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Australia's mothers and babies 2010

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Australia's mothers and babies

2010

Z. Li, R. Zeki, L. Hilder & E. A. Sullivan

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Please note that there is the potential for minor revisions of data in this report. Please check the online version at <www.aihw.gov.au> for any amendments.

Contents

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Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ART	assisted reproductive technology
APH	antepartum haemorrhage
ASGC	Australian Standard Geographical Classification
BMI	body mass index
FGR	fetal growth restriction
g	gram
IPPR	intermittent positive pressure respiration
kg	kilogram
LMP	first day of the last menstrual period
METeOR	Metadata Online Registry
NHDD	*National health data dictionary*
NHMD	National Hospital Morbidity Database
NICU	neonatal intensive care unit
NMDS	National Minimum Data Set
NPDC	National Perinatal Data Collection
NPDDC	National Perinatal Data Development Committee
NPESU	AIHW National Perinatal Epidemiology and Statistics Unit
NSW	New South Wales
NT	Northern Territory
PSANZ-PDC	Perinatal Society of Australia and New Zealand Perinatal Death Classification
Qld	Queensland
SA	South Australia
SACC	Standard Australian Classification of Countries
SCN	special care nursery

Tas	Tasmania
UNSW	University of New South Wales
Vic	Victoria
WA	Western Australia
WHO	World Health Organization

Symbols

–	nil or rounded to zero
. .	not applicable
n.a.	not available
n.p.	Data not published to maintain confidentiality of small numbers or other concerns about the quality of the data
n.r.	data not received at the time of publication

Summary

Australia's mothers and babies 2010 is the twentieth annual report on pregnancy and childbirth in Australia. In 2010, a total of 294,814 women gave birth to 299,563 babies, which was a 0.1% increase in the total number of births compared with 2009.

Mothers

The average maternal age in 2010 was 30.0 years compared with 29.2 years in 2001. About 42.1% of women were having their first baby and the average age for first-time mothers was 28.0. Of all first-time mothers in 2010, 13.9% were aged 35 or older, compared with 10.7% in 2001. In the four jurisdictions for which data on assisted reproductive technology (ART) were available, ART was used by 4.1% of women who gave birth.

Antenatal factors

Smoking while pregnant was reported by 13.5% of all mothers and by 36.7% of teenage mothers. Of women who reported smoking during the first 20 weeks of pregnancy, 17.2% did not report smoking during the second 20 weeks. Two-thirds (65.0%) of women attended at least one antenatal visit before 14 weeks gestation, although 11.9% of women did not receive antenatal care until after 20 weeks. Of women who gave birth at 32 weeks gestation or more, 96.3% attended at least one antenatal visit, with 91.1% attending five or more.

Indigenous mothers

About 3.9% of women who gave birth during 2010 identified as Aboriginal or Torres Strait Islander. Indigenous mothers were younger than non-Indigenous mothers; their average age in 2010 was 25.2 years, compared with 30.2 years for non-Indigenous mothers. Smoking during pregnancy was reported by half (49.3%) of Indigenous mothers. Of Aboriginal and Torres Strait Islander mothers who reported smoking during the first 20 weeks of pregnancy, 9.6% did not report smoking during the second 20 weeks, which was half that of non-Indigenous mothers (18.4%).

Labour and delivery

Onset of labour was spontaneous for 56.0% of women giving birth. Most women (68.4%) had a vaginal birth and, of these, 82.4% did not involve the use of instruments. Overall, 31.6% of women gave birth by caesarean section in 2010, a 0.1% rise from 2009. The caesarean section rate among first-time mothers was 32.6% in 2010. Among women who had already given birth at least once, 28.1% had had a previous birth by caesarean section.

Baby outcomes

In 2010, 8.3% of babies were born preterm (before 37 completed weeks of gestation) and 0.8% post-term (42 weeks gestation or more). Overall, 6.2% of liveborn babies were of low birthweight (less than 2,500 grams) and this nearly doubled (11.0%) among mothers who smoked during pregnancy. Just over one-quarter (26.3%) of babies required some form of resuscitation at birth, although 67.0% of these required only suction or oxygen therapy. The perinatal death rate was 9.3 per 1,000 births in 2010, which comprised fetal and neonatal death rates of 7.4 per 1,000 births and 2.9 per 1,000 live births respectively.

1 Introduction

Australia's mothers and babies 2010 is the twentieth in the annual series prepared by the Australian Institute of Health and Welfare's (AIHW) National Perinatal Epidemiology and Statistics Unit (NPESU). 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 NPESU and states and territories. The report is based on data from the National Perinatal Data Collection (NPDC).

Purpose of this report

The purpose of the report is to update national information on births, the women who gave birth and the babies who were born in 2010. The report provides information to support the first of seven long-term objectives identified by Commonwealth and state and territory governments for Australians to be born healthy and remain healthy (COAG 2011). It presents national health statistics about birth in Australia for the community, governments, non-government organisations, clinicians, researchers, students and policy makers. This is achieved through:

- annual reporting against the Perinatal National Minimum Data Set (NMDS)
- supplementary reporting from the additional data provided for the NPDC
- generating relevant national statistics about women who gave birth in 2010, including their sociodemographic characteristics, known risk factors and characteristics relating to the pregnancy and childbirth
- providing national information on the characteristics and perinatal outcomes of babies born in 2010
- providing information for state and territory comparison
- providing information for international comparison.

National Perinatal Data Collection

Collection of perinatal data by states and territories

Perinatal data are collected after each birth by midwives or other staff from clinical and administrative records and information systems, including records of antenatal care, the care provided during labour, and the delivery and care provided after the birth. Each state and territory has its own form and/or electronic system for collecting data, which are forwarded to the relevant state and territory health department to form the state or territory perinatal data collection. The final data are used in reports about births in the respective jurisdictions. See Appendix A for state and territory contact details and the most recent published reports, which contain more detailed information about the data collection and validation practices in each jurisdiction.

Collation of national perinatal data

A standardised extract of electronic data from each state and territory collection was requested by NPESU for all births from 1 January 2010 to 31 December 2010 inclusive. Records received from states and territories are anonymous; that is, they do not include any

names or addresses, but do include a unique set of identification numbers so that the source record can be identified. Data are checked for completeness, validity and logical errors before inclusion in the national collection. Changes are made in consultation with the state and territory perinatal data providers. Further details about the collection and collation of national perinatal data are in Appendix B.

Structure of National Perinatal Data Collection

Data supplied for the NPDC consist of the Perinatal National Minimum Data Set (NMDS) and a series of additional data items (Figure 1.1).

The Perinatal NMDS was first specified in 1997 and remains an agreed data set for national reporting (COAG 2011). An NMDS is an agreed set of standardised data elements for mandatory supply by states and territories to support national reporting. Standardisation ensures that there is consistent meaning to data collected at different times or in different places. A list of the items supplied for the NPDC from the Perinatal NMDS is in Appendix C. Compliance of data provided for the Perinatal NMDS is evaluated intermittently to assess data quality and adherence to standards (Donnolley and Li 2012).

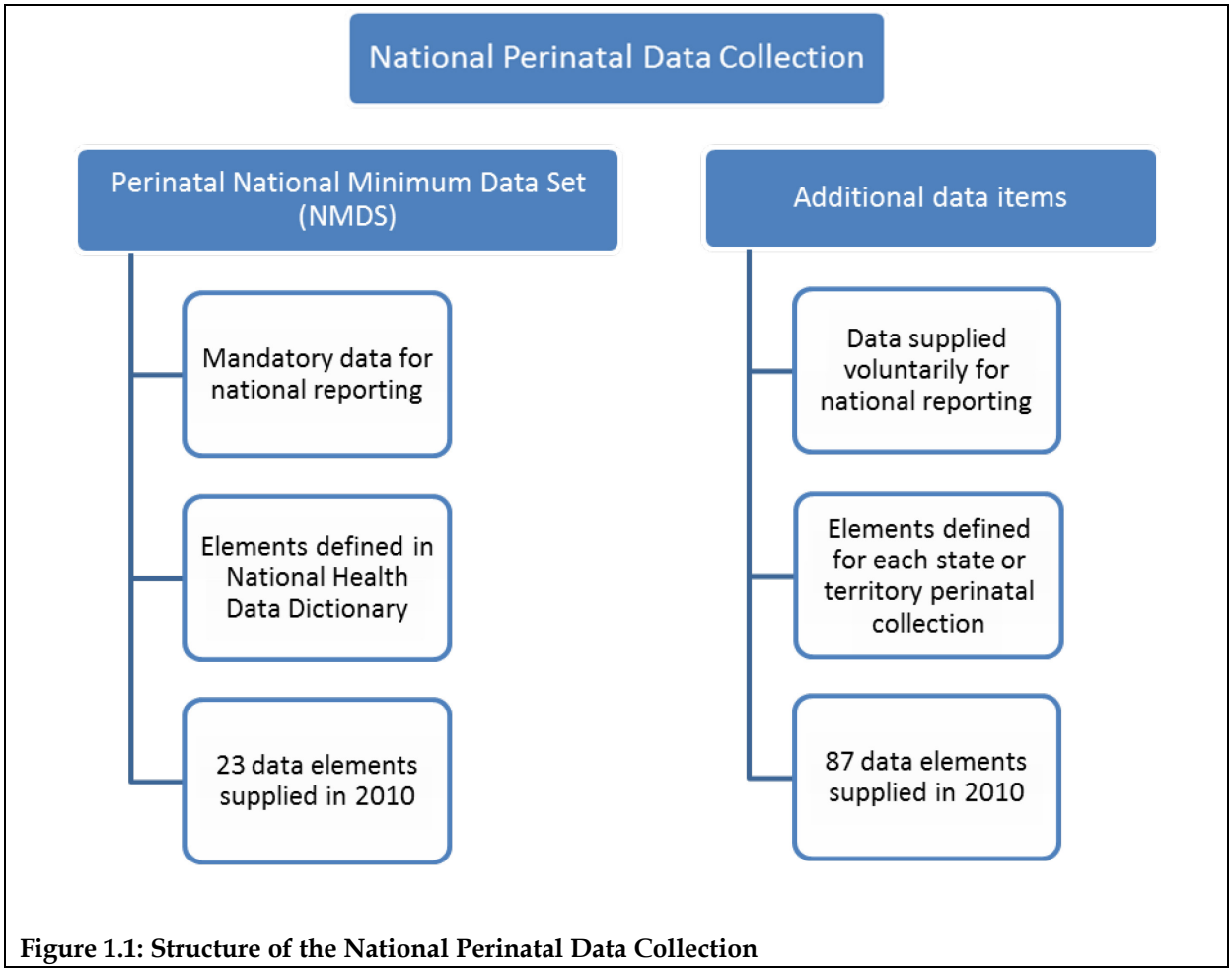


Figure 1.1: Structure of the National Perinatal Data Collection

Each state and territory collects more information than is specified in the NMDS, and the NPESU requests some of these additional items. These data items are at different stages in the process of standardisation. Some items such as parity (Metadata Online Registry (METeOR) item 302013) and postpartum perineal status (METeOR item 269939) have had

national data standards developed, but have not been included as data elements in the Perinatal NMDS because they could not be implemented immediately in all jurisdictions.

In contrast, there are other data items for which there are no common definitions or categories for collecting the data, or which are not collected in all jurisdictions, that are provided to inform the development of nationally standardised data.

Whose births are counted

This report presents information from the NPDC about all births in Australia, including births in hospitals, birth centres and in the community. The Perinatal NMDS and the NPDC apply the definition in the Australian *National health data dictionary* (NHDD) where a birth is defined as the complete expulsion or extraction from its mother of a baby of at least 20 weeks gestation or weighing at least 400 grams at birth (the weight expected of a baby at 20 weeks gestational age) whether born alive or stillborn, except in Western Australia, where the births included were at least 20 weeks gestation or, if gestation was unknown, the birthweight was at least 400 grams. Stillbirths include termination of pregnancy after 20 weeks. Babies not weighed at birth and whose gestational age and birthweight were not recorded were not included in the NPDC, but may have been included in jurisdictional perinatal collections.

Care is needed when comparing Australian birth statistics with those from other countries that have different definitions of live birth and stillbirth. In many other countries, pregnancies must continue to 22, 24 or even 28 completed weeks gestational age for a fetal death to be counted as a stillbirth. The inclusion in Australia of more births at lower gestations will affect the distributions of several key baby outcomes, in particular rates of perinatal mortality, low birthweight, low Apgar scores (a measure of a baby's wellbeing at birth) and admission to a special care nursery (SCN) or neonatal intensive care unit (NICU). In contrast, the World Health Organization (WHO) uses a less restrictive definition that specifies a live birth as a baby born showing signs of life irrespective of gestation (WHO 1992).

Data quality, presentation and interpretation issues

Detailed information on completeness, accuracy and other aspects of data quality is in the data quality statement in Appendix D.

This report presents perinatal data that can largely be compared with data in *Australia's mothers and babies 2009* (Li et al. 2011). Tabulated data in this report are based on births in each state and territory in 2010 meeting the criteria for inclusion in the Perinatal NMDS. Due to data editing and subsequent updates of state and territory databases, the numbers may differ slightly from those in reports published by the states and territories.

Unless otherwise stated, the data in this report relate to the state or territory of occurrence of births in 2010 rather than to the state or territory of usual residence of the mother. Where data are not available from all states and territories in the required format or data have not been published for other reasons, this is indicated in the footnotes of tables or figures.

For totals in this report, 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, due to rounding. Some percentages in the tables appear as 0.0% where numbers are small.

Unless otherwise stated, the age-standardised rate is calculated by direct age-standardised method using the Australian female population who gave birth in 2010 as the standard population.

The terms 'mothers' or 'women who gave birth' have been used when referring to maternal characteristics, whereas 'births' refers to babies.

Data from Victoria are not final

Data from Victoria are provisional—with the commencement of electronic reporting from health sites and ongoing reform of the Victorian Perinatal Data Collection, there may be some variation to data as further validation and quality measures are undertaken. Tables in this report are footnoted accordingly.

Small numbers

Cell sizes of less than five in tables have not been published, in line with AIHW guidelines for protecting the privacy of individuals (SIMC 2007). Exceptions to this are small numbers in 'Other' and 'Not stated' categories. The cell with small numbers and at least one other cell in the same row and column are suppressed to prevent back calculation. Where n.p. (not published) has been used to protect confidentiality, the suppressed numbers are included in the totals.

Quality of data for reporting Indigenous status

According to the NHDD, Indigenous status is a measure of whether a person identifies as being of Aboriginal or Torres Strait Islander origin (AIHW 2010). All states and territories have a data item to record Indigenous status of the mother on their perinatal form, although there are some differences among the jurisdictions. For 2010, data on the baby's Indigenous status were available from the Australian Capital Territory and the Northern Territory for the whole year and Queensland for the second half of the year.

New perinatal data items

Three new data elements were introduced into the Perinatal NMDS from July 2010: smoking before 20 weeks gestation, smoking after 20 weeks gestation, and duration of pregnancy at first antennal visit. Implementation issues have delayed comprehensive reporting of these items in 2010. Variable completeness of data is expected during the first year when new items are phased into existing data collections. State and territories can mandate data collection from public hospitals, but not private hospitals.

ACT births include mothers resident in NSW

The Australian Capital Territory data contain a relatively high proportion of New South Wales residents who gave birth in the Australian Capital Territory. The proportion of non-ACT residents who gave birth in the Australian Capital Territory was 15.9% in 2010. When interpreting the data it is important to note that these births to non-residents may include a disproportionate number of high-risk and multi-fetal pregnancies associated with poorer perinatal outcomes. This is because women with high-risk pregnancies may be more likely to be transferred from smaller centres in New South Wales that do not have the facilities to manage such births safely to the Australian Capital Territory to give birth. Therefore, percentages or rates such as those for preterm births and perinatal deaths may be inflated for births that occur in the Australian Capital Territory. Reporting by state or territory of usual residence of the mother helps to address this issue.

