Australia's mothers and babies 2005

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The AIHW National Perinatal Statistics Unit (NPSU) is a collaborating unit of the AIHW, established in 1979. The NPSU aims to improve the health of Australian mothers and babies through the collection, analysis and reporting of information on reproductive, perinatal and maternal health. It maintains national collections on perinatal health, maternal deaths, congenital anomalies and assisted reproduction technology. The NPSU is located at the Sydney Children's Hospital and is part of the School of Women's and Children's Health, Faculty of Medicine, University of New South Wales.

Please note that as with all statistical reports there is the potential for minor revisions of data in this report over its life. Please refer to the online version at <www.aihw.gov.au>.

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Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ANZNN	Australian and New Zealand Neonatal Network
ASCCSS	Australian Standard Classification of Countries for Social Statistics
ASGC	Australian Standard Geographical Classification
CPAP	Continuous positive airways pressure
g	gram
HDSC	Health Data Standards Committee
IPPR	Intermittent positive pressure respiration
IPPV	Intermittent positive pressure ventilation
LMP	First day of the last menstrual period
METeOR	Metadata online registry
NHDD	National Health Data Dictionary
NHIMPC	National Health Information Management Principal 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-NDC	Perinatal Society of Australia and New Zealand Neonatal Death Classification
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
SEIFA	Socioeconomic Indexes for Areas
SIMC	Statistical Information Management Committee
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

Key findings

Australia's mothers and babies 2005 is the 15th annual report on pregnancy and childbirth in Australia. The report is based primarily on the National Perinatal Data Collection.

In 2005, 267,793 women gave birth to 272,419 babies in Australia. There were 15,214 more births (5.9%) than reported in 2004.

Mothers

Of women who gave birth in 2005:

- the mean age was 29.8 years, continuing the upward trend in maternal age
- 9,867 were of Aboriginal or Torres Strait Islander origin, making up 3.7% of all mothers
- 17.4% reported smoking at all during pregnancy
- 1.7% had a multiple pregnancy
- 58.5% had a spontaneous vaginal birth, 0.4% had a vaginal breech birth, while deliveries using forceps accounted for 3.5% and vacuum extractions for 7.2%
- 30.3% gave birth by caesarean section, compared with 19.5% in 1996
- who had previously had a caesarean section, 83.2% had a caesarean section in 2005
- the median length of stay in hospital was 3.0 days, and was longer for women who had a caesarean section (5.0 days).

Babies

Of babies born in 2005:

- 8.1% were preterm (less than 37 weeks gestation)
- 6.4% of liveborn babies were of low birthweight (less than 2,500 grams)
- the national sex ratio was 105.5 male live births per 100 female live births
- 15.5% of liveborn babies were admitted to a special care nursery or neonatal intensive care unit
- 6,044 were admitted to level III neonatal intensive care units in Australia and met ANZNN's high risk criteria, of which 78.0% were preterm
- the fetal death rate was 7.3 per 1,000 births; the neonatal death rate was 3.2 per 1,000 live births; and the perinatal death rate was 10.5 per 1,000 births.

Socioeconomic status of women who gave birth

- Women who gave birth in 2005 and were in the least disadvantaged quintile were older and less likely to be Indigenous or smoke during pregnancy, compared with women in the other quintiles.
- The proportion of women who had induced or no labour, and the proportion who had an instrumental delivery or caesarean section, increased with socioeconomic advantage.
- The proportion of babies with less favourable outcomes, such as preterm birth and low birthweight, decreased with socioeconomic advantage.

1 Introduction

Australia's mothers and babies 2005 is the 15th 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 is used by researchers, academics, students, policy makers and health service planners, and those providing services in reproductive health.

The report is primarily based on data from the National Perinatal Data Collection (NPDC). This edition contains a special chapter on the socioeconomic status of mothers.

Purpose of this report

The purpose of *Australia's mothers and babies 2005* is to provide Australia with epidemiological information including statistics on the women who gave birth to liveborn or stillborn babies in 2005, and on their babies.

This is achieved through the following objectives:

- to report against the Perinatal National Minimum Data Set
- to provide national information on women who gave birth in 2005, including demographics, risk factors and characteristics relating to the pregnancy, childbirth and puerperium
- to provide national information on the characteristics and perinatal outcomes of babies born in 2005
- to provide information for state and territory comparison
- to provide information for international comparison.

Structure of this report

This chapter provides background information, describes the major data sources and briefly discusses their overall limitations.

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 2005, as well as key perinatal health measures derived from the NPDC.

- Chapter 3: Mothers

  This chapter contains information on women who gave birth in 2005, 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).

- Chapter 4: Babies

  This chapter contains information on the characteristics and outcomes of babies born in 2005, including birth status, gestational age, birthweight and sex ratios.

- Chapter 5: Socioeconomic status of women who gave birth

  This chapter presents data on selected characteristics and perinatal outcomes of women who gave birth in 2005, by socioeconomic status of the mother.

- Chapter 6: Perinatal mortality

  This chapter includes perinatal data from the Australian Bureau of Statistics (ABS) and NPDC on fetal, neonatal and perinatal deaths. It also presents deaths from six states classified using the Perinatal Society of Australia and New Zealand Perinatal Death Classification (PSANZ-PDC).

- Chapter 7: Babies in level III neonatal intensive care units

  This chapter contains information from the Australian and New Zealand Neonatal Network (ANZNN) on high-risk babies admitted to neonatal intensive care units in Australia in 2005.

Appendix 1 presents the underlying data for the figures in the report. Appendix 2 contains information on pre-existing and pregnancy-related medical conditions, including state and territory data on selected conditions, such as essential hypertension and diabetes mellitus.

The Perinatal National Minimum Data Set

A National Minimum Data Set (NMDS) is a core set of data elements agreed to by the Statistical Information Management Committee (SIMC) and endorsed by the National Health Information Management Principal Committee (NHIMPC) for mandatory collection and reporting at a national level. An NMDS depends on a national agreement to collect uniform data and to supply it as part of a national collection (HDSC 2006).

An NMDS includes agreement on specified data elements (discrete items of information or variables) and data element concepts 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.

Current definitions are available in the *National Health Data Dictionary* (NHDD) Version 13 (HDSC 2006) and on METeOR online at <http://meteor.aihw.gov.au>. A list of the current Perinatal NMDS data elements can be found in Appendix 3. Version 12 of the NHDD was current at the time of collection of the 2005 data (NHDC 2003).

The National Perinatal Data Development Committee

The primary role of the National Perinatal Data Development Committee (NPDDC) is to undertake perinatal data development. The NPSU in consultation with the Committee develops new data items which it submits to the NPDDC for consideration. The Committee recommends changes to definitions for perinatal data items and submits new perinatal data items to the Health Data Standards Committee (HDSC) for inclusion on METeOR, and to SIMC for inclusion in the Perinatal NMDS. The Committee is comprised of representatives from each state and territory health authority, the ABS and the NPSU, with temporary members invited on a transitory basis as their expertise is required. The NPDDC works in consultation with clinical reference groups.

Since completion of the Perinatal NMDS evaluation report (Laws & Sullivan 2004b), a program of perinatal data development has been implemented. Ongoing data development has led to improvements in data provision and reporting. The NPDDC met four times in 2007, and will continue with regular meetings and out-of-session work. 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.

Key data sources

National Perinatal Data Collection

The 2005 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 births 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 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 the baby, such as resuscitation and admission to special care nursery or neonatal intensive care unit.

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 4 for a list of state and territory reports on the 2005 data and Appendix 5 for state and territory contact details.

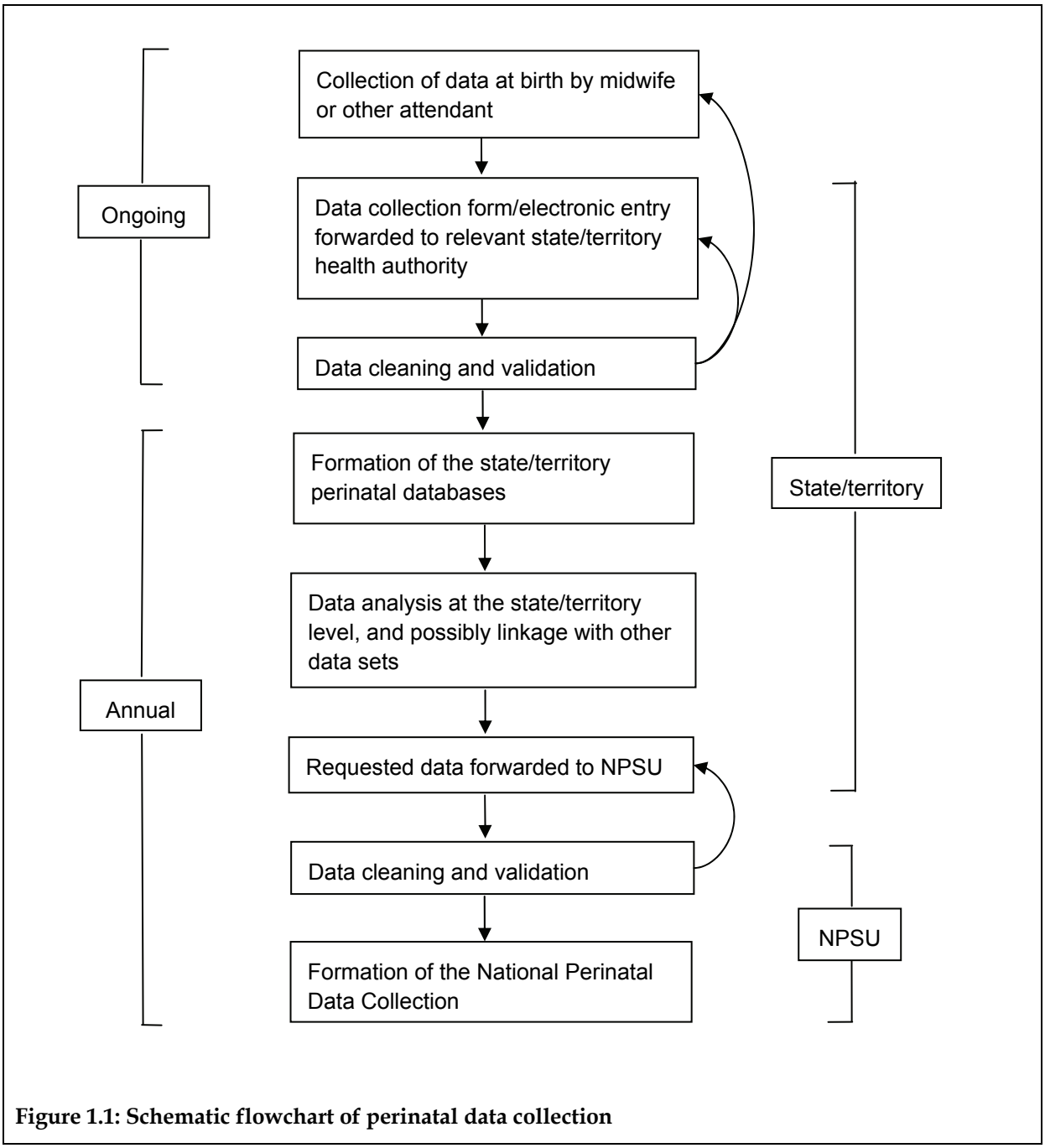


Figure 1.1: Schematic flowchart of perinatal data collection

Australian Bureau of Statistics

The ABS compiles statistics and publishes reports on registrations of live births and perinatal deaths from data made available by the Registrar of Births, Deaths and Marriages in each state and territory. These data are used to compile vital statistics, and are administrative data collections that are routinely reported on year of registration rather than year of birth or year of death.

The ABS reports the perinatal deaths of babies of at least 400 grams birthweight, or 20 weeks gestation where birthweight is unknown. These inclusion criteria differ from the NPDC and the World Health Organization (WHO) definitions. Data obtained from ABS and its published reports (ABS 2006; ABS 2007) were used to analyse trends and variations in

perinatal deaths using the criteria of at least 400 grams birthweight, or at least 20 weeks gestation where birthweight is unknown, in the period from 2003 to 2005.

ABS publishes the reports *Births Australia* (e.g. ABS 2006) and *Causes of Death Australia* (e.g. ABS 2007) annually.

Australian and New Zealand Neonatal Network

The Australian and New Zealand Neonatal Network (ANZNN) monitors the care of high-risk newborns registered to level III neonatal intensive care units (NICUs). Babies in the ANZNN data set are those who were admitted to a level III NICU at less than 28 days of age and who met at least one of the following criteria: less than 32 weeks gestation, less than 1,500 grams birthweight, required assisted ventilation for at least four hours or underwent major surgery. ANZNN publishes an annual report on these babies and their mothers (e.g. Abeywardana 2006). Chapter 7 presents data on babies admitted to level III NICUs in Australia in 2005.

Explanatory notes

Tabulated data in this report are based on births in each state and territory in 2005, meeting the criteria for inclusion in the NPDC. Information is provided to the NPSU for all live births and stillbirths of at least 400 grams birthweight or 20 weeks or more gestation. Each state and territory has developed its own form and/or electronic system for collecting perinatal data, often to maintain compatibility with its other data collections. Unless otherwise stated, the data in this report relate to the state or territory of occurrence of births in 2005 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 an 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, this is indicated in the footnotes of tables or figures.

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 (NHDC 2003). 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.

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.

Australian Capital Territory data

The Australian Capital Territory data contain a 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 15.5% in 2005. When interpreting the data it is important to note that a proportion of the higher risk or multiple pregnancies and associated poorer perinatal outcomes may have occurred in these non-residents. Therefore,

percentages or rates such as those for preterm birth and perinatal deaths, can appear inflated in relation to the number of births in the Australian Capital Territory.

Data quality

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.

Quality of Indigenous status data

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 (Leeds et al. 2007). Work is also underway on a project entitled 'Improving identification of Indigenous people in health data collections' including perinatal data collections.

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 2005, 79 of the 103 Aboriginal or Torres Strait Islander women who gave birth in the Australian Capital Territory were Australian Capital Territory residents.

Data presentation

This report presents perinatal data that can largely be compared with data presented in *Australia's Mothers and Babies 2004* (Laws et. al 2006a). There are two new tables (Tables 3.19 and 3.29), as well as a special chapter on the socioeconomic status of mothers.

Cell sizes of less than five in state and territory tables have not been published in line with the SIMC 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.

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.

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.

Minor changes to data presentation, including where a jurisdiction has not provided a data item or data have not been published for other reasons, are detailed in the footnotes to the tables.

2 Summary data

Women who gave birth and births

There were 267,793 women who gave birth in 2005 reported to the NPDC, resulting in a total of 272,419 births. Of these, 1,979 were fetal deaths (Table 2.1). This showed an increase of 15,214 births (5.9%) from the 257,205 reported in 2004.

Table 2.1: Women who gave birth and births, by state and territory, 2005

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Mothers	89,139	65,427	54,336	26,529	17,896	5,820	4,995	3,651	267,793
Fetal deaths	535	613	375	200	129	38	47	42	1,979
Live births	90,073	66,041	54,905	26,783	18,066	5,874	5,041	3,657	270,440
All births	**90,608**	**66,654**	**55,280**	**26,983**	**18,195**	**5,912**	**5,088**	**3,699**	**272,419**

There were 270,440 live births in 2005 reported to the NPDC. This was 10,649 more than the 259,791 live births registered in Australia in 2005 (ABS 2006). Reasons for the differences in the national figures on live births between the two collections are being further investigated, but somewhat reflect the different methods and timing of the data collections. The NPDC is an epidemiological dataset collected at birth for the purpose of monitoring pregnancy. In comparison, the birth registration data is a vital statistics collection that relies on reporting by the parents or guardians, with requirements for reporting specified by individual states and territories. The differences between the two collections would be partly due to delays in the registration of, or failure to register, some live births. However, delays in registration would likely be balanced by the late registration of births from the previous year.

Table 2.2 shows the number of live births in the two collections by state and territory, and year of occurrence of the birth. The impact of the timing of registering births is demonstrated in this table, but suggests that even after a one year catchup, the NPDC is a more timely estimate of the number of live births in Australia.

Data were not available for births that occurred in 2005 but were registered in 2006. Therefore, data are presented for 2000 to 2004 to allow for inclusion of births that occurred late in 2004 and were registered in 2005 and to also include late registrations for births in earlier years. In these years the NPDC has recorded more live births than were registered, overall and in most states and territories. Percentage differences show 2.1% more live births reported to the NPDC for births in 2000, increasing to a difference of 4.8% for births in 2004, the latest year of comparable data on births available (Table 2.2).

The majority of births are registered in the year of occurrence. For example, of births in 2000, 87.3% were registered in that year, 10.6% were registered in 2001, 0.8% in 2002, 0.5% in each of 2003 and 2004, and 0.3% were registered in 2005.

Table 2.2: Live births reported to the National Perinatal Data Collection and birth registration data, by state and territory, 2000 to 2004

Year of birth/data collection	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2000									
NPDC	87,322	62,148	48,958	25,023	17,766	5,839	4,736	3,638	255,430
ABS	85,262	60,752	47,794	24,552	17,533	5,871	4,758	3,665	250,187
% difference	2.4	2.3	2.4	1.9	1.3	–0.5	–0.5	–0.7	2.1
2001									
NPDC	85,320	61,690	49,327	24,773	17,584	5,656	4,478	3,744	252,572
ABS	82,085	59,826	47,646	24,142	17,282	5,619	4,460	3,758	244,818
% difference	3.9	3.1	3.5	2.6	1.7	0.7	0.4	–0.4	3.2
2002									
NPDC	85,490	62,681	48,867	24,609	17,623	5,660	4,769	3,689	253,388
ABS	82,003	61,299	46,465	23,741	17,301	5,770	4,730	3,728	245,037
% difference	4.3	2.3	5.2	3.7	1.9	–1.9	0.8	–1.0	3.4
2003									
NPDC	85,891	63,018	50,059	24,497	17,710	5,482	4,821	3,621	255,099
ABS	81,416	60,989	47,297	23,372	17,320	5,580	4,813	3,668	244,455
% difference	5.5	3.3	5.8	4.8	2.3	–1.8	0.2	–1.3	4.4
2004									
NPDC	85,065	63,082	50,563	25,340	17,408	5,483	4,893	3,452	255,286
ABS	79,701	61,546	47,547	24,400	16,608	5,551	4,847	3,480	243,680
% difference	6.7	2.5	6.3	3.9	4.8	–1.2	0.9	–0.8	4.8

Note: ABS data based on year of birth and state/territory of registration.

Sources: National Perinatal Data Collection; ABS births database.

Summary measures of perinatal health

Table 2.3 presents summary perinatal health information for Australia derived from the National Perinatal Data Collection for births in 2005. Data include measures of pregnancy-related interventions, maternal risk factors and birth outcomes.

Table 2.3: Summary measures of perinatal health for Australia, 2005

Variable	Description of measure	Value
Maternal age	Percentage of mothers who were teenagers (less than 20 years)	4.4
Maternal age	Percentage of first-time mothers aged 35 years and older	13.3
Smoking	Percentage of women smoking at all during pregnancy[(a)]	17.4
Indigenous status	Percentage of mothers who identified as Aboriginal or Torres Strait Islander	3.7
Maternal country of birth	Percentage of mothers born in Australia	76.9
Hospital sector	Percentage of women who gave birth in hospital who were in public hospitals	69.8
Multiple pregnancy	Multiple pregnancies per 1,000 mothers	16.9
Spontaneous onset of labour	Percentage of mothers who had a spontaneous onset of labour	56.5
Induction of labour	Percentage of mothers who had an induced onset of labour	25.6
Instrumental vaginal deliveries	Percentage of mothers who had an instrumental (forceps or vacuum extraction) delivery[(b)]	10.8
Caesarean section	Percentage of mothers who had a caesarean section[(b)]	30.3
Previous caesarean section	Percentage of multiparous mothers having had previous caesarean sections[(c)]	25.3
Mother's postnatal stay	Median length of stay in hospital of birth (days) for those who were discharged home	3.0
Preterm birth	Percentage of all births that were less than 37 weeks gestation	8.1
Low birthweight	Percentage of liveborn babies weighing less than 2,500 grams at birth	6.4
Apgar scores	Percentage of liveborn babies with an Apgar score of less than 7 at 5 minutes	1.3
Assisted reproduction technology	Estimated percentage of births resulting from assisted reproduction technology treatment[(d)]	2.8
Perinatal death rate	Perinatal deaths per 1,000 births	10.5

(a) Excludes Vic. For Qld, smoking status data are for the July–December period only.

(b) For multiple births, the method of birth of the first born baby was used.

(c) Excludes ACT.

(d) The source for the number of babies born following assisted reproduction technology was the Australian and New Zealand Assisted Reproduction Database (ANZARD) held by NPSU.

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 12 to 54 years in 2005. The average age of women who gave birth in Australia has increased gradually in recent years. The mean age in 2005 was 29.8 years, compared with 28.6 years in 1996, while the median age in 2005 was 30.0 years. The trend in delayed childbearing can be attributed to a number of factors including social, educational and economic, and increased access to assisted reproduction technology (Carolan 2003; Cleary-Goldman et al. 2005).

In 2005, mothers in Victoria (30.6 years) and the Australian Capital Territory (30.5 years) were older and those in the Northern Territory younger (27.3 years) than the national average (Table 3.1). Nationally, the number of teenage mothers (less than 20 years) dropped from 13,373 in 1996 to 11,799 in 2005, a decline of 11.8% over the decade. The proportion of teenagers who gave birth in 2005 was 4.4%, and ranged from a low of 2.6% in the Australian Capital Territory to 13.2% in the Northern Territory.

The proportion of mothers aged 20–24 years fell from 18.1% in 1996 to 14.6% in 2005 (39,131 mothers). The proportion of older mothers, aged 35 years and over, has continued to increase from 14.3% in 1996 to 20.4% in 2005.

Table 3.1: Women who gave birth by maternal age and state and territory, 2005

Maternal age (years)	NSW	Vic	Qld	WA	SA[(a)]	Tas	ACT[(b)]	NT	Australia
Mean	29.9	30.6	29.1	29.4	29.4	28.5	30.5	27.3	29.8
					Number				
Less than 20	3,440	1,834	3,069	1,486	923	435	130	482	11,799
20–24	12,739	7,416	9,514	4,115	2,825	1,148	570	804	39,131
25–29	24,006	16,610	15,067	7,055	5,014	1,569	1,315	979	71,615
30–34	30,502	24,160	16,984	8,683	5,795	1,713	1,815	863	90,515
35–39	15,274	12,970	8,138	4,364	2,784	807	978	449	45,764
40 and over	3,166	2,428	1,564	826	555	148	187	74	8,948
Not stated	12	9	—	—	—	—	—	—	21
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Less than 20	3.9	2.8	5.6	5.6	5.2	7.5	2.6	13.2	4.4
20–24	14.3	11.3	17.5	15.5	15.8	19.7	11.4	22.0	14.6
25–29	26.9	25.4	27.7	26.6	28.0	27.0	26.3	26.8	26.7
30–34	34.2	36.9	31.3	32.7	32.4	29.4	36.3	23.6	33.8
35–39	17.1	19.8	15.0	16.4	15.6	13.9	19.6	12.3	17.1
40 and over	3.6	3.7	2.9	3.1	3.1	2.5	3.7	2.0	3.3
Not stated	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 SA, the mean maternal age presented here may differ from that produced by the Pregnancy Outcome Statistics Unit, who use maternal age to four decimal places for this calculation. The National Perinatal Data Collection contains maternal age in completed years.

