatal infection	4	6	15	11	13	3	—	52
Hypertension	1	3	6	11	7	1	—	29
Antepartum haemorrhage (APH)	5	16	18	27	15	3	—	84
Maternal conditions	64	52	34	18	13	7	6	194
Specific perinatal conditions	4	13	21	33	25	4	—	100
Hypoxic peripartum death	1	7	10	15	8	1	—	42
Fetal growth restriction (FGR)	4	22	18	28	15	3	—	90
Spontaneous preterm	14	21	47	42	33	2	—	159
Unexplained antepartum death	13	23	48	47	35	14	—	180
No obstetric antecedent	2	2	2	3	7	—	1	17
Not stated	13	29	33	37	29	3	—	144
Total	136	229	344	358	297	55	7	1,426
	Per cent							
Congenital abnormality	8.1	15.3	26.7	24.0	32.7	25.5	—	23.5
Perinatal infection	2.9	2.6	4.4	3.1	4.4	5.5	—	3.6
Hypertension	0.7	1.3	1.7	3.1	2.4	1.8	—	2.0
Antepartum haemorrhage (APH)	3.7	7.0	5.2	7.5	5.1	5.5	—	5.9
Maternal conditions	47.1	22.7	9.9	5.0	4.4	12.7	85.7	13.6
Specific perinatal conditions	2.9	5.7	6.1	9.2	8.4	7.3	—	7.0
Hypoxic peripartum death	0.7	3.1	2.9	4.2	2.7	1.8	—	2.9
Fetal growth restriction (FGR)	2.9	9.6	5.2	7.8	5.1	5.5	—	6.3
Spontaneous preterm	10.3	9.2	13.7	11.7	11.1	3.6	—	11.2
Unexplained antepartum death	9.6	10.0	14.0	13.1	11.8	25.5	—	12.6
No obstetric antecedent	1.5	0.9	0.6	0.8	2.4	—	14.3	1.2
Not stated	9.6	12.7	9.6	10.3	9.8	5.5	—	10.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes

1. Excludes NSW, Qld, ACT and NT.

2. The total number of births in the four jurisdictions included in the table was 128,609 in 2007.

Table 6.10: Perinatal deaths to women who gave birth in hospital by Perinatal Society of Australia and New Zealand Perinatal Death Classification and hospital sector, 2007

Cause of death	Public	Private	Total
	Number		
Congenital abnormality	259	75	334
Perinatal infection	43	8	51
Hypertension	21	6	27
Antepartum haemorrhage (APH)	67	14	81
Maternal conditions	27	167	194
Specific perinatal conditions	66	34	100
Hypoxic peripartum death	30	9	39
Fetal growth restriction (FGR)	74	14	88
Spontaneous preterm	126	27	153
Unexplained antepartum death	137	38	175
No obstetric antecedent	11	2	13
Not stated	133	10	143
Total	994	404	1,398
	Per cent		
Congenital abnormality	26.1	18.6	23.9
Perinatal infection	4.3	2.0	3.6
Hypertension	2.1	1.5	1.9
Antepartum haemorrhage (APH)	6.7	3.5	5.8
Maternal conditions	2.7	41.3	13.9
Specific perinatal conditions	6.6	8.4	7.2
Hypoxic peripartum death	3.0	2.2	2.8
Fetal growth restriction (FGR)	7.4	3.5	6.3
Spontaneous preterm	12.7	6.7	10.9
Unexplained antepartum death	13.8	9.4	12.5
No obstetric antecedent	1.1	0.5	0.9
Not stated	13.4	2.5	10.2
Total	100.0	100.0	100.0

Notes

1. Excludes NSW, Qld, ACT and NT.

2. The total number of births in the four jurisdictions included in the table was 128,609 in 2007.

Appendix 1: State and territory perinatal reports

Individual state and territory health authorities publish reports based on their state or territory perinatal collection either annually or periodically. For the 2007 data, the following state and territory reports have been published:

Queensland

Queensland Health 2009. Perinatal statistics Queensland 2007. Brisbane: Queensland Health.

Western Australia

Nguyen N, Gee V & Le M 2008. Perinatal statistics in Western Australia, 2007: twenty-fifth annual report of the Western Australian Midwives' Notification System. Perth: Department of Health.