Neonatal deaths data may be incomplete

Additional data items about neonatal deaths collected as part of the NPDC may be incomplete. In some jurisdictions, neonatal deaths for babies transferred to another hospital or readmitted to hospital and those dying at home may not be included. Neonatal deaths for the Northern Territory are considered to be incomplete for 2010 as data do not include deaths occurring outside the Northern Territory. Due to the small number of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

Maternal information about multiple births

The number of babies is marginally higher than the number of mothers because of multiple births. For multiple pregnancies, the results for some items that are presented for mothers may be different for each baby, such as place of birth. These 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.

The National Perinatal Data Development Committee

The National Perinatal Data Development Committee (NPDDC) has a key role in improving data quality. The committee is comprised of representatives from each state and territory health authority, the Australian Bureau of Statistics (ABS), the AIHW and the NPESU, with temporary members invited as their expertise is required. The NPDDC works in consultation with clinical reference groups. The NPDDC improves data provision, revises existing Perinatal NMDS items, develops existing perinatal METeOR items and contributes to the development of new perinatal data items.

2 Birth summary

Births and women who gave birth

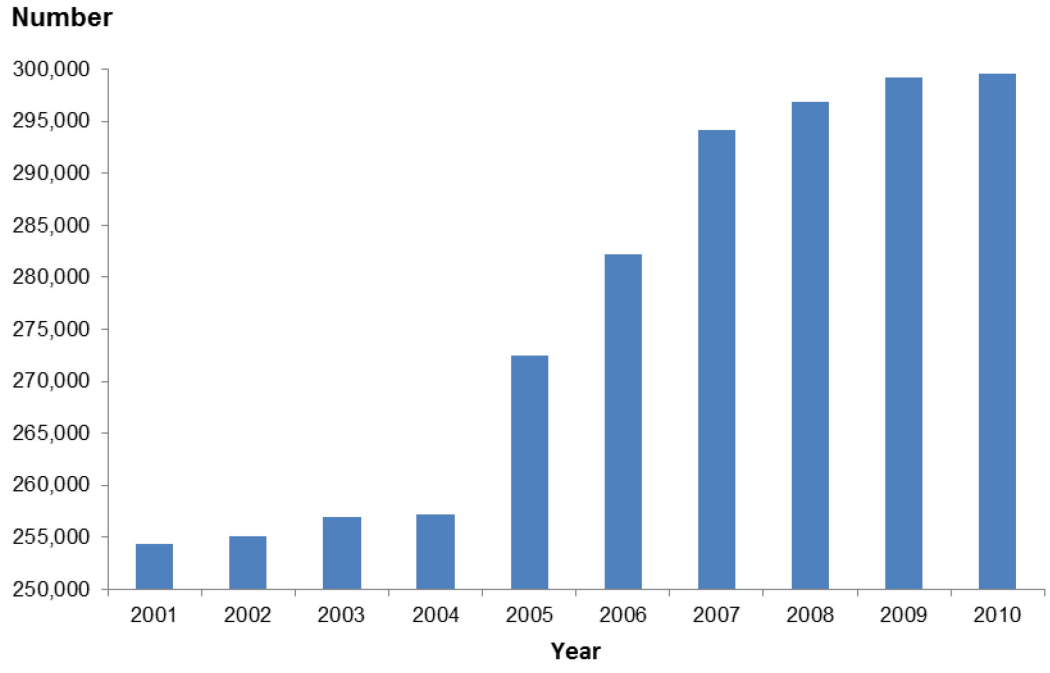
There were 294,814 women who gave birth in 2010 reported to the NPDC, resulting in a total of 299,563 births. Of these, 2,206 were stillbirths (Table 2.1). This was an increase of only 343 births (0.1%) from the 299,220 reported in 2009, and a total increase of 17.8% since 2001.

Table 2.1: Births and women who gave birth, by state and territory, 2010

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Mothers	94,993	72,617	61,020	30,842	19,666	6,020	5,826	3,830	294,814
Fetal deaths	555	758	413	218	119	42	67	34	2,206
Live births	95,931	73,062	61,612	31,047	19,882	6,095	5,879	3,849	297,357
All births	**96,486**	**73,820**	**62,025**	**31,265**	**20,001**	**6,137**	**5,946**	**3,883**	**299,563**

Note: Provisional data were provided by Victoria for this table.

The number of births has been increasing since 2001, when the lowest number of births during the past decade was reported (254,326) (Figure 2.1).



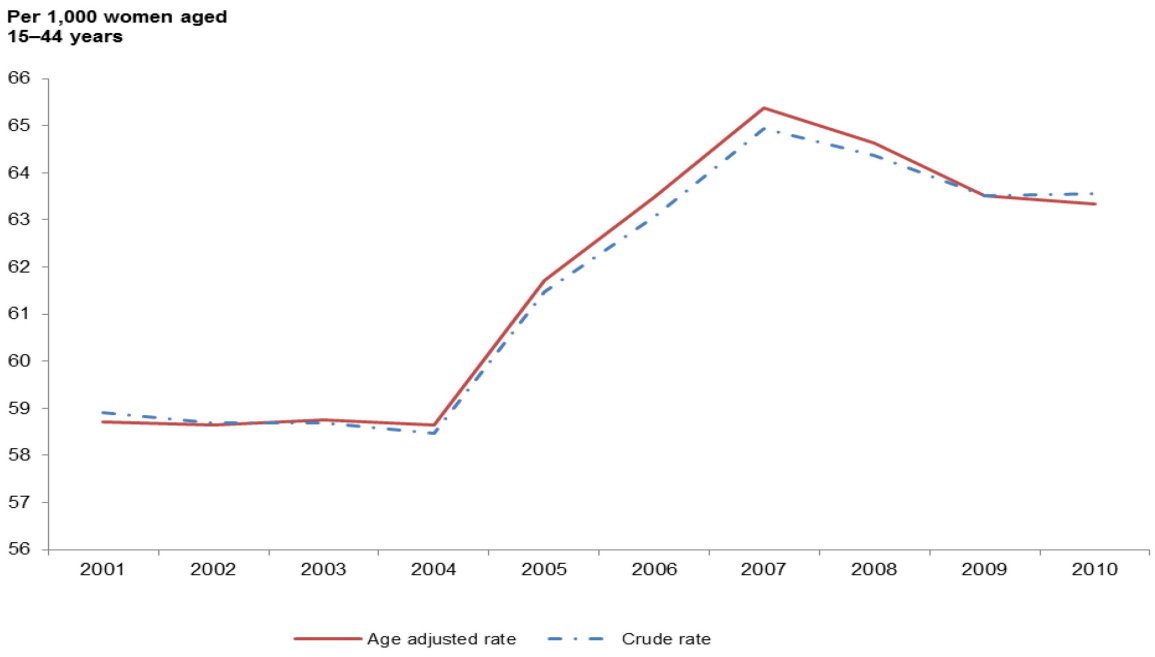
Notes

1. Provisional data were provided by Victoria for 2009 and 2010.
2. Data for this figure is in Table E1.

Figure 2.1: Number of births, 2001 to 2010

There were 297,357 live births in 2010 reported to the NPDC (Table 2.1). This was 543 less than the 297,900 live births registered in Australia in 2010 (ABS 2011). The differences in national figures on live births between the two collections reflect the different methods, timing and reporting of the data collections (Laws et al. 2007)

As a proportion of females of reproductive age (15–44 years) in the population, the crude rate of women who gave birth in 2010 was 63.6 per 1,000. This rate has decreased from a high of 64.9 per 1,000 females aged 15–44 in 2007, when the 'baby boom' peaked. There is a similar pattern for the age-adjusted rates (Figure 2.2).



Notes

1. Provisional data were provided by Victoria for 2010.
2. Data for this figure is in Table E2.

Figure 2.2: Women giving birth, 2001 to 2010

3 Mothers

Demographic profile

Maternal age

Maternal age is an important risk factor for both obstetric and perinatal outcomes. Adverse outcomes are more likely to occur in younger and older mothers. In 2010, the age of mothers ranged from less than 15 to 60 years.

The average age of women who gave birth in Australia has increased by 7.5% since 1991. The mean age in 2010 was 30.0 years, compared with 29.2 years in 2001, while the median age in 2010 was 30.0.

In 2010, the average age of mothers was higher in women who gave birth in Victoria and the Australian Capital Territory (30.7 and 30.9 years respectively) and lower in the Northern Territory (27.9) when compared with the national average of 30.0 (Table 3.1).

Nationally, the proportion of teenage mothers (younger than 20) remained steady, declining from 4. 0% in 2009 to 3.9% in 2010, compared with 5.0% in 2001. The proportion of teenage women who gave birth in 2010 varied by place of residence, ranging from a low of 2.1% in the Australian Capital Territory to 10.5% in the Northern Territory (Table 3.1).

The proportion of mothers aged 20–24 fell from 15.5% in 2001 to 14.2% in 2010. The proportion of older mothers, aged 35 and over, has continued to increase from 17.5% in 2001 to 23.0% in 2010.

Mothers aged 40 and over made up 4.1% of women giving birth in 2010 compared with 2.9% in 2001 (Table 3.1).There were 562 women aged 45 and over who gave birth in 2010, accounting for 0.2% of women who gave birth.

Table 3.1: Women who gave birth, by maternal age and state and territory, 2010

	State/territory of birth								
Maternal age (years)	**NSW**	**Vic[(a)]**	**Qld**	**WA**	**SA[(b)]**	**Tas**	**ACT[(c)]**	**NT**	**Australia**
Mean	30.2	30.7	29.2	29.6	29.6	28.8	30.9	27.9	30.0
					Number				
Less than 20	3,199	1,810	3,342	1,351	789	357	124	401	11,373
20–24	12,775	8,206	10,595	4,720	2,958	1,179	591	805	41,829
25–29	25,810	19,192	17,334	8,779	5,842	1,775	1,559	1,070	81,361
30–34	30,204	24,485	17,618	9,506	6,051	1,584	2,038	909	92,395
35–39	18,924	15,427	10,024	5,345	3,295	937	1,247	541	55,740
40 and over	4,068	3,436	2,107	1,141	731	188	267	104	12,042
Not stated	13	61	—	—	—	—	—	—	74
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Less than 20	3.4	2.5	5.5	4.4	4.0	5.9	2.1	10.5	3.9
20–24	13.4	11.3	17.4	15.3	15.0	19.6	10.1	21.0	14.2
25–29	27.2	26.4	28.4	28.5	29.7	29.5	26.8	27.9	27.6
30–34	31.8	33.7	28.9	30.8	30.8	26.3	35.0	23.7	31.3
35–39	19.9	21.2	16.4	17.3	16.8	15.6	21.4	14.1	18.9
40 and over	4.3	4.7	3.5	3.7	3.7	3.1	4.6	2.7	4.1
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) For Vic, maternal ages presented here may differ from that produced by the Perinatal Data Collection Unit.

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

(c) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

Note: Provisional data were provided by Victoria for this table.

Aboriginal and Torres Strait Islander mothers

The data presented on Indigenous mothers are influenced by the quality and completeness of Indigenous identification, which may vary among jurisdictions. In 2010, 11,494 women who identified as being Aboriginal or Torres Strait Islander gave birth in Australia, representing 3.9% of all women who gave birth (Table 3.2). Aboriginal or Torres Strait Islander mothers accounted for a much greater proportion of all mothers in the Northern Territory (36.3%) than in other jurisdictions. There were also higher proportions of Aboriginal or Torres Strait Islander mothers who gave birth in Queensland and Western Australia (5.7% and 5.5% respectively). Because of their larger overall Indigenous populations, there were more Aboriginal or Torres Strait Islander women who gave birth in Queensland (3,504), New South Wales (3,090) and Western Australia (1,685) than in the Northern Territory (1,390) (Table 3.2).

Table 3.2: Women who gave birth, by Indigenous status and state and territory, 2010

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
					Number				
Aboriginal or Torres Strait Islander	3,090	877	3,504	1,685	625	229	94	1,390	11,494
Non-Indigenous	91,659	71,295	57,511	29,157	19,041	5,735	5,731	2,399	282,528
Not stated	244	445	5	—	—	56	1	41	792
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Aboriginal or Torres Strait Islander	3.3	1.2	5.7	5.5	3.2	3.8	1.6	36.3	3.9
Non-Indigenous	96.5	98.2	94.2	94.5	96.8	95.3	98.4	62.6	95.8
Not stated	0.3	0.6	0.0	—	—	0.9	0.0	1.1	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 36.2% of Aboriginal or Torres Strait Islander women who gave birth in the ACT in 2010 were non-ACT residents.

Note: Provisional data were provided by Victoria for this table.

Proportionately, more Aboriginal or Torres Strait Islander mothers have their babies at a younger age than non-Indigenous mothers. The average age of Aboriginal or Torres Strait Islander women who gave birth in 2010 was 25.2 years, compared with 30.2 years for non-Indigenous mothers. One in 5 (19.7%) Aboriginal or Torres Strait Islander mothers were teenagers, compared with 3.2% of non-Indigenous mothers. In contrast, 9.5% of Aboriginal and Torres Strait Islander mothers were aged 35 and older, compared with 23.5% of non-Indigenous mothers (Table 3.3).

Table 3.3: Women who gave birth, by maternal age and Indigenous status, 2010

Maternal age (years)	Indigenous	Non-Indigenous	Not stated	Total
Mean	25.2	30.2	30.1	30.0
		Number		
Less than 20	2,266	9,073	34	11,373
20–24	3,684	38,022	123	41,829
25–29	2,755	78,423	183	81,361
30–34	1,696	90,445	254	92,395
35–39	891	54,703	146	55,740
40 and over	201	11,794	47	12,042
Not stated	1	68	5	74
Total	**11,494**	**282,528**	**792**	**294,814**
		Per cent		
Less than 20	19.7	3.2	4.3	3.9
20–24	32.1	13.5	15.5	14.2
25–29	24.0	27.8	23.1	27.6
30–34	14.8	32.0	32.1	31.3
35–39	7.8	19.4	18.4	18.9
40 and over	1.7	4.2	5.9	4.1
Not stated	0.0	0.0	0.6	0.0
Total	**100.00**	**100.00**	**100.00**	**100.00**

Note: Provisional data were provided by Victoria for this table.

Geographical location of the mother's usual residence

State and territory of the mother's usual residence

Most women give birth in the state or territory where they live (Table 3.4). However, of women who gave birth in the Australian Capital Territory, 15.9% lived elsewhere. For the remaining jurisdictions, the proportion of women who gave birth outside their state or territory of usual residence ranged from 0.1% in Western Australia to 2.3% in the Northern Territory (Table 3.4).

Table 3.4: Women who gave birth, by state and territory of usual residence and state and territory of birth, 2010

State/ territory of usual residence	State/territory of birth								
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Total**
					Number				
NSW	93,604	1,271	501	<5	33	—	914	<5	96,329
Vic	18	71,015	8	<5	57	—	8	n.p.	71,114
Qld	843	58	60,418	<5	10	—	<5	<5	61,337
WA	<5	22	22	30,814	n.p.	—	<5	27	30,896
SA	10	21	5	—	19,531	—	—	48	19,615
Tas	<5	n.p.	<5	—	<5	6,016	—	—	6,029
ACT	61	n.p.	<5	—	—	—	4,900	—	4,969
NT	6	10	34	11	24	—	—	3,736	3,821
Non-resident[(a)]	—	—	n.p.	—	—	—	<5	—	31
Not stated	449	204	—	9	—	4	—	7	673
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
NSW	98.5	1.8	0.8	n.p.	0.2	—	15.7	n.p.	32.7
Vic	0.0	97.8	0.0	n.p.	0.3	—	0.1	n.p.	24.1
Qld	0.9	0.1	99.0	n.p.	0.1	—	n.p.	n.p.	20.8
WA	n.p.	0.0	0.0	99.9	n.p.	—	n.p.	0.7	10.5
SA	0.0	0.0	0.0	—	99.3	—	—	1.3	6.7
Tas	n.p.	n.p.	n.p.	—	n.p.	99.9	—	—	2.0
ACT	0.1	n.p.	n.p.	—	—	—	84.1	—	1.7
NT	0.0	0.0	0.1	0.0	0.1	—	—	97.5	1.3
Non-resident[(a)]	—	—	n.p.	—	—	—	n.p.	—	0.0
Not stated	0.5	0.3	—	0.0	—	0.1	—	0.2	0.2
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.