(b) 15.5% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

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 2005, 9,867 women who identified as being Aboriginal or Torres Strait Islander gave birth in Australia, representing 3.7% of all women who gave birth. Aboriginal or Torres Strait Islander mothers accounted for a much greater proportion of all mothers in the Northern Territory (37.8%) than in other jurisdictions. There were also high proportions of Aboriginal or Torres Strait Islander mothers in Western Australia (6.1%) and Queensland (5.6%). Because of their larger overall populations, there were more Aboriginal or Torres Strait Islander women who gave birth in Queensland (3,069), New South Wales (2,474) and Western Australia (1,607) than in the Northern Territory (1,380) (Table 3.2).

Table 3.2: Women who gave birth by Indigenous status and state and territory, 2005

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
					Number				
Aboriginal or Torres Strait Islander	2,474	529	3,069	1,607	487	218	103	1,380	9,867
Non-Indigenous	86,569	64,882	51,264	24,922	17,409	5,602	4,892	2,258	257,798
Not stated	96	16	3	—	—	—	—	13	128
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Aboriginal or Torres Strait Islander	2.8	0.8	5.6	6.1	2.7	3.7	2.1	37.8	3.7
Non-Indigenous	97.1	99.2	94.3	93.9	97.3	96.3	97.9	61.8	96.3
Not stated	0.1	0.0	0.0	—	—	—	—	0.4	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) 15.5% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 79 of the 103 Aboriginal or Torres Strait Islander women who gave birth in the ACT in 2005 were ACT residents.

Aboriginal or Torres Strait Islander mothers are more likely to have their babies at a younger age compared with non-Indigenous mothers. The average age of Aboriginal or Torres Strait Islander mothers who gave birth in 2005 was 24.9 years, compared with 29.9 years for non-Indigenous mothers. More than one in five (21.7%) Aboriginal or Torres Strait Islander mothers were teenagers, compared with 3.7% of non-Indigenous mothers.

Geographical location of the mother's usual residence

State and territory of the mother's usual residence

Table 3.3 shows that, of women who gave birth in the Australian Capital Territory, 15.5% lived outside of the Australian Capital Territory (15.4% in New South Wales). For the remaining jurisdictions, the proportion of women who gave birth outside their state or territory of usual residence ranged from none in Tasmania to 2.8% in the Northern Territory.

Table 3.3: Women who gave birth by state and territory of usual residence and state and territory of birth, 2005

State/territory of usual residence	State/territory of birth								
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
NSW	88,380	1,283	386	<5	32	—	770	n.p.	90,857
Vic	34	64,022	9	<5	54	—	<5	<5	64,127
Qld	568	36	53,871	<5	<5	—	<5	6	54,488
WA	6	17	11	26,506	8	—	—	27	26,575
SA	7	18	<5	<5	17,768	—	—	63	17,861
Tas	<5	n.p.	<5	—	<5	5,820	—	—	5,842
ACT	n.p.	—	<5	—	—	—	4,221	—	4,257
NT	<5	<5	18	<5	26	—	—	3,548	3,601
Non-resident[(a)]	107	31	32	<5	<5	—	—	—	172
Not stated	—	—	—	13	—	—	—	—	13
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
NSW	99.1	2.0	0.7	n.p.	0.2	—	15.4	n.p.	33.9
Vic	0.0	97.9	0.0	n.p.	0.3	—	n.p.	n.p.	23.9
Qld	0.6	0.1	99.1	n.p.	n.p.	—	n.p.	0.2	20.3
WA	0.0	0.0	0.0	99.9	0.0	—	—	0.7	9.9
SA	0.0	0.0	n.p.	n.p.	99.3	—	—	1.7	6.7
Tas	n.p.	n.p.	n.p.	—	n.p.	100.0	—	—	2.2
ACT	n.p.	—	n.p.	—	—	—	84.5	—	1.6
NT	n.p.	n.p.	0.0	n.p.	0.1	—	—	97.2	1.3
Non-resident[(a)]	0.1	0.0	0.1	n.p.	n.p.	—	—	—	0.1
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) Not usually resident in Australia.

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. Queensland had just over half of its women who gave birth residing in major cities (52.4%) compared with around 70.0% in the other populous states. The Northern Territory and Australian Capital Territory presented different profiles of Remoteness Area, with Australian Capital Territory resident mothers almost all giving birth in a major city compared with the Northern Territory women who lived mainly in outer regional, remote and very remote areas (Table 3.4).

Table 3.4: Women who gave birth by Remoteness Area of usual residence and state and territory of usual residence, 2005

Remoteness Area	State/territory of usual residence								
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Major cities	67,354	48,719	28,569	18,210	12,705	—	n.p.	<5	179,812
Inner regional	16,890	12,533	13,162	3,249	2,279	3,796	<5	<5	51,917
Outer regional	5,897	2,829	10,160	2,726	2,133	1,938	—	1,859	27,542
Remote	559	n.p.	1,607	1,466	549	n.p.	—	803	5,111
Very remote	154	<5	988	920	195	n.p.	—	931	3,215
Total	**90,854**	**64,127**	**54,486**	**26,571**	**17,861**	**5,842**	**4,257**	**3,599**	**267,597**
					Per cent				
Major cities	74.1	76.0	52.4	68.5	71.1	—	n.p.	n.p.	67.2
Inner regional	18.6	19.5	24.2	12.2	12.8	65.0	n.p.	n.p.	19.4
Outer regional	6.5	4.4	18.6	10.3	11.9	33.2	—	51.7	10.3
Remote	0.6	n.p.	2.9	5.5	3.1	n.p.	—	22.3	1.9
Very remote	0.2	n.p.	1.8	3.5	1.1	n.p.	—	25.9	1.2
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.

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 (Table 3.5). Of non-Indigenous women who gave birth in 2005, 68.8% lived in major cities, followed by 19.4% in inner regional areas. Aboriginal and Torres Strait Islander women were more evenly spread across Remoteness Areas, with 27.6% living in outer regional areas and 23.9% in major cities. Few non-Indigenous women who gave birth lived in very remote areas compared with Indigenous mothers (0.5% compared with 18.6%).

Table 3.5: Women who gave birth by Remoteness Area of usual residence and Indigenous status, 2005

Remoteness Area	Indigenous	Non-Indigenous	Not stated	Total
		Number		
Major cities	2,360	177,354	98	179,812
Inner regional	1,870	50,035	12	51,917
Outer regional	2,720	24,809	13	27,542
Remote	1,078	4,031	2	5,111
Very remote	1,837	1,389	2	3,228
Total	**9,865**	**257,618**	**127**	**267,610**
		Per cent		
Major cities	23.9	68.8	77.2	67.2
Inner regional	19.0	19.4	9.4	19.4
Outer regional	27.6	9.6	10.2	10.3
Remote	10.9	1.6	1.6	1.9
Very remote	18.6	0.5	1.6	1.2
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 2005, 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 2005, 22.7% were born in countries other than Australia. Mothers born in the United Kingdom constituted 3.0% of all mothers and accounted for a relatively higher proportion of all mothers in Western Australia (7.2%). New Zealand-born mothers constituted 2.6% of all women who gave birth. One in 12 women who gave birth was born in Asian countries (8.0%). Mothers born in non-English speaking countries were more likely to give birth in the more populous states, New South Wales and Victoria (Table 3.6).

Table 3.6: Women who gave birth by country of birth and state and territory, 2005

Country of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Australia	64,245	49,430	45,252	19,225	15,140	5,459	4,063	3,208	206,022
New Zealand	2,233	1,204	2,396	818	202	44	72	48	7,017
United Kingdom	2,367	1,585	1,331	1,917	610	79	95	70	8,054
Former Yugoslavia	309	516	61	79	36	—	n.p.	<5	1,017
Other Europe and former USSR	2,162	1,600	834	680	347	49	131	57	5,860
Lebanon	1,608	482	40	19	29	<5	8	<5	2,190
Other Middle East and North Africa	2,014	2,723	238	333	188	27	46	9	5,578
China and Hong Kong	2,099	839	245	158	88	13	62	8	3,512
India	1,094	835	133	135	83	9	37	7	2,333
Philippines	1,160	569	453	169	113	24	37	46	2,571
Vietnam	1,652	1,560	350	277	287	<5	66	n.p.	4,210
Other Asia	4,127	1,581	1,167	1,042	428	37	195	96	8,673
Northern America	587	375	284	203	87	18	58	17	1,629
South and Central America and the Caribbean	726	438	175	111	51	12	n.p.	<5	1,538
Africa (excluding North Africa)	1,037	1,161	475	648	159	33	48	25	3,586
Other countries	1,507	529	881	71	48	10	38	34	3,118
Not stated	212	—	21	644	—	—	—	8	885
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**

(continued)

Table 3.6 (continued): Women who gave birth by country of birth and state and territory, 2005

Country of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Australia	72.1	75.5	83.3	72.5	84.6	93.8	81.3	87.9	76.9
New Zealand	2.5	1.8	4.4	3.1	1.1	0.8	1.4	1.3	2.6
United Kingdom	2.7	2.4	2.4	7.2	3.4	1.4	1.9	1.9	3.0
Former Yugoslavia	0.3	0.8	0.1	0.3	0.2	—	n.p.	n.p.	0.4
Other Europe and former USSR	2.4	2.4	1.5	2.6	1.9	0.8	2.6	1.6	2.2
Lebanon	1.8	0.7	0.1	0.1	0.2	n.p.	0.2	n.p.	0.8
Other Middle East and North Africa	2.3	4.2	0.4	1.3	1.1	0.5	0.9	0.2	2.1
China and Hong Kong	2.4	1.3	0.5	0.6	0.5	0.2	1.2	0.2	1.3
India	1.2	1.3	0.2	0.5	0.5	0.2	0.7	0.2	0.9
Philippines	1.3	0.9	0.8	0.6	0.6	0.4	0.7	1.3	1.0
Vietnam	1.9	2.4	0.6	1.0	1.6	n.p.	1.3	n.p.	1.6
Other Asia	4.6	2.4	2.1	3.9	2.4	0.6	3.9	2.6	3.2
Northern America	0.7	0.6	0.5	0.8	0.5	0.3	1.2	0.5	0.6
South and Central America and the Caribbean	0.8	0.7	0.3	0.4	0.3	0.2	n.p.	n.p.	0.6
Africa (excluding North Africa)	1.2	1.8	0.9	2.4	0.9	0.6	1.0	0.7	1.3
Other countries	1.7	0.8	1.6	0.3	0.3	0.2	0.8	0.9	1.2
Not stated	0.2	—	0.0	2.4	—	—	—	0.2	0.3
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 and risk factors

Parity

Parity is the number of previous pregnancies that resulted in live births or stillbirths. In 2005, 41.7% of mothers had their first baby and 33.7% had their second baby. One in six mothers (15.3%) had given birth twice previously and 9.3% had given birth three or more times (Table 3.7).

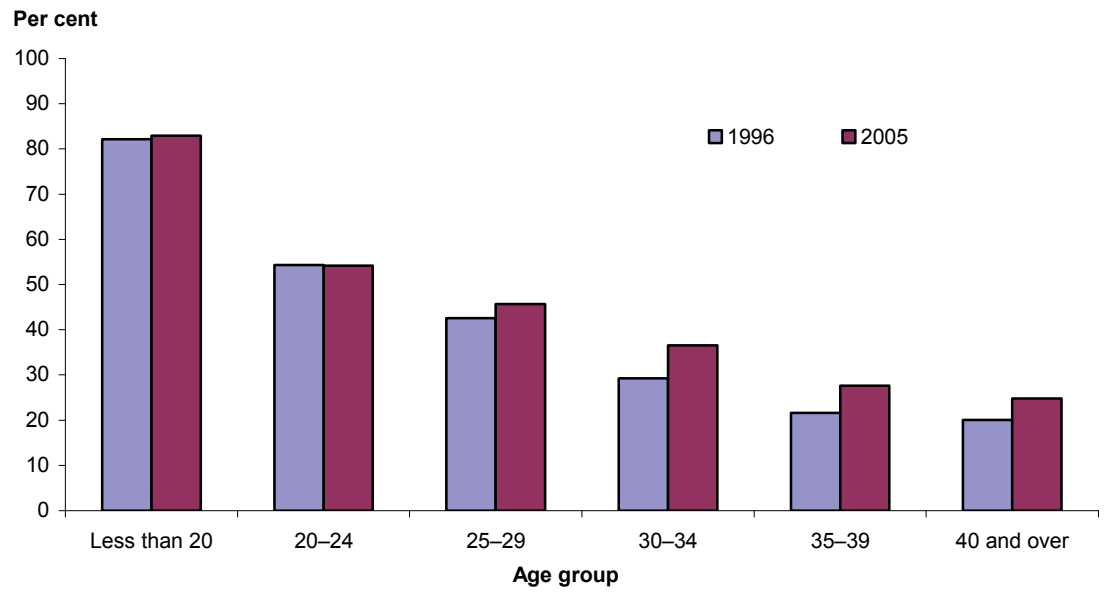
Mothers in the Northern Territory were more likely than mothers in the other states and the Australian Capital Territory to have a parity of three or more. In the Northern Territory, 8.4% of mothers had given birth three times previously and 6.7% four or more times, compared with 5.6% and 3.7% respectively for Australia (Table 3.7).

In 2005, 31.0% of Aboriginal or Torres Strait Islander mothers were having their first baby and 68.9% had given birth previously. Women who had given birth three or more times previously accounted for 27.7% of Indigenous mothers.

Table 3.7: Women who gave birth by parity and state and territory, 2005

Parity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
None	37,073	28,168	21,708	11,103	7,587	2,364	2,156	1,460	111,619
One	29,881	22,354	17,929	8,854	6,317	1,971	1,812	1,058	90,176
Two	13,798	9,799	8,557	3,997	2,568	880	672	580	40,851
Three	5,090	3,240	3,442	1,462	897	367	223	308	15,029
Four or more	3,141	1,866	2,698	1,113	527	238	127	245	9,955
Not stated	156	—	2	—	—	—	5	—	163
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
None	41.6	43.1	40.0	41.9	42.4	40.6	43.2	40.0	41.7
One	33.5	34.2	33.0	33.4	35.3	33.9	36.3	29.0	33.7
Two	15.5	15.0	15.7	15.1	14.3	15.1	13.5	15.9	15.3
Three	5.7	5.0	6.3	5.5	5.0	6.3	4.5	8.4	5.6
Four or more	3.5	2.9	5.0	4.2	2.9	4.1	2.5	6.7	3.7
Not stated	0.2	—	0.0	—	—	—	0.1	—	0.1
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 has increased, from 26.6 years in 1996 to 28.0 years in 2005. The median age of first-time mothers was also 28.0 years in 2004. Nevertheless, in 2005 more than half of primiparous women who gave birth were aged less than 30 years (57.1%). Figure 3.1 shows the increase in the proportion of first-time mothers in the older age groups between 1996 and 2005. Of all primiparous women, 13.3% were aged 35 years or older in 2005, compared with 7.6% in 1996. The proportion of mothers who had given birth at least twice previously increased with maternal age from 1.9% for teenagers to 43.1% for mothers aged 40 years and over (Table 3.8).



Source: Table A1.1.

Figure 3.1: First-time mothers by maternal age, 1996 and 2005 (per cent)

Table 3.8: Women who gave birth by parity and maternal age, 2005

Parity	Less than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
				Number				
None	9,786	21,199	32,709	33,053	12,644	2,217	11	111,619
One	1,787	12,555	23,444	33,254	16,291	2,838	7	90,176
Two	210	4,028	9,900	15,208	9,749	1,754	2	40,851
Three	13	1,019	3,621	5,465	3,905	1,005	1	15,029
Four or more	1	324	1,928	3,486	3,117	1,099	—	9,955
Not stated	2	6	13	49	58	35	—	163
Total	**11,799**	**39,131**	**71,615**	**90,515**	**45,764**	**8,948**	**21**	**267,793**
				Per cent				
None	82.9	54.2	45.7	36.5	27.6	24.8	52.4	41.7
One	15.1	32.1	32.7	36.7	35.6	31.7	33.3	33.7
Two	1.8	10.3	13.8	16.8	21.3	19.6	9.5	15.3
Three	0.1	2.6	5.1	6.0	8.5	11.2	4.8	5.6
Four or more	0.0	0.8	2.7	3.9	6.8	12.3	0.0	3.7
Not stated	0.0	0.0	0.0	0.1	0.1	0.4	0.0	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Previous caesarean sections

Data on previous caesarean sections were available for seven states and territories: New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory. In 2005, 25.3% of multiparous women who gave birth in these jurisdictions had a history of previous caesarean section. This proportion ranged from 20.9% in Tasmania to 27.4% in South Australia (Table 3.9).

Table 3.9: Multiparous women who gave birth by number of previous caesarean sections and state and territory, 2005

Previous caesarean sections	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	39,796	27,735	23,814	11,278	7,485	2732	n.a.	1,626	114,466
At least one	12,097	9,524	8,811	4,148	2,824	724	n.a.	564	38,692
One	9,720	7,504	6,857	n.a.	2,252	577	n.a.	415	27,325
Two	1,959	1,684	1,549	n.a.	448	110	n.a.	108	5,858
Three or more	418	336	405	n.a.	124	37	n.a.	41	1,361
Not stated	17	—	1	—	—	—	n.a.	1	19
Total	**51,910**	**37,259**	**32,626**	**15,426**	**10,309**	**3,456**	**n.a.**	**2,191**	**153,177**
					Per cent				
None	76.7	74.4	73.0	73.1	72.6	79.1	n.a.	74.2	74.7
At least one	23.3	25.6	27.0	26.9	27.4	20.9	n.a.	25.7	25.3
One	18.7	20.1	21.0	n.a.	21.8	16.7	n.a.	18.9	17.8
Two	3.8	4.5	4.7	n.a.	4.3	3.2	n.a.	4.9	3.8
Three or more	0.8	0.9	1.2	n.a.	1.2	1.1	n.a.	1.9	0.9
Not stated	0.0	—	0.0	—	—	—	n.a.	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**	**100.0**

n.a. Data not available.

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. 2006b).

There is currently no national data element for the collection of data on smoking during pregnancy. Data were available for seven states and territories: New South Wales, Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. Queensland began collecting smoking data from 1 July 2005, therefore, data were available for six months only.

The proportion of women who smoked while pregnant ranged from 14.3% in New South Wales to 31.1% in the Northern Territory. Overall, 17.4% of women in these states and territories smoked during pregnancy (Table 3.10). There has been a decrease over the five

years since these data have been available. In 2001, 19.2% of women who gave birth in the jurisdictions with available data reported smoking in pregnancy (Laws et al. 2006b).

Table 3.10: Women who gave birth by tobacco smoking status during pregnancy and state and territory, 2005

Smoking status	NSW	Vic	Qld[(a)]	WA	SA[(b)]	Tas	ACT	NT[(c)]	Total
					Number				
Smoked	12,738	n.a.	5,543	4,524	4,149	1,605	725	1,135	30,419
Did not smoke	76,267	n.a.	21,366	22,005	13,535	4,119	4,270	2,241	143,803
Not stated	134	n.a.	252	—	212	96	—	275	969
Total	**89,139**	**n.a.**	**27,161**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**175,191**
					Per cent				
Smoked	14.3	n.a.	20.4	17.1	23.2	27.6	14.5	31.1	17.4
Did not smoke	85.6	n.a.	78.7	82.9	75.6	70.8	85.5	61.4	82.1
Not stated	0.2	n.a.	0.9	—	1.2	1.6	—	7.5	0.6
Total	**100.0**	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For Qld, smoking status data were collected from 1 July 2005, therefore, the figures shown are for the July–December 2005 period only.

(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 for Vic were 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 30.1 years for those who did not smoke. Teenage mothers accounted for 11.6% of all mothers who reported smoking during pregnancy, and 42.3% of teenagers reported smoking.

Aboriginal or Torres Strait Islander mothers accounted for 13.5% 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 (53.1%), compared with 15.7% of non-Indigenous women who gave birth.

Labour and birth characteristics

Place of birth

Actual place of birth

Most births in Australia occur in hospitals, in conventional labour-ward settings. There were 261,025 women who gave birth in hospitals (97.5%) in 2005 (Table 3.11). A further 5,044 women gave birth in birth centres (1.9%). Planned homebirths and other births, such as those occurring unexpectedly before arrival in hospital or in other settings, are the two categories accounting for the smallest proportion of women who gave birth (1,721 women, 0.6%).

Table 3.11: Women who gave birth by actual place of birth and state and territory, 2005

Place of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Hospital	86,827	63,769	53,554	26,130	16,737	5,710	4,741	3,557	261,025
Birth centre	1,830	1,224	443	244	1,023	53	227	—	5,044
Home	112	189	42	155	63	21	10	9	601
Other	367	245	297	—	73	36	17	[(a)]85	1,120
Not stated	3	—	—	—	—	—	—	—	3
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Hospital	97.4	97.5	98.6	98.5	93.5	98.1	94.9	97.4	97.5
Birth centre	2.1	1.9	0.8	0.9	5.7	0.9	4.5	—	1.9
Home	0.1	0.3	0.1	0.6	0.4	0.4	0.2	0.2	0.2
Other	0.4	0.4	0.5	—	0.4	0.6	0.3	[(a)]2.3	0.4
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) 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 2005, the intended place of birth was hospital for 96.3% of mothers and birth centres for 3.2%. Only 0.5% intended to give birth at home or in other settings (Table 3.12).

Around 3.6% of mothers intended to give birth outside of a conventional labour-ward setting in 2005. Only 2.5% of mothers actually did so, giving birth in places such as birth centres or at home.

Table 3.12: Women who gave birth by intended place of birth and state and territory, 2005

Place of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Hospital	85,659	63,166	53,718	25,794	15,824	5,638	4,584	3,625	258,008
Birth centre	2,958	1,987	547	531	1,950	n.p.	396	<5	8,533
Home	152	218	63	177	83	n.p.	15	n.p.	744
Other	369	—	8	27	39	—	—	[(a)]8	451
Not stated	1	56	—	—	—	—	—	—	57
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Hospital	96.1	96.5	98.9	97.2	88.4	96.9	91.8	99.3	96.3
Birth centre	3.3	3.0	1.0	2.0	10.9	n.p.	7.9	n.p.	3.2
Home	0.2	0.3	0.1	0.7	0.5	n.p.	0.3	n.p.	0.3
Other	0.4	—	0.0	0.1	0.2	—	—	[(a)]0.2	0.2
Not stated	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) Includes remote community health centres.

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

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 gestational age. 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. These may be imprecise for some women, however, in the majority of pregnancies, the gestational age derived from the dates provides an appropriate estimate of the duration of pregnancy. Estimates may also be made using ultrasound, as most pregnant women have at least one ultrasound examination during pregnancy.

Preterm birth (less than 37 completed weeks gestation) occurred for 7.3% of all mothers in 2005. The average duration of pregnancy in Australia was 38.9 weeks. A minority of mothers gave birth at 20–27 weeks (0.8%) or 28–31 weeks (0.7%), while 5.7% gave birth at 32–36 weeks. There was a higher incidence of preterm birth in the Northern Territory (10.6%) than elsewhere (Table 3.13).

Of women who gave birth in 2005, 91.5% gave birth at 37–41 completed weeks of gestation (term) and 1.3% gave birth at 42 or more weeks gestation (post-term). Post-term births were least common in South Australia and the Northern Territory (both 0.5%) and most common in New South Wales (1.9%) (Table 3.13).

These figures are based on the duration of pregnancies of mothers, and so they differ from the figures on gestational age in Chapter 4, which are based on babies. The numbers differ because the gestational age of the first born baby of a multiple birth is used for the duration of pregnancy, while the gestational age of each individual baby in a multiple birth is used for the data presented in Chapter 4.