South Australia

Chan A, Scott J, Nguyen A-M & Sage L 2008. Pregnancy outcome in South Australia 2007. Adelaide: SA Health.

Maternal, Perinatal and Infant Mortality Committee 2008. Maternal, perinatal and infant mortality in South Australia 2007, including the South Australian protocol for investigation of stillbirths. Adelaide: SA Health.

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Appendix 3: Perinatal National Minimum Data Set items

Data element name	METeOR identifier
Birth – Apgar score (at 5 minutes), code NN	289360
Birth – birth order, code N	269992
Birth – birth status, code N	269949
Birth – birth weight, total grams NNNN	269938
Birth event – birth method, code N	295349
Birth event – birth plurality, code N	269994
Birth event – birth presentation, code N	299992
Birth event – labour onset type, code N	269942
Birth event – setting of birth (actual), code N	269937
Birth event – state/territory of birth, code N	270151
Episode of admitted patient care – separation date, DDMMYYYY	270025
Establishment – organisation identifier (Australian), NNX[X]NNNNN	269973
Female (pregnant) – estimated gestational age, total weeks NN	269965
Person – area of usual residence, geographical location code (ASGC 2007) NNNNN	362291
Person – country of birth, code (SACC 1998) NNNN	270277
Person – date of birth, DDMMYYYY	287007
Person – Indigenous status, code N	291036
Person – person identifier, XXXXXX[X(14)]	290046
Person – sex, code N	287316

Note: Includes Perinatal NMDS items current at December 2009.

Source: <www.meteor.aihw.gov.au/content/index.phtml/itemId/362313>

Appendix 4: Data used in figures

Table A4.1: Number of births, 1998 to 2007

Year	Births
1998	255,325
1999	257,444
2000	257,238
2001	254,326
2002	255,095
2003	256,925
2004	257,205
2005	272,419
2006	282,169
2007	294,205

Table A4.2: Rates of women giving birth in the population, 1998 to 2007

Rate	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Crude	60.2	60.4	60.0	58.9	58.7	58.7	58.5	61.5	63.1	64.9
Age-adjusted	59.2	59.8	59.6	58.8	58.7	58.9	58.7	61.8	63.6	65.5

Table A4.3: Primiparous women who gave birth by maternal age, 1998 and 2007 (per cent)

Maternal age (years)	1998	2007
Less than 20	81.5	82.1
20–24	53.7	54.8
25–29	43.3	46.6
30–34	31.0	36.5
35–39	23.6	27.2
40 and over	21.6	25.2

Table A4.4: Women who gave birth by onset of labour, 1998 to 2007 (per cent)

Onset of labour	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Spontaneous	62.6	61.9	61.5	59.0	57.9	57.3	57.6	56.5	56.6	56.6
Induced	26	26	26	27	27	26	25	26	25	25.3
No labour	11.8	12.1	12.9	14.3	15.5	16.5	17.1	17.9	18.3	18.1

Table A4.5: Women who gave birth by caesarean section and instrumental birth, 1998 to 2007 (per cent)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Caesarean section	21.1	21.8	23.3	25.4	27.0	28.5	29.4	30.3	30.8	30.9
Instrumental	11.2	11.1	11.2	10.9	10.8	10.7	11.0	10.8	10.7	11.2

Table A4.6: Women who gave birth by caesarean section by maternal age and hospital sector, 2007 (per cent)

Maternal age (years)	Public	Private
Less than 20	17.8	22.6
20–24	21.1	30.2
25–29	25.6	35.5
30–34	30.8	40.3
35–39	35.9	47.3
40 and over	41.1	56.2

Table A4.7: Length of stay of five days or more for babies born in hospital, 1998 to 2007 (per cent)

Length of stay	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
5 days and over	39.6	36.6	34.6	33.8	32.6	31.5	30.3	28.2	27.0	25.3

Note: Only babies who were discharged home are included.

Glossary

Age standardisation: A method of removing the influence of age when comparing populations with different age structures.

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

Apgar score: numerical score used to indicate the baby's condition at 1 minute and 5 minutes after birth. Between 0 and 2 points are given for each of five characteristics: heart rate, breathing, colour, muscle tone and reflex irritability, and the total score is between 0 and 10.