Note: Provisional data were provided by Victoria for this table.

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 and/or postcode. These data have been mapped to levels of remoteness using the ABS's Australian Standard Geographical Classification (ASGC) Remoteness Area structure.

The distribution of Remoteness Area varied by state and territory of usual residence. In Queensland, 59.9% of women lived in *Major cities*, compared with 70.5% or more in New South Wales, Victoria, Western Australia and South Australia . The Northern Territory and Australian Capital Territory presented different profiles of Remoteness Area, with almost all Australian Capital Territory resident mothers living in a *Major city* compared with Northern Territory women who lived in *Outer regional*, *Remote* and *Very remote* areas (Table 3.5).

Table 3.5: Women who gave birth, by Remoteness Area of usual residence and state and territory of usual residence, 2010

Remoteness Area	State/territory of usual residence								
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Major cities	73,155	55,486	36,256	21,763	14,589	. .	4,894	. .	206,143
Inner regional	17,193	12,744	12,312	3,802	2,206	4,104	9	. .	52,370
Outer regional	5,453	2,821	9,544	2,827	2,060	1,798	. .	1,981	26,484
Remote	464	43	1,435	1,627	569	91	. .	885	5,114
Very remote	55	. .	945	850	181	32	. .	938	3,001
Total	**96,320**	**71,094**	**60,492**	**30,869**	**19,605**	**6,025**	**4,903**	**3,804**	**293,112**
					Per cent				
Major cities	75.9	78.0	59.9	70.5	74.4	. .	99.8	. .	70.3
Inner regional	17.8	17.9	20.4	12.3	11.3	68.1	0.2	. .	17.9
Outer regional	5.7	4.0	15.8	9.2	10.5	29.8	. .	52.1	9.0
Remote	0.5	0.1	2.4	5.3	2.9	1.5	. .	23.3	1.7
Very remote	0.1	. .	1.6	2.8	0.9	0.5	. .	24.7	1.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

. . Not applicable.

Notes

1. Excludes mothers not usually resident in Australia and those whose state or territory of usual residence was 'Not stated'.
2. Provisional data were provided by Victoria for this table.

Remoteness Area of mother's usual residence also varied by Indigenous status. Of non-Indigenous women who gave birth in 2010, 72.1% lived in *Major cities* and 17.7% in *Inner regional* areas. Place of residence for Aboriginal and Torres Strait Islander women was more evenly spread across Remoteness Areas, with 27.0% living in *Major cities* and 24.3% in *Outer regional* areas. Few non-Indigenous women who gave birth lived in *Very remote* areas (0.4%) compared with Indigenous mothers (15.4%). Of 'not stated' records for Indigenous status, 70.4% of the mother's usual residence was in *Major cities* (Table 3.6).

Table 3.6: Women who gave birth, by Remoteness Area of usual residence and Indigenous status, 2010

Remoteness Area	Indigenous	Non-Indigenous	Not stated	Total
		Number		
Major cities	3,097	202,491	555	206,143
Inner regional	2,529	49,718	123	52,370
Outer regional	2,779	23,613	92	26,484
Remote	1,285	3,814	15	5,114
Very remote	1,768	1,230	3	3,001
Total	**11,458**	**280,866**	**788**	**293,112**
		Per cent		
Major cities	27.0	72.1	70.4	70.3
Inner regional	22.1	17.7	15.6	17.9
Outer regional	24.3	8.4	11.7	9.0
Remote	11.2	1.4	1.9	1.7
Very remote	15.4	0.4	0.4	1.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Notes

1. Excludes mothers not usually resident in Australia.
2. Provisional data were provided by Victoria for this table.

Maternal country of birth

The country of birth of the mother can be an important risk factor for outcomes such as low birthweight and perinatal mortality. Of women who gave birth in Australia in 2010, 28.1% were born in countries other than Australia. New Zealand-born mothers constituted 3% of all women who gave birth. Mothers born in the United Kingdom constituted 2.9% of all mothers, and accounted for a relatively high proportion of all mothers in Western Australia (6.4%). One in 10 women who gave birth was born in an Asian country (12.7%). Larger proportions of mothers born in non-English speaking countries gave birth in the more populous states, New South Wales and Victoria (Table 3.7).

Table 3.7: Women who gave birth, by country of birth and state and territory, 2010

Country of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Australia	63,943	50,086	47,190	20,563	15,499	5,511	4,420	3,170	210,382
New Zealand	2,280	1,431	3,484	1,155	200	59	60	63	8,732
United Kingdom	2,491	1,585	1,611	1,989	548	86	109	51	8,470
Former Yugoslavia	227	186	15	44	35	<5	n.p.	<5	523
Other Europe and former USSR	2,639	1,924	1,162	893	395	72	128	44	7,257
Lebanon	1,409	423	34	23	33	<5	n.p.	—	1,934
Other Middle East and North Africa	2,610	1,841	507	546	303	34	118	13	5,972
China and Hong Kong	3,313	1,782	600	368	286	26	124	18	6,517
India	2,753	3,516	996	621	630	26	166	51	8,759
Philippines	1,401	731	664	292	178	24	46	82	3,418
Vietnam	1,413	1,444	344	268	230	<5	73.	n.p.	3,793
Other Asia	5,898	4,356	1,797	1,701	770	83	316	151	15,072
Northern America	717	428	418	211	91	17	65	26	1,973
South and Central America and the Caribbean	866	477	327	173	98	11	49	10	2,011
Africa (excluding North Africa)	1,328	1,387	949	1,183	314	38	82	52	5,333
Other countries	1,318	545	884	90	56	14	43	26	2,976
Not stated	387	475	38	722	—	12	3	55	1,692
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**

(continued)

Table 3.7 (continued): Women who gave birth by country of birth and state and territory, 2010

Country of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Australia	67.3	69.0	77.3	66.7	78.8	91.5	75.9	82.8	71.4
New Zealand	2.4	2.0	5.7	3.7	1.0	1.0	1.0	1.6	3.0
United Kingdom	2.6	2.2	2.6	6.4	2.8	1.4	1.9	1.3	2.9
Former Yugoslavia	0.2	0.3	0.0	0.1	0.2	n.p.	n.p.	n.p.	0.2
Other Europe and former USSR	2.8	2.6	1.9	2.9	2.0	1.2	2.2	1.1	2.5
Lebanon	1.5	0.6	0.1	0.1	0.2	n.p.	n.p.	—	0.7
Other Middle East and North Africa	2.7	2.5	0.8	1.8	1.5	0.6	2.0	0.3	2.0
China and Hong Kong	3.5	2.5	1.0	1.2	1.5	0.4	2.1	0.5	2.2
India	2.9	4.8	1.6	2.0	3.2	0.4	2.8	1.3	3.0
Philippines	1.5	1.0	1.1	0.9	0.9	0.4	0.8	2.1	1.2
Vietnam	1.5	2.0	0.6	0.9	1.2	n.p.	1.3	n.p.	1.3
Other Asia	6.2	6.0	2.9	5.5	3.9	1.4	5.4	3.9	5.1
Northern America	0.8	0.6	0.7	0.7	0.5	0.3	1.1	0.7	0.7
South and Central America and the Caribbean	0.9	0.7	0.5	0.6	0.5	0.2	0.8	0.3	0.7
Africa (excluding North Africa)	1.4	1.9	1.6	3.8	1.6	0.6	1.4	1.4	1.8
Other countries	1.4	0.8	1.4	0.3	0.3	0.2	0.7	0.7	1.0
Not stated	0.4	0.7	0.1	2.3	—	0.2	0.1	1.4	0.6
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.

Notes

1. Data were mapped to the ABS Standard Australian Classification of Countries (SACC) (ABS 2008).

2. Provisional data were provided by Victoria for this table.

Maternal characteristics

Parity

Parity is the number of a woman's previous pregnancies that resulted in a birth of at least 20 weeks gestation or weighing at least 400 grams at birth. In 2010, 42.1% of mothers had their first baby and 33.1% had their second baby. About 1 in 6 mothers (15.1%) had given birth twice previously and 9.6% had given birth three or more times (Table 3.8).

A parity of three or more was more common among mothers in the Northern Territory than in the other jurisdictions. In the Northern Territory, 8.0% of women had given birth three times previously and 7.0% four or more times, compared with 5.6% and 4.1% respectively for Australia (Table 3.8).

In 2010, 32.5% of Aboriginal or Torres Strait Islander mothers were having their first baby and 67.4% had given birth previously. More than one-quarter (26.5%) of Indigenous women had given birth three or more times previously.

Table 3.8: Women who gave birth, by parity and state and territory, 2010

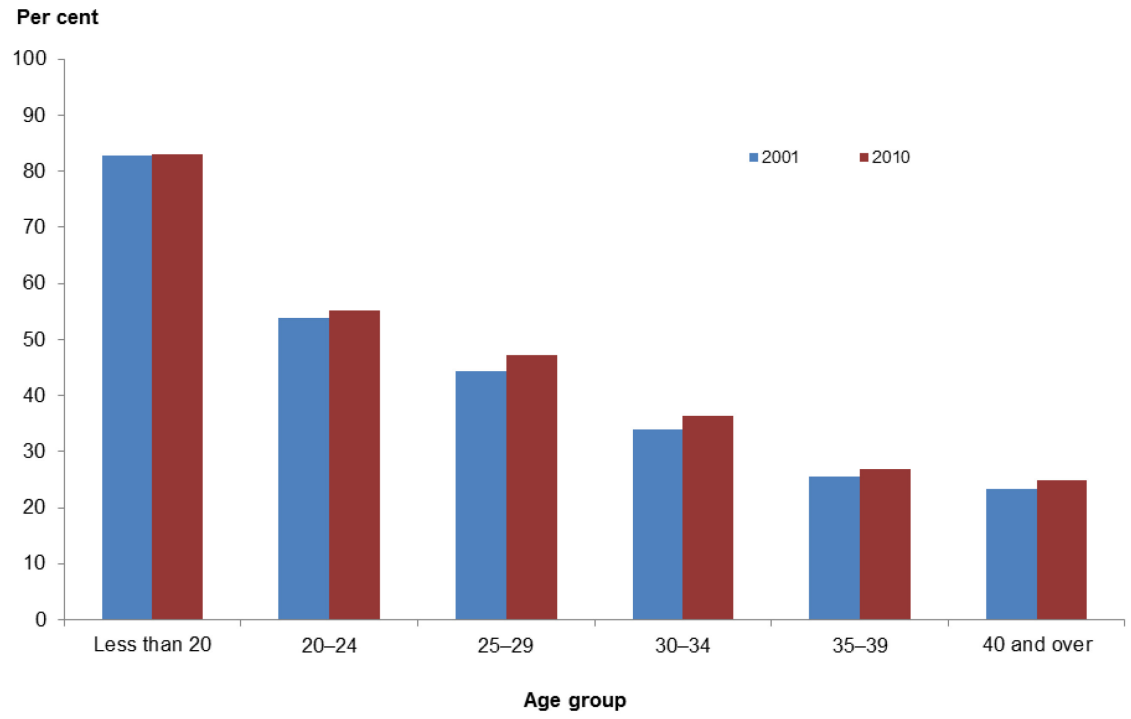
Parity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	40,796	n.r.	24,876	13,064	8,303	2,411	2,509	1,523	93,482
One	31,228	n.r.	19,706	10,528	6,843	2,052	2,079	1,142	73,578
Two	14,296	n.r.	9,682	4,438	2,919	883	826	589	33,633
Three	5,013	n.r.	3,789	1,616	976	400	270	305	12,369
Four or more	3,554	n.r.	2,967	1,196	625	274	142	270	9,028
Not stated	106	n.r.	—	—	—	—	—	1	107
Total	**94,993**	**n.r.**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**222,197**
					Per cent				
None	42.9	n.r.	40.8	42.4	42.2	40.0	43.1	39.8	42.1
One	32.9	n.r.	32.3	34.1	34.8	34.1	35.7	29.8	33.1
Two	15.0	n.r.	15.9	14.4	14.8	14.7	14.2	15.4	15.1
Three	5.3	n.r.	6.2	5.2	5.0	6.6	4.6	8.0	5.6
Four or more	3.7	n.r.	4.9	3.9	3.2	4.6	2.4	7.0	4.1
Not stated	0.1	n.r.	—	—	—	—	—	0.0	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

n.r. Data not received at the time of publication.

The average age of first-time mothers was 28.0 in 2010, which was 0.1 years older than in 2009. The median age of first-time mothers was 28.0 in 2010, nevertheless, 59.7% of first-time mothers were younger than 30. The average age of women giving birth for the second time was 30.3.

The average age of first-time Aboriginal and Torres Strait Islander mothers was 21.0. This was markedly lower than for first-time non-Indigenous mothers (28.3).

Figure 3.1 shows the increase in the proportion of first-time mothers in the older age groups between 2001 and 2010. Of women aged 35–39, 26.9% were first-time mothers compared with 25.6% in 2001. Of women aged 40 and over, one-quarter (24.8%) had their first baby in 2010, compared with 23.4% in 2001. Of all first-time mothers, 13.9% were aged 35 or older in 2010, compared with 10.7% in 2001. The proportion of mothers who had given birth at least twice previously increased with maternal age from 1.8% for teenagers to 43.1% for mothers aged 40 and over (Table 3.9).



Notes

1. Provisional data were provided by Victoria for 2010.
2. Data for this figure is in Table E3.

Figure 3.1: First-time mothers in each maternal age group, 2001 and 2010 (per cent)

Table 3.9: Women who gave birth, by parity and maternal age (years), 2010

Parity	Aged less than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
				Number				
None	7,937	18,511	29,347	24,717	10,828	2,138	4	93,482
One	1,451	10,516	19,590	24,607	14,670	2,740	4	73,578
Two	157	3,457	8,331	11,458	8,481	1,746	3	33,633
Three	11	870	3,054	4,131	3,426	876	1	12,369
Four or more	7	268	1,834	2,957	2,876	1,085	1	9,028
Not stated	—	1	13	40	32	21	—	107
Total	**9,563**	**33,623**	**62,169**	**67,910**	**40,313**	**8,606**	**13**	**222,197**
				Per cent				
None	83.0	55.1	47.2	36.4	26.9	24.8	30.8	42.1
One	15.2	31.3	31.5	36.2	36.4	31.8	30.8	33.1
Two	1.6	10.3	13.4	16.9	21.0	20.3	23.1	15.1
Three	0.1	2.6	4.9	6.1	8.5	10.2	7.7	5.6
Four or more	0.1	0.8	3.0	4.4	7.1	12.6	7.7	4.1
Not stated	—	0.0	0.0	0.1	0.1	0.2	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Excludes Victoria.

Previous caesarean sections

In 2010, 28.1% of multiparous women who gave birth in Australia had a history of previous caesarean section. This proportion ranged from 23.4% in Australian Capital Territory to 30.2% in Queensland and South Australia (Table 3.10). Of those women who had a history of previous caesarean section (excluding Victoria and Western Australia), 24.4% of women had had the procedure more than once.

Table 3.10: Multiparous women who gave birth, by number of previous caesarean sections and state and territory, 2010

Previous caesarean sections	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	38,570	n.r.	25,213	12,610	7,928	2,687	1,692	1,651	90,351
At least one	14,316	n.r.	10,929	5,168	3,435	921	777	655	36,201
One	*10,951*	*n.r.*	*8,128*	*n.a.*	*2,636*	*690*	*597*	*469*	*28,639*
Two	*2,726*	*n.r.*	*2,227*	*n.a.*	*654*	*178*	*150*	*144*	*6,079*
Three or more	*639*	*n.r.*	*574*	*n.a.*	*145*	*53*	*30*	*42*	*1,483*
Not stated	1,205	n.r.	2	—	—	1	848	—	2,056
Total	**54,091**	**n.r.**	**36,144**	**17,778**	**11,363**	**3,609**	**3,317**	**2,306**	**128,608**
					Per cent				
None	71.3	n.r.	69.8	70.9	69.8	74.5	51.0	71.6	70.3
At least one	26.5	n.r.	30.2	29.1	30.2	25.5	23.4	28.4	28.1
One	*20.2*	*n.r.*	*22.5*	*n.a.*	*23.2*	*19.1*	*18.0*	*20.3*	21.2
Two	*5.0*	*n.r.*	*6.2*	*n.a.*	*5.8*	*4.9*	*4.5*	*6.2*	5.5
Three or more	*1.2*	*n.r.*	*1.6*	*n.a.*	*1.3*	*1.5*	*0.9*	*1.8*	1.3
Not stated	2.2	n.r.	0.0	—	—	0.0	25.6	—	1.6
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

n.a. Data not available.

n.r. Data not received at the time of publication.