Table 3.13: Women who gave birth by duration of pregnancy and state and territory, 2005

Duration of pregnancy (weeks)	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
Mean	39.0	38.9	38.8	38.7	38.8	39.0	38.9	38.6	38.9
					Number				
20–27	558	694	419	224	166	39	46	46	2,192
28–31	562	420	420	202	164	33	58	41	1,900
32–36	4,649	3,601	3,424	1,696	1,126	293	304	300	15,393
37–41	81,653	59,824	49,690	24,250	16,344	5,397	4,495	3,244	244,897
42 and over	1,707	874	379	157	96	58	92	20	3,383
Not stated	10	14	4	—	—	—	—	—	28
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
20–27	0.6	1.1	0.8	0.8	0.9	0.7	0.9	1.3	0.8
28–31	0.6	0.6	0.8	0.8	0.9	0.6	1.2	1.1	0.7
32–36	5.2	5.5	6.3	6.4	6.3	5.0	6.1	8.2	5.7
37–41	91.6	91.4	91.4	91.4	91.3	92.7	90.0	88.9	91.5
42 and over	1.9	1.3	0.7	0.6	0.5	1.0	1.8	0.5	1.3
Not stated	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) 15.5% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of 28–31 week duration of pregnancy for ACT residents who gave birth in the ACT was 0.7%.

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

Multiple pregnancy

There has been an overall increasing trend in multiple births in the last two decades, attributed largely to the increased use of fertility drugs and assisted reproduction technology, delay in childbearing and the growing number of older mothers (Tough et al. 2000; Tough et al. 2002). However, there has been a decrease in the proportion of triplet and higher order multiple births in recent years.

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 2005, there were 4,529 multiple pregnancies (1.7% of all mothers) (Table 3.14), consisting of 4,436 twin pregnancies, 89 triplet pregnancies and four quadruplet pregnancies.

There were 16.9 multiple pregnancies per 1,000 mothers in 2005. The twinning rate was 16.6 per 1,000 mothers. In 1996, there were 3,569 multiple pregnancies, accounting for 1.4% of mothers, with a twinning rate of 13.7 per 1,000 mothers. Triplet and higher order multiple pregnancies have decreased from 0.4 per 1,000 mothers in 1996 to 0.3 per 1,000 mothers in 2005.

Table 3.14: Women who gave birth by plurality and state and territory, 2005

Plurality	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
					Number				
Singleton	87,699	64,216	53,417	26,087	17,604	5,729	4,908	3,604	263,264
Multiple	1,440	1,211	919	442	292	91	87	47	4,529
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Singleton	98.4	98.1	98.3	98.3	98.4	98.4	98.3	98.7	98.3
Multiple	1.6	1.9	1.7	1.7	1.6	1.6	1.7	1.3	1.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) 15.5% 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 1.4%.

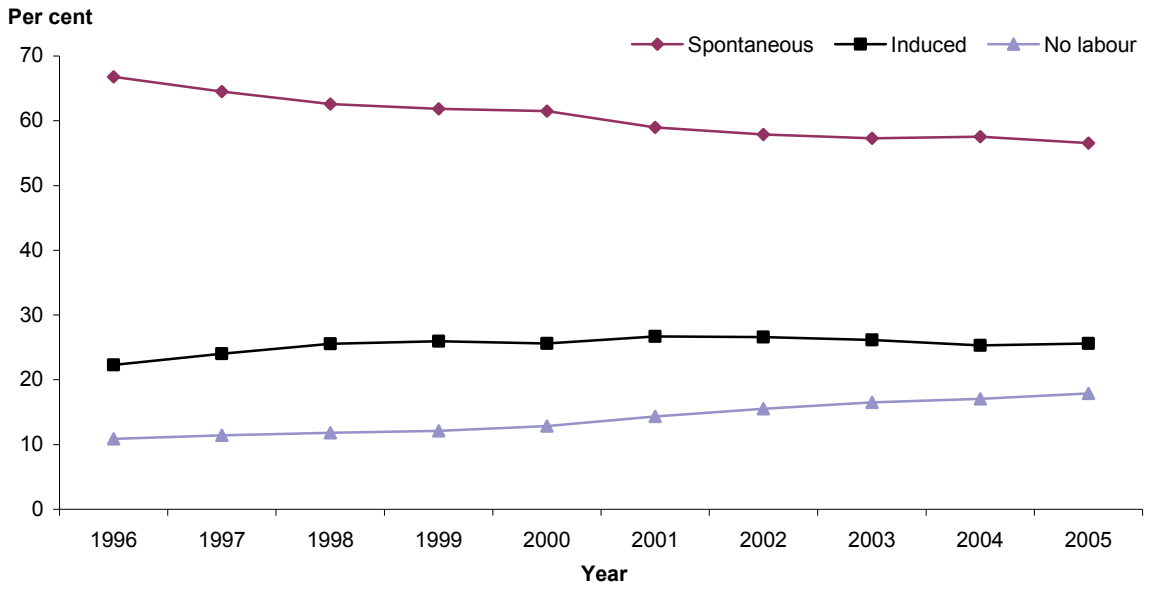
Onset of labour

Onset of labour is categorised as spontaneous, induced or no labour. In 2005, the onset of labour was spontaneous for 56.5% of all women who gave birth, and there was no labour for 17.9% of mothers. Labour was induced for 25.6% and augmented for 19.4% of mothers (Table 3.15).

The proportion of mothers with spontaneous onset of labour was highest in the Northern Territory (62.6%) and lowest in Western Australia (49.4%). Western Australia and Queensland reported the highest proportions of mothers with no labour (22.0% and 19.9% respectively), and Tasmania reported the lowest (12.6%) (Table 3.15).

Induced labour was more likely in Tasmania (30.0%) than in the other states and territories. Overall, combined medical and surgical induction of labour was more likely than either type alone. There was considerable variation among the states and territories in whether labour was augmented, ranging from 15.7% in New South Wales to 26.1% in the Australian Capital Territory (Table 3.15).

Figure 3.2 presents the type of onset of labour over the period from 1996 to 2005. In line with the increase in caesarean sections, spontaneous onset of labour generally decreased during this time, from 66.8% of all women giving birth in 1996 to 56.5% in 2005. The proportion of women giving birth without labour gradually increased, from 10.9% in 1996 to 17.9% in 2005. Induced labour increased from 22.3% in 1996 to 26.0% in 1999, and has remained fairly steady over recent years.



Source: Table A1.2.

Figure 3.2: Onset of labour, all mothers, 1996–2005 (per cent)

Table 3.15: Women who gave birth by onset of labour and state and territory, 2005

Onset of labour/type of augmentation or induction	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Spontaneous	51,990	36,966	30,827	13,094	9,816	3,344	3,060	2,285	151,382
No augmentation	37,998	24,007	18,096	7,745	5,928	2,343	1,754	1,419	99,290
Medical only[(a)]	4,846	3,749	2,950	1,493	984	244	379	199	14,844
Surgical only	6,147	6,905	8,632	2,653	2,299	590	706	371	28,303
Combined	2,971	2,283	1,146	1,193	605	167	221	128	8,714
Other/not stated	28	22	3	10	—	—	—	168	231
Induced	22,657	16,994	12,687	7,596	5,067	1,744	1,012	772	68,529
Medical only[(a)]	6,795	5,043	4,935	1,482	1,636	691	269	252	21,103
Surgical only	1,595	1,053	1,931	458	626	208	358	74	6,303
Combined	13,895	10,897	5,751	5,626	2,805	805	385	435	40,599
Other/not stated	372	1	70	30	—	40	—	11	524
No labour	14,467	11,467	10,822	5,839	3,013	732	923	594	47,857
Not stated	25	—	—	—	—	—	—	—	25
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Spontaneous	58.3	56.5	56.7	49.4	54.9	57.5	61.3	62.6	56.5
No augmentation	42.6	36.7	33.3	29.2	33.1	40.3	35.1	38.9	37.1
Medical only[(a)]	5.4	5.7	5.4	5.6	5.5	4.2	7.6	5.5	5.5
Surgical only	6.9	10.6	15.9	10.0	12.8	10.1	14.1	10.2	10.6
Combined	3.3	3.5	2.1	4.5	3.4	2.9	4.4	3.5	3.3
Other/not stated	0.0	0.0	0.0	0.0	—	—	—	4.6	0.1
Induced	25.4	26.0	23.3	28.6	28.3	30.0	20.3	21.1	25.6
Medical only[(a)]	7.6	7.7	9.1	5.6	9.1	11.9	5.4	6.9	7.9
Surgical only	1.8	1.6	3.6	1.7	3.5	3.6	7.2	2.0	2.4
Combined	15.6	16.7	10.6	21.2	15.7	13.8	7.7	11.9	15.2
Other/not stated	0.4	0.0	0.1	0.1	—	0.7	—	0.3	0.2
No labour	16.2	17.5	19.9	22.0	16.8	12.6	18.5	16.3	17.9
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) Includes use of oxytocin and/or prostaglandins.

Anaesthetic for caesarean section or instrumental vaginal deliveries

Table 3.16 presents types of anaesthetic administered in 2005 for forceps, vacuum extraction and caesarean section deliveries. Data were available for six states and territories: Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory.

For these data, the type of anaesthetic administered is coded hierarchically, with local anaesthetic being the lowest order and general anaesthetic being the highest order. If more than one type of anaesthetic was administered, the highest order type in the hierarchy is coded. Although this data element only includes anaesthetics administered for the birth, some states and territories may include anaesthetics administered for labour under this item, and this may be reflected in the differences reported among the states and territories.

In 2005, at least 30.3% of women having caesarean section or instrumental vaginal deliveries had an epidural or caudal anaesthetic administered, and at least 52.5% had a spinal anaesthetic. A general anaesthetic was administered for 5.4% of these deliveries (Table 3.16).

Table 3.16: Women who gave birth and had caesarean section or instrumental vaginal deliveries[(a)] by type of anaesthetic administered and state and territory, 2005

Type of anaesthetic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	n.a.	2,150	1,690	319	293	172	n.a.	76	4,700
Local anaesthetic to perineum	n.a.	995	713	373	369	99	n.a.	60	2,609
Pudendal	n.a.	747	132	163	124	38	n.a.	18	1,222
Epidural or caudal	n.a.	7,653	5,136	6,204	2,560	423	n.a.	368	22,344
Spinal	n.a.	15,491	12,717	4,635	4,002	1,172	n.a.	641	38,658
General	n.a.	1,374	1,344	544	471	147	n.a.	117	3,997
Other	n.a.	—	2	10	8	—	n.a.	[(b)]72	92
Not stated	n.a.	—	—	—	—	—	n.a.	—	—
Total	**n.a.**	**28,410**	**21,734**	**12,248**	**7,827**	**2,051**	**n.a.**	**1,352**	**73,622**
					Per cent				
None	n.a.	7.6	7.8	2.6	3.7	8.4	n.a.	5.6	6.4
Local anaesthetic to perineum	n.a.	3.5	3.3	3.0	4.7	4.8	n.a.	4.4	3.5
Pudendal	n.a.	2.6	0.6	1.3	1.6	1.9	n.a.	1.3	1.7
Epidural or caudal	n.a.	26.9	23.6	50.7	32.7	20.6	n.a.	27.2	30.3
Spinal	n.a.	54.5	58.5	37.8	51.1	57.1	n.a.	47.4	52.5
General	n.a.	4.8	6.2	4.4	6.0	7.2	n.a.	8.7	5.4
Other	n.a.	—	0.0	0.1	0.1	—	n.a.	[(b)]5.3	0.1
Not stated	n.a.	—	—	—	—	—	n.a.	—	—
Total	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**	**100.0**

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

(b) NT reported that the 'Other' category includes the technique of combined spinal-epidural.

n.a. Data for NSW and ACT not available.

Note: A hierarchical coding system is used for this item, starting with a local anaesthetic, up to a systemic general anaesthetic. If more than one type of anaesthetic was administered, the highest order type in the hierarchy is coded.

General anaesthetic was used in 7.3% of caesarean section deliveries in 2005, compared with 0.2% of instrumental vaginal deliveries. An epidural or caudal anaesthetic was administered for at least 23.3% of caesarean section deliveries and at least 50.7% of instrumental vaginal deliveries. A spinal anaesthetic was administered in at least 69.4% of caesarean section deliveries, and in only 4.2% of instrumental vaginal deliveries. At least 13.7% of women having an instrumental delivery had a local anaesthetic to the perineum, while at least 6.4% had a pudendal administered.

Presentation at birth

Data are included in this section by mother; for multiple births, the presentation at birth of the first born baby is used. Table 4.10 provides the presentation for each individual baby by plurality.

In 2005, the predominant presentation at birth was vertex, occurring for 94.2% of all women who gave birth. Breech presentation occurred for 4.3% of mothers. Face or brow presentation occurred for 0.2% of mothers, while other presentations accounted for 0.5% (Table 3.17).

Table 3.17: Women who gave birth by presentation at birth and state and territory, 2005

Presentation	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT[(b)]	NT	Australia
					Number				
Vertex	84,738	61,743	51,411	25,125	16,896	4,256	4,701	3,452	252,322
Breech	3,648	2,933	2,525	1,183	813	<5	251	n.p.	11,533
Face	106	107	44	36	21	n.p.	8	<5	333
Brow	104	88	38	40	27	5	7	5	314
Other[(c)]	413	440	286	145	112	14	28	14	1,452
Not stated	130	116	32	—	27	1,534	—	—	1,839
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Vertex	95.1	94.4	94.6	94.7	94.4	73.1	94.1	94.5	94.2
Breech	4.1	4.5	4.6	4.5	4.5	n.p.	5.0	n.p.	4.3
Face	0.1	0.2	0.1	0.1	0.1	n.p.	0.2	n.p.	0.1
Brow	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
Other[(c)]	0.5	0.7	0.5	0.5	0.6	0.2	0.6	0.4	0.5
Not stated	0.1	0.2	0.1	—	0.2	26.4	—	—	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) 15.5% 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 4.5% and 7.6% 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, the method of birth of the first born baby is presented. Table 4.11 presents method of birth data for each individual baby by plurality.

Vaginal births

Of all women who gave birth in 2005, 58.5% had a spontaneous vaginal birth. The proportion of spontaneous vaginal births ranged from 53.5% in Western Australia to 64.6% in Tasmania (Table 3.18). Vaginal breech birth occurred in 0.4% of mothers in 2005, decreasing over the past 10 years from 0.9% in 1996.

Approximately 1 in 9 mothers (10.8%) 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 7.9% in both Queensland and the Northern Territory to 13.2% in Victoria. Forceps delivery occurred for 3.5% of mothers and was most common in Victoria (6.0%). Deliveries by vacuum extraction accounted for 7.2% nationally, ranging from 5.7% in the Northern Territory to 9.9% in Western Australia (Table 3.18).

Caesarean sections

There were 81,096 caesarean sections performed in 2005, accounting for 30.3% of all women who gave birth. This equalled a rate of 302.8 per 1,000 mothers. Of all women who gave birth, 17.9% had a caesarean section without labour, while 12.4% had a caesarean section with labour.

The proportion of caesarean section deliveries varied by state and territory, from 26.4% in Tasmania to 33.9% in Western Australia. Three states, Queensland, Western Australia and South Australia, recorded caesarean section rates (percentage) above 32.0% (Table 3.18).

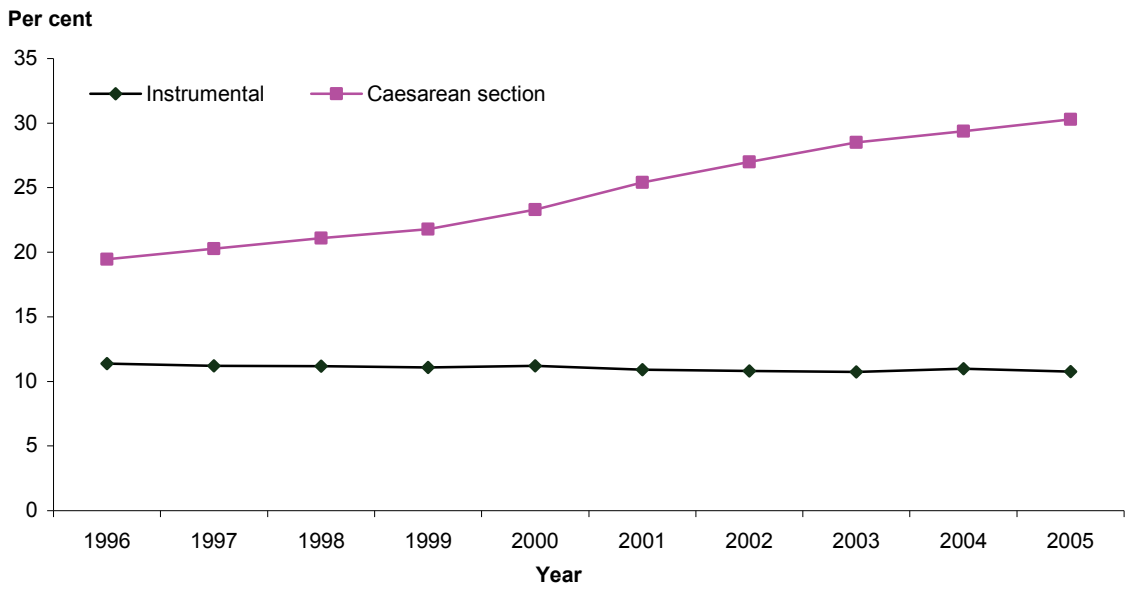
Table 3.18: Women who gave birth by method of birth and state and territory, 2005

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
					Number				
Spontaneous vaginal	54,568	36,739	32,358	14,181	9,991	3,761	2,912	2,274	156,784
Forceps	2,801	3,957	936	638	753	60	272	80	9,497
Vacuum extraction	6,372	4,672	3,362	2,622	1,300	453	341	209	19,331
Vaginal breech	322	254	238	100	78	8	28	25	1,053
Caesarean section	25,074	19,781	17,436	8,988	5,774	1,538	1,442	1,063	81,096
Labour	10,590	8,314	6,617	3,149	2,761	806	519	469	33,225
No labour	14,465	11,467	10,819	5,839	3,013	732	923	594	47,852
Not stated	19	—	—	—	—	—	—	—	19
Other	—	—	6	—	—	—	—	—	6
Not stated	2	24	—	—	—	—	—	—	26
Total	**89,139**	**65,427**	**54,336**	**26,529**	**17,896**	**5,820**	**4,995**	**3,651**	**267,793**
					Per cent				
Spontaneous vaginal	61.2	56.2	59.6	53.5	55.8	64.6	58.3	62.3	58.5
Forceps	3.1	6.0	1.7	2.4	4.2	1.0	5.4	2.2	3.5
Vacuum extraction	7.1	7.1	6.2	9.9	7.3	7.8	6.8	5.7	7.2
Vaginal breech	0.4	0.4	0.4	0.4	0.4	0.1	0.6	0.7	0.4
Caesarean section	28.1	30.2	32.1	33.9	32.3	26.4	28.9	29.1	30.3
Labour	11.9	12.7	12.2	11.9	15.4	13.8	10.4	12.8	12.4
No labour	16.2	17.5	19.9	22.0	16.8	12.6	18.5	16.3	17.9
Not stated	0.0	—	—	—	—	—	—	—	0.0
Other	—	—	0.0	—	—	—	—	—	0.0
Not stated	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) 15.5% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of caesarean section for ACT residents who gave birth in the ACT was 27.8% and 34.6% for non-ACT residents who gave birth in the ACT.

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

The caesarean section rate has continued to show an overall upward trend over the last 10 years. The proportion of women having caesarean sections has increased from 19.5% in 1996 to 30.3% in 2005, and the proportion of instrumental deliveries has remained stable, at around 11.0% throughout this period (Figure 3.3).



Source: Table A1.3.

Figure 3.3: Caesarean section and instrumental deliveries, 1996–2005 (per cent)

Method of birth and maternal age

Table 3.19 presents methods of birth by maternal age groups. Spontaneous vaginal births were most common in women aged less than 20 years (72.2%) and least common in the oldest age group (45.9%). The proportion of instrumental vaginal births was highest in the 30–34 years (11.6%) and 25–29 years (11.4%) age groups. Vaginal breech births were slightly more common in the youngest and oldest age groups.

Caesarean section rates increase with maternal age. In 2005, caesarean section rates ranged from 16.8% for mothers aged less than 20 years to 45.5% for mothers aged 40 years and older (Table 3.19).

Table 3.19: Method of birth by maternal age, 2005

Method of birth	Less than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
				Number				
Spontaneous vaginal	8,518	27,098	43,865	49,743	23,445	4,104	11	156,784
Forceps	318	1,102	2,714	3,655	1,482	224	2	9,497
Vacuum extraction	899	2,596	5,479	6,871	3,001	484	1	19,331
Vaginal breech	68	164	245	325	187	62	2	1,053
Caesarean section	1,983	8,166	19,307	29,916	17,649	4,072	3	81,096
Other	1	—	2	3	—	—	—	6
Not stated	12	5	3	2	—	2	2	26
Total	**11,799**	**39,131**	**71,615**	**90,515**	**45,764**	**8,948**	**21**	**267,793**
				Per cent				
Spontaneous vaginal	72.2	69.2	61.3	55.0	51.2	45.9	52.4	58.5
Forceps	2.7	2.8	3.8	4.0	3.2	2.5	9.5	3.5
Vacuum extraction	7.6	6.6	7.7	7.6	6.6	5.4	4.8	7.2
Vaginal breech	0.6	0.4	0.3	0.4	0.4	0.7	9.5	0.4
Caesarean section	16.8	20.9	27.0	33.1	38.6	45.5	14.3	30.3
Other	0.0	—	0.0	0.0	—	—	—	0.0
Not stated	0.1	0.0	0.0	0.0	—	0.0	9.5	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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 were more likely than non-Indigenous mothers to have a spontaneous vaginal birth (69.8% compared with 58.1%) and less likely to have instrumental vaginal deliveries (forceps or vacuum extraction). Aboriginal or Torres Strait Islander mothers also had a higher rate of vaginal breech births than non-Indigenous mothers (0.9% compared with 0.4%). The caesarean section rate of 24.0% for mothers who identified as Aboriginal or Torres Strait Islander was less than that for non-Indigenous mothers (30.5%) (Table 3.20).

Table 3.20: Women who gave birth by Indigenous status, method of birth and state and territory, 2005

Indigenous status[(a)]/ method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT[(c)]	NT	Australia
Indigenous					**Number**				
Spontaneous vaginal	1,741	385	2,176	1,118	313	142	66	943	6,884
Instrumental vaginal[(b)]	133	<35	127	106	23	20	n.p.	75	520
Vaginal breech	24	<5	34	10	8	—	<5	13	92
Caesarean section	576	112	732	373	143	56	30	349	2,371
Other	—	—	—	—	—	—	—	—	—
Not stated	—	—	—	—	—	—	—	—	—
Total	**2,474**	**529**	**3,069**	**1,607**	**487**	**218**	**103**	**1,380**	**9,867**
					Per cent				
Spontaneous vaginal	70.4	72.8	70.9	69.6	64.3	65.1	64.1	68.3	69.8
Instrumental vaginal[(b)]	5.4	n.p.	4.1	6.6	4.7	9.2	n.p.	5.4	5.3
Vaginal breech	1.0	n.p.	1.1	0.6	1.6	—	n.p.	0.9	0.9
Caesarean section	23.3	21.2	23.9	23.2	29.4	25.7	29.1	25.3	24.0
Other	—	—	—	—	—	—	—	—	—
Not stated	—	—	—	—	—	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Non-Indigenous					**Number**				
Spontaneous vaginal	52,801	36,346	30,180	13,063	9,678	3,619	2,846	1,323	149,856
Instrumental vaginal[(b)]	9,033	8,592	4,170	3,154	2,030	493	607	212	28,291
Vaginal breech	298	251	204	90	70	8	27	12	960
Caesarean section	24,435	19,669	16,704	8,615	5,631	1,482	1,412	711	78,659
Other	—	—	6	—	—	—	—	—	6
Not stated	2	24	—	—	—	—	—	—	26
Total	**86,569**	**64,882**	**51,264**	**24,922**	**17,409**	**5,602**	**4,892**	**2,258**	**257,798**
					Per cent				
Spontaneous vaginal	61.0	56.0	58.9	52.4	55.6	64.6	58.2	58.6	58.1
Instrumental vaginal[(b)]	10.4	13.2	8.1	12.7	11.7	8.8	12.4	9.4	11.0
Vaginal breech	0.3	0.4	0.4	0.4	0.4	0.1	0.6	0.5	0.4
Caesarean section	28.2	30.3	32.6	34.6	32.3	26.5	28.9	31.5	30.5
Other	—	—	0.0	—	—	—	—	—	0.0
Not stated	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) Indigenous status 'Not stated' not included.