Augmentation of labour: intervention after the onset of labour to assist the progress of labour.

Baby's length of stay: number of days between date of birth and date of separation from the hospital of birth (calculated by subtracting the date of birth from the date of separation).

Birth status: status of the baby immediately after birth.

Birthweight: the first weight of the baby (stillborn or liveborn) obtained after birth (usually measured to the nearest 5 grams and obtained within one hour of birth).

Caesarean section: operative birth by surgical incision through the abdominal wall and uterus.

Chorioamnionitis: an inflammation, usually from an infection, of the membranes surrounding the fetus.

Early neonatal death: death of a liveborn baby within seven days of birth.

Epidural: injection of anaesthetic agent into the epidural space of the spinal cord.

Episiotomy: an incision of the perineum and vagina to enlarge the vulval orifice.

Extremely low birthweight: birthweight of less than 1,000 grams.

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 400 grams 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.

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 baby's date of birth, or via ultrasound, or derived from clinical assessment during pregnancy or from examination of the baby after birth.

Grand multipara: pregnant woman who has had four or more previous pregnancies resulting in a live birth or stillbirth.

Induction of labour: intervention to stimulate the onset of labour.

Instrumental delivery: vaginal delivery using forceps or vacuum extraction.

Intrapartum fetal death: fetal death occurring during labour.

Intrauterine growth restriction: a fetus whose estimated weight is below the 10th percentile for its gestational age.

Isoimmunisation: development of antibodies directed at the red blood cells of the baby in utero. This occurs when there is an incompatibility between the baby's blood type and that of its mother.

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

Live birth: 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 2,500 grams.

Maternal age: mother's age in completed years at the birth of her baby.

Mode of separation: 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 a birth) and separation date (from the hospital where birth occurred). The interval is calculated by subtracting the date of admission from the date of separation.

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

Neonatal care levels: Level I care is for normal healthy term babies, some of whom may need short-term observation during the first few hours of life.

Level II refers to a nursery that generally has babies born at 32–36 weeks gestation weighing around 1,500 to 2,500 grams at birth. It includes care for babies who require intravenous therapy or antibiotics, and/or those who are convalescing after intensive care, and/or those who need their heart rate or breathing monitored, and/or those who need short-term oxygen therapy.

Level III or intensive care refers to the care of newborn infants who require more specialised care and treatment. It includes most babies born at less than 32 weeks gestation or less than 1,500 grams birthweight, and others who may require such interventions as intravenous feeding, and/or surgery, and/or cardiorespiratory monitoring for management of apnoea or seizures, and/or require assisted ventilation, and/or supplemental oxygen over 40% or long-term oxygen (ANZNN 2009).

Neonatal death: death of a liveborn baby within 28 days of birth.

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

Parity: number of previous pregnancies resulting in live births or stillbirths, excluding the current pregnancy.

Perinatal death: a fetal or neonatal death of at least 20 weeks gestation or at least 400 grams birthweight.

Perineal status: status of the perineum after the birth. It may involve surgical suturing of perineal laceration or episiotomy incision.

Plurality: the number of births resulting from a pregnancy.

Postneonatal death: death of a liveborn baby after 28 days and within one year of birth.

Post-term birth: birth at 42 or more completed weeks of gestation.

Presentation at birth: presenting part of the fetus at birth.

Preterm birth: birth before 37 completed weeks of gestation.

Primary caesarean section: caesarean section to mother with no previous history of caesarean section.

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

Pudendal: local anaesthetic to block the pudendal nerves.

Resuscitation of baby: active measures taken shortly after birth to assist the baby's ventilation and heartbeat, or to treat depressed respiratory effort and to correct metabolic disturbances.

Sex ratio: number of male liveborn babies per 100 female liveborn babies.

Spontaneous vaginal: birth without intervention in which the baby's head is the presenting part.

Stillbirth: see Fetal death (stillbirth).

Teenage mother: mother aged less than 20 years at the birth of her baby.

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

Vaginal breech: vaginal birth in which the baby's buttocks is the presenting part.

Very low birthweight: birthweight of less than 1,500 grams.

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