Assisted reproductive technology

Data on whether the pregnancy resulted from assisted reproductive technology (ART) were available for Queensland, Western Australia, Tasmania and the Australian Capital Territory. Of women who gave birth in these four jurisdictions in 2010, 4.1% received ART treatment, ranging from 2.6% in the Australian Capital Territory to 5.0% in Tasmania (Table 3.11).

The average age of women who received ART treatment was 33.9. This was older than the average age of women who did not receive ART treatment (29.2). In 2010, 60.9% of mothers who received ART treatment were having their first baby and 39.1% had given birth previously. Of mothers who received ART treatment, 2.8% reported smoking during pregnancy, compared with 16.7% of women who did not receive ART treatment.

Table 3.11: Women who gave birth, by whether pregnancy was the result of assisted reproductive technology and state and territory, 2010

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
ART	n.a.	n.r.	2,721	1,113	n.a.	303	149	n.a.	4,286
Not ART	n.a.	n.r.	58,298	29,729	n.a.	5,715	5,677	n.a.	99,419
Not stated	n.a.	n.r.	1	—	n.a.	2	—	n.a.	3
Total	**n.a.**	**n.r.**	**61,020**	**30,842**	**n.a.**	**6,020**	**5,826**	**n.a.**	**103,708**
					Per cent				
ART	n.a.	n.r.	4.5	3.6	n.a.	5.0	2.6	n.a.	4.1
Not ART	n.a.	n.r.	95.5	96.4	n.a.	94.9	97.4	n.a.	95.9
Not stated	n.a.	n.r.	0.0	—	n.a.	0.0	—	n.a.	0.0
Total	**n.a.**	**n.r.**	**100.0**	**100.0**	**n.a.**	**100.0**	**100.0**	**n.a.**	**100.0**

n.a. Data not available.

n.r. Data not received at the time of publication.

Antenatal period

Antenatal visits

There is a strong relationship between regular antenatal care and positive child health outcomes. Receiving antenatal care at least four times, as recommended by the WHO, increases the likelihood of receiving effective maternal health interventions during antenatal visits (WHO 2011).

Data on the number of antenatal visits during pregnancy were available for Queensland, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. Table 3.12 shows that 96.1% of women who gave birth in these jurisdictions had at least one antenatal visit, with 90.4% having five or more. Only 0.2% had no antenatal visits (Table 3.12).

When only women who gave birth at 32 weeks gestation or more were included, thus excluding the very preterm births, 96.3% had at least one visit and 91.1% had five or more.

Aboriginal or Torres Strait Islander mothers had fewer antenatal visits than non-Indigenous mothers. Of Indigenous mothers who gave birth at 32 weeks or more, 77.7% had five or more visits, compared with 92.0% of non-Indigenous mothers. The age-standardised rate of women who had five or more visits among Indigenous mothers who gave birth at 32 weeks or more was 77.9%, compared with 91.9% among non-Indigenous mothers.

Table 3.12: Women who gave birth, by number of antenatal visits and state and territory, 2010

Antenatal visits	NSW	Vic	Qld	WA	SA	Tas[a]	ACT	NT[b]	Total
					Number				
None	n.a.	n.a.	171	n.a.	24	—	11	25	231
At least one	n.a.	n.a.	60,806	n.a.	18,467	1,401	5,351	3,755	89,780
One	*n.a.*	*n.a.*	*319*	*n.a.*	*45*	*395*	*15*	*24*	*798*
Two to four	*n.a.*	*n.a.*	*3,429*	*n.a.*	*419*	*146*	*227*	*322*	*4,543*
Five or more	*n.a.*	*n.a.*	*57,058*	*n.a.*	*18,003*	*860*	*5,109*	*3,409*	*84,439*
Not stated	n.a.	n.a.	43	n.a.	1,175	1,645	464	50	3,377
Total	**n.a.**	**n.a.**	**61,020**	**n.a.**	**19,666**	**3,046**	**5,826**	**3,830**	**93,388**
					Per cent				
None	n.a.	n.a.	0.3	n.a.	0.1	—	0.2	0.7	0.2
At least one	n.a.	n.a.	99.6	n.a.	93.9	46.0	91.8	98.0	96.1
One	*n.a.*	*n.a.*	*0.5*	*n.a.*	*0.2*	*13.0*	*0.3*	*0.6*	*0.9*
Two to four	*n.a.*	*n.a.*	*5.6*	*n.a.*	*2.1*	*4.8*	*3.9*	*8.4*	*4.9*
Five or more	*n.a.*	*n.a.*	*93.5*	*n.a.*	*91.5*	*28.2*	*87.7*	*89.0*	*90.4*
Not stated	n.a.	n.a.	0.1	n.a.	6.0	54.0	8.0	1.3	3.6
Total	**n.a.**	**n.a.**	**100.0**	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For Tas, number of antenatal visit data have been included in the new electronic system implemented during mid-2010, therefore, the figures shown are for the July–December 2010 period only. Hospitals still using the paper-based form do not report these data so the interpretation of these data should be used with caution. Antenatal visit data will be included in the paper-based form from 1 January 2013.

(b) For NT, 'Not stated' includes antenatal care attendance is evident by the availability of antenatal screening results but the total number of antenatal visits is unknown.

n.a. Data not available.

Duration of pregnancy at the first antenatal visit

In 2010, data on gestational age at the first antenatal visit were available for the whole year from New South Wales, Victoria, Queensland, South Australia, Western Australia, the Australian Capital Territory and the Northern Territory, and for the second half of the year from Tasmania. Variable completeness of data is expected during the first year when new items are phased into existing data collections. Of women who gave birth in these jurisdictions, 65.0% attended at least one antenatal visit in the first trimester (before 14 weeks gestation) and 11.9% did not begin antenatal care until after 20 weeks gestation (Table 3.13).

Table 3.13: Women who gave birth, by duration of pregnancy at first antenatal visit and state and territory, 2010[(a)]

Duration of pregnancy at first antenatal visit (weeks)	NSW	Vic	Qld	WA[(b)]	SA	Tas[(c)]	ACT	NT	Australia
					Number				
Less than 14	75,315	44,977	36,124	12,787	14,270	841	2,658	2,768	189,740
14–19	11,839	16,221	13,928	4,273	2,569	251	1,953	527	51,561
20 and over	6,594	10,158	9,048	6,067	1,021	309	1,120	484	34,801
Not stated	1,245	1,261	1,920	7,715	1,806	1,645	95	51	15,738
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**3,046**	**5,826**	**3,830**	**291,840**
					Per cent				
Less than 14	79.3	61.9	59.2	41.5	72.6	27.6	45.6	72.3	65.0
14–19	12.5	22.3	22.8	13.9	13.1	8.2	33.5	13.8	17.7
20 and over	6.9	14.0	14.8	19.7	5.2	10.1	19.2	12.6	11.9
Not stated	1.3	1.7	3.1	25.0	9.2	54.0	1.6	1.3	5.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) For WA, gestational age at first antenatal visit is reported by birth hospital, therefore, data may not be available for women who attend their first antenatal visit outside the birth hospital. This particularly affects hospitals without antenatal care services onsite.

(c) For Tas, duration of pregnancy at first antenatal visit data have been included in the new electronic system implemented during mid-2010. Hospitals still using the paper-based form do not report these data so the interpretation of these data should be used with caution. Duration of pregnancy at first antenatal visit will be included in the paper-based form from 1 January 2013.

Note: Provisional data were provided by Victoria for this table.

Smoking during pregnancy

Smoking during pregnancy is the most common preventable risk factor for pregnancy complications, and is associated with poorer perinatal outcomes such as low birthweight, preterm birth, small for gestational age babies and perinatal death (Laws et al. 2006). Women who cease smoking during pregnancy can reduce the risk of adverse outcomes for themselves and for their babies (Scollo & Winstanley 2008). Smoking cessation advice and referral to related programs are now widely available through antenatal clinics.

For 2010, data on smoking status were available for all states and territories. The proportion of women who smoked while pregnant ranged from 11.2% in New South Wales and the Australian Capital Territory to 25.5% in the Northern Territory. Nationally, 13.5% of women smoked during pregnancy (Table 3.14).

Table 3.14: Women who gave birth, by tobacco smoking status during pregnancy and state and territory, 2010[(a)]

Smoking status	NSW	Vic	Qld	WA[(b)]	SA[(c)]	Tas	ACT	NT[(d)]	Total
					Number				
Smoked	10,683	8,582	10,471	3,708	3,430	1,386	654	975	39,889
Did not smoke	84,299	62,698	49,934	25,828	15,944	4,590	5,152	2,595	251,040
Not stated	11	1,337	615	1,306	292	44	20	260	3,885
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Smoked	11.2	11.8	17.2	12.0	17.4	23.0	11.2	25.5	13.5
Did not smoke	88.7	86.3	81.8	83.7	81.1	76.2	88.4	67.8	85.2
Not stated	0.0	1.8	1.0	4.2	1.5	0.7	0.3	6.8	1.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) For WA, 'Smoked' includes occasional smoking. 'Did not smoke' includes 'Not determined' average number of tobacco cigarettes smoked per day in first 20 weeks of pregnancy and after 20 weeks of pregnancy.

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

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

Notes

1. Mother's tobacco smoking status during pregnancy is self-reported.
2. Provisional data were provided by Victoria for this table.

The average age of mothers who smoked during pregnancy was 27.3, compared with 30.5 for those who did not smoke. Teenage mothers accounted for 10.5% of all mothers who reported smoking during pregnancy and 2.8% of mothers who did not smoke. Of all teenage mothers, 36.7% reported smoking.

Aboriginal or Torres Strait Islander mothers accounted for 14.2% of mothers who smoked during pregnancy. Almost half of the Aboriginal and Torres Strait Islander mothers reported smoking during pregnancy (49.3%), compared with 12.1% of non-Indigenous women who gave birth. The age-standardised rate of smoking during pregnancy among Aboriginal and Torres Strait Islander mothers was 47.6%, compared with 12.3% among non-Indigenous mothers.

Data on smoking status during the first 20 weeks of pregnancy (Table 3.15) and after 20 weeks of pregnancy (Table 3.16) were available for the whole year from Victoria, Queensland Western Australia, South Australia and the Australian Capital Territory, and for the 6 months from July to December from Tasmania and the Northern Territory. Of women who gave birth in 2010, 13.8% reported smoking during the first 20 weeks of pregnancy and 9.5% reported smoking after 20 weeks of pregnancy (Tables 3.15 and 3.16). Not all women who reported smoking after 20 weeks reported smoking before 20 weeks.

In 2010, 17.2% of women who reported smoking during the first 20 weeks of pregnancy did not report smoking during the second 20 weeks of pregnancy. The proportion of smoking cessation in mothers of Aboriginal and Torres Strait Islander origin was 9.6%, which was half that of non-Indigenous mothers (18.4%).

Table 3.15: Women who gave birth, by tobacco smoking status during the first 20 weeks of pregnancy and state and territory, 2010[(a)]

Smoking status	NSW	Vic	Qld	WA	SA[(b)]	Tas[(c)]	ACT	NT[(d)]	Total
					Number				
Smoked	n.a.	8,460	10,456	3,627	2,933	395	598	448	26,917
Did not smoke	n.a.	63,042	49,949	25,898	13,901	1,007	4,990	1,127	159,914
Not stated	n.a.	1,115	615	1,317	2,832	1,644	238	293	8,054
Total	n.a.	**72,617**	**61,020**	**30,842**	**19,666**	**3,046**	**5,826**	**1,868**	**194,885**
					Per cent				
Smoked	n.a.	11.7	17.1	11.8	14.9	13.0	10.3	24.0	13.8
Did not smoke	n.a.	86.8	81.9	84.0	70.7	33.1	85.7	60.3	82.1
Not stated	n.a.	1.5	1.0	4.3	14.4	54.0	4.1	15.7	4.1
Total	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

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

(c) For Tas, smoking status during the first 20 weeks of pregnancy data have been included in the new electronic system implemented during mid-2010, therefore, the figures shown are for the July–December 2010 period only. Hospitals still using the paper-based form do not report these data so the interpretation of these data should be used with caution. Smoking status during the first 20 weeks of pregnancy data will be included in the paper-based form from 1 January 2013.

(d) For NT, smoking status during the first 20 weeks of pregnancy was collected from 1 June in public hospitals and 1 September for non-public hospital, therefore, the figures shown are for the July–December 2010 period only.

n.a. Data not available.

Notes

1. Mother's tobacco smoking status during pregnancy is self-reported.
2. Provisional data were provided by Victoria for this table.

Table 3.16: Women who gave birth, by tobacco smoking status after 20 weeks of pregnancy and state and territory, 2010[(a)]

Smoking status	NSW	Vic	Qld	WA	SA[(b)]	Tas[(c)]	ACT	NT[(d)]	Total
					Number				
Smoked	n.a	3,067	8,507	3,298	2,338	375	577	381	18,543
Did not smoke	n.a	64,562	51,790	26,225	16,917	1,027	4,975	1,043	166,539
Not stated	n.a	4,988	723	1,319	411	1,644	274	444	9,803
Total	**n.a**	**72,617**	**61,020**	**30,842**	**19,666**	**3,046**	**5,826**	**1,868**	**194,885**
					Per cent				
Smoked	n.a	4.2	13.9	10.7	11.9	12.3	9.9	20.4	9.5
Did not smoke	n.a	88.9	84.9	85.0	86.0	33.7	85.4	55.8	85.5
Not stated	n.a	6.9	1.2	4.3	2.1	54.0	4.7	23.8	5.0
Total	**n.a**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

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

(c) For Tas, smoking status during the first 20 weeks of pregnancy data have been included in the new electronic system implemented during mid-2010, therefore, the figures shown are for the July–December 2010 period only. Hospitals still using the paper-based form do not report these data so the interpretation of these data should be used with caution. Smoking status after 20 weeks of pregnancy data will be included in the paper-based form from 1 January 2013.

(d) For NT, smoking status during the first 20 weeks of pregnancy was collected from 1 June in public hospitals and 1 September for non-public hospital therefore, the figures shown are for the July–December 2010 period only.

n.a. Data not available.

Notes

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

2. Provisional data were provided by Victoria for this table.

Body mass index

Obesity in pregnancy contributes to increased morbidity and mortality for both mother and baby. Pregnant women who are obese have an increased risk of thromboembolism, gestational diabetes, pre-eclampsia, postpartum haemorrhage, wound infections and caesarean section and their babies have higher rates of congenital anomaly, stillbirth and neonatal death compared with pregnant women who are a normal size (CMACE & RCOG 2010).

Body mass index (BMI) is a ratio of weight and height. The normal range of BMI for non-pregnant women is 18.5 to 24.9. BMI increases are expected in pregnancy. Weight increases from early pregnancy as blood volume expands and later in pregnancy due to the contribution of the weight of the baby and other elements of the pregnancy. A BMI of 30.0 kg/m^2 or more at the first antenatal consultation has been defined as obesity in pregnancy.

For 2010, data on maternal BMI were available for Queensland, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. Data collection practices vary considerably between jurisdictions. In 2010, 22.4% of women who gave birth in these jurisdictions were obese. This proportion ranged from 19.3% in the Australian Capital Territory to 24.6% in Tasmania (Table 3.17).