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

(c) 15.5% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of caesarean section for Indigenous ACT residents who gave birth in the ACT was 26.6%.

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

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

Method of birth and previous caesarean section

In 2005, 13.3% of mothers who had ever previously had a caesarean section had a spontaneous vaginal birth, and 3.2% had an instrumental vaginal birth. Repeat caesarean sections occurred for 83.2% of mothers with a history of caesarean section, and ranged from 74.5% in the Northern Territory to 88.2% in Western Australia (Table 3.21).

Table 3.21: Multiparous mothers who have had a previous caesarean section by current method of birth and state and territory, 2005

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Spontaneous vaginal	1,798	1,129	1,228	390	385	110	n.a.	117	5,157
Instrumental vaginal[(a)]	421	388	192	93	108	31	n.a.	23	1,256
Caesarean section	9,853	7,986	7,370	3,657	2,323	583	n.a.	420	32,192
Other	24	21	21	8	8	—	n.a.	4	86
Not stated	1	—	—	—	—	—	n.a.	—	1
Total	**12,097**	**9,524**	**8,811**	**4,148**	**2,824**	**724**	**n.a.**	**564**	**38,692**
					Per cent				
Spontaneous vaginal	14.9	11.9	13.9	9.4	13.6	15.2	n.a.	20.7	13.3
Instrumental vaginal[(a)]	3.5	4.1	2.2	2.2	3.8	4.3	n.a.	4.1	3.2
Caesarean section	81.4	83.9	83.6	88.2	82.3	80.5	n.a.	74.5	83.2
Other	0.2	0.2	0.2	0.2	0.3	—	n.a.	0.7	0.2
Not stated	0.0	—	—	—	—	—	n.a.	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**	**100.0**

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

n.a. Data not available.

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

Perineal status after vaginal birth

In 2005, approximately 1 in 3 mothers (35.3%) had intact perineums following vaginal births. A first or second degree laceration or graze was reported in 43.6% of vaginal births (Table 3.22). In 1 in 100 vaginal births (1.4%), a third or fourth degree laceration of the perineum was reported. This proportion varied slightly among the states and territories, from 1.1% in Victoria and Queensland to 1.9% in New South Wales. An episiotomy was performed for 15.0% of vaginal births, with the highest rate being recorded in Victoria (20.5%). A combined laceration and episiotomy occurred in 1.4% of women who had a vaginal birth, giving a total of 16.4% of women who had a vaginal birth in 2005 having an episiotomy.

Table 3.22: Women who gave birth vaginally by perineal status and state and territory, 2005

Perineal status	NSW	Vic	Qld	WA	SA	Tas[a]	ACT	NT	Australia
					Number				
Episiotomy	8482	9,361	4,273	2,775	1,950	578	441	226	28,086
Intact	17,100	19,017	14,623	6,819	3,753	2,221	1,223	1,161	65,917
1st degree laceration/ vaginal graze	17,154	6,059	7,416	2,848	2,936	646	593	682	38,334
2nd degree laceration	16,020	9,945	7,761	3,900	2,975	779	1,146	449	42,975
3rd/4th degree laceration	1,190	483	395	207	159	58	65	38	2,595
Combined laceration and episiotomy	582	756	444	343	330	—	85	32	2,572
Other	3,516	—	[b]1,982	649	18	—	—	—	6,165
Not stated	19	1	—	—	1	—	—	—	21
Total	**64,063**	**45,622**	**36,894**	**17,541**	**12,122**	**4,282**	**3,553**	**2,588**	**186,665**
					Per cent				
Episiotomy	13.2	20.5	11.6	15.8	16.1	13.5	12.4	8.7	15.0
Intact	26.7	41.7	39.6	38.9	31.0	51.9	34.4	44.9	35.3
1st degree laceration/ vaginal graze	26.8	13.3	20.1	16.2	24.2	15.1	16.7	26.4	20.5
2nd degree laceration	25.0	21.8	21.0	22.2	24.5	18.2	32.3	17.3	23.0
3rd/4th degree laceration	1.9	1.1	1.1	1.2	1.3	1.4	1.8	1.5	1.4
Combined laceration and episiotomy	0.9	1.7	1.2	2.0	2.7	—	2.4	1.2	1.4
Other	5.5	—	[b]5.4	3.7	0.1	—	—	—	3.3
Not stated	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 Tas, cases where both a laceration and episiotomy occurred were coded as Episiotomy.

(b) 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.

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 2005. The categories vary from those with very few births each year to those with more than 2,000 births, and depend on geographical location, the population of the region and policies regarding maternity services. Table 3.23 presents the number of hospital or birth centres in each category by state and territory. In 2005, 37.3% of the hospitals or birth centres had 100 or fewer women who gave birth, and 8.9% had in excess of 2,000 women who gave birth (Table 3.23). There has been a decrease in the number of hospitals or birth centres with 1–100 and 101–500 women who gave birth since 2004, when there were 165 and 124 hospitals or birth centres in these groups respectively.

Table 3.23: Hospitals and birth centres by number of women who gave birth and state and territory, 2005

Number of women who gave birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
1–100	36	29	50	18	18	3	—	1	155
101–500	36	26	25	14	12	2	—	2	117
501–1,000	20	13	8	6	5	2	1	2	57
1,001–2,000	15	11	12	2	3	2	3	1	49
2,001 and over	15	10	8	2	2	—	—	—	37
Total	**122**	**89**	**103**	**42**	**40**	**9**	**4**	**6**	**415**
					Per cent				
1–100	29.5	32.6	48.5	42.9	45.0	33.3	—	16.7	37.3
101–500	29.5	29.2	24.3	33.3	30.0	22.2	—	33.3	28.2
501–1,000	16.4	14.6	7.8	14.3	12.5	22.2	25.0	33.3	13.7
1,001–2,000	12.3	12.4	11.7	4.8	7.5	22.2	75.0	16.7	11.8
2,001 and over	12.3	11.2	7.8	4.8	5.0	—	—	—	8.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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 2005, the proportion in private hospitals was 30.2%, and ranged from 18.9% in the Northern Territory to 40.3% in Western Australia (Table 3.24).

Table 3.24: Women who gave birth in hospital by hospital sector and state and territory, 2005

Hospital sector	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Public	64,569	43,789	36,663	15,605	12,003	3,847	2,856	2,884	182,216
Private	22,258	19,980	16,891	10,525	4,734	1,863	1,885	673	78,809
Not stated	—	—	—	—	—	—	—	—	—
Total	**86,827**	**63,769**	**53,554**	**26,130**	**16,737**	**5,710**	**4,741**	**3,557**	**261,025**
					Per cent				
Public	74.4	68.7	68.5	59.7	71.7	67.4	60.2	81.1	69.8
Private	25.6	31.3	31.5	40.3	28.3	32.6	39.8	18.9	30.2
Not stated	—	—	—	—	—	—	—	—	—
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 2005, the proportion who elected private status (i.e. elected to be treated as a private patient) was

33.9%, and ranged from 21.4% in the Northern Territory to 41.4% in the Australian Capital Territory (Table 3.25).

Table 3.25: Women who gave birth in hospital by admitted patient elected accommodation status and state and territory, 2005

Admitted patient elected accommodation status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Public	54,433	40,013	35,437	16,474	10,944	4,010	2,776	2,797	166,884
Private	26,830	23,756	18,117	9,454	5,793	1,700	1,965	760	88,375
Not stated	5,564	—	—	202	—	—	—	—	5,766
Total	**86,827**	**63,769**	**53,554**	**26,130**	**16,737**	**5,710**	**4,741**	**3,557**	**261,025**
					Per cent				
Public	62.7	62.7	66.2	63.0	65.4	70.2	58.6	78.6	63.9
Private	30.9	37.3	33.8	36.2	34.6	29.8	41.4	21.4	33.9
Not stated	6.4	—	—	0.8	—	—	—	—	2.2
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 3.26). Women who gave birth in public hospitals reported higher levels of spontaneous vaginal birth than those in private hospitals (63.1% compared with 44.6%). Private hospital patients were more likely than public hospital patients to have vaginal births requiring forceps (5.1% compared with 3.0%) or vacuum extraction (9.7% compared with 6.4%), and less likely to have vaginal breech births (0.2% compared with 0.5%) (Table 3.26).

Of women who gave birth in public hospitals, the highest rate of forceps deliveries occurred in the Australian Capital Territory (5.6%), and of those in private hospitals, the highest rate of forceps deliveries occurred in Victoria (8.5%). Vacuum extraction was most common for public hospitals in Tasmania, and for private hospitals in Western Australia.

Of women who gave birth in hospitals in Australia in 2005, 31.1% had a caesarean section delivery. The caesarean section rate of 40.3% for women who were in private hospitals was higher than the rate of 27.1% for those in public hospitals. Of mothers in private hospitals, 44.0% or more had their babies delivered by caesarean section in the Northern Territory (44.0%), Western Australia (44.9%) and Queensland (46.4%) (Table 3.26).

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 45.8% compared with 34.6% for those in public hospitals. Of mothers aged 40 years or more, over half in private hospitals had a caesarean section (53.8%) compared with 41.5% of those in public hospitals.

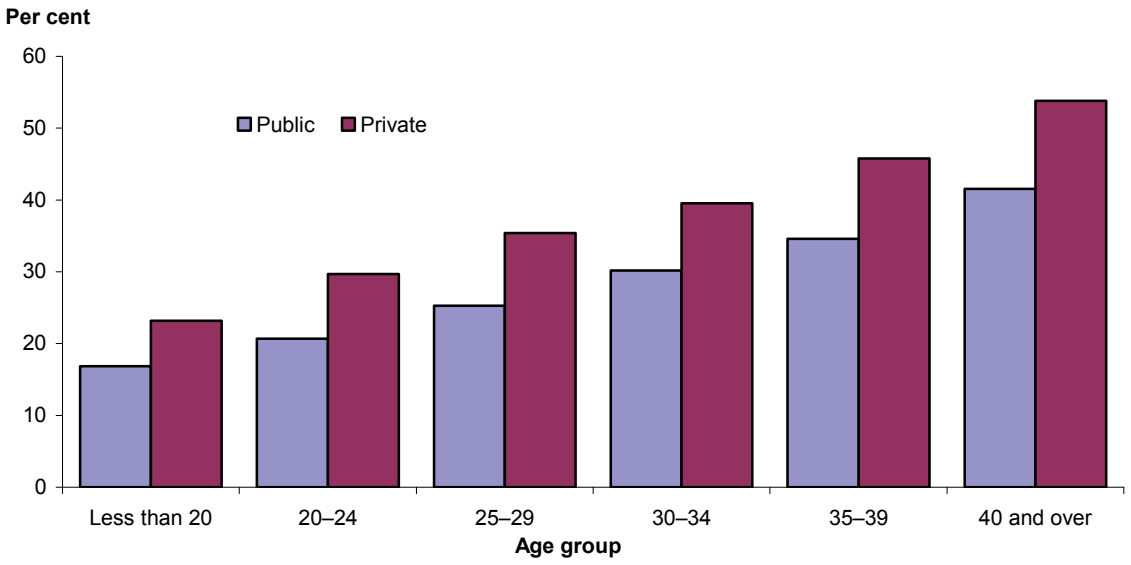
Table 3.26: Women who gave birth in hospital by method of birth, hospital sector and state and territory, 2005

Hospital sector/ method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
Public					**Number**				
Spontaneous vaginal	41,593	26,201	24,526	9,662	6,809	2,518	1,755	1,902	114,966
Forceps	1,667	2,254	456	408	419	40	159	45	5,448
Vacuum extraction	4,176	2,804	1,877	1,179	966	320	165	153	11,640
Vaginal breech	273	194	195	90	59	7	23	17	858
Caesarean section	16,860	12,336	9,607	4,266	3,750	962	754	767	49,302
Other	—	—	2	—	—	—	—	—	2
Not stated	—	—	—	—	—	—	—	—	—
Total	**64,569**	**43,789**	**36,663**	**15,605**	**12,003**	**3,847**	**2,856**	**2,884**	**182,216**
					Per cent				
Spontaneous vaginal	64.4	59.8	66.9	61.9	56.7	65.5	61.4	66.0	63.1
Forceps	2.6	5.1	1.2	2.6	3.5	1.0	5.6	1.6	3.0
Vacuum extraction	6.5	6.4	5.1	7.6	8.0	8.3	5.8	5.3	6.4
Vaginal breech	0.4	0.4	0.5	0.6	0.5	0.2	0.8	0.6	0.5
Caesarean section	26.1	28.2	26.2	27.3	31.2	25.0	26.4	26.6	27.1
Other	—	—	0.0	—	—	—	—	—	0.0
Not stated	—	—	—	—	—	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Private					**Number**				
Spontaneous vaginal	10,701	8,906	7,061	4,122	2,039	1,133	904	285	35,151
Forceps	1,132	1,701	480	229	331	n.p.	n.p.	n.p.	4,041
Vacuum extraction	2,175	1,853	1,485	1,443	325	133	176	56	7,646
Vaginal breech	36	51	32	9	15	<5	<5	<5	149
Caesarean section	8,214	7,445	7,829	4,722	2,024	576	688	296	31,794
Other	—	—	4	—	—	—	—	—	4
Not stated	—	24	—	—	—	—	—	—	24
Total	**22,258**	**19,980**	**16,891**	**10,525**	**4,734**	**1,863**	**1,885**	**673**	**78,809**
					Per cent				
Spontaneous vaginal	48.1	44.6	41.8	39.2	43.1	60.8	48.0	42.3	44.6
Forceps	5.1	8.5	2.8	2.2	7.0	n.p.	n.p.	n.p.	5.1
Vacuum extraction	9.8	9.3	8.8	13.7	6.9	7.1	9.3	8.3	9.7
Vaginal breech	0.2	0.3	0.2	0.1	0.3	n.p.	n.p.	n.p.	0.2
Caesarean section	36.9	37.3	46.4	44.9	42.8	30.9	36.5	44.0	40.3
Other	—	—	0.0	—	—	—	—	—	0.0
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) 15.5% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

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

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



Source: Table A1.4.

Figure 3.4: Caesarean sections by maternal age and hospital sector, 2005 (per cent)

Length of stay in hospital

Antenatal length of stay

Two-thirds of women (66.2%) gave birth within a day of admission to hospital. The proportion of women who gave birth within two days of admission was 92.8%. Only 0.8% of mothers were hospitalised for seven days or more immediately before giving birth (Table 3.27).

Table 3.27: Women who gave birth in hospital by length of antenatal stay and state and territory, 2005

Length of stay	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Less than 1 day	54,700	44,042	37,301	17,195	10,480	3,797	2,978	2,297	172,790
1 day	22,827	16,467	13,541	7,399	5,139	1,603	1,469	956	69,401
2–6 days	3,852	2,631	2,365	1,100	864	287	228	268	11,595
7–13 days	388	330	234	146	136	16	38	24	1,312
14 or more days	93	299	113	88	118	7	28	12	758
Not stated	4,967	—	—	202	—	—	—	—	5,169
Total	**86,827**	**63,769**	**53,554**	**26,130**	**16,737**	**5,710**	**4,741**	**3,557**	**261,025**
					Per cent				
Less than 1 day	63.0	69.1	69.7	65.8	62.6	66.5	62.8	64.6	66.2
1 day	26.3	25.8	25.3	28.3	30.7	28.1	31.0	26.9	26.6
2–6 days	4.4	4.1	4.4	4.2	5.2	5.0	4.8	7.5	4.4
7–13 days	0.4	0.5	0.4	0.6	0.8	0.3	0.8	0.7	0.5
14 or more days	0.1	0.5	0.2	0.3	0.7	0.1	0.6	0.3	0.3
Not stated	5.7	—	—	0.8	—	—	—	—	2.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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 of early discharge. In 2005, the median postnatal hospital stay for mothers was 3.0 days. Victoria, Western Australia, South Australia and the Australian Capital Territory reported longer median lengths of stay of 4.0 days (Table 3.28).

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 2005, 12.0% of mothers were discharged less than two days after giving birth, and 61.6% of mothers were discharged between two and four days after giving birth. This compares with 10.5% and 49.2% respectively, in 1996. Relatively more mothers in Queensland (81.4%) and Victoria (78.0%) had stays of less than five days in 2005. Longer lengths of stay (of five or more days) were relatively more common in Western Australia (36.8%).

Table 3.28: Women who gave birth in hospital[(a)] by length of postnatal stay and state and territory, 2005

Length of stay	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Median (days)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	3.0
					Number				
Less than 1 day	1,910	959	1,681	441	375	111	138	142	5,757
1 day	8,544	3,819	7,886	1,899	1,224	449	417	411	24,649
2 days	13,918	11,782	10,949	3,796	2,497	945	768	547	45,202
3 days	16,466	13,157	11,106	4,686	3,128	1,173	848	616	51,180
4 days	17,971	18,451	11,260	5,191	3,913	1,075	1,034	587	59,482
5 days	11,756	9,508	6,534	4,108	2,821	870	899	522	37,018
6 days	5,531	2,878	2,044	2,611	1,437	380	370	243	15,494
7–13 days	2,924	1,184	1,179	2,539	812	n.p.	n.p.	278	9,388
14 or more days	102	37	51	66	17	n.p.	<5	23	318
Not stated	4,696	—	—	—	—	—	—	—	4,696
Total	**83,818**	**61,775**	**52,690**	**25,337**	**16,224**	**5,314**	**4,657**	**3,369**	**253,184**
					Per cent				
Less than 1 day	2.3	1.6	3.2	1.7	2.3	2.1	3.0	4.2	2.3
1 day	10.2	6.2	15.0	7.5	7.5	8.4	9.0	12.2	9.7
2 days	16.6	19.1	20.8	15.0	15.4	17.8	16.5	16.2	17.9
3 days	19.6	21.3	21.1	18.5	19.3	22.1	18.2	18.3	20.2
4 days	21.4	29.9	21.4	20.5	24.1	20.2	22.2	17.4	23.5
5 days	14.0	15.4	12.4	16.2	17.4	16.4	19.3	15.5	14.6
6 days	6.6	4.7	3.9	10.3	8.9	7.2	7.9	7.2	6.1
7–13 days	3.5	1.9	2.2	10.0	5.0	n.p.	n.p.	8.3	3.7
14 or more days	0.1	0.1	0.1	0.3	0.1	n.p.	n.p.	0.7	0.1
Not stated	5.6	—	—	—	—	—	—	—	1.9
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 2005, 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 53.4% for those in private hospitals, compared with 82.6% in public hospitals.

Women who had a caesarean section had a longer median length of stay (5.0 days) compared to women who gave birth vaginally. The median length of stay for women who had a spontaneous vaginal birth was 3.0 days, for a vaginal breech delivery the length of stay was 1.0 day, and for instrumental vaginal deliveries 4.0 days. Of women who had a caesarean section, 1 in 12 had a postnatal length of stay of seven days or longer (8.3%) (Table 3.29).

Table 3.29: Women who gave birth in hospital[(a)] by length of postnatal stay and method of birth, 2005

Length of stay	Spontaneous vaginal	Forceps	Vacuum extraction	Vaginal breech	Caesarean section	Other	Not stated	Australia
Median (days)	3.0	4.0	4.0	1.0	5.0	3.0	—	3.0
				Number				
Less than 1 day	5,222	77	173	206	56	—	23	5,757
1 day	22,593	276	931	311	537	—	1	24,649
2 days	37,121	1,128	2,838	157	3,957	1	—	45,202
3 days	33,609	2,034	4,424	103	11,008	2	—	51,180
4 days	30,158	3,288	5,855	76	20,105	—	—	59,482
5 days	9,322	1,449	2,524	42	23,681	—	—	37,018
6 days	2,904	463	967	11	11,148	1	—	15,494
7–13 days	2,100	317	690	20	6,261	—	—	9,388
14 or more days	74	12	15	1	216	—	—	318
Not stated	2,729	200	362	32	1,373	—	—	4,696
Total	**145,832**	**9,244**	**18,779**	**959**	**78,342**	**4**	**24**	**253,184**
				Per cent				
Less than 1 day	3.6	0.8	0.9	21.5	0.1	—	95.8	2.3
1 day	15.5	3.0	5.0	32.4	0.7	—	4.2	9.7
2 days	25.5	12.2	15.1	16.4	5.1	25.0	—	17.9
3 days	23.0	22.0	23.6	10.7	14.1	50.0	—	20.2
4 days	20.7	35.6	31.2	7.9	25.7	—	—	23.5
5 days	6.4	15.7	13.4	4.4	30.2	—	—	14.6
6 days	2.0	5.0	5.1	1.1	14.2	25.0	—	6.1
7–13 days	1.4	3.4	3.7	2.1	8.0	—	—	3.7
14 or more days	0.1	0.1	0.1	0.1	0.3	—	—	0.1
Not stated	1.9	2.2	1.9	3.3	1.8	—	—	1.9
Total	**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 and the method of birth of the first born baby was used.

Mode of separation from hospital

Nearly all women who gave birth in hospital were discharged to their homes (97.0%). Around 2.8% of mothers were transferred to another hospital (Table 3.30). 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. These transfers between hospitals occurred more in Tasmania (6.9%) than in the other jurisdictions.

Table 3.30: Women who gave birth in hospital by mode of separation and state and territory, 2005

Mode of separation	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Discharge home	83,818	61,775	52,690	25,337	16,224	5,314	4,657	3,369	253,184
Transfer to another hospital	2,983	1,989	859	398	513	396	84	30	7,252
Died	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	12
Other[(a)]	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	350
Not stated	25	—	—	202	—	—	—	—	227
Total	**86,827**	**63,769**	**53,554**	**26,130**	**16,737**	**5,710**	**4,741**	**3,557**	**261,025**
					Per cent				
Discharge home	96.5	96.9	98.4	97.0	96.9	93.1	98.2	94.7	97.0
Transfer to another hospital	3.4	3.1	1.6	1.5	3.1	6.9	1.8	0.8	2.8
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	—	—	0.8	—	—	—	—	0.1
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 2005, 601 planned homebirths, representing 0.2% of all women who gave birth, were reported nationally. The highest proportion of homebirths occurred in Western Australia (Table 3.11). 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 2005 was 32.2 years (Table 3.31). The proportion of mothers aged less than 20 years was 1.2%, and the proportion aged 35 years and over was 33.3%. The proportion of mothers who gave birth at home who identified as being of Aboriginal or Torres Strait Islander origin was 0.2%. The largest proportion of women who had a homebirth lived in major cities (58.7%).

Table 3.31: Selected characteristics of women who gave birth at home, 2005

Characteristic	Number	Per cent
Women who gave birth	601	—
Mean maternal age	32.2	—
Parity		
None	163	27.1
One	239	39.8
Two	116	19.3
Three	48	8.0
Four or more	35	6.0
Remoteness Area of mother's usual residence[(a)]		
Major cities	353	58.7
Inner regional	168	28.0
Outer regional	61	10.1
Remote	8	1.3
Very remote	—	—
Method of birth		
Spontaneous vaginal	592	98.5
Other	9	1.5
Births	603	—
Birth status		
Live births	601	99.7
Fetal deaths	2	0.3
Sex		
Males	288	47.8
Females	315	52.2
Mean birthweight of live births (g)	3,654	—

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

Of mothers who gave birth at home, 27.1% had their first baby, and 72.9% were multiparous. The average age of first-time mothers who gave birth at home was 29.8 years. The method of birth was spontaneous vaginal for 98.5% of women who gave birth at home (Table 3.31), and the presentation was vertex for 97.8% of women who gave birth at home.