Table 3.17: Women who gave birth, by body mass index and state and territory, 2010[(a)]

BMI (kg/m^2)	NSW	Vic	Qld [(b)]	WA	SA[(c)]	Tas[(b)]	ACT	NT	Australia
Mean	n.a.	n.a.	25.9	n.a.	26.4	26.5	25.6	26.6	26.0
					Number				
Less than 18.5	n.a.	n.a.	2,625	n.a.	451	49	116	32	3,273
18.5–24.9	n.a.	n.a.	27,262	n.a.	7,044	575	1,215	392	36,488
25.0–29.9	n.a.	n.a.	16,419	n.a.	4,175	316	660	281	21,851
30.0 and over	n.a.	n.a.	13,216	n.a.	3,604	307	476	217	17,820
Not stated	n.a.	n.a.	1,498	n.a.	4,392	4,773	3,359	2,908	16,930
Total	**n.a.**	**n.a.**	**61,020**	**n.a.**	**19,666**	**6,020**	**5,826**	**3,830**	**96,362**
					Per cent[(d)]				
Less than 18.5	n.a.	n.a.	4.4	n.a.	3.0	3.9	4.7	3.5	4.1
18.5–24.9	n.a.	n.a.	45.8	n.a.	46.1	46.1	49.3	42.5	45.9
25.0–29.9	n.a.	n.a.	27.6	n.a.	27.3	25.3	26.8	30.5	27.5
30.0 and over	n.a.	n.a.	22.2	n.a.	23.6	24.6	19.3	23.5	22.4
Total	**n.a.**	**n.a.**	**100.0**	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) For Qld and Tas, mother's height and weight were self-reported at conception.

(c) For SA, mother's height and weight were recorded at the first antenatal visit.

(d) Percentage calculated after excluding records with missing or null values. Care must be taken when interpreting percentages.

n.a. Data not available.

Labour and birth characteristics

Place of birth

Actual place of birth

Almost all births in Australia occur in hospitals, in conventional labour-ward settings. There were 285,617 women who gave birth in hospitals (96.9%) in 2010. A further 6,367 women gave birth in birth centres (2.2%); this proportion was highest in South Australia (6.2%) and the Australian Capital Territory (5.5%). Planned homebirths and other births, such as those occurring unexpectedly before arrival in hospital or in other settings, accounted for the smallest proportion of women who gave birth (2,763 women, 0.9%) (Table 3.18).

Table 3.18: Women who gave birth, by actual place of birth and state and territory, 2010

Place of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Hospital	91,575	70,890	59,829	30,125	18,223	5,916	5,475	3,584	285,617
Birth centre	2,651	990	691	333	1,214	42	320	126	6,367
Home	246	567	85	255	142	13	6	31	1,345
Other	465	159	415	129	87	49	25	[(a)]89	1,418
Not stated	56	11	—	—	—	—	—	—	67
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Hospital	96.4	97.6	98.0	97.7	92.7	98.3	94.0	93.6	96.9
Birth centre	2.8	1.4	1.1	1.1	6.2	0.7	5.5	3.3	2.2
Home	0.3	0.8	0.1	0.8	0.7	0.2	0.1	0.8	0.5
Other	0.5	0.2	0.7	0.4	0.4	0.8	0.4	[(a)]2.3	0.5
Not stated	0.1	0.0	—	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

Notes

1. For multiple births, the place of birth of the first born baby was used.
2. Provisional data were provided by Victoria for this table.

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 it at the onset of labour. Care must be taken when comparing data across the jurisdictions due to these differing collecting practices.

In 2010, the intended place of birth was hospital for 95.5% of mothers and birth centre for 3.8%. Only 0.7% intended to give birth at home or in other settings. About 4.4% of mothers intended to give birth outside a labour-ward setting (Table 3.19). Only 3.1% of mothers actually did so, giving birth in places such as birth centres or at home.

Table 3.19: Women who gave birth, by intended place of birth and state and territory, 2010

Place of birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Hospital	90,727	n.r.	59,967	29,715	17,142	5,908	5,256	3,526	212,241
Birth centre	3,533	n.r.	934	763	2,331	79	484	232	8,356
Home	264	n.r.	112	307	165	30	14	57	949
Other	468	n.r.	4	57	28	3	—	[(a)]5	565
Not stated	1	n.r.	3	—	—	—	72	10	86
Total	**94,993**	**n.r.**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**222,197**
					Per cent				
Hospital	95.5	n.r.	98.3	96.3	87.2	98.1	90.2	92.1	95.5
Birth centre	3.7	n.r.	1.5	2.5	11.9	1.3	8.3	6.1	3.8
Home	0.3	n.r.	0.2	1.0	0.8	0.5	0.2	1.5	0.4
Other	0.5	n.r.	0.0	0.2	0.1	0.0	—	[(a)]0.1	0.3
Not stated	0.0	n.r.	0.0	—	—	—	1.2	0.3	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes remote community health centres.

n.r. Data not received at the time of publication.

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

Duration of pregnancy

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

Preterm birth (less than 37 completed weeks of gestation) occurred for 7.5% of all mothers in 2010. The average duration of pregnancy in Australia was 38.8 weeks. A small proportion of mothers gave birth at 20–27 weeks (0.8%) and 28–31 weeks (0.7%), while 5.9% gave birth at 32–36 weeks. There was a higher proportion of preterm birth in the Northern Territory

(9.7%) than elsewhere (Table 3.20). This is likely to be associated with the different age structure of the population and higher proportion of births to teenager and Indigenous mothers (Tables 3.1 and 3.3).

Of women who gave birth in 2010, 91.7% gave birth at 37–41 completed weeks of gestation (term) and 0.8% at 42 or more weeks gestation (post-term). Post-term births were least common in South Australia (0.3%) and most common in the Australian Capital Territory (1.6%) (Table 3.20).

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

Table 3.20: Women who gave birth, by duration of pregnancy and state and territory, 2010

Duration of pregnancy (weeks)	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
Mean	38.9	38.8	38.8	38.7	38.7	38.7	38.9	38.7	38.8
					Number				
20–27	605	779	493	247	156	55	64	43	2,442
28–31	576	539	454	199	138	62	48	43	2,059
32–36	5,119	4,224	3,807	1,998	1,281	432	355	287	17,503
37–41	87,957	66,146	55,904	28,225	18,037	5,440	5,266	3,428	270,403
42 and over	732	889	356	173	54	31	93	29	2,357
Not stated	4	40	6	—	—	—	—	—	50
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
20–27	0.6	1.1	0.8	0.8	0.8	0.9	1.1	1.1	0.8
28–31	0.6	0.7	0.7	0.6	0.7	1.0	0.8	1.1	0.7
32–36	5.4	5.8	6.2	6.5	6.5	7.2	6.1	7.5	5.9
37–41	92.6	91.1	91.6	91.5	91.7	90.4	90.4	89.5	91.7
42 and over	0.8	1.2	0.6	0.6	0.3	0.5	1.6	0.8	0.8
Not stated	0.0	0.1	0.0	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of ACT resident women who gave birth at 20–27 weeks gestation was 0.7% and at 28–31 weeks gestation was 0.6%.

Notes

1. For multiple births, the gestational age of the first born baby was used.
2. Provisional data were provided by Victoria for this table.

Multiple pregnancy

The number of multiple births has increased in the last two decades. This can be attributed largely to the increased use of fertility treatment, delay in child bearing and the higher proportion of older mothers.

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 2010, there were 4,675 multiple pregnancies (1.6% of all mothers) (Table 3.21), consisting of 4,598 twin pregnancies, 71 triplet pregnancies and 3 quadruplet pregnancies.

Table 3.21: Women who gave birth, by plurality and state and territory, 2010

Plurality	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
					Number				
Singleton	93,524	71,433	60,034	30,422	19,338	5,903	5,708	3,777	290,139
Multiple	1,469	1,184	986	420	328	117	118	53	4,675
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Singleton	98.5	98.4	98.4	98.6	98.3	98.1	98.0	98.6	98.4
Multiple	1.5	1.6	1.6	1.4	1.7	1.9	2.0	1.4	1.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of multiple pregnancies for ACT residents who gave birth in the ACT was 1.6%.

Note: Provisional data were provided by Victoria for this table.

There were 15.9 multiple pregnancies per 1,000 mothers in 2010. The twinning rate was 15.6 per 1,000 mothers. In 2001, there were 4,157 multiple pregnancies (16.6 per 1,000 mothers), with a twinning rate of 16.2 per 1,000 mothers. Triplet and higher-order multiple pregnancies have remained fairly stable with a rate of 0.2 to 0.4 per 1,000 mothers since 2001.

Of women who gave birth in the four jurisdictions where data were available on whether the pregnancy resulted from ART (Table 3.11), 9.1% of women who had ART treatment had a multiple pregnancy. Of these, 8.7% had twins and 0.3% had higher-order multiples. This compared with 1.3% for twins and 0.01% for higher-order multiples for non-ART mothers.

Onset and type of labour

Onset of labour is categorised as spontaneous, induced or no labour, where a caesarean section was performed before labour had started. In 2010, the onset of labour was spontaneous for 56.0% of all women who gave birth, and there was no labour for 18.6% of mothers. Labour was induced for 25.4% of mothers (Table 3.22).

The proportion of mothers with spontaneous onset of labour was highest in the Northern Territory (61.9%) and lowest in Western Australia (51.3%). Queensland and Western Australia had the highest proportions of mothers with no labour (20.7% and 20.2% respectively) (Table 3.22).

The proportion of women who were induced was higher in South Australia (29.6%) than in the other states and territories. Overall, combined medical and surgical induction of labour was more common than either type alone.

Once labour has started, it may be necessary to intervene to speed up or augment the labour. In 2010, labour was augmented for 18.5% of all mothers, representing one-third (33.3%) of mothers with spontaneous onset of labour. There was considerable variation in practice among the states and territories regarding augmentation, ranging from 15.9% of all women who gave birth in New South Wales to 21.7% in the Australian Capital Territory (Table 3.22).

Table 3.22: Women who gave birth, by onset of labour and state and territory, 2010

Onset of labour/type of augmentation or induction	NSW	Vic	Qld	WA	SA	Tas	ACT[a]	NT	Total
					Number				
Spontaneous	53,371	41,362	34,838	15,815	10,416	3,402	3,587	2,369	165,160
No augmentation	*38,258*	*n.r.*	*22,225*	*9,605*	*6,207*	*2,374*	*2,319*	*1,244*	*82,232*
Medical only[b]	*5,310*	*n.r.*	*3,697*	*1,963*	*1,081*	*253*	*388*	*265*	*12,957*
Surgical only	*6,611*	*n.r.*	*6,940*	*2,665*	*2,477*	*588*	*577*	*370*	*20,228*
Combined	*3,171*	*n.r.*	*1,965*	*1,579*	*648*	*187*	*299*	*136*	*7,985*
Other/not stated	*21*	*n.r.*	*11*	*3*	*3*	—	*4*	*354*	*396*
Induced	24,766	18,066	13,575	8,789	*5,825*	1,652	1,216	871	74,760
Medical only[b]	*7,771*	*n.r.*	*4,748*	*1,725*	*1,681*	*645*	*297*	*230*	*17,097*
Surgical only	*1,782*	*n.r.*	*1,295*	*103*	*695*	*200*	*85*	*49*	*4,677*
Combined	*15,048*	*n.r.*	*7,380*	*6,390*	*3,442*	*779*	*818*	*589*	*34,446*
Other/not stated	*165*	*n.r.*	*152*	*103*	*7*	*28*	*16*	*3*	*474*
No labour	16,849	13,182	12,607	6,238	3,425	966	1,023	589	54,879
Not stated	7	7	—	—	—	—	—	1	15
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Spontaneous	56.2	57.0	57.1	51.3	53.0	56.5	61.6	61.9	56.0
No augmentation	*40.3*	*n.r.*	*36.4*	*31.1*	*31.6*	*39.4*	*39.8*	*32.5*	*37.0*
Medical only[b]	*5.6*	*n.r.*	*6.1*	*6.4*	*5.5*	*4.2*	*6.7*	*6.9*	*5.8*
Surgical only	*7.0*	*n.r.*	*11.4*	*8.6*	*12.6*	*9.8*	*9.9*	*9.7*	*9.1*
Combined	*3.3*	*n.r.*	*3.2*	*5.1*	*3.3*	*3.1*	*5.1*	*3.6*	*3.6*
Other/not stated	*0.0*	*n.r.*	*0.0*	*0.0*	*0.0*	—	*0.1*	*9.2*	*0.2*
Induced	26.1	24.9	22.2	28.5	29.6	27.4	20.9	22.7	25.4
Medical only[b]	*8.2*	*n.r.*	*7.8*	*5.6*	*8.5*	*10.7*	*5.1*	*6.0*	*7.7*
Surgical only	*1.9*	*n.r.*	*2.1*	*0.3*	*3.5*	*3.3*	*1.5*	*1.3*	*2.1*
Combined	*15.8*	*n.r.*	*12.1*	*20.7*	*17.5*	*12.9*	*14.0*	*15.4*	*15.5*
Other/not stated	*0.2*	*n.r.*	*0.2*	*0.3*	*0.0*	*0.5*	*0.3*	*0.1*	*0.2*
No labour	17.7	18.2	20.7	20.2	17.4	16.0	17.6	15.4	18.6
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**

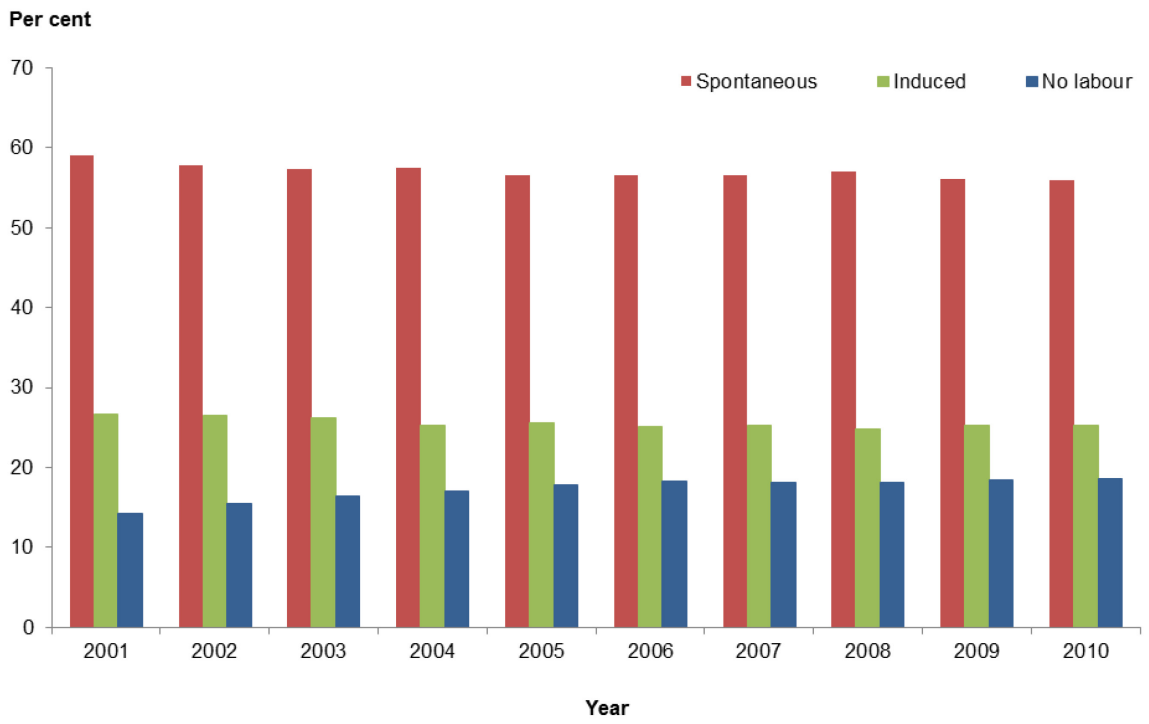
(a) Multiple sources of data were used in the ACT to identify the types of augmentation and induction and to improve ascertainment.

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

n.r. Data not received at the time of publication.

Note: Provisional data were provided by Victoria for this table.

Figure 3.2 presents the trends in type of onset of labour from 2001 to 2010. In line with the increase in caesarean sections, spontaneous onset of labour generally decreased during this time, from 59.0% of all women giving birth in 2001 to 56.0% in 2010. The proportion of women giving birth without labour gradually increased from 14.3% in 2001 to 18.6% in 2010. The proportion of women having induction of labour has remained constant over recent years.



Notes

1. Provisional data were provided by Victoria for 2010.
2. Data for this figure is in Table E4.

Figure 3.2: Onset of labour, all mothers, 2001 to 2010 (per cent)

Information about the main reason for induction of labour is in Table 3.23 for New South Wales, Queensland, South Australia, Tasmania and the Northern Territory. These data are not part of the Perinatal NMDS, and data collection practices are not standard across jurisdictions. The data in this table should be examined independently for each state and territory—they are not comparable across jurisdictions because of variability in data collection methods and reporting by individual jurisdictions. Where the main reason for induction of labour was prolonged pregnancy or psychosocial, data have been reported in the 'Other' category due to variability among states.

Table 3.23 shows similar results for medical and fetal conditions or complications for the five jurisdictions. In these jurisdictions, hypertension or pre-eclampsia (range 3.1% to 12.8%) and premature rupture of membranes (range 4.8% to 14.4%) were important reasons for induction of labour.

Table 3.23: Women who gave birth and had an induction, by main reason for induction and state and territory, 2010[(a)]

	NSW	Vic	Qld	WA	SA	Tas[(b)]	ACT	NT
				Number				
Prolonged pregnancy	5,955	n.r.	3,666	n.a.	1,072	109	n.a.	248
Hypertension/pre-eclampsia	2,527	n.r.	1,370	n.a.	746	51	n.a.	86
Premature rupture of membranes	3,562	n.r.	1,770	n.a.	296	80	n.a.	109
Diabetes	1,712	n.r.	1,024	n.a.	352	34	n.a.	68
Intrauterine growth restriction	1,105	n.r.	544	n.a.	374	34	n.a.	33
Fetal death	223	n.r.	144	n.a.	n.p.	<5	n.a.	17
Fetal distress	449	n.r.	165	n.a.	13	50	n.a.	—
Isoimmunisation	n.p.	n.r.	41	n.a.	n.p.	<5	n.a.	—
Chorioamnionitis	n.p.	n.r.	26	n.a.	—	<5	n.a.	—
Other[(c)]	9,112	n.r.	4,825	n.a.	2,909	428	n.a.	279
Not stated	61	n.r.	—	n.a.	—	860	n.a.	31
Total	**24,766**	**n.r.**	**13,575**	**n.a.**	**5,825**	**1,652**	**n.a.**	**871**
				Per cent				
Prolonged pregnancy	24.0	n.r.	27.0	n.a.	18.4	6.6	n.a.	28.5
Hypertension/pre-eclampsia	10.2	n.r.	10.1	n.a.	12.8	3.1	n.a.	9.9
Premature rupture of membranes	14.4	n.r.	13.0	n.a.	5.1	4.8	n.a.	12.5
Diabetes	6.9	n.r.	7.5	n.a.	6.0	2.1	n.a.	7.8
Intrauterine growth restriction	4.5	n.r.	4.0	n.a.	6.4	2.1	n.a.	3.8
Fetal death	0.9	n.r.	1.1	n.a.	n.p.	n.p.	n.a.	2.0
Fetal distress	1.8	n.r.	1.2	n.a.	0.2	3.0	n.a.	—
Isoimmunisation	n.p.	n.r.	0.3	n.a.	n.p.	n.p.	n.a.	—
Chorioamnionitis	n.p.	n.r.	0.2	n.a.	—	n.p.	n.a.	—
Other[(c)]	36.8	n.r.	35.5	n.a.	49.9	25.9	n.a.	32.0
Not stated	0.2	n.r.	—	n.a.	—	52.1	n.a.	3.6
Total	**100.0**	**n.r.**	**100.0**	**n.a.**	**100.0**	**100.0**	**n.a.**	**100.0**

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

(b) For Tas, changes to the collection methodology for some reporting hospitals resulted in significant increase in 'Not stated'. Care must be taken when interpreting these numbers.

(c) Includes 'Psychosocial' and 'Other' reasons.

n.a. Data not available.

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

n.r. Data not received at the time of publication.

Pain relief during labour and operative delivery

The type of analgesia or anaesthesia used during labour or delivery can help determine the effectiveness of pain relief, the extent to which a woman is able to actively participate in the birth and her mobility immediately after the birth. Data on whether analgesia was administered to relieve pain for labour and whether anaesthesia was administered for an operative delivery (caesarean section, vacuum extraction or forceps) was available for all jurisdictions except Victoria. Information on the types of analgesic or anaesthetic is also available and more than one type could be recorded for each woman. Epidural or caudal, spinal and combined spinal-epidural analgesia or anaesthesia have been grouped into the category of 'regional analgesia' or 'regional anaesthesia'. The data are presented both individually and grouped for use in comparison with other modes of analgesia or anaesthesia.

Table 3.24 shows that, of all women who laboured (defined as spontaneous or induced onset of labour), 75.6% had analgesia administered. This proportion ranged from 69.4% in the Australian Capital Territory to 79.8% in Western Australia.

Table 3.24: Women who gave birth, by whether analgesia was administered to relieve pain for labour and state and territory, 2010[(a)]

Analgesia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	18,876	n.r.	13,023	4,967	3,656	1,306	1,468	702	43,998
Analgesia administered	59,252	n.r.	35,390	19,637	12,585	3,708	3,335	2,538	136,445
Not stated	9	n.r.	—	—	—	40	—	—	49
Total	**78,137**	**n.r.**	**48,413**	**24,604**	**16,241**	**5,054**	**4,803**	**3,240**	**180,492**
					Per cent				
None	24.2	n.r.	26.9	20.2	22.5	25.8	30.6	21.7	24.4
Analgesia administered	75.8	n.r.	73.1	79.8	77.5	73.4	69.4	78.3	75.6
Not stated	0.0	n.r.	—	—	—	0.8	—	—	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

n.r. Data not received at the time of publication.

Of first-time mothers who laboured, 85.7% had analgesia administered for labour. This was markedly higher than the proportion of multiparous women (67.2%) who had analgesia administered for labour.

Table 3.25 shows the method of analgesia administration for labour. As more than one type may be recorded for each woman, the individual categories add up to more than the number of women who laboured. Nitrous oxide (inhaled) was used by half of all women who laboured (50.1%) with the highest proportion of use in the Northern Territory (58.7%). Regional analgesia was used for 32.9% of women, epidural or caudal method for 30.6%, and a spinal or combined spinal-epidural for a further 2.3%. Systemic opioids were administered to more than one-fifth of women who laboured (21.2%).

Table 3.25: Types of analgesia administered to relieve pain for labour, by state and territory, 2010[(a)]

Type of analgesia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Nitrous oxide	41,185	n.r.	25,371	9,886	7,685	2,477	1,991	1,902	90,497
Systemic opioids	15,119	n.r.	11,449	4,346	3,557	1,755	1,350	666	38,242
Regional	23,093	n.r.	14,468	12,136	6,394	1,310	1,320	615	59,336
Epidural or caudal	*22,133*	*n.r.*	*12,781*	*11,008*	*6,233*	*1,210*	*1,243*	*615*	*55,223*
Spinal	*521*	*n.r.*	*1,407*	*402*	*148*	*88*	*77*	—	*2,643*
Combined spinal-epidural	*439*	*n.r.*	*280*	*726*	*13*	*12*	—	—	*1,470*
Other	6,262	n.r.	268	770	343	153	165	[(b)]1,051	9,012
Total women	**78,137**	**n.r.**	**48,413**	**24,604**	**16,241**	**5,054**	**4,803**	**3,240**	**180,492**
					Rate per 100 women who gave birth				
Nitrous oxide	52.7	n.r.	52.4	40.2	47.3	49.0	41.5	58.7	50.1
Systemic opioids	19.3	n.r.	23.6	17.7	21.9	34.7	28.1	20.6	21.2
Regional	29.6	n.r.	29.9	49.3	39.4	25.9	27.5	19.0	32.9
Epidural or caudal	*28.3*	*n.r.*	*26.4*	*44.7*	*38.4*	*23.9*	*25.9*	*19.0*	*30.6*
Spinal	*0.7*	*n.r.*	*2.9*	*1.6*	*0.9*	*1.7*	*1.6*	—	*1.5*
Combined spinal-epidural	*0.6*	*n.r.*	*0.6*	*3.0*	*0.1*	*0.2*	—	—	*0.8*
Other	8.0	n.r.	0.6	3.1	2.1	3.0	3.4	[(b)]32.4	5.0

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

(b) For NT, 'Other' includes non-narcotic oral analgesia and non-pharmacological methods, such as hypnosis, acupuncture, massage, relaxation techniques, aroma therapy and other.

n.r. Data not received at the time of publication.

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

Of all women who gave birth in 2010 and had a forceps, vacuum extraction or caesarean section delivery, 94.5% had anaesthesia administered. This proportion ranged from 88.7% in Queensland to 97.4% in New South Wales (Table 3.26).

Table 3.26: Women who gave birth and had caesarean section or instrumental vaginal deliveries[(a)], by whether anaesthetic was administered for the operative delivery and state and territory, 2010

Anaesthesia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	1,024	n.r.	2,924	477	330	200	184	68	5,207
Anaesthesia administered	38,819	n.r.	23,025	14,292	8,413	2,089	2,354	1,368	90,360
Not stated	22	n.r.	—	—	—	—	—	—	22
Total	**39,865**	**n.r.**	**25,949**	**14,769**	**8,743**	**2,289**	**2,538**	**1,436**	**95,589**
					Per cent				
None	2.6	n.r.	11.3	3.2	3.8	8.7	7.2	4.7	5.4
Anaesthesia administered	97.4	n.r.	88.7	96.8	96.2	91.3	92.8	95.3	94.5
Not stated	0.1	n.r.	—	—	—	—	—	—	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

n.r. Data not received at the time of publication.

Table 3.27 presents method of administration of anaesthesia for women giving birth by caesarean section. Although this data element specifies method of delivery of anaesthetic for caesarean sections, some states and territories may include anaesthetics administered for labour or administered after birth under this item, and this may be reflected in the differences reported among the states and territories.

In 2010, 60.0% of women who had a caesarean section had a spinal anaesthetic, 25.0% had an epidural or caudal anaesthetic and 11.1% had a combined spinal-epidural anaesthetic (Table 3.27). The data suggest that a combination of types may be administered for each woman who has a caesarean section, noting that more than one type can be reported.

A general anaesthetic was administered for 8.3% of caesarean sections (Table 3.27). There was variability in the proportion of women having a general anaesthetic for caesarean section by state and territory, from 4.0% in Western Australia to 11.5% in New South Wales.

Table 3.27: Types of anaesthetic administered for caesarean sections, by state and territory, 2010[(a)]

Type of anaesthetic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Regional	26,114	n.r.	19,226	11,815	6,058	1,679	1,725	1,037	67,654
Epidural or caudal	*6,071*	*n.r.*	*3,698*	*5,502*	*1,535*	*276*	*386*	*163*	*17,631*
Spinal	*16,706*	*n.r.*	*13,151*	*4,317*	*4,447*	*1,388*	*1,339*	*860*	*42,208*
Combined spinal-epidural	*3,337*	*n.r.*	*2,377*	*1,996*	*76*	*15*	—	*14*	*7,815*
General	3,320	*n.r.*	1,344	415	399	141	146	81	5,846
Total women	**28,948**	**n.r.**	**20,057**	**10,359**	**6,323**	**1,777**	**1,823**	**1,109**	**70,396**
					Rate per 100 women who gave birth				
Regional	90.2	n.r.	95.9	114.1	95.8	94.5	94.6	93.5	96.1
Epidural or caudal	*21.0*	*n.r.*	*18.4*	*53.1*	*24.3*	*15.5*	*21.2*	*14.7*	*25.0*
Spinal	*57.7*	*n.r.*	*65.6*	*41.7*	*70.3*	*78.1*	*73.5*	*77.5*	*60.0*
Combined spinal-epidural	*11.5*	*n.r.*	*11.9*	*19.3*	*1.2*	*0.8*	—	*1.3*	*11.1*
General	11.5	n.r.	6.7	4.0	6.3	7.9	8.0	7.3	8.3

(a) Table excludes 576 cases of local anaesthetic to perineum, pudendal anaesthetic and other types of anaesthetic.

n.r. Data not received at the time of publication.

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

Of the 5,846 women who had a general anaesthetic for caesarean section, 50.9% had a caesarean section in labour and 49.1% had a caesarean section without labour. Of the women who had a caesarean section in labour and a general anaesthetic, 60.8% had a spontaneous onset of labour and 39.2% had an induction of labour. Of the women who had a regional anaesthetic for caesarean section, 40.1% had a caesarean section in labour and 59.9% had a caesarean section without labour.

The method of anaesthetic administration varied between states and territories. More than half of all women who had an instrumental vaginal delivery had a regional anaesthetic (53.3%). Administration of a general anaesthetic was rare at 6 per 1,000 women who had an instrumental vaginal birth. A local anaesthetic to the perineum was administered in 27.9% and a pudendal block in 5.3% of instrumental deliveries (Table 3.28).

Table 3.28: Types of anaesthetic administered for instrumental vaginal deliveries[(a)], by state and territory, 2010

Type of anaesthetic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	1,024	n.r.	2,924	477	330	200	184	68	5,207
Local anaesthetic to perineum	4,317	n.r.	926	838	521	121	217	79	7,019
Pudendal	654	n.r.	188	193	174	35	65	14	1,323
Regional	5,805	n.r.	2,131	3,254	1,579	185	291	175	13,420
Epidural or caudal	*5,353*	n.r.	*1,946*	*2,998*	*1,514*	*164*	*228*	*160*	*12,363*
Spinal	*349*	n.r.	*150*	*86*	*60*	*n.p.*	*63*	*n.p.*	*742*
Combined spinal-epidural	*103*	n.r.	*35*	*170*	*5*	*<5*	—	*<5*	*315*
General	103	n.r.	10	5	<5	<5	15	<5	139
Other	123	n.r.	9	73	24	—	2	10	241
Total women	**10,917**	**n.r.**	**5,892**	**4,410**	**2,420**	**512**	**715**	**327**	**25,193**
					Rate per 100 women who gave birth				
None	9.4	n.r.	49.6	10.8	13.6	39.1	25.7	20.8	20.7
Local anaesthetic to perineum	39.5	n.r.	15.7	19.0	21.5	23.6	30.3	24.2	27.9
Pudendal	6.0	n.r.	3.2	4.4	7.2	6.8	9.1	4.3	5.3
Regional	53.2	n.r.	36.2	73.8	65.2	36.1	40.7	53.5	53.3
Epidural or caudal	*49.0*	*n.r.*	*33.0*	*68.0*	*62.6*	*32.0*	*31.9*	*48.9*	*49.1*
Spinal	*3.2*	*n.r.*	*2.5*	*2.0*	*2.5*	*n.p.*	*8.8*	*n.p.*	*2.9*
Combined spinal-epidural	*0.9*	*n.r.*	*0.6*	*3.9*	*0.2*	*n.p.*	—	*n.p.*	*1.3*
General	0.9	n.r.	0.2	0.1	n.p.	n.p.	2.1	n.p.	0.6
Other	1.1	n.r.	0.2	1.7	1.0	—	0.3	3.1	1.0

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

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

n.r. Data not received at the time of publication.

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

Presentation at birth

Data are presented in this section by mother. Women who gave birth to more than one baby are categorised according to the presentation at birth of the first born baby. Presentation at birth is defined as presenting part of the fetus at birth. Table 4.11 shows the presentation for each individual baby by plurality.