Of babies born at home in 2005, 99.7% were liveborn. The mean birthweight of these liveborn babies was 3,654 grams (Table 3.31). The proportion of liveborn babies of low birthweight born at home was 1.0%, and the proportion of all babies born at home that were preterm was also 1.0%.

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 (NHDC 2003). 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 270,440 live births and 1,979 fetal deaths in Australia in 2005, giving a total of 272,419 births reported to the NPDC (Table 2.1). This equates to a stillbirth rate of 7.3 per 1,000 births.

Sex

Male births exceeded female births in all states and territories, and accounted for 51.3% of all live births nationally in 2005 (Table 4.1). This proportion was similar across the states and territories. In 2005, the sex ratio for Australia, defined as the number of male liveborn babies per 100 female liveborn babies, was 105.5.

Table 4.1: Live births by sex and state and territory, 2005

Sex	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Sex ratio (M:F)	106.1	104.5	106.3	104.0	106.9	105.6	102.8	105.4	105.5
					Number				
Males	46,320	33,746	28,292	13,652	9,333	3,017	2,555	1,877	138,792
Females	43,661	32,292	26,610	13,131	8,733	2,857	2,486	1,780	131,550
Indeterminate/ not stated	92	3	3	—	—	—	—	—	98
Total	**90,073**	**66,041**	**54,905**	**26,783**	**18,066**	**5,874**	**5,041**	**3,657**	**270,440**
					Per cent				
Males	51.4	51.1	51.5	51.0	51.7	51.4	50.7	51.3	51.3
Females	48.5	48.9	48.5	49.0	48.3	48.6	49.3	48.7	48.6
Indeterminate/ not stated	0.1	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 100.1 and for other multiple births, 88.4. The sex ratio for all live births

was highest in South Australia, at 106.9 male births per 100 female births, and lowest in the Australian Capital Territory, at 102.8.

Babies of Aboriginal and Torres Strait Islander mothers

The mothers reported to the NPDC who identified as being Aboriginal or Torres Strait Islander in 2005 gave birth to 9,865 live births and 117 fetal deaths. There were 257,798 non-Indigenous mothers who gave birth to 260,463 live births and 1,846 fetal deaths (Table 4.2).

There were 9,865 live births born to Aboriginal and Torres Strait Islander mothers in 2005 reported to the NPDC (Table 4.2). This was 15.3% more than the 8,555 live births to Indigenous mothers registered in Australia in 2005 (ABS 2006).

Table 4.2: Births by maternal Indigenous status and state and territory, 2005

Indigenous status[(a)]	NSW	Vic	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
Aboriginal or Torres Strait Islander									
Fetal deaths	22	7	34	22	11	<5	<5	19	117
Live births	2,485	531	3,067	1,605	481	n.p.	n.p.	1,372	9,865
All births	**2,507**	**538**	**3,101**	**1,627**	**492**	**222**	**104**	**1,391**	**9,982**
Non-Indigenous									
Fetal deaths	512	591	341	178	118	38	45	23	1,846
Live births	87,493	65,509	51,835	25,178	17,585	5,652	4,939	2,272	260,463
All births	**88,005**	**66,100**	**52,176**	**25,356**	**17,703**	**5,690**	**4,984**	**2,295**	**262,309**

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

(b) 15.5% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 80 of the 104 babies were born in the ACT to ACT-resident Aboriginal or Torres Strait Islander women in 2005.

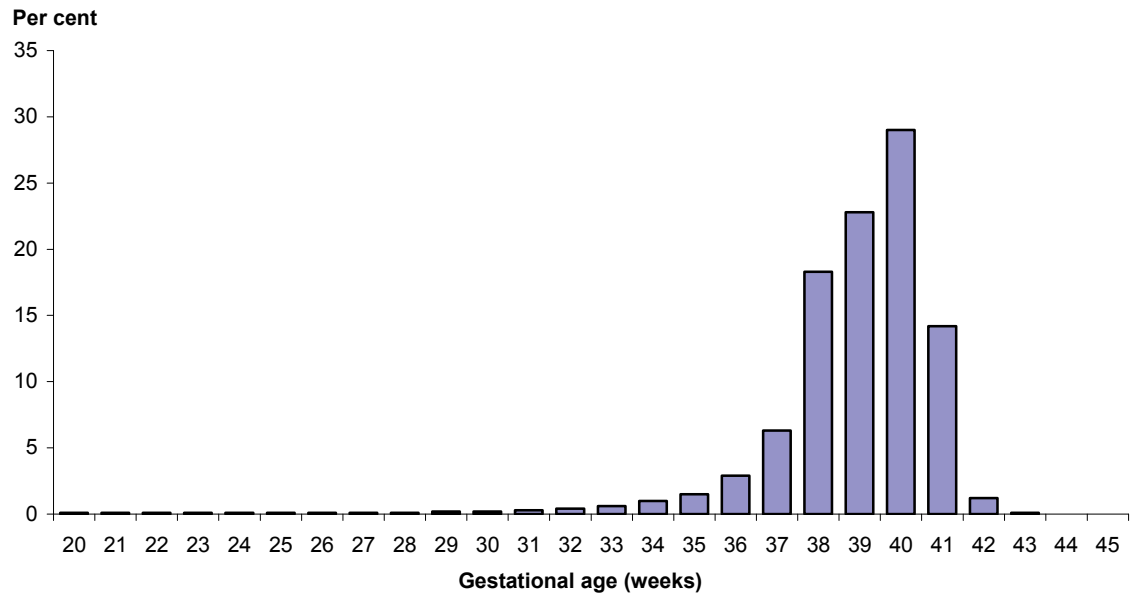
n.p. Data not published to maintain confidentiality of small numbers.

Outcomes

Gestational age

In 2005, the mean gestational age for all babies was 38.8 weeks. The proportion of babies born at term (37–41 weeks gestation) was 90.7%.

Preterm birth (before 37 weeks gestation) is associated with 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 births in 2005, 8.1% were preterm, with most of the preterm births at 32–36 weeks (Figure 4.1; Table 4.3).



Source: Table A1.5.

Figure 4.1: Distribution of gestational age, 2005 (per cent)

The mean gestational age of stillborn babies was 27.8 weeks in 2005 compared with 38.9 weeks for liveborn babies. Preterm birth occurred in 80.2% of stillborn babies, compared with 7.6% of liveborn babies (Table 4.3).

Table 4.3: Births by gestational age and birth status, 2005

Gestational age (weeks)	Live births		Fetal deaths		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
20–27	1,261	0.5	1,138	57.5	2,399	0.9
28–31	2,036	0.8	181	9.1	2,217	0.8
32–36	17,139	6.3	268	13.5	17,407	6.4
37–41	246,612	91.2	371	18.7	246,983	90.7
42 and over	3,379	1.2	6	0.3	3,385	1.2
Not stated	13	0.0	15	0.8	28	0.0
Total	**270,440**	**100.0**	**1,979**	**100.0**	**272,419**	**100.0**
20–36	*20,436*	*7.6*	*1,587*	*80.2*	*22,023*	*8.1*
Mean	38.9	—	27.8	—	38.8	—

The mean gestational age for all preterm births in 2005 was 33.2 weeks (Table 4.4). Nationally, 0.9% of births were at gestation 20–27 weeks, 0.8% were at 28–31 weeks, and 6.4% were at 32–36 weeks. The Northern Territory had the highest proportion of preterm births, at 11.1% of all births, and Tasmania had the lowest, at 6.9% of all births.

Table 4.4: Preterm births by gestational age and state and territory, 2005

Gestational age (weeks)	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
Mean	33.3	32.9	33.3	33.3	33.1	33.4	32.8	33.0	33.2
					Number				
20–27	622	754	458	246	180	41	49	49	2,399
28–31	654	493	497	231	187	38	74	43	2,217
32–36	5,247	4,130	3,872	1,916	1,265	326	331	320	17,407
Total	**6,523**	**5,377**	**4,827**	**2,393**	**1,632**	**405**	**454**	**412**	**22,023**
					Per cent of total births				
20–27	0.7	1.1	0.8	0.9	1.0	0.7	1.0	1.3	0.9
28–31	0.7	0.7	0.9	0.9	1.0	0.6	1.5	1.2	0.8
32–36	5.8	6.2	7.0	7.1	7.0	5.5	6.5	8.7	6.4
Total	**7.2**	**8.1**	**8.7**	**8.9**	**9.0**	**6.9**	**8.9**	**11.1**	**8.1**

(a) 15.5% 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 7.3%.

In 2005, 13.9% of babies of Aboriginal and Torres Strait Islander mothers were preterm. This was greater than the proportion of 7.9% in babies of non-Indigenous mothers.

For singletons, the mean gestational age was 39.0 weeks, compared with 35.3 weeks for twins and 31.8 weeks for higher order multiple births. Preterm birth occurred in 53.1% of twins and in almost all higher order multiple births (95.8%), which was much higher than the proportion of 6.5% found among singleton births (Table 4.5). The difference in gestational age distributions between singleton and multiple births was even more pronounced when babies of less than 32 weeks gestation are considered. In this high-risk group were 10.1% of twin births and 38.7% of other multiple births, compared with approximately 1 in 100 (1.4%) for singleton births.

Only 1.2% of babies were born post-term (at 42 weeks or more gestation). The duration of pregnancy by state and territory is detailed in Table 3.13.

Table 4.5: Births by gestational age and plurality, 2005

Gestational age (weeks)	Singletons		Twins		Other multiple births		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
20–27	1,994	0.8	377	4.2	28	9.9	2,399	0.9
28–31	1,614	0.6	521	5.9	82	28.9	2,217	0.8
32–36	13,434	5.1	3,811	43.0	162	57.0	17,407	6.4
37–41	242,813	92.2	4,158	46.9	12	4.2	246,983	90.7
42 and over	3,381	1.3	4	0.0	—	—	3,385	1.2
Not stated	28	0.0	—	—	—	—	28	0.0
Total	**263,264**	**100.0**	**8,871**	**100.0**	**284**	**100.0**	**272,419**	**100.0**
20–36	*17,042*	*6.5*	*4,709*	*53.1*	*272*	*95.8*	*22,023*	*8.1*
Mean	39.0	—	35.3	—	31.8	—	38.8	—

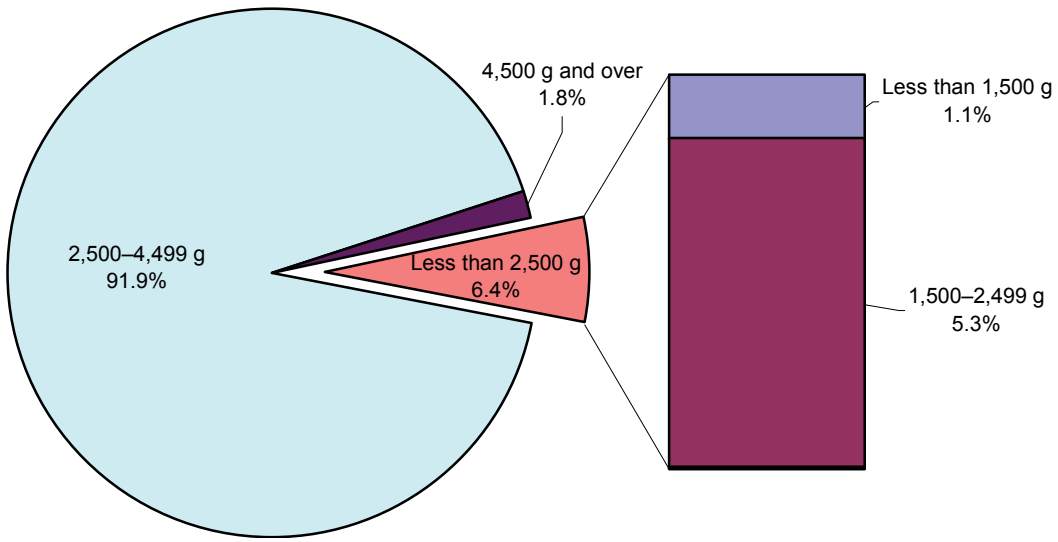
Birthweight

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 2005, 91.9% of liveborn babies had a birthweight in the range 2,500–4,499 grams. The average birthweight of liveborn babies in Australia in 2005 was 3,369 grams and ranged from 3,246 grams in the Northern Territory to 3,395 grams in Tasmania (Table 4.6).

In 2005, there were 17,241 (6.4%) liveborn babies of low birthweight (Figure 4.2). The 2,875 very low birthweight babies constituted 1.1% of all live births in 2005, and the 1,282 extremely low birthweight babies constituted 0.5%.



Source: Table 4.6.

Figure 4.2: Live births by birthweight, 2005 (per cent)

Table 4.6: Live births by birthweight and state and territory, 2005

Birthweight (g)	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
Mean	3,379	3,368	3,376	3,343	3,352	3,395	3,362	3,246	3,369
					Number				
Less than 1,000	357	364	244	124	110	18	34	31	1,282
1,000–1,499	473	372	346	156	138	32	41	35	1,593
1,500–1,999	1,069	798	771	352	245	72	75	65	3,447
2,000–2,499	3,405	2,677	2,265	1,120	778	234	220	220	10,919
2,500–2,999	13,631	10,118	8,036	4,389	2,694	911	717	720	41,216
3,000–3,499	32,417	23,487	19,359	9,771	6,524	1,996	1,790	1,324	96,668
3,500–3,999	27,797	20,294	17,115	8,013	5,501	1,800	1,527	906	82,953
4,000–4,499	9,290	6,769	5,762	2,473	1,779	689	534	287	27,583
4,500 and over	1,610	1,159	1,003	385	297	122	103	67	4,746
Not stated	24	3	4	—	—	—	—	2	33
Total	**90,073**	**66,041**	**54,905**	**26,783**	**18,066**	**5,874**	**5,041**	**3,657**	**270,440**
Less than 1,500	*830*	*736*	*590*	*280*	*248*	*50*	*75*	*66*	*2,875*
Less than 2,500	*5,304*	*4,211*	*3,626*	*1,752*	*1,271*	*356*	*370*	*351*	*7,241*
					Per cent				
Less than 1,000	0.4	0.6	0.4	0.5	0.6	0.3	0.7	0.8	0.5
1,000–1,499	0.5	0.6	0.6	0.6	0.8	0.5	0.8	1.0	0.6
1,500–1,999	1.2	1.2	1.4	1.3	1.4	1.2	1.5	1.8	1.3
2,000–2,499	3.8	4.1	4.1	4.2	4.3	4.0	4.4	6.0	4.0
2,500–2,999	15.1	15.3	14.6	16.4	14.9	15.5	14.2	19.7	15.2
3,000–3,499	36.0	35.6	35.3	36.5	36.1	34.0	35.5	36.2	35.7
3,500–3,999	30.9	30.7	31.2	29.9	30.4	30.6	30.3	24.8	30.7
4,000–4,499	10.3	10.2	10.5	9.2	9.8	11.7	10.6	7.8	10.2
4,500 and over	1.8	1.8	1.8	1.4	1.6	2.1	2.0	1.8	1.8
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**
Less than 1,500	*0.9*	*1.1*	*1.1*	*1.0*	*1.4*	*0.9*	*1.5*	*1.8*	*1.1*
Less than 2,500	*5.9*	*6.4*	*6.6*	*6.5*	*7.0*	*6.1*	*7.3*	*9.6*	*6.4*

(a) 15.5% 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 2,500 grams was 6.1%.

The mean birthweight of stillborn babies was 1,246 grams in 2005 compared with 3,369 grams for liveborn babies. Low birthweight occurred in 78.0% of stillborn babies. More than half (58.7%) of the stillborn babies had a birthweight of less than 1,000 grams (Table 4.7).

Male liveborn babies were proportionately less likely to be low birthweight (5.9%) than were female babies (6.9%). The average birthweight of liveborn male babies was 3,427 grams, 119 grams higher than that of females (3,307 grams).

Table 4.7: Births by birthweight and birth status, 2005

	Live births		Fetal deaths		Total	
Birthweight (g)	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Less than 1,000	1,282	0.5	1,161	58.7	2,443	0.9
1,000–1,499	1,593	0.6	137	6.9	1,730	0.6
1,500–1,999	3,447	1.3	115	5.8	3,562	1.3
2,000–2,499	10,919	4.0	131	6.6	11,050	4.1
2,500–2,999	41,216	15.2	149	7.5	41,365	15.2
3,000–3,499	96,668	35.7	122	6.2	96,790	35.5
3,500–3,999	82,953	30.7	74	3.7	83,027	30.5
4,000–4,499	27,583	10.2	20	1.0	27,603	10.1
4,500 and over	4,746	1.8	8	0.4	4,754	1.7
Not stated	33	0.0	62	3.1	95	0.0
Total	**270,440**	**100.0**	**1,979**	**100.0**	**272,419**	**100.0**
Less than 1,500	*2,875*	*1.1*	*1,298*	*65.6*	*4,173*	*1.5*
Less than 2,500	*17,241*	*6.4*	*1,544*	*78.0*	*18,785*	*6.9*
Mean	3,369	—	1,246	—	3,354	—

For liveborn singletons, the mean birthweight was 3,402 grams, compared with 2,407 grams for twins and 1,668 grams for triplets and other multiple births. Low birthweight occurred in half of all liveborn twins (49.7%) and in almost all higher order multiple births (95.6%), which was markedly higher than the proportion of 4.8% found among singleton births (Table 4.8).

Table 4.8: Live births by birthweight and plurality, 2005

	Singletons		Twins		Other multiple births		Total	
Birthweight (g)	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Less than 1,000	970	0.4	285	3.3	27	9.8	1,282	0.5
1,000–1,499	1,114	0.4	417	4.8	62	22.5	1,593	0.6
1,500–1,999	2,208	0.8	1,127	12.9	112	40.7	3,447	1.3
2,000–2,499	8,357	3.2	2,500	28.7	62	22.5	10,919	4.0
2,500–2,999	38,021	14.5	3,183	36.6	12	4.4	41,216	15.2
3,000–3,499	95,609	36.6	1,059	12.2	—	—	96,668	35.7
3,500–3,999	82,826	31.7	127	1.5	—	—	82,953	30.7
4,000–4,499	27,581	10.5	2	0.0	—	—	27,583	10.2
4,500 and over	4,746	1.8	—	—	—	—	4,746	1.8
Not stated	28	0.0	5	0.1	—	—	33	0.0
Total	**261,460**	**100.0**	**8,705**	**100.0**	**275**	**100.0**	**270,440**	**100.0**
Less than 1,500	*2,084*	*0.8*	*702*	*8.1*	*89*	*32.4*	*2,875*	*1.1*
Less than 2,500	*12,649*	*4.8*	*4,329*	*49.7*	*263*	*95.6*	*17,241*	*6.4*
Mean	3,402	—	2,407	—	1,668	—	3,369	—

In 2005, the average birthweight of liveborn babies of Aboriginal and Torres Strait Islander mothers was 3,157 grams. This was 220 grams lighter than the average of 3,377 grams for liveborn babies of non-Indigenous mothers. The proportion of low birthweight in liveborn babies of Aboriginal and Torres Strait Islander mothers was 13.2% (Table 4.9), more than twice that of babies of non-Indigenous mothers (6.1%). 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 4.9: Live births of Aboriginal or Torres Strait Islander mothers by birthweight and state and territory, 2005

Birthweight (g)	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
Mean	3,214	3,179	3,184	3,080	3,059	3,280	3,165	3,094	3,157
					Number				
Less than 1,500	42	10	69	52	17	<5	<5	40	237
1,500–2,499	255	62	294	197	68	18	13	159	1,066
2,500–2,999	507	123	673	413	100	44	18	343	2,221
3,000–3,499	832	165	1,077	533	169	76	27	471	3,350
3,500–3,999	631	111	699	292	104	55	30	258	2,180
4,000–4,499	185	50	223	103	n.p.	23	n.p.	78	691
4,500 and over	32	10	31	15	<5	<5	—	23	118
Not stated	1	—	1	—	—	—	—	—	2
Total	**2,485**	**531**	**3,067**	**1,605**	**481**	**222**	**102**	**1,372**	**9,865**
Less than 2,500	*297*	*72*	*363*	*249*	*85*	*21*	*17*	*199*	*1,303*
					Per cent				
Less than 1,500	1.7	1.9	2.2	3.2	3.5	n.p.	n.p.	2.9	2.4
1,500–2,499	10.3	11.7	9.6	12.3	14.1	8.1	12.7	11.6	10.8
2,500–2,999	20.4	23.2	21.9	25.7	20.8	19.8	17.6	25.0	22.5
3,000–3,499	33.5	31.1	35.1	33.2	35.1	34.2	26.5	34.3	34.0
3,500–3,999	25.4	20.9	22.8	18.2	21.6	24.8	29.4	18.8	22.1
4,000–4,499	7.4	9.4	7.3	6.4	n.p.	10.4	n.p.	5.7	7.0
4,500 and over	1.3	1.9	1.0	0.9	n.p.	n.p.	—	1.7	1.2
Not stated	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**
Less than 2,500	*12.0*	*13.6*	*11.8*	*15.5*	*17.7*	*9.5*	*16.7*	*14.5*	*13.2*

(a) 15.5% of 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 2005 where the birthweight was less than 2,500 grams was 15.2%.

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

Mothers aged 30–34 years were the group with the lowest proportion of low birthweight liveborn babies (5.7%). The proportion was higher among babies of younger and older mothers (9.0% for mothers aged less than 20 years and 12.8% 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 (7.3%) than in babies of mothers who gave birth in private hospitals (4.5%).

Presentation at birth

In 2005, vertex presentations occurred for 93.6% of all babies. Breech presentation occurred for 4.9% of babies, and other presentations occurred for 0.8% of babies. One third of twins and almost half of higher order multiple babies had non-vertex presentations at birth (32.9% and 42.3% respectively; Table 4.10).

Table 3.17 shows the presentation at birth for mothers, where the presentation at birth of the first born baby in multiple births is used.

Table 4.10: Births by presentation at birth and plurality, 2005

	Singletons		Twins		Other multiple births		Total	
Presentation	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Vertex	248,918	94.6	5,845	65.9	152	53.5	254,915	93.6
Breech	10,550	4.0	2,644	29.8	108	38.0	13,302	4.9
Other[(a)]	2,009	0.8	277	3.1	12	4.2	2,298	0.8
Not stated	1,787	0.7	105	1.2	12	4.2	1,904	0.7
Total	**263,264**	**100.0**	**8,871**	**100.0**	**284**	**100.0**	**272,419**	**100.0**

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

Method of birth

Of all births in 2005, 30.9% were delivered by caesarean section and 57.8% of babies were born by spontaneous vaginal birth. Approximately 1 in 9 babies was born by an instrumental vaginal delivery (10.7%). Twins had the highest proportion of vaginal breech births (5.7%), and two-thirds of all twins were born by caesarean section (67.5%). The majority of higher order multiples were delivered by caesarean section (91.5%), with only 4.6% born by spontaneous vaginal birth (Table 4.11).

Table 3.18 presents data for mothers, where the method of birth of the first born baby in multiple births is used.

Table 4.11: Births by method of birth and plurality, 2005

Method of birth	Singletons		Twins		Other multiple births		Total	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Spontaneous vaginal	155,726	59.2	1,708	19.3	13	4.6	157,447	57.8
Instrumental vaginal[(a)]	28,461	10.8	663	7.5	3	1.1	29,127	10.7
Vaginal breech	992	0.4	510	5.7	8	2.8	1,510	0.6
Caesarean section	78,054	29.6	5,988	67.5	260	91.5	84,302	30.9
Other	5	0.0	2	0.0	—	—	7	0.0
Not stated	26	0.0	—	—	—	—	26	0.0
Total	**263,264**	**100.0**	**8,871**	**100.0**	**284**	**100.0**	**272,419**	**100.0**

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

Method of birth for babies with breech presentations

Of babies with breech presentations at birth in 2005, 88.2% were born by caesarean section. This ranged from 84.0% in the Northern Territory to 89.3% in Queensland (Table 4.12). The remaining babies were born vaginally, with or without the use of instruments.