In 2010, the predominant presentation at birth was cephalic (94.7%), which included presentation of any part (vertex, face or brow) of the fetal head in labour. Vertex presentation, where the crown (vertex) of the fetal head is the presenting part, occurred for 94.4% of all women who gave birth, while face or brow presentation occurred for 0.2% of mothers. Breech presentation, the presentation of the baby's buttocks or feet in labour, occurred for 3.9% of mothers. Summary data for breech presentation are presented; data

were not available on complete, incomplete and frank breech presentations (Table 3.29). Of the 11,376 women with a breech presentation, 91.8% were singleton pregnancies and 8.2% were multiple pregnancies.

Table 3.29: Women who gave birth, by presentation at birth and state and territory, 2010

Presentation	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT[(b)]	NT	Australia
					Number				
Vertex	90,784	68,245	57,956	29,299	18,689	4,209	5,537	3,634	278,353
Breech	3,454	3,026	2,512	1,213	783	9	228	151	11,376
Face	108	104	79	65	29	n.p.	<5	<5	398
Brow	74	102	75	36	27	<5	<5	n.p.	326
Other[(c)]	553	728	394	229	111	17	53	16	2,101
Not stated	20	412	4	—	27	1,777	—	20	2,260
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Vertex	95.6	94.0	95.0	95.0	95.0	69.9	95.0	94.9	94.4
Breech	3.6	4.2	4.1	3.9	4.0	0.1	3.9	3.9	3.9
Face	0.1	0.1	0.1	0.2	0.1	n.p.	n.p.	n.p.	0.1
Brow	0.1	0.1	0.1	0.1	0.1	n.p.	n.p.	n.p.	0.1
Other[(c)]	0.6	1.0	0.6	0.7	0.6	0.3	0.9	0.4	0.7
Not stated	0.0	0.6	0.0	—	0.1	29.5	—	0.5	0.8
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) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of breech presentation for ACT residents who gave birth in the ACT was 3.6% and 5.5% 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.

Notes

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

2. Provisional data were provided by Victoria for this table.

Method of birth

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

From 2007, changes to the Perinatal NMDS item for method of birth were implemented. 'Spontaneous vaginal' was changed to 'Non-instrumental vaginal' and 'Vaginal breech' was no longer a category. Therefore, care must be taken when looking at time series data. Vaginal breech births would be recorded as either 'Non-instrumental vaginal' or 'Forceps' for 2007 onwards with breech as the presentation. Two of the eight jurisdictions were able to provide data in this way; therefore, the 'Non-instrumental vaginal' category for 2010 may include women in New South Wales and Western Australia who had breech births where instruments were used.

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

Vaginal births

In 2010, 201,613 women (68.4%) had a vaginal birth, and most of these (82.4%) did not involve instruments.

Of all women who gave birth in 2010, 56.4% had a non-instrumental vaginal birth. The proportion of non-instrumental vaginal births ranged from 52.1% in Western Australia to 62.5% in the Northern Territory (Table 3.30).

About 1 in 9 mothers (12.0%) 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 8.5% in both Tasmania and the Northern Territory to 14.3% in Western Australia. Forceps delivery occurred for 4.0% of mothers and was most common in the Australian Capital Territory (6.1%). Deliveries by vacuum extraction accounted for 8.0% of women who gave birth nationally, ranging from 5.9% in the Northern Territory to 11.6% in Western Australia (Table 3.30).

Table 3.30: Women who gave birth, by method of birth and state and territory, 2010

Method of birth	NSW[(a)]	Vic	Qld	WA[(a)]	SA	Tas	ACT[(b)]	NT	Australia
					Number				
Non-instrumental vaginal	55,103	39,625	35,071	16,073	10,923	3,731	3,288	2,394	166,208
Forceps	3,843	4,226	1,157	824	1,062	132	357	101	11,702
Vacuum extraction	7,074	5,986	4,735	3,586	1,358	380	358	226	23,703
Caesarean section	28,948	22,761	20,057	10,359	6,323	1,777	1,823	1,109	93,157
Labour	*12,096*	*9,579*	*7,450*	*4,121*	*2,898*	*811*	*800*	*519*	*38,274*
No labour	*16,849*	*13,179*	*12,607*	*6,238*	*3,425*	*966*	*1,023*	*589*	*54,876*
Not stated	*3*	*3*	—	—	—	—	—	*1*	*7*
Not stated	25	19	—	—	—	—	—	—	44
Total	**94,993**	**72,617**	**61,020**	**30,842**	**19,666**	**6,020**	**5,826**	**3,830**	**294,814**
					Per cent				
Non-instrumental vaginal	58.0	54.6	57.5	52.1	55.5	62.0	56.4	62.5	56.4
Forceps	4.0	5.8	1.9	2.7	5.4	2.2	6.1	2.6	4.0
Vacuum extraction	7.4	8.2	7.8	11.6	6.9	6.3	6.1	5.9	8.0
Caesarean section	30.5	31.3	32.9	33.6	32.2	29.5	31.3	29.0	31.6
Labour	*12.7*	*13.2*	*12.2*	*13.4*	*14.7*	*13.5*	*13.7*	*13.6*	*13.0*
No labour	*17.7*	*18.1*	*20.7*	*20.2*	*17.4*	*16.0*	*17.6*	*15.4*	*18.6*
Not stated	*0.0*	*0.0*	—	—	—	—	—	*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) For NSW and WA, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(b) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 30.1% of ACT resident women had a caesarean section compared with 37.4% of non-ACT residents who gave birth in the ACT.

Notes

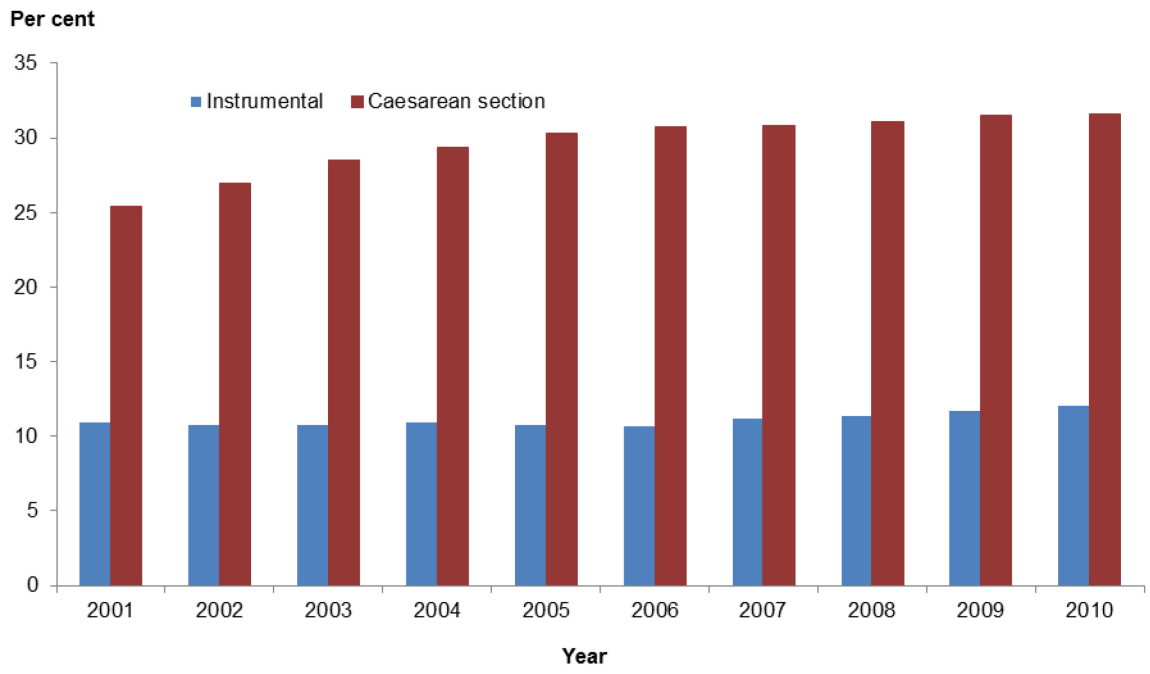
1. For multiple births, the method of birth of the first born baby was used.
2. Provisional data were provided by Victoria for this table.

Caesarean sections

There were 93,157 caesarean sections performed in 2010. Of all women who gave birth, 18.6% had a caesarean section without labour and 13.0% had a caesarean section with labour.

The proportion of caesarean section deliveries varied by state and territory, ranging from 29.0% in the Northern Territory to 33.6% in Western Australia (Table 3.30).

The caesarean section rate has shown an upward trend in the 10 years to 2010, increasing from 25.4% nationally in 2001 to a peak of 31.6% in 2010. In contrast, the proportion of instrumental deliveries has remained stable at about 11.0% throughout this period (Figure 3.3).



Notes

1. Provisional data were provided by Victoria for 2010.
2. Data for this figure is in Table E5.

Figure 3.3: Caesarean section and instrumental deliveries, 2001 to 2010 (per cent)

Directly age-standardised rates of caesarean section were calculated for states and territories for 2010, using as the standard all women who gave birth in 2010. The age-standardised rates of caesarean section varied by state and territory, ranging from 30.2% in New South Wales to 34.1% in Western Australia (Table 3.31).

Table 3.31: Women who gave birth by caesarean section, by age and state and territory, 2010

Age (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Less than 20	546	300	582	239	162	65	20	84	1,998
20–24	2,587	1,675	2,286	1,115	714	263	126	170	8,936
25–29	6,849	5,188	5,148	2,578	1,705	434	404	306	22,612
30–34	9,726	8,009	6,625	3,494	2,033	555	635	284	31,361
35–39	7,310	5,978	4,365	2,340	1,356	384	516	203	22,452
40 and over	1,929	1,592	1,051	593	353	76	122	62	5,778
Not stated	1	19	—	—	—	—	—	—	20
Total	**28,948**	**22,761**	**20,057**	**10,359**	**6,323**	**1,777**	**1,823**	**1,109**	**93,157**
					Per cent				
Less than 20	1.9	1.3	2.9	2.3	2.6	3.7	1.1	7.6	2.1
20–24	8.9	7.4	11.4	10.8	11.3	14.8	6.9	15.3	9.6
25–29	23.7	22.8	25.7	24.9	27.0	24.4	22.2	27.6	24.3
30–34	33.6	35.2	33.0	33.7	32.2	31.2	34.8	25.6	33.7
35–39	25.3	26.3	21.8	22.6	21.4	21.6	28.3	18.3	24.1
40 and over	6.7	7.0	5.2	5.7	5.6	4.3	6.7	5.6	6.2
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**
					Age-standardised rate[(a)]				
Rate	30.2	30.5	34.0	34.1	32.6	31.0	[(b)]30.3	31.0	—

(a) Directly age-standardised using the Australian population of women who gave birth in 2010.

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

Notes

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

2. Provisional data were provided by Victoria for this table.

Information about the main reason for carrying out a caesarean section is in Table 3.32 for Queensland, South Australia, Tasmania and the Northern Territory. These data are not part of the Perinatal NMDS and should be examined independently for each state and territory as the data are not standard across jurisdictions. The table shows that data were not available or coded to the 'Other' category for a substantial proportion of caesarean sections. A history of repeat/previous caesarean section was the leading reason reported for caesarean section (range 35.2% to 38.4%). There was no separate category for patient choice in the data presented.

Table 3.32: Women who gave birth by caesarean section, by main reason for caesarean section and state and territory, 2010[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
					Number			
Previous caesarean section	n.p.	n.r.	7,573	n.a.	2,224	666	n.a.	426
Fetal distress	n.p.	n.r.	2,113	n.a.	730	318	n.a.	135
Malpresentation	n.p.	n.r.	1,793	n.a.	636	189	n.a.	103
Antepartum haemorrhage	n.p.	n.r.	478	n.a.	120	11	n.a.	14
Hypertension/ pre-eclampsia	n.p.	n.r.	469	n.a.	155	86	n.a.	—
Multiple pregnancy	n.p.	n.r.	336	n.a.	86	<5	n.a.	—
Intrauterine growth restriction	n.p.	n.r.	204	n.a.	54	<5	n.a.	—
Other[(b)]	n.p.	n.r.	7,091	n.a.	2,318	501	n.a.	426
Not stated	n.p.	n.r.	—	n.a.	—	—	n.a.	5
Total	**n.p.**	**n.r.**	**20,057**	**n.a.**	**6,323**	**1,777**	**n.a.**	**1,109**
					Per cent			
Previous caesarean section	n.p.	n.r.	37.8	n.a.	35.2	37.5	n.a.	38.4
Fetal distress	n.p.	n.r.	10.5	n.a.	11.5	17.9	n.a.	12.2
Malpresentation	n.p.	n.r.	8.9	n.a.	10.1	10.6	n.a.	9.3
Antepartum haemorrhage	n.p.	n.r.	2.4	n.a.	1.9	0.6	n.a.	1.3
Hypertension/ pre-eclampsia	n.p.	n.r.	2.3	n.a.	2.5	4.8	n.a.	—
Multiple pregnancy	n.p.	n.r.	1.7	n.a.	1.4	n.p.	n.a.	—
Intrauterine growth restriction	n.p.	n.r.	1.0	n.a.	0.9	n.p.	n.a.	—
Other[(b)]	n.p.	n.r.	35.4	n.a.	36.7	28.2	n.a.	38.4
Not stated	n.p.	n.r.	—	n.a.	—	—	n.a.	0.5
Total	**n.p.**	**n.r.**	**100.0**	**n.a.**	**100.0**	**100.0**	**n.a.**	**100.0**

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

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

n.a. Data not available.

n.p. Data not published to maintain confidentiality of small numbers. Data for NSW not published as complete data were not available in a comparable format.

n.r. Data not received at the time of publication.

Method of birth and maternal age

Table 3.33 presents methods of birth by maternal age groups. Non-instrumental vaginal birth was most common for women younger than 20 (70.4%) and declined progressively with increasing maternal age. The proportion of instrumental vaginal births was highest in the 25–29 years age group (13.4%).

Caesarean section rates increased with advancing maternal age. In 2010, caesarean section rates ranged from 17.6% for mothers younger than 20 to 48.0% for mothers aged 40 and over (Table 3.33).

Table 3.33: Method of birth, by maternal age (years), 2010

Method of birth	Younger than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
				Number				
Non-instrumental vaginal[(a)]	8,001	27,976	47,806	49,503	27,657	5,220	45	166,208
Forceps	394	1,557	3,642	3,868	1,858	382	1	11,702
Vacuum extraction	979	3,358	7,292	7,644	3,764	659	7	23,703
Caesarean section	1,998	8,936	22,612	31,361	22,452	5,778	20	93,157
Not stated	1	2	9	19	9	3	1	44
Total	**11,373**	**41,829**	**81,361**	**92,395**	**55,740**	**12,042**	**74**	**294,814**
				Per cent				
Non-instrumental vaginal[(a)]	70.4	66.9	58.8	53.6	49.6	43.3	60.8	56.4
Forceps	3.5	3.7	4.5	4.2	3.3	3.2	1.4	4.0
Vacuum extraction	8.6	8.0	9.0	8.3	6.8	5.5	9.5	8.0
Caesarean section	17.6	21.4	27.8	33.9	40.3	48.0	27.0	31.6
Not stated	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

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

Notes

1. For multiple births, the method of birth of the first born baby was used.
2. Provisional data were provided by Victoria for this table.

Method of birth and Indigenous status

Mothers who identified as being of Aboriginal or Torres Strait Islander origin had a higher proportion of non-instrumental vaginal births than non-Indigenous mothers (68.2% compared with 55.9%) and a lower proportion of instrumental vaginal deliveries (forceps or vacuum extraction). The caesarean section rate of 25.6% for mothers who identified as Aboriginal or Torres Strait Islander was less than that for non-Indigenous mothers (31.8%) (Table 3.34). This may be partially explained by the younger age of Indigenous mothers, which averaged 25.2 years.