Table 4.12: Babies with breech presentations by method of birth and state and territory, 2005

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT[a]	NT	Australia
					Number				
Vaginal[b]	499	423	309	150	100	n.p.	44	32	1,557
Caesarean section	3,691	3,009	2,601	1,205	813	n.p.	243	168	11,730
Other/not stated	—	8	2	—	—	n.p.	—	—	10
Total	**4,190**	**3,440**	**2,912**	**1,355**	**913**	**n.p.**	**287**	**200**	**13,297**
					Per cent				
Vaginal[b]	11.9	12.3	10.6	11.1	11.0	n.p.	15.3	16.0	11.7
Caesarean section	88.1	87.5	89.3	88.9	89.0	n.p.	84.7	84.0	88.2
Other/not stated	—	0.2	0.1	—	—	n.p.	—	—	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.p.**	**100.0**	**100.0**	**100.0**

(a) 15.5% 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 13.1%.

(b) Includes instrumental vaginal births.

n.p. 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 2005, 1.3% 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 1.0% of live births (Table 4.13). Among the states and territories, the distribution of low Apgar scores at 5 minutes ranged from 1.1% of all live births in Queensland, Western Australia and the Australian Capital Territory, to 2.7% in the Northern Territory.

Table 4.13: Live births by Apgar score at 5 minutes and state and territory, 2005

Apgar score	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
					Number				
0–3	286	231	176	55	61	10	15	22	856
4–6	975	620	440	232	223	59	39	77	2,665
7–10	88,619	65,122	54,260	26,476	17,738	5,797	4,980	3,552	266,544
Not stated	193	68	29	20	44	8	7	6	375
Total	**90,073**	**66,041**	**54,905**	**26,783**	**18,066**	**5,874**	**5,041**	**3,657**	**270,440**
					Per cent				
0–3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.6	0.3
4–6	1.1	0.9	0.8	0.9	1.2	1.0	0.8	2.1	1.0
7–10	98.4	98.6	98.8	98.9	98.2	98.7	98.8	97.1	98.6
Not stated	0.2	0.1	0.1	0.1	0.2	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) 15.5% 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 4.14. 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 intubation was performed for at least 7.1% of all live births in 2005. External cardiac massage was provided for a small proportion of babies (0.2%).

Table 4.14: Live births by active resuscitation measures at birth and state and territory, 2005

Resuscitation type	NSW	Vic	Qld	WA	SA	Tas	ACT[a]	NT	Australia
					Number				
None	50,046	42,644	24,095	16,392	10,233	4,072	3,040	2,084	152,606
Suction	19,609	7,709	13,303	4,081	2,458	594	984	613	49,351
Oxygen therapy	13,264	10,714	12,793	3,859	3,953	831	621	572	46,607
IPPR through bag and mask	4,688	4,394	4,061	1,919	1,236	337	297	333	17,265
Endotracheal intubation and IPPR	506	376	411	268	127	27	80	40	1,835
External cardiac massage and ventilation	182	130	97	46	40	13	14	7	529
Other[b]	1,749	23	130	218	19	—	—	8	2,147
Not stated	29	51	15	—	—	—	5	—	100
Total	**90,073**	**66,041**	**54,905**	**26,783**	**18,066**	**5,874**	**5,041**	**3,657**	**270,440**
					Per cent				
None	55.6	64.6	43.9	61.2	56.6	69.3	60.3	57.0	56.4
Suction	21.8	11.7	24.2	15.2	13.6	10.1	19.5	16.8	18.2
Oxygen therapy	14.7	16.2	23.3	14.4	21.9	14.1	12.3	15.6	17.2
IPPR through bag and mask	5.2	6.7	7.4	7.2	6.8	5.7	5.9	9.1	6.4
Endotracheal intubation and IPPR	0.6	0.6	0.7	1.0	0.7	0.5	1.6	1.1	0.7
External cardiac massage and ventilation	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2
Other[b]	1.9	0.0	0.2	0.8	0.1	—	—	0.2	0.8
Not stated	0.0	0.1	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) 15.5% 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 of ACT-resident women where the active measure of resuscitation used was endotracheal intubation and IPPR was 1.3%.

(b) Includes tactile stimulation for NSW and Qld.

Note: 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.

Admission to special care nurseries or neonatal intensive care units

Babies are admitted to special care nurseries (SCN) or neonatal intensive care units (NICU) if they require more specialised medical care and treatment than is available on the postnatal ward (Abeywardana 2006). Of liveborn babies in 2005, 15.5% were admitted to a SCN or NICU. This proportion was lowest in Western Australia, where 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 11.8% in Tasmania to 23.6% in the Australian Capital Territory (Table 4.15).

Table 4.15: Live births by admission to special care nursery or neonatal intensive care unit and state and territory, 2005

Admission to SCN or NICU	NSW	Vic	Qld	WA[(a)]	SA	Tas	ACT[(b)]	NT	Australia
					Number				
Admitted	14,577	10,428	9,375	2,152	2,959	691	1,188	672	42,042
Not admitted	75,483	55,613	45,529	24,631	15,107	5,183	3,853	2,985	228,384
Not stated	13	—	1	—	—	—	—	—	14
Total	**90,073**	**66,041**	**54,905**	**26,783**	**18,066**	**5,874**	**5,041**	**3,657**	**270,440**
					Per cent				
Admitted	16.2	15.8	17.1	8.0	16.4	11.8	23.6	18.4	15.5
Not admitted	83.8	84.2	82.9	92.0	83.6	88.2	76.4	81.6	84.4
Not stated	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 WA, babies were recorded as being admitted to an SCN or NICU only if the length of stay was one day or more.

(b) 15.5% 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 22.1%. Also, multiple sources were used for 2005 to improve the reporting of special care nursery or neonatal intensive care unit admissions.

Hospital births

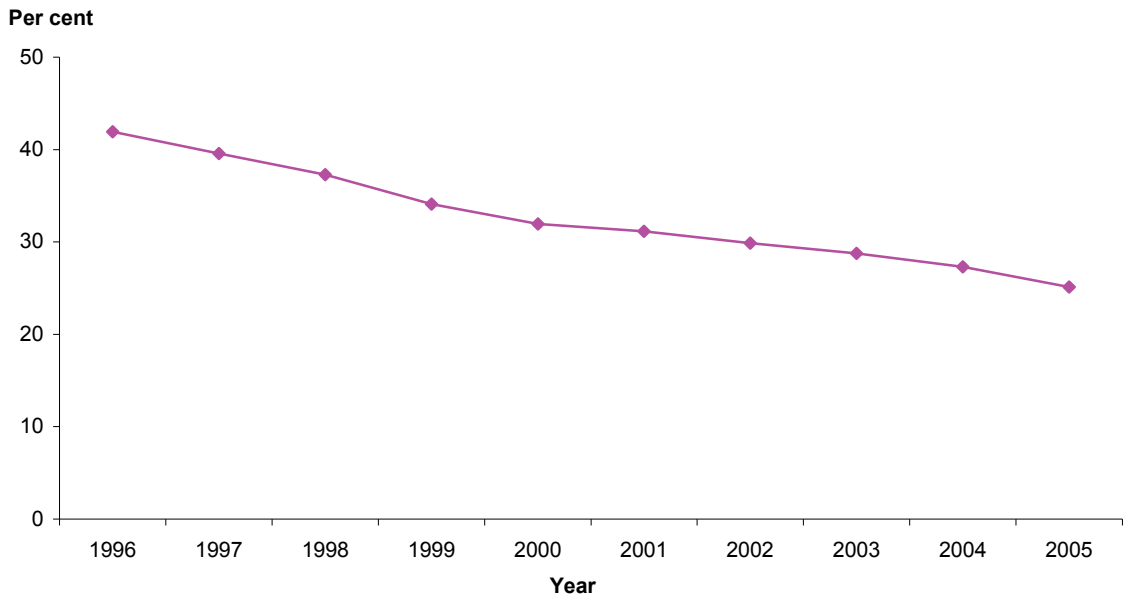
Length of stay in hospital of birth

The majority of babies are discharged from hospital at the same time as their mothers, however, some babies experience morbidity and require 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 2005, the median length of stay in hospital for babies born in hospital who were discharged home was 4.0 days. The majority of babies remained in their hospital of birth for less than six days (86.2%), and almost half stayed in hospital for less than four days (48.6%). Relatively more babies born in Queensland had a length of stay of less than four days (57.3%), with a median length of stay of 3.0 days. Babies hospitalised for 28 or more days accounted for 0.8% of babies born in hospital in 2005 (Table 4.16). This was related to

prematurity, with most of these babies born before 37 weeks gestation (86.7%), and 47.3% born before 32 weeks gestation.

Over the 10-year period from 1996 to 2005, the proportion of hospital-born babies with a length of stay of less than five days increased from 55.9% to 71.7%, while the proportion of babies with a length of stay in hospital of five days or more decreased from 44.1% in 1996 to 28.2% in 2005. During the same period, term babies (37–41 weeks gestation) born in hospital who had a length of stay of five days or more decreased from 41.9% in 1996 to 25.1% in 2005 (Figure 4.3).



Note: Only babies who were discharged home are included.

Source: Table A1.6.

Figure 4.3: Length of stay of 5 days or more for term babies born in hospital, 1996–2005 (per cent)

Table 4.16: Babies born in hospital[a] by length of stay and state and territory, 2005

Length of stay (days)	NSW	Vic	Qld	WA	SA	Tas	ACT[b]	NT	Australia
Median	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0
					Number				
Less than 1 day	1,687	625	1,444	474	312	106	120	124	4,892
1 day	8,051	3,730	7,478	1,756	1,107	424	383	383	23,312
2 days	13,927	11,406	10,452	3,615	2,391	913	738	514	43,956
3 days	16,972	12,567	10,550	4,527	2,969	1,134	772	570	50,061
4 days	18,537	17,612	10,750	5,035	3,700	1,022	982	511	58,149
5 days	12,052	9,113	6,232	4,044	2,682	843	819	440	36,225
6 days	5,766	2,876	1,987	2,616	1,344	377	327	204	15,497
7–13 days	4,076	2,190	1,955	2,805	917	344	217	290	12,794
14–20 days	865	777	661	238	240	79	57	78	2,995
21–27 days	383	348	292	97	139	57	36	45	1,397
28 or more days	521	429	455	232	278	69	34	73	2,091
Not stated	38	1	—	7	—	—	—	—	46
Total	**82,875**	**61,674**	**52,256**	**25,446**	**16,079**	**5,368**	**4,485**	**3,232**	**251,415**
					Per cent				
Less than 1 day	2.0	1.0	2.8	1.9	1.9	2.0	2.7	3.8	1.9
1 day	9.7	6.0	14.3	6.9	6.9	7.9	8.5	11.9	9.3
2 days	16.8	18.5	20.0	14.2	14.9	17.0	16.5	15.9	17.5
3 days	20.5	20.4	20.2	17.8	18.5	21.1	17.2	17.6	19.9
4 days	22.4	28.6	20.6	19.8	23.0	19.0	21.9	15.8	23.1
5 days	14.5	14.8	11.9	15.9	16.7	15.7	18.3	13.6	14.4
6 days	7.0	4.7	3.8	10.3	8.4	7.0	7.3	6.3	6.2
7–13 days	4.9	3.6	3.7	11.0	5.7	6.4	4.8	9.0	5.1
14–20 days	1.0	1.3	1.3	0.9	1.5	1.5	1.3	2.4	1.2
21–27 days	0.5	0.6	0.6	0.4	0.9	1.1	0.8	1.4	0.6
28 or more days	0.6	0.7	0.9	0.9	1.7	1.3	0.8	2.3	0.8
Not stated	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) Only babies who were discharged home are included.

(b) 15.5% 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 (64.2% and 53.7%).

Mode of separation from hospital

In 2005, 94.6% of babies born in hospital were discharged home, varying from 89.7% in the Northern Territory to 95.9% in Queensland. A total of 4.2% of babies were transferred to another hospital from their hospital of birth (Table 4.17).

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 4.17: Babies born in hospital by mode of separation and state and territory, 2005

Mode of separation	NSW	Vic	Qld	WA	SA	Tas	ACT[a]	NT	Australia
					Number				
Discharge home	82,875	61,674	52,256	25,446	16,079	5,368	4,485	3,232	251,415
Transfer to another hospital[b]	4,607	2,459	1,730	877	773	398	285	60	11,189
Fetal or neonatal death	776	799	506	249	183	36	63	57	2,669
Other[c]	—	[d]64	3	12	—	—	1	[e]256	336
Not stated	31	—	—	—	—	—	—	—	31
Total	**88,289**	**64,996**	**54,495**	**26,584**	**17,035**	**5,802**	**4,834**	**3,605**	**265,640**
					Per cent				
Discharge home	93.9	94.9	95.9	95.7	94.4	92.5	92.8	89.7	94.6
Transfer to another hospital[b]	5.2	3.8	3.2	3.3	4.5	6.9	5.9	1.7	4.2
Fetal or neonatal death	0.9	1.2	0.9	0.9	1.1	0.6	1.3	1.6	1.0
Other[c]	—	[d]0.1	0.0	0.0	—	—	0.0	[e]7.1	0.1
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) 15.5% 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 3.7%.

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

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

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

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

5 Special topic: Socioeconomic status of women who gave birth

This chapter presents data on selected maternal characteristics and perinatal outcomes of women who gave birth in 2005, by socioeconomic status of the mother. Socioeconomic Indexes for Areas (SEIFA) provide a summary measure for the socioeconomic conditions within an area. For this chapter, SEIFA has been derived from the mother's postcode of usual residence. The Index of Advantage/Disadvantage was used. There were 1,500 records for which an Index of Advantage/Disadvantage could not be assigned. This was because the record was either missing a postcode or did not have a valid postcode.

Maternal characteristics and risk factors

For 2005, maternal age increased with socioeconomic advantage. The mean age ranged from 28.0 years for mothers in the most disadvantaged quintile, to 32.2 years for mothers in the least disadvantaged quintile (Table 5.1). The proportion of mothers aged less than 20 was 7.9% in the most disadvantaged quintile and decreased to 1.1% in the least disadvantaged quintile. Mothers in the 35 years and over age group ranged from 14.7% in the most disadvantaged quintile to 31.8% in the least disadvantaged quintile, in 2005.

The proportion of mothers who identified as Aboriginal or Torres Strait Islander decreased with socioeconomic advantage. Indigenous mothers represented 6.9% of women in the most disadvantaged quintile and 0.7% in the least disadvantaged quintile.

Table 5.1: Selected maternal characteristics and risk factors by socioeconomic status, 2005

	Quintile of socioeconomic disadvantage					
Maternal characteristic	1st quintile (most disadvantaged)	2nd quintile	3rd quintile	4th quintile	5th quintile (least disadvantaged)	Total[(a)]
Mean maternal age (years)	28.0	28.7	29.4	30.5	32.2	29.8
			Per cent			
Indigenous	6.9	5.2	3.5	2.0	0.7	3.7
Never married/single	19.5	14.7	13.3	10.2	6.0	12.6
Smoked during pregnancy[(b)]	28.2	21.9	18.4	12.6	6.1	17.4
Public accommodation status[(c)]	82.6	75.3	67.6	56.5	37.7	63.9

(a) Includes women with a 'Not stated' Index of Advantage/Disadvantage.

(b) Excludes Vic. For Qld, smoking status data are for the July–December 2005 period only.

(c) For women who gave birth in hospital.

Of women who gave birth, the proportion who identified as never married/single decreased with socioeconomic advantage from 19.5% in the most disadvantaged quintile to 6.0% in the least disadvantaged quintile.

The proportion of women who smoked while pregnant decreased with socioeconomic advantage from 28.2% in the most disadvantaged quintile to 6.1% in the least disadvantaged quintile.

The proportion of women whose elected accommodation status was public decreased with socioeconomic advantage, from 82.6% in the most disadvantaged quintile to 37.7% in the least disadvantaged quintile.

Labour and birth characteristics

Onset of labour

The proportion of women for whom the onset of labour was spontaneous decreased with socioeconomic advantage, from 60.9% in the most disadvantaged quintile to 53.1% in the least disadvantaged quintile. The proportion of mothers with no labour increased with socioeconomic advantage, from 14.9% in the most disadvantaged quintile to 21.3% in the least disadvantaged quintile (Table 5.2).

Table 5.2: Onset of labour by socioeconomic status, 2005

	Quintile of socioeconomic disadvantage						
Onset of labour	1st quintile (most disadvantaged)	2nd quintile	3rd quintile	4th quintile	5th quintile (least disadvantaged)	Not stated	Total
				Number			
Spontaneous	32,414	30,622	29,654	29,354	28,458	880	151,382
Induced	12,895	13,793	13,597	14,191	13,681	372	68,529
No labour	7,955	8,802	9,325	10,096	11,431	248	47,857
Not stated	1	—	1	4	19	—	25
Total	**53,265**	**53,217**	**52,577**	**53,645**	**53,589**	**1,500**	**267,793**
				Per cent			
Spontaneous	60.9	57.5	56.4	54.7	53.1	58.7	56.5
Induced	24.2	25.9	25.9	26.5	25.5	24.8	25.6
No labour	14.9	16.5	17.7	18.8	21.3	16.5	17.9
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**

Method of birth

The proportion of spontaneous vaginal births decreased with socioeconomic advantage, from 64.7% in the most disadvantaged quintile to 51.1% in the least disadvantaged quintile. Operative deliveries increased with socioeconomic advantage. Caesarean section deliveries increased from 26.7% in the most disadvantaged quintile to 34.5% in the least disadvantaged

quintile. The proportion of forceps deliveries increased from 2.4% in the most disadvantaged quintile to 5.2% in the least disadvantaged quintile. Similarly, the proportion of vacuum extractions increased from 5.8% in the most disadvantaged quintile to 8.8% in the least disadvantaged quintile (Table 5.3).

Table 5.3: Women who gave birth by method of birth and socioeconomic status, 2005

	Quintile of socioeconomic disadvantage						
Method of birth	1st quintile (most disadvantaged)	2nd quintile	3rd quintile	4th quintile	5th quintile (least disadvantaged)	Not stated	Total
				Number			
Spontaneous vaginal	34,437	33,038	31,019	29,975	27,403	912	156,784
Forceps	1,270	1,549	1,721	2,109	2,791	57	9,497
Vacuum extraction	3,087	3,359	3,793	4,254	4,736	102	19,331
Vaginal breech	258	224	189	200	168	14	1,053
Caesarean section	14,207	15,041	15,853	17,099	18,484	412	81,096
Other	1	3	—	—	2	—	6
Not stated	5	3	2	8	5	3	26
Total	**53,265**	**53,217**	**52,577**	**53,645**	**53,589**	**1,500**	**267,793**
				Per cent			
Spontaneous vaginal	64.7	62.1	59.0	55.9	51.1	60.8	58.5
Forceps	2.4	2.9	3.3	3.9	5.2	3.8	3.5
Vacuum extraction	5.8	6.3	7.2	7.9	8.8	6.8	7.2
Vaginal breech	0.5	0.4	0.4	0.4	0.3	0.9	0.4
Caesarean section	26.7	28.3	30.2	31.9	34.5	27.5	30.3
Other	0.0	0.0	—	—	0.0	—	0.0
Not stated	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

Babies

Poor perinatal outcomes generally decreased with socioeconomic advantage. The proportion of preterm births (before 37 weeks gestation) ranged from 7.1% of babies born to women in the least disadvantaged quintile, to 8.7% for babies born to women in the most disadvantaged quintile.

Low birthweight (less than 2,500 grams) ranged from 5.6% of liveborn babies of mothers in the least disadvantaged quintile, to 7.2% of liveborn babies in the most disadvantaged quintile (Table 5.4). The mean birthweight ranged from 3,340 grams in the most disadvantaged quintile to 3,391 grams in the least disadvantaged quintile, in 2005.

An Apgar score of less than 7 at 5 minutes was recorded for 1.1% of liveborn babies of mothers in the least disadvantaged category and increased slightly with socioeconomic disadvantage, to 1.5% in the lowest two quintiles.

The proportions of liveborn babies admitted to special care nurseries (SCN) or neonatal intensive care units (NICU), and which required a high level of resuscitation were both lower in the least disadvantaged quintile (Table 5.4).

Table 5.4: Selected characteristics of babies by mothers' socioeconomic status, 2005

	Quintile of socioeconomic disadvantage					
	1st quintile (most disadvantaged)	2nd quintile	3rd quintile	4th quintile	5th quintile (least disadvantaged)	Total[(a)]
All births	54,059	54,075	53,472	54,657	54,630	272,419
			Per cent			
Preterm births	8.7	8.4	8.1	8.0	7.1	8.1
Low birthweight[(b)]	7.2	6.6	6.4	6.1	5.6	6.4
Low Apgar score at 5 minutes[(b)]	1.5	1.5	1.2	1.2	1.1	1.3
High level of resuscitation[(b)(c)]	1.0	0.9	0.9	0.9	0.7	0.9
Admitted to SCN/NICU[(b)]	15.9	15.7	16.1	15.5	14.6	15.5

(a) Includes babies of women with a 'Not stated' Index of Advantage/Disadvantage.

(b) For live births.

(c) High level resuscitation includes the categories 'Endotracheal intubation and IPPR' and 'External cardiac massage and ventilation'.

Summary

Women who gave birth and were in the least disadvantaged quintile were older and less likely to be Indigenous or smoke during pregnancy, compared with women in the other quintiles. The proportion of women who had induced or no labour, and the proportion who had an instrumental delivery or caesarean section, all increased with socioeconomic advantage. Conversely, the proportion of babies with less favourable outcomes, such as preterm birth and low birthweight, decreased with socioeconomic advantage.

6 Perinatal mortality

Definitions

There are different definitions in Australia for reporting and registering perinatal deaths (Figure 6.1). The NHDD specifies a definition of perinatal deaths to include all fetal and neonatal deaths of at least 400 grams birthweight or at least 20 weeks gestation (NHDC 2003). This definition is used in the NPDC.

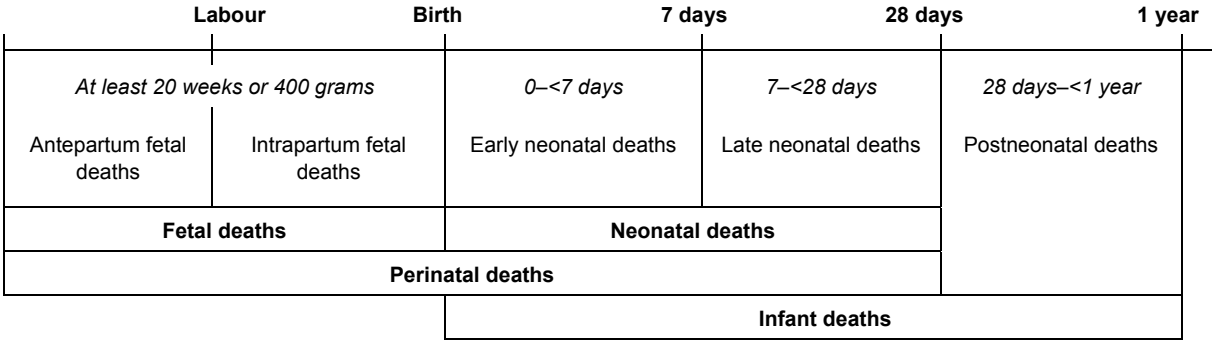
In Australia, all fetal and neonatal deaths of at least 400 grams birthweight or, if birthweight is unavailable, a gestational age of at least 20 weeks are registered (ABS 2006). Further information on these definitions and the issues surrounding the collection of data on perinatal deaths can be found in a previous edition of this report (Laws & Sullivan 2004a).

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



Australian Bureau of Statistics data

The ABS definition of perinatal deaths 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 rather than on the year of birth or death. This chapter includes data from the *Causes of Death Australia* report (e.g. ABS 2007) as well as from the perinatal deaths database.

Fetal deaths

During the period 2003–2005, there were 4,046 fetal deaths registered, giving a fetal death rate of 5.3 per 1,000 births (Table 6.1). Between 1996 and 2005, the national fetal death rate declined from 6.5 to 5.4 per 1,000 births (ABS 2001; ABS 2007). Antepartum fetal deaths proportionately accounted for 68.3% of all fetal deaths in 2005 compared with 27.5% for intrapartum fetal deaths.

Table 6.1: Fetal, neonatal and perinatal deaths, 2003–2005

Deaths	2003	2004	2005	2003–2005
		Number		
Fetal	1,288	1,347	1,411	4,046
Neonatal	732	701	802	2,235
Perinatal	**2,020**	**2,048**	**2,213**	**6,281**
		Rate per 1,000 births[(a)]		
Fetal	5.1	5.3	5.4	5.3
Neonatal	2.9	2.8	3.1	2.9
Perinatal	**8.0**	**8.0**	**8.5**	**8.2**

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

Note: Data based on year of registration and definition of 400 grams birthweight (or 20 weeks gestation if birthweight is unknown).

Source: ABS 2007.

Neonatal deaths

The Australian neonatal death rate during 2003–2005, was 2.9 per 1,000 live births (Table 6.1). The neonatal death rate was 3.1 per 1,000 live births registered in 2005 (ABS 2007). This shows a decline over the last decade, from 3.5 per 1,000 live births in 1996 (ABS 2001).

Perinatal deaths

In the period between 1996 and 2005, the national perinatal death rate declined from 10.0 per 1,000 births to 8.5 per 1,000 births (ABS 2001; ABS 2007). In 2005, perinatal death rates were lowest in South Australia and New South Wales (7.3 and 7.4 per 1,000 births respectively), and relatively higher in the Northern Territory (14.6 per 1,000 births) (ABS 2007).

Perinatal deaths and plurality

Perinatal death rates are higher for multiple births than for singleton births. There were 6,281 perinatal deaths registered during the period 2003–2005; 640 (10.2%) occurred in twins and 48 (0.8%) in other multiple births (Table 6.2). On average, for the three-year period, multiple births accounted for 3.3% of all births and 11.0% of all perinatal deaths nationally. The perinatal death rate of twins for the period 2003–2005 was 3.5 times higher, and of other multiple births 8.6 times higher, than that of singleton births.

Table 6.2: Fetal, neonatal and perinatal deaths by plurality, 2003–2005

	Singletons		Twins		Other multiple births		Total	
Year	Number	Rate[(a)]	Number	Rate[(a)]	Number	Rate[(a)]	Number	Rate[(a)]
Fetal deaths								
2003	1,194	4.9	91	11.4	3	12.9	1,288	5.1
2004	1,252	5.1	84	10.2	11	45.6	1,347	5.3
2005	1,304	5.2	103	12.3	4	15.1	1,411	5.4
2003–2005	*3,750*	*5.0*	*278*	*11.3*	*18*	*24.4*	*4,046*	*5.3*
Neonatal deaths								
2003	580	2.4	142	18.0	10	43.5	732	2.9
2004	608	2.5	81	9.9	12	52.2	701	2.8
2005	655	2.6	139	16.8	8	30.7	802	3.1
2003–2005	*1,843*	*2.5*	*362*	*14.9*	*30*	*41.6*	*2,235*	*2.9*
Perinatal deaths								
2003	1,774	7.3	233	29.1	13	55.8	2,020	8.0
2004	1,860	7.5	165	20.0	23	95.4	2,048	8.0
2005	1,959	7.8	242	29.0	12	45.3	2,213	8.5
2003–2005	**5,593**	**7.5**	**640**	**26.0**	**48**	**65.0**	**6,281**	**8.2**

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

Note: Data based on year of registration and definition of 400 grams birthweight (or 20 weeks gestation if birthweight is unknown).

Sources: ABS perinatal deaths database; ABS births database.

Causes of perinatal deaths

For perinatal deaths, a condition may be reported in the fetus/infant, the mother, or both. Of perinatal deaths registered in 2005, 29.8% did not have a specific cause of death in the fetus/infant assigned (ABS 2007). For those where a cause was reported, the category of conditions originating in the perinatal period was the more common cause in all states and territories, and ranged from 65.9% of perinatal deaths in the Australian Capital Territory to 88.9% in the Northern Territory (Table 6.3). The variability among the states and territories in terms of cause of death may reflect population differences and variations in certification.

A maternal condition was reported in 58.4% of perinatal deaths in 2005 (ABS 2007). Complications of placenta, cord and membranes was the most commonly reported category overall (24.1%) and in all jurisdictions. Maternal conditions that may be unrelated to the present pregnancy was the next largest category (15.5%), followed by maternal complications of pregnancy (15.1%) (Table 6.3).

Table 6.3: Perinatal deaths by cause of death and state and territory of the mother's usual residence, 2005

Cause of death	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
All causes	**645**	**628**	**455**	**203**	**130**	**54**	**44**	**54**	**2,213**
Main condition in fetus/infant									
Certain conditions originating in the perinatal period (P00–P96)	510	503	344	154	108	47	29	48	1,743
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	120	119	96	41	18	<5	13	n.p.	416
Main condition in mother									
Maternal conditions that may be unrelated to present pregnancy (P00)	84	144	59	31	11	7	<5	n.p.	342
Maternal complications of pregnancy (P01)	117	85	78	20	19	n.p.	<5	8	335
Complications of placenta, cord and membranes (P02)	129	153	131	41	41	11	9	18	533
Complications of labour and delivery (P03)	n.p.	31	n.p.	15	n.p.	<5	<5	—	74
Noxious influences transmitted via placenta or breast milk (P04)	<5	—	<5	—	<5	<5	—	<5	8
No maternal condition reported	303	215	176	96	52	28	29	22	921
					Per cent				
Main condition in fetus/infant									
Certain conditions originating in the perinatal period (P00–P96)	79.1	80.1	75.6	75.9	83.1	87.0	65.9	88.9	78.8
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	18.6	18.9	21.1	20.2	13.8	n.p.	29.5	n.p.	18.8
Main condition in mother									
Maternal conditions that may be unrelated to present pregnancy (P00)	13.0	22.9	13.0	15.3	8.5	13.0	n.p.	n.p.	15.5
Maternal complications of pregnancy (P01)	18.1	13.5	17.1	9.9	14.6	n.p.	n.p.	14.8	15.1
Complications of placenta, cord and membranes (P02)	20.0	24.4	28.8	20.2	31.5	20.4	20.5	33.3	24.1
Complications of labour and delivery (P03)	n.p.	4.9	n.p.	7.4	n.p.	n.p.	n.p.	—	3.3
Noxious influences transmitted via placenta or breast milk (P04)	n.p.	—	n.p.	—	n.p.	n.p.	—	n.p.	0.4
No maternal condition reported	47.0	34.2	38.7	47.3	40.0	51.9	65.9	40.7	41.6

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

Note: Data based on year of registration and state/territory of the mother's usual residence, and definition of 400 grams birthweight (or 20 weeks gestation if birthweight is unknown).

Source: ABS perinatal deaths database.

National Perinatal Data Collection data

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 2005, there were 1,979 fetal deaths reported to the NPDC, resulting in a fetal death rate of 7.3 per 1,000 births (Table 6.4), higher than the rate of 5.4 per 1,000 reported from the ABS mortality collection. This is partially explained by the use of different reporting practices and inclusion criteria for fetal deaths in the two collections. The state and territory fetal death rates ranged from 5.9 per 1,000 births in New South Wales to 11.4 per 1,000 births in the Northern Territory.

Table 6.4: Fetal, neonatal and perinatal deaths by state and territory, 2005

	NSW	Vic	Qld	WA	SA	Tas	ACT[a]	NT	Australia
					Number				
Live births[b]	90,073	66,041	54,905	26,783	18,066	5,874	5,041	3,657	270,440
Fetal deaths	535	613	375	200	129	38	47	42	1,979
Neonatal deaths[c]	257	247	184	73	62	8	20	24	875
Perinatal deaths	*792*	*860*	*559*	*273*	*191*	*46*	*67*	*66*	*2,854*
Total births	90,608	66,654	55,280	26,983	18,195	5,912	5,088	3,699	272,419
					Rate per 1,000 births[d]				
Fetal deaths	5.9	9.2	6.8	7.4	7.1	6.4	9.2	11.4	7.3
Neonatal deaths[c]	2.9	3.7	3.4	2.7	3.4	1.4	4.0	6.6	3.2
Perinatal deaths	*8.7*	*12.9*	*10.1*	*10.1*	*10.5*	*7.8*	*13.2*	*17.8*	*10.5*

(a) 15.5% 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 8.4 fetal deaths per 1,000 births, 3.1 neonatal deaths per 1,000 live births and 11.4 perinatal deaths per 1,000 births.

(b) Includes neonatal deaths.

(c) Except in WA and NT, 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.

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

There was variation in fetal and perinatal death rates according to maternal age with higher rates reported for teenage mothers (Table 6.5). The age-group specific fetal death rates ranged from 6.1 per 1,000 births for babies of mothers aged 30–34 years to 14.7 per 1,000 births for babies of mothers aged less than 20 years.

The fetal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 11.7 per 1,000 births. The rate was 7.0 per 1,000 births for non-Indigenous mothers (Table 6.5).

Fetal death was more likely among babies of first-time mothers (8.6 per 1,000 births) than among babies whose mothers had at least one previous birth (6.3 per 1,000 births). 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 10.6 per 1,000 births.

The fetal death rate of twins (18.7 per 1,000 births) and other multiple births (31.7 per 1,000 births) was higher than that of singleton babies (6.9 per 1,000 births).

Fetal death rates were higher for babies of mothers who gave birth in public hospitals (7.8 per 1,000 births) than for those of mothers who gave birth in private hospitals (6.2 per 1,000 births) (Table 6.5).

Table 6.5: Fetal, neonatal and perinatal deaths by selected maternal characteristics, 2005

Characteristic	Fetal deaths	Neonatal deaths[(a)]	Perinatal deaths[(a)]
		Rate per 1,000 births[(b)]	
Maternal age			
Less than 20	14.7	5.2	19.8
20–24	8.6	3.8	12.4
25–29	6.4	2.8	9.1
30–34	6.1	2.9	9.0
35 and over	7.7	3.6	11.3
Indigenous status			
Aboriginal or Torres Strait Islander	11.7	7.4	19.0
Non-Indigenous	7.0	3.1	10.1
Hospital sector for hospital births			
Public	7.8	4.0	11.8
Private	6.2	1.4	7.6
Parity			
Primipara	8.6	3.6	12.1
Multipara	6.3	3.0	9.3

(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 stillbirths). Neonatal death rates were calculated using all live births.

Neonatal deaths

There were 875 neonatal deaths reported to the NPDC for 2005, giving a rate of 3.2 per 1,000 live births (Table 6.4). Ascertainment of neonatal deaths within 28 days of birth is likely to be incomplete for deaths occurring among babies transferred to another hospital, readmitted to hospital or dying at home.

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 1.4 per 1,000 live births in Tasmania to 6.6 per 1,000 live births in the Northern Territory (Table 6.4).

Note that a significant proportion of women who gave birth in the Australian Capital Territory were New South Wales residents (15.5% in 2005). Many women from southern New South Wales with high-risk pregnancies gave birth in the Australian Capital Territory

(Table 3.3), so death rates are likely to appear higher when based on births in the Australian Capital Territory.

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 3.8 per 1,000 live births for babies of mothers aged 20–24 years (Table 6.5).

The neonatal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 7.4 per 1,000 live births for 2005. The neonatal death rate for babies born to non-Indigenous mothers was 3.1 per 1,000 live births.

Neonatal death rates were higher for babies of mothers who gave birth in public hospitals (4.0 per 1,000 live births) than for those of mothers who gave birth in private hospitals (1.4 per 1,000 live births).

Perinatal deaths

In the NPDC there were 2,854 reported perinatal deaths in 2005, resulting in a perinatal death rate of 10.5 deaths per 1,000 births (Table 6.4). Of these perinatal deaths, 69.3% were fetal deaths.

Perinatal death rates were highest in babies of teenage mothers (19.8 per 1,000 births), followed by babies of mothers aged 20–24 years (12.4 per 1,000 births). The perinatal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 19.0 per 1,000 births. The rate was 10.1 per 1,000 births in babies born to non-Indigenous mothers (Table 6.5).

Perinatal death was more likely among babies of first-time mothers (12.1 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 (11.8 per 1,000 births) than for those of mothers who gave birth in private hospitals (7.6 per 1,000 births) (Table 6.5).

Perinatal death rates vary according to which definition is used. According to the ABS definition, there were 2,213 perinatal deaths registered in 2005, resulting in a perinatal death rate of 8.5 deaths per 1,000 births (ABS 2007). Using the criteria of 400 grams or more birthweight or 20 weeks or more gestation for the NPDC data, the 2005 perinatal death rate of 10.5 per 1,000 births was higher.

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) and the PSANZ Neonatal Death Classification (PSANZ-NDC) to classify causes of perinatal deaths. Further details on these classifications can be found at <http://www.psanzpnmsig.org/>.

For the 2005 data, six jurisdictions provided causes of death according to the PSANZ-PDC (Table 6.6). In New South Wales, only deaths of at least 500 grams birthweight or at least 22 weeks gestation with confidential reports had been classified. This differed from the 400 grams or 20 weeks gestation criteria used by the other five states. Excluding New South Wales because of the different inclusion criteria, the main causes of perinatal deaths in the five states with comparable data for 2005 were congenital abnormalities (23.8%), spontaneous preterm birth (17.2%) and maternal conditions (15.5%). These three groups of causes accounted for over half of all perinatal deaths in these states (56.6%). Unexplained antepartum death (12.8%) was also a commonly reported cause of perinatal death.

Applying these classifications reveals considerable variability by jurisdiction in the leading causes of perinatal death. The largest difference relates to the category of 'maternal conditions'. This is because this category includes late terminations undertaken for psychosocial indications, the majority of which are undertaken in Victoria. There may also be some differences in the ranking related to jurisdictional differences in applying the classifications and small numbers in some categories.

Table 6.7 presents causes of perinatal deaths by gestational age group for four states. The main cause of perinatal death at 20–21 weeks gestation was congenital abnormalities (43.2%). The leading cause of death at 22–27 weeks gestation was the category of spontaneous preterm birth (27.7%). Perinatal deaths of babies at 32–36 weeks gestation or at term were most commonly due to unexplained antepartum death (31.4% and 29.4% respectively).

The most common causes of perinatal death in singletons were congenital abnormalities (25.5%), followed by maternal conditions (18.1%). Deaths of twins and higher order multiple births were mostly due to spontaneous preterm birth and specific perinatal conditions (Table 6.8).

Of perinatal deaths to mothers aged less than 20 years, 43.5% were due to maternal conditions. In mothers aged 40 years or over, 36.5% of perinatal deaths were caused by congenital abnormalities (Table 6.9).

Table 6.6: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and state and territory, 2005

Cause of death	NSW[(a)]	Vic	Qld	WA	SA	Tas	ACT[(b)]	NT	Total[(c)]
					Number				
Congenital abnormality	114	187	n.a.	74	56	<5	n.p.	n.a.	456
Perinatal infection	22	n.p.	n.a.	13	15	—	<5	n.a.	69
Hypertension	16	24	n.a.	7	9	—	—	n.a.	56
Antepartum haemorrhage (APH)	51	46	n.a.	14	18	8	9	n.a.	146
Maternal conditions	35	[(d)]204	n.a.	12	<5	<5	<5	n.a.	257
Specific perinatal conditions	39	60	n.a.	21	19	5	12	n.a.	156
Hypoxic peripartum death	n.p.	17	n.a.	13	9	—	<5	n.a.	60
Fetal growth restriction (FGR)	37	34	n.a.	9	16	6	7	n.a.	109
Spontaneous preterm	119	145	n.a.	63	31	<5	n.p.	n.a.	366
Unexplained antepartum death	174	123	n.a.	39	15	<5	<5	n.a.	357
No obstetric antecedent	<5	<5	n.a.	8	<5	<5	<5	n.a.	18
Not stated	[(a)]162	—	n.a.	—	—	[(e)]14	—	n.a.	176
Total	**792**	**860**	**n.a.**	**273**	**191**	**46**	**64**	**n.a.**	**2,226**
					Per cent				
Congenital abnormality	14.4	21.7	n.a.	27.1	29.3	n.p.	n.p.	n.a.	20.5
Perinatal infection	2.8	n.p.	n.a.	4.8	7.9	—	n.p.	n.a.	3.1
Hypertension	2.0	2.8	n.a.	2.6	4.7	—	—	n.a.	2.5
Antepartum haemorrhage (APH)	6.4	5.3	n.a.	5.1	9.4	17.4	14.1	n.a.	6.6
Maternal conditions	4.4	[(d)]23.7	n.a.	4.4	n.p.	n.p.	n.p.	n.a.	11.5
Specific perinatal conditions	4.9	7.0	n.a.	7.7	9.9	10.9	18.8	n.a.	7.0
Hypoxic peripartum death	n.p.	2.0	n.a.	4.8	4.7	—	n.p.	n.a.	2.7
Fetal growth restriction (FGR)	4.7	4.0	n.a.	3.3	8.4	13.0	10.9	n.a.	4.9
Spontaneous preterm	15.0	16.9	n.a.	23.1	16.2	n.p.	n.p.	n.a.	16.4
Unexplained antepartum death	22.0	14.3	n.a.	14.3	7.9	n.p.	n.p.	n.a.	16.0
No obstetric antecedent	n.p.	n.p.	n.a.	2.9	n.p.	n.p.	n.p.	n.a.	0.8
Not stated	[(a)]20.5	—	n.a.	—	—	[(e)]30.4	—	n.a.	7.9
Total	**100.0**	**100.0**	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**

(a) For NSW, the Perinatal Outcomes Working Party of the NSW Maternal and Perinatal Committee classified deaths of at least 500 g birthweight and/or at least 22 weeks gestation. 'Not stated' includes perinatal deaths less than 500 g birthweight and less than 22 weeks gestation that were not classified by the Committee and other deaths for which no report was received. For further information see: NSW Department of Health 2007.

(b) 28.1% (18 of 64) perinatal deaths were to non-ACT residents. Due to the small number of ACT perinatal deaths, large fluctuations can occur in annual percentages. Care must be taken when interpreting rates.

(c) Includes NSW which has different inclusion criteria. This may affect the overall distribution of the causes of death.

(d) Includes 180 terminations of pregnancy for psychosocial indications.

(e) These perinatal deaths have not yet been classified.

n.a. Data for Qld and NT were 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 6.7: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2005

Cause of death	Gestational age (weeks)							
	20–21	22–27	28–31	32–36	37–41	42 and over	Not stated	Total
				Number				
Congenital abnormality	142	91	11	38	38	1	—	321
Perinatal infection	4	20	3	5	13	—	—	45
Hypertension	3	19	6	9	3	—	—	40
Antepartum haemorrhage (APH)	15	33	10	15	13	—	—	86
Maternal conditions	46	133	9	10	9	—	14	221
Specific perinatal conditions	21	41	10	11	22	—	—	105
Hypoxic peripartum death	1	2	1	2	31	2	—	39
Fetal growth restriction (FGR)	1	13	14	15	22	—	—	65
Spontaneous preterm	84	146	11	1	—	—	—	242
Unexplained antepartum death	10	24	26	49	70	—	—	179
No obstetric antecedent	—	—	—	—	13	—	—	13
Not stated	2	6	1	1	4	—	—	14
Total	**329**	**528**	**102**	**156**	**238**	**3**	**14**	**1,370**
				Per cent				
Congenital abnormality	43.2	17.2	10.8	24.4	16.0	33.3	—	23.4
Perinatal infection	1.2	3.8	2.9	3.2	5.5	—	—	3.3
Hypertension	0.9	3.6	5.9	5.8	1.3	—	—	2.9
Antepartum haemorrhage (APH)	4.6	6.3	9.8	9.6	5.5	—	—	6.3
Maternal conditions	14.0	25.2	8.8	6.4	3.8	—	100.0	16.1
Specific perinatal conditions	6.4	7.8	9.8	7.1	9.2	—	—	7.7
Hypoxic peripartum death	0.3	0.4	1.0	1.3	13.0	66.7	—	2.8
Fetal growth restriction (FGR)	0.3	2.5	13.7	9.6	9.2	—	—	4.7
Spontaneous preterm	25.5	27.7	10.8	0.6	—	—	—	17.7
Unexplained antepartum death	3.0	4.5	25.5	31.4	29.4	—	—	13.1
No obstetric antecedent	—	—	—	—	5.5	—	—	0.9
Not stated	0.6	1.1	1.0	0.6	1.7	—	—	1.0
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 117,744 in 2005.

Table 6.8: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and plurality, 2005

Cause of death	Singletons	Twins	Other multiple births	Total
		Number		
Congenital abnormality	308	12	1	321
Perinatal infection	43	2	—	45
Hypertension	38	1	1	40
Antepartum haemorrhage (APH)	80	6	—	86
Maternal conditions	219	2	—	221
Specific perinatal conditions	46	59	—	105
Hypoxic peripartum death	38	1	—	39
Fetal growth restriction (FGR)	61	4	—	65
Spontaneous preterm	186	51	5	242
Unexplained antepartum death	162	14	3	179
No obstetric antecedent	13	—	—	13
Not stated	14	—	—	14
Total	**1,208**	**152**	**10**	**1,370**
		Per cent		
Congenital abnormality	25.5	7.9	10.0	23.4
Perinatal infection	3.6	1.3	—	3.3
Hypertension	3.1	0.7	10.0	2.9
Antepartum haemorrhage (APH)	6.6	3.9	—	6.3
Maternal conditions	18.1	1.3	—	16.1
Specific perinatal conditions	3.8	38.8	—	7.7
Hypoxic peripartum death	3.1	0.7	—	2.8
Fetal growth restriction (FGR)	5.0	2.6	—	4.7
Spontaneous preterm	15.4	33.6	50.0	17.7
Unexplained antepartum death	13.4	9.2	30.0	13.1
No obstetric antecedent	1.1	—	—	0.9
Not stated	1.2	—	—	1.0
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 117,744 in 2005.

Table 6.9: Perinatal deaths by Perinatal Society of Australia and New Zealand Perinatal Death Classification and maternal age, 2005

Cause of death	Maternal age (years)							
	Less than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
				Number				
Congenital abnormality	17	52	69	101	58	23	1	321
Perinatal infection	5	10	7	9	12	2	—	45
Hypertension	1	5	13	12	9	—	—	40
Antepartum haemorrhage (APH)	10	17	17	19	21	2	—	86
Maternal conditions	60	63	37	29	16	10	6	221
Specific perinatal conditions	2	13	21	47	21	1	—	105
Hypoxic peripartum death	1	11	4	11	11	—	1	39
Fetal growth restriction (FGR)	4	14	13	21	10	3	—	65
Spontaneous preterm	18	34	58	66	55	11	—	242
Unexplained antepartum death	16	15	56	52	30	9	1	179
No obstetric antecedent	3	4	4	1	1	—	—	13
Not stated	1	4	1	5	1	2	—	14
Total	**138**	**242**	**300**	**373**	**245**	**63**	**9**	**1,370**
				Per cent				
Congenital abnormality	12.3	21.5	23.0	27.1	23.7	36.5	11.1	23.4
Perinatal infection	3.6	4.1	2.3	2.4	4.9	3.2	—	3.3
Hypertension	0.7	2.1	4.3	3.2	3.7	—	—	2.9
Antepartum haemorrhage (APH)	7.2	7.0	5.7	5.1	8.6	3.2	—	6.3
Maternal conditions	43.5	26.0	12.3	7.8	6.5	15.9	66.7	16.1
Specific perinatal conditions	1.4	5.4	7.0	12.6	8.6	1.6	—	7.7
Hypoxic peripartum death	0.7	4.5	1.3	2.9	4.5	—	11.1	2.8
Fetal growth restriction (FGR)	2.9	5.8	4.3	5.6	4.1	4.8	—	4.7
Spontaneous preterm	13.0	14.0	19.3	17.7	22.4	17.5	—	17.7
Unexplained antepartum death	11.6	6.2	18.7	13.9	12.2	14.3	11.1	13.1
No obstetric antecedent	2.2	1.7	1.3	0.3	0.4	—	—	0.9
Not stated	0.7	1.7	0.3	1.3	0.4	3.2	—	1.0
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.

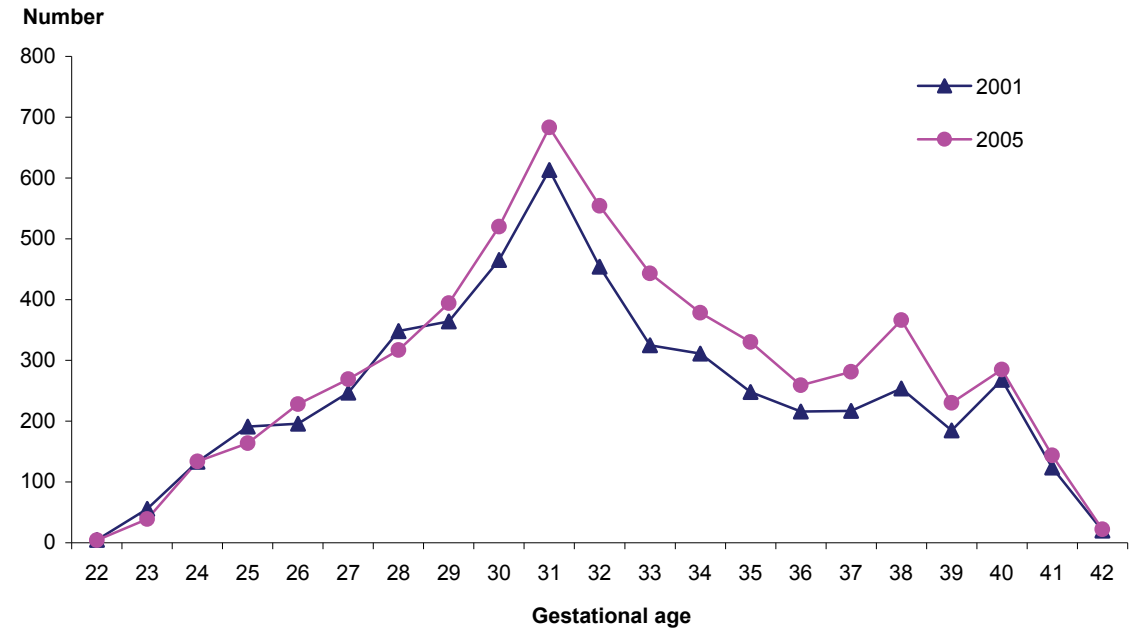
2. The total number of births in the four jurisdictions included in the table was 117,744 in 2005.

7 Babies in level III neonatal intensive care units

Data in this chapter were provided by the Australian and New Zealand Neonatal Network (ANZNN), and describe babies admitted to level III NICUs at less than 28 days of age, meeting at least one of the following criteria: born at less than 32 weeks gestation, less than 1,500 grams birthweight, received assisted ventilation for at least four hours or died while receiving mechanical ventilation prior to four hours of age or underwent major surgery. Babies who were discharged home and readmitted to a NICU within 28 days (neonatal period) are not registered to the ANZNN.

In 2005, there were 6,044 babies admitted to all level III NICUs in Australia who met ANZNN's high-risk criteria. Of those babies, 78.0% were born preterm (less than 37 weeks gestation) and 45.5% (2,752) were born at less than 32 weeks gestational age. The proportion of male babies admitted was higher (57.5%, 3,477) than that of female babies. There were 838 extreme preterm (born before 28 weeks gestation) babies cared for in NICUs in 2005. The number of babies born after 31 weeks gestation and registered to the ANZNN has increased over the years (Figure 7.1), mainly due to the increased number of babies admitted for continuous positive airways pressure (CPAP).

Babies with a birthweight of less than 1,500 grams accounted for 37.8% of the babies registered to the ANZNN. A further 32.9% of babies weighed between 1,500 and 2,500 grams, therefore, 70.7% of those high-risk babies were of low birthweight.



Source: Table A1.7.

Figure 7.1: Number of babies registered to the ANZNN by gestational age, 2001 and 2005

Of the babies registered to ANZNN, 4.8% were born to Aboriginal and Torres Strait Islander mothers and 85.8% were born to Caucasian mothers. Babies born to Asian mothers represented 5.8% of the cohort.

Of the babies registered to ANZNN, 6.7% were born to teenage mothers (less than 20 years) and 74.0% of these babies were born preterm. Babies born to mothers aged 40 years or more accounted for 4.4%. The largest percentage of mothers of babies admitted to level III NICUs were aged 30–34 years (31.4%), followed by those aged 25–29 years (24.8%).

The presenting problem at admission to hospital was preterm labour for mothers of one-third (34.2%) of the babies, while 14.3% of the mothers presented with maternal hypertension and 10.6% with antepartum haemorrhage.

Of the babies in the ANZNN cohort, 72.5% were born in a hospital with a level III NICU, 26.9% were born in a hospital without a level III NICU and 0.6% were not born in a hospital. Preterm babies were more likely than term or post-term babies to be born in a hospital with a level III NICU (80.1% compared with 45.5% respectively).

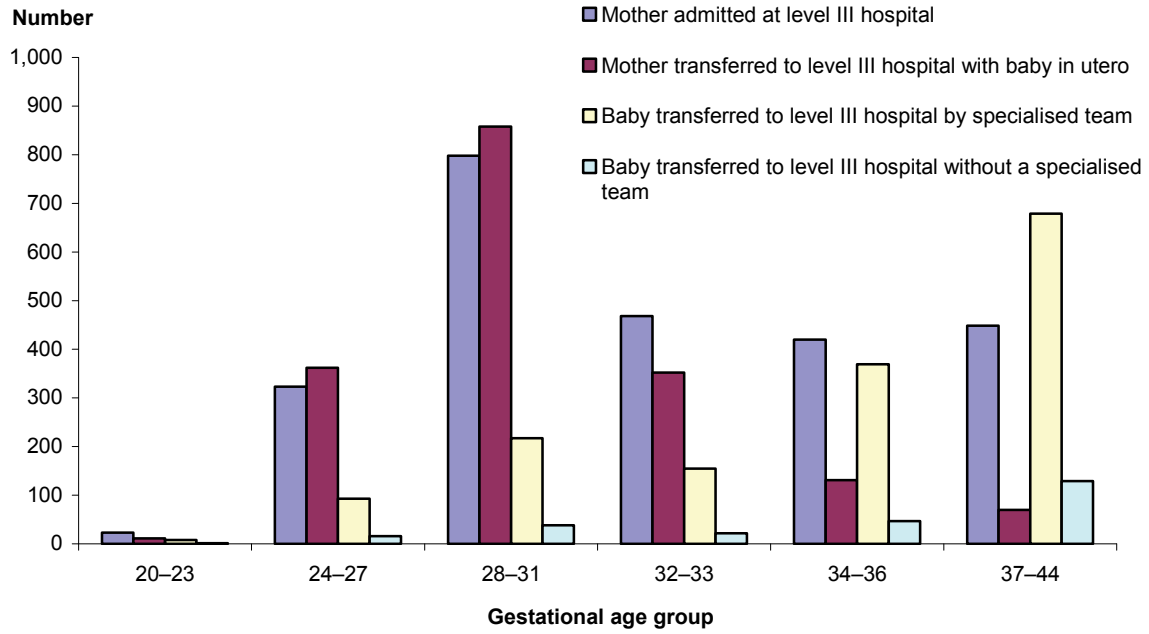
Of the babies in level III NICUs, 62.6% were born by caesarean section, and 37.0% were born vaginally (32.9% without the use of instruments and 4.1% with instruments) (Table 7.1). Babies born at less than 32 weeks were more likely to be born vaginally than those who were born after 31 weeks, however, babies in lower birthweight categories were more likely to be born by caesarean section (66.9% of babies less than 2,500 grams compared with 53.7% of babies of 2,500 grams or more).

Table 7.1: Method of birth of ANZNN registrants by gestational age group, 2005

Method of birth	20–23	24–27	28–31	32–33	34–36	37–44	All babies
				Number			
Vaginal	27	307	601	235	276	541	1,987
Vaginal with instruments	—	20	32	28	38	132	250
Caesarean section in labour	7	209	468	259	211	238	1,392
Caesarean section no labour	9	257	811	473	437	404	2,391
Not stated	—	2	2	2	5	13	24
Total	**43**	**795**	**1,914**	**997**	**967**	**1,328**	**6,044**
				Per cent			
Vaginal	62.8	38.6	31.4	23.6	28.5	40.7	32.9
Vaginal with instruments	—	2.5	1.7	2.8	3.9	9.9	4.1
Caesarean section in labour	16.3	26.3	24.5	26.0	21.8	17.9	23.0
Caesarean section no labour	20.9	32.3	42.4	47.4	45.2	30.4	39.6
Not stated	—	0.3	0.1	0.2	0.5	1.0	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Of babies registered to the ANZNN, 1,262 (20.9%) were from multiple births. There were 125 triplets and 10 quadruplets among them. Of the multiple births, 60.2% (760) were born at less than 32 weeks gestation. Only 2.2% of babies from multiple births were born at term. Half (50.8%) of the babies from multiple births weighed less than 1,500 grams. Only 5.8% of them weighed 2,500 grams or more.

Most mothers delivered before 36 weeks gestation gave birth in a hospital with a level III NICU (80.0%). This percentage was 85.5% for women who gave birth before 34 weeks. About 41.6% of mothers who delivered before 31 weeks gestation were directly admitted to a hospital with a level III NICU and 44.7% of mothers were transferred to a hospital with level III NICU before delivery, so that babies could be admitted to the NICU within a very short period after birth. Babies transferred by specialised teams were mainly the babies born after 33 weeks gestation (68.9%) (Figure 7.2).



Source: Table A1.8.

Figure 7.2: Method of admission to level III neonatal intensive care unit by gestational age group, 2005

Most babies of the ANZNN cohort (92.4%) were given assisted ventilation for four or more hours. This includes intermittent positive pressure ventilation (IPPV) and CPAP that require specialised nursing, medical and paramedical care and a large proportion of the available resources. Of the ANZNN registrants, 24.9% required intubation at birth for resuscitation. Most babies born before 28 weeks gestation required IPPV and more babies born at 28–36 weeks were given CPAP (Table 7.2).

For 55.0% of the babies registered to ANZNN, the reason for ventilation given was respiratory distress syndrome and 91.7% of these babies were born preterm. The next most common cause for ventilation was non-specific respiratory distress (14.7%) and 4.5% were ventilated for surgery. About 3.4% of the babies were ventilated because of congenital anomalies.

Table 7.2: Babies given assisted ventilation by type of assisted ventilation and gestational age group, 2005

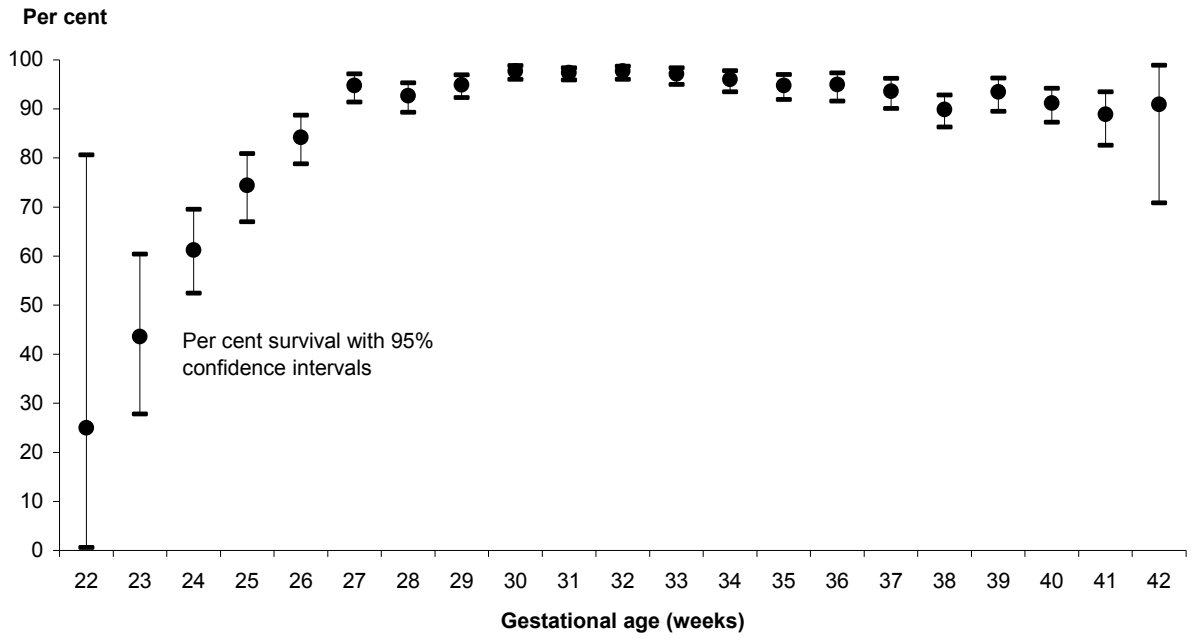
Type of assisted ventilation	20–23	24–27	28–31	32–33	34–36	37–44	All babies
				Number			
IPPV	42	704	810	328	462	897	3,243
CPAP	20	711	1,496	769	706	644	4,346
Oxygen	42	760	1,381	676	757	1,064	4,680
				Per cent			
IPPV	97.7	88.6	42.3	32.9	47.8	67.5	53.7
CPAP	46.5	89.4	78.2	77.1	73.0	48.5	71.9
Oxygen	100.0	97.6	78.5	76.7	82.8	84.8	83.1

Babies born at younger gestational ages had lower survival rates at discharge from level III NICUs (Figure 7.3). The proportion of babies surviving generally increased as gestational age increased. Of the 6,044 babies admitted to the level III NICUs in 2005, 93.0% survived to be discharged home. Only 79.8% of babies born before 28 weeks gestation survived to go home. Of the babies born at 28–36 weeks gestation 96.3% were discharged home.

About 12.5% (757) of babies admitted were diagnosed with a congenital malformation and 82.8% of these babies were born at a gestational age of 32 weeks or more. Of those babies with congenital anomalies, 128 died and 94 of them died within the neonatal period.

Of the babies admitted to level III NICUs, 54.1% were transferred to a level II nursery, a children's hospital or another NICU. The majority of these babies were transferred to a level II nursery before being discharged home (84.0%).

The number of days spent in a NICU varied depending on the gestational age and the types of complications. Extremely preterm babies spent longer in NICUs and more mature babies were discharged within a shorter period.



Source: Table A1.9.

Figure 7.3: Babies in level III neonatal intensive care units, survival to discharge, by gestational age, 2005 (per cent)

Appendix 1: Data used in figures

Table A1.1: Primiparous women who gave birth by maternal age, 1996 and 2005 (per cent)

Maternal age (years)	1996	2005
Less than 20	82.2	82.9
20–24	54.3	54.2
25–29	42.6	45.7
30–34	29.3	36.5
35–39	21.6	27.6
40 and over	20.1	24.8

Table A1.2: Women who gave birth by onset of labour, 1996–2005 (per cent)

Onset of labour	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spontaneous	66.8	64.5	62.6	61.9	61.5	59.0	57.9	57.3	57.6	56.5
Induced	22.3	24.0	25.5	26.0	25.6	26.7	26.6	26.1	25.3	25.6
No labour	10.9	11.4	11.8	12.1	12.9	14.3	15.5	16.5	17.1	17.9

Table A1.3: Women who gave birth by caesarean section and instrumental birth, 1996–2005 (per cent)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Caesarean section	19.5	20.3	21.1	21.8	23.3	25.4	27.0	28.5	29.4	30.3
Instrumental	11.4	11.2	11.2	11.1	11.2	10.9	10.8	10.7	11.0	10.8

Table A1.4: Women who gave birth by caesarean section by maternal age and hospital sector, 2005 (per cent)

Maternal age (years)	Public	Private
Less than 20	16.9	23.2
20–24	20.7	29.7
25–29	25.3	35.4
30–34	30.2	39.5
35–39	34.6	45.8
40 and over	41.5	53.8

Table A1.5: Distribution of gestational age, 2005 (per cent)

Gestational age (weeks)	Per cent
20	0.1
21	0.1
22	0.1
23	0.1
24	0.1
25	0.1
26	0.1
27	0.1
28	0.1
29	0.2
30	0.2
31	0.3
32	0.4
33	0.6
34	1.0
35	1.5
36	2.9
37	6.3
38	18.3
39	22.8
40	29.0
41	14.2
42	1.2
43	0.1
44	0.0
45	0.0

Table A1.6: Length of stay of 5 days or more for term babies born in hospital, 1996–2005 (per cent)

Length of stay	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
5 days and over	41.9	39.6	37.3	34.1	32.0	31.2	29.9	28.8	27.3	25.1

Note: Only babies who were discharged home are included.

Table A1.7: Babies in level III neonatal intensive care units by gestational age, 2001 and 2005

Gestational age (weeks)	2001	2005
22	5	4
23	56	39
24	133	134
25	191	164
26	196	228
27	247	269
28	348	317
29	364	394
30	465	520
31	613	683
32	454	554
33	325	443
34	311	378
35	248	330
36	216	259
37	217	281
38	254	366
39	185	230
40	268	285
41	124	144
42	20	22

Table A1.8: Babies in level III neonatal intensive care units by method of admission and gestational age group, 2005

	20–23	24–27	28–31	32–33	34–36	37–44
Mother admitted at level III hospital	23	323	798	468	420	448
Mother transferred to level III hospital with baby in utero	11	362	858	352	131	70
Baby transferred to level III hospital by specialised team	8	93	217	155	369	679
Baby transferred to level III hospital without a specialised team	1	16	38	22	47	129

Table A1.9: Babies in level III neonatal intensive care units by survival to discharge and gestational age, 2005 (per cent)

Gestational age (weeks)	Per cent survived to discharge	95% confidence interval
22	25.0	0.6–80.6
23	43.6	27.8–60.4
24	61.2	52.4–69.5
25	74.4	67.0–80.9
26	84.2	78.8–88.7
27	94.8	91.4–97.1
28	92.7	89.3–95.3
29	94.9	92.3–96.9
30	97.7	96.0–98.8
31	97.4	95.9–98.4
32	97.7	96.0–98.7
33	97.1	95.0–98.4
34	96.0	93.5–97.8
35	94.8	91.9–97.0
36	95.0	91.6–97.3
37	93.6	90.1–96.2
38	89.9	86.3–92.8
39	93.5	89.5–96.3
40	91.2	87.3–94.2
41	88.9	82.6–93.5
42	90.9	70.8–98.9

Appendix 2: State and territory pre-existing and pregnancy-related medical conditions data

This Appendix presents state and territory data on selected pre-existing conditions and complications arising in pregnancy. Data are presented on four conditions and complications: essential hypertension, diabetes mellitus, pregnancy-induced hypertension and gestational diabetes.

Comprehensive and reliable information on risk factors and complications arising in pregnancy continues to be a challenging area of data development. The development of a nationally consistent scope, collection methods and classifications of these conditions and complications is progressing in line with the overall priorities of perinatal data development.

The following data are presented to promote discussion and to assist in development of consistency across jurisdictions, so that in the future more comprehensive information will be available on these and other conditions. This is being undertaken by the NPDDC as part of its perinatal data development work program.

Data

Tables A2.1–A2.8 provide information by state and territory. A number of jurisdictions publish these data annually. Data are presented by individual state and territory, as the data are not directly comparable across jurisdictions. No national estimates or totals are provided in these preliminary data.

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 descriptions of these conditions and complications vary among the states and territories, and there are no nationally consistent guidelines for what they include.

It is important when interpreting the data that each state and territory is looked at independently. The scope of the selected conditions may vary—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.

New South Wales

Table A2.1: Selected maternal medical conditions and obstetric complications, New South Wales, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	842	503	4,553	4,165
Rate per 1,000 women who gave birth	9.4	5.6	51.1	46.7

Victoria

Table A2.2: Selected maternal medical conditions and obstetric complications, Victoria, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	790	332	3,546	3,057
Rate per 1,000 women who gave birth	12.1	5.1	54.2	46.7

Queensland

Table A2.3: Selected maternal medical conditions and obstetric complications, Queensland, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	467	293	3,145	2,933
Rate per 1,000 women who gave birth	8.6	5.4	57.9	54.0

Western Australia

Table A2.4: Selected maternal medical conditions and obstetric complications, Western Australia, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	276	172	66	1,101
Rate per 1,000 women who gave birth	10.4	6.5	2.5	41.5

South Australia

Table A2.5: Selected maternal medical conditions and obstetric complications, South Australia, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	225	101	1,335	806
Rate per 1,000 women who gave birth	12.6	5.6	74.6	45.0

Tasmania

Table A2.6: Selected maternal medical conditions and obstetric complications, Tasmania, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	86	38	351	115
Rate per 1,000 women who gave birth	14.8	6.5	60.3	19.8

Australian Capital Territory

Table A2.7: Selected maternal medical conditions and obstetric complications, Australian Capital Territory, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	76	64	172	218
Rate per 1,000 women who gave birth	15.2	12.8	34.4	43.6

Note: 15.5% 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.

Northern Territory

Table A2.8: Selected maternal medical conditions and obstetric complications, Northern Territory, 2005

	Essential hypertension	Diabetes mellitus	Pregnancy-induced hypertension	Gestational diabetes
Number	36	36	192	210
Rate per 1,000 women who gave birth	9.9	9.9	52.6	57.5

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 2006) NNNNN	341800
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

Appendix 4: 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 2005 data, the following state and territory reports have been published:

New South Wales

NSW Department of Health 2007. New South Wales mothers and babies 2005. NSW Public Health Bulletin Supplement, 18 (S–1). Sydney: NSW Department of Health.

Queensland

Queensland Health 2007. Perinatal statistics Queensland 2005. Brisbane: Queensland Health.

Western Australia

Gee V, Hu QM & Ernstzen AN 2007. Perinatal statistics in Western Australia, 2005: twenty-third annual report of the Western Australian Midwives' Notification System. Perth: Department of Health, Western Australia.

South Australia

Chan A, Scott J, Nguyen A-M & Sage L 2006. Pregnancy outcome in South Australia 2005. Adelaide: Department of Health, South Australia.

Maternal, Perinatal and Infant Mortality Committee 2006. Maternal, perinatal and infant mortality in South Australia 2005, including the South Australian protocol for the investigation of stillbirths. Adelaide: Department of Health, South Australia.

Appendix 5: State and territory perinatal data collection contacts

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Glossary

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.

Confidence interval: a range of values for a variable of interest with a specified probability of including the true value of the variable.

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.

Late neonatal death: death of a liveborn baby after seven 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 (Abeywardana 2006).

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. 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.

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

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 or lower limbs are the presenting parts.

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

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