Table 3.34: Women who gave birth, by Indigenous status, method of birth and state and territory, 2010

Indigenous status[(a)]/ method of birth	NSW[(b)]	Vic	Qld	WA[(b)]	SA	Tas	ACT[(c)]	NT	Australia
Indigenous					**Number**				
Non-instrumental vaginal	2,089	591	2,443	1,138	409	159	66	941	7,836
Instrumental vaginal[(d)]	212	68	164	129	45	12	5	79	714
Caesarean section	789	218	897	418	171	58	23	370	2,944
Not stated	—	—	—	—	—	—	—	—	—
Total	**3,090**	**877**	**3,504**	**1,685**	**625**	**229**	**94**	**1,390**	**11,494**
					Per cent				
Non-instrumental vaginal	67.6	67.4	69.7	67.5	65.4	69.4	70.2	67.7	68.2
Instrumental vaginal[(d)]	6.9	7.8	4.7	7.7	7.2	5.2	5.3	5.7	6.2
Caesarean section	25.5	24.9	25.6	24.8	27.4	25.3	24.5	26.6	25.6
Not stated	—	—	—	—	—	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Non-Indigenous					**Number**				
Non-instrumental vaginal	52,869	38,797	32,624	14,935	10,514	3,536	3,221	1,431	157,927
Instrumental vaginal[(d)]	10,676	10,076	5,727	4,281	2,375	497	710	243	34,585
Caesarean section	28,093	22,405	19,160	9,941	6,152	1,702	1,800	725	89,978
Not stated	21	17	—	—	—	—	—	—	38
Total	**91,659**	**71,295**	**57,511**	**29,157**	**19,041**	**5,735**	**5,731**	**2,399**	**282,528**
					Per cent				
Non-instrumental vaginal	57.7	54.4	56.7	51.2	55.2	61.7	56.2	59.6	55.9
Instrumental vaginal[(d)]	11.6	14.1	10.0	14.7	12.5	8.7	12.4	10.1	12.2
Caesarean section	30.6	31.4	33.3	34.1	32.3	29.7	31.4	30.2	31.8
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) For NSW and WA, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(c) 36.2% of Aboriginal and Torres Strait Islander women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 15.0% of ACT resident Indigenous women had a caesarean section compared with 41.2% of non-ACT resident Indigenous women who gave birth in the ACT.

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

Notes

1. For multiple births, the method of birth of the first born baby was used.
2. Provisional data were provided by Victoria for this table.

Age-specific rates of caesarean section were calculated by Indigenous status (Table 3.35). For those younger than 20, and those aged 20–24, the rate of caesarean section for Aboriginal and Torres Strait Islander mothers was higher than for non-Indigenous mothers. For mothers aged 25 and over, the rate of caesarean section was lower for Indigenous mothers than for non-Indigenous mothers (Table 3.35).

Table 3.35: Women who gave birth by caesarean section, by Indigenous status and age, 2010

	Younger than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
				Number				
Indigenous	477	838	725	500	323	81	—	2,944
Non-Indigenous	1,518	8,078	21,835	30,773	22,076	5,678	20	89,978
Not stated	3	20	52	88	53	19	—	235
Total	**1,998**	**8,936**	**22,612**	**31,361**	**22,452**	**5,778**	**20**	**93,157**
				Age-specific rate				
Indigenous	21.1	22.7	26.3	29.5	36.3	40.3	—	25.6
Non-Indigenous	16.7	21.2	27.8	34.0	40.4	48.1	29.4	31.8
				Age-standardised rate[(a)]				
Indigenous	—	—	—	—	—	—	—	29.0
Non-Indigenous	—	—	—	—	—	—	—	31.6

(a) Directly age-standardised using the Australian population of women who gave birth in 2010.

Notes

1. For multiple births, the method of birth of the first born baby was used.
2. Provisional data were provided by Victoria for this table.

Primary caesarean sections

The rate of primary caesarean section varied by parity, with 32.6% of primiparous women giving birth by caesarean section compared with 10.3% of multiparous women. The rate of caesarean section for primiparous women ranged from 29.0% in the Northern Territory to 34.2% in Western Australia. The overall rate for women without a history of previous caesarean section was 21.7% (Table 3.36).

Table 3.36: Primary caesarean sections, by parity and state and territory, 2010

Parity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Primiparas	13,017	n.r.	8,164	4,473	2,781	762	816	442	30,455
Multiparas[(a)]	3,931	n.r.	2,668	1,405	733	254	187	168	9,346
Total	**16,948**	**n.r.**	**10,832**	**5,878**	**3,514**	**1,016**	**1,003**	**610**	**39,801**
					Primary caesarean section rate				
Primiparas	31.9	n.r.	32.8	34.2	33.5	31.6	32.5	29.0	32.6
Multiparas[(a)]	10.2	n.r.	10.6	11.1	9.2	9.5	11.1	10.2	10.3
Total	**21.4**	**n.r.**	**21.6**	**22.9**	**21.6**	**19.9**	**23.9**	**19.2**	**21.7**

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

n.r. Data not received at the time of publication.

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

Method of birth and previous caesarean section

In 2010, 13.1% of mothers who had previously had a caesarean section had a non-instrumental vaginal birth and 3.3% had an instrumental vaginal birth. Repeat caesarean sections occurred for 83.6% of mothers with a history of caesarean section, and ranged from 76.2% in the Northern Territory to 86.7% in Western Australia (Table 3.37).

Table 3.37: Multiparous mothers who had previous caesarean section, by current method of birth and state and territory, 2010

Method of birth	NSW[(a)]	Vic	Qld	WA[(a)]	SA	Tas	ACT	NT	Total
					Number				
Non-instrumental vaginal	1,925	n.r.	1,443	507	477	135	122	135	4,744
Instrumental vaginal[(b)]	537	n.r.	261	180	149	25	28	21	1,201
Caesarean section	11,851	n.r.	9,225	4,481	2,809	761	627	499	30,253
Not stated	3	n.r.	—	—	—	—	—	—	3
Total	**14,316**	**n.r.**	**10,929**	**5,168**	**3,435**	**921**	**777**	**655**	**36,201**
					Per cent				
Non-instrumental vaginal	13.4	n.r.	13.2	9.8	13.9	14.7	15.7	20.6	13.1
Instrumental vaginal[(b)]	3.8	n.r.	2.4	3.5	4.3	2.7	3.6	3.2	3.3
Caesarean section	82.8	n.r.	84.4	86.7	81.8	82.6	80.7	76.2	83.6
Not stated	0.0	n.r.	—	—	—	—	—	—	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

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

n.r. Data not received at the time of publication.

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

In 2010, the rate of caesarean section for women giving birth to term singletons ranged from 45.5% at 38 weeks gestation to 18.0% at 40 weeks gestation, and was 30.3% overall. Caesarean section in labour was most common at 41 weeks. The rate of no labour caesarean section peaked at 38 weeks at 35.4% (Table 3.38).

Table 3.38: Women who gave birth to term singleton babies and had a caesarean section, by gestational age and onset of labour, 2010

Gestational age	Labour	No labour	Not stated	Total
		Number		
37	2,493	4,520	—	7,013
38	5,574	19,618	1	25,193
39	7,540	18,087	2	25,629
40	10,195	3,790	3	13,988
41	7,985	1,497	—	9,482
Total	**33,787**	**47,512**	**6**	**81,305**
		Per cent		
37	13.7	24.9	—	38.6
38	10.1	35.4	0.0	45.5
39	9.7	23.2	0.0	32.8
40	13.1	4.9	0.0	18.0
41	20.3	3.8	—	24.2
Total	**12.6**	**17.7**	**0.0**	**30.3**

Note: Provisional data were provided by Victoria for this table.

Perineal status after vaginal birth

In 2010, nearly 1 in 3 mothers (28.3%) had an intact perineum after vaginal birth. A first or second degree laceration or graze was reported in 49.3% of women after vaginal birth. A third or fourth degree laceration of the perineum was reported in 1.8% of vaginal births. This proportion varied among the states and territories, from 1.1% in Tasmania to 3.0% in the Australian Capital Territory. An episiotomy only was performed for 13.4% of vaginal births, with the highest rate recorded in New South Wales (14.4%). A combined laceration and episiotomy occurred in 2.9% of women who had a vaginal birth, giving a total of 16.3% of women who had a vaginal birth having an episiotomy (Table 3.39).

Table 3.39: Women who gave birth vaginally, by perineal status and state and territory, 2010

Perineal status	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT	NT	Total
					Number				
Episiotomy	9,488	n.r.	5,047	2,626	1,816	549	436	326	20,288
Intact	15,340	n.r.	11,998	7,768	3,551	1,831	1,391	1,082	42,961
1st degree laceration/ vaginal graze	18,909	n.r.	7,580	3,146	3,377	781	614	567	34,974
2nd degree laceration	17,874	n.r.	10,465	4,980	3,645	912	1,395	619	39,890
3rd/4th degree laceration	1,129	n.r.	693	382	282	46	120	61	2,713
Combined laceration and episiotomy	2,065	n.r.	433	1,133	659	27	47	44	4,408
Other	[(b)]1,205	n.r.	[(c)]4,747	[(b)]448	13	97	—	22	6,532
Not stated	10	n.r.	—	—	—	—	—	—	10
Total	**66,020**	**n.r.**	**40,963**	**20,483**	**13,343**	**4,243**	**4,003**	**2,721**	**151,776**
					Per cent				
Episiotomy	14.4	n.r.	12.3	12.8	13.6	12.9	10.9	12.0	13.4
Intact	23.2	n.r.	29.3	37.9	26.6	43.2	34.7	39.8	28.3
1st degree laceration/ vaginal graze	28.6	n.r.	18.5	15.4	25.3	18.4	15.3	20.8	23.0
2nd degree laceration	27.1	n.r.	25.5	24.3	27.3	21.5	34.8	22.7	26.3
3rd/4th degree laceration	1.7	n.r.	1.7	1.9	2.1	1.1	3.0	2.2	1.8
Combined laceration and episiotomy	3.1	n.r.	1.1	5.5	4.9	0.6	1.2	1.6	2.9
Other	[(b)]1.8	n.r.	[(c)]11.6	[(b)]2.2	0.1	2.3	—	0.8	4.3
Not stated	0.0	n.r.	—	—	—	—	—	—	0.0
Total	**100.0**	**n.r.**	**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 'Combined laceration and episiotomy' in the electronic systems. In the paper-based form they were recorded as 'Episiotomy'. Care must be taken when interpreting these numbers.

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

(c) Includes genital grazes such as clitoral or labial.

n.r. Data not received at the time of publication.

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

Pre-existing and pregnancy-related medical conditions

Table 3.40 presents information on pre-existing conditions and complications arising in pregnancy for women who gave birth in all jurisdictions except Victoria. These data are not part of the Perinatal NMDS and should be examined independently for each state and territory as they are not standard across jurisdictions. The pre-existing essential hypertension rates ranged from 5.8 per 1,000 women in Queensland to 12.5 per 1,000 women in Tasmania. The rate of fetal distress varied by state and territory, and ranged from 24.9 per 1,000 women in Tasmania to 186.7 per 1,000 women in Queensland. This may reflect the relevant definitions as well as variability in the practices and protocols used to assess the conditions. The rate for gestational diabetes ranged from 38.9 per 1,000 women in Tasmania to 68.9 per 1,000 women in the Northern Territory.

Table 3.40: Women who gave birth, by selected maternal medical and obstetric conditions and state and territory, 2010[a]

Medical condition or complication	NSW	Vic	Qld	WA	SA	Tas	ACT[b]	NT
				Number				
Pre-existing hypertension	796	n.r.	355	359	210	75	60	39
Pre-existing diabetes mellitus	609	n.r.	389	211	129	65	67	64
Epilepsy	n.a.	n.r.	254	153	106	69	22	15
Antepartum haemorrhage	n.a.	n.r.	1,569	1,066	685	143	282	45
Placenta praevia	*n.a.*	*n.r.*	*442*	*210*	*98*	*27*	*63*	*n.a.*
Abruptio placenta	*n.a.*	*n.r.*	*272*	*87*	*116*	*13*	*23*	*n.a.*
Other	*n.a.*	*n.r.*	*855*	*769*	*471*	*103*	*196*	*n.a.*
Pregnancy-induced hypertension	6,357	n.r.	2,840	313	1,383	234	128	n.a.
Gestational diabetes	5,330	n.r.	3,416	1,911	1,092	234	291	264
Fetal distress	n.a.	n.r.	[c]11,393	3,967	2,289	150	657	442
Cord prolapse	n.a.	n.r.	99	36	31	<5	<5	7
Postpartum haemorrhage	1,236	n.r.	[d]3,382	4,790	2,082	375	580	612
Retained placenta	n.a.	n.r.	738	366	293	62	77	55
				Rate per 1,000 women who gave birth				
Pre-existing hypertension	8.4	n.r.	5.8	11.6	10.7	12.5	10.3	10.2
Pre-existing diabetes mellitus	6.4	n.r.	6.4	6.8	6.6	10.8	11.5	16.7
Epilepsy	n.a.	n.r.	4.2	5.0	5.4	11.5	3.8	3.9
Antepartum haemorrhage	n.a.	n.r.	25.7	34.6	34.8	23.8	48.4	11.7
Placenta praevia	*n.a.*	*n.r.*	*7.2*	*6.8*	*5.0*	*4.5*	*10.8*	*n.a.*
Abruptio placenta	*n.a.*	*n.r.*	*4.5*	*2.8*	*5.9*	*2.2*	*3.9*	*n.a.*
Other	*n.a.*	*n.r.*	*14.0*	*24.9*	*23.9*	*17.1*	*33.6*	*n.a.*
Pregnancy-induced hypertension	66.9	n.r.	46.5	10.1	70.3	38.9	22.0	n.a.
Gestational diabetes	56.1	n.r.	56.0	62.0	55.5	38.9	49.9	68.9
Fetal distress	n.a.	n.r.	[c]186.7	128.6	116.4	24.9	112.8	115.4
Cord prolapse	n.a.	n.r.	1.6	1.2	1.6	n.p.	n.p.	1.8
Postpartum haemorrhage	13.0	n.r.	[d]55.4	155.3	105.9	62.3	99.6	159.8
Retained placenta	n.a.	n.r.	12.1	11.9	14.9	10.3	13.2	14.4

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

(b) 15.9%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.

(c) Includes fetal distress and/or meconium liquor.

(d) Includes primary and secondary postpartum haemorrhage.

n.a. Data not available.

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

n.r. Data not received at the time of publication.

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 2010. The categories vary from those with very few births each year to those with more than 2,000, and are affected by geographical location, the population of the region and policies regarding maternity services. Table 3.41 presents the number of hospitals or birth centres in each category by state and territory. In 2010, 36.5% of the hospitals or birth centres had 100 or fewer women who gave birth, and 11.0% had more than 2,000 women who gave birth.

Table 3.41: Hospitals and birth centres, by number of women who gave birth and state and territory, 2010

Number of women who gave birth	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
1–100	21	n.r.	46	15	23	4	—	1	110
101–500	32	n.r.	23	12	12	1	—	2	82
501–1,000	15	n.r.	6	4	5	3	1	2	36
1,001–2,000	15	n.r.	14	4	2	2	2	1	40
2,001 and over	18	n.r.	9	2	3	—	1	—	33
Total	**101**	**n.r.**	**98**	**37**	**45**	**10**	**4**	**6**	**301**
					Per cent				
1–100	20.8	n.r.	46.9	40.5	51.1	40.0	—	16.7	36.5
101–500	31.7	n.r.	23.5	32.4	26.7	10.0	—	33.3	27.2
501–1,000	14.9	n.r.	6.1	10.8	11.1	30.0	25.0	33.3	12.0
1,001–2,000	14.9	n.r.	14.4	10.8	4.4	20.0	50.0	16.7	13.3
2,001 and over	17.8	n.r.	9.1	5.4	6.7	—	25.0	—	11.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

n.r. Data not received at the time of publication.

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

Hospital sector

'Hospital sector' indicates whether a patient was admitted to a public or a private hospital. Of women who gave birth in hospitals in 2010, the proportion in private hospitals was 29.9%, ranging from 19.5% in the Northern Territory to 41.6% in Western Australia (Table 3.42).

Table 3.42: Women who gave birth in hospital, by hospital sector and state and territory, 2010

Hospital sector	NSW	Vic	Qld	WA[(a)]	SA	Tas	ACT	NT	Australia
					Number				
Public	67,728	n.r.	41,486	17,584	13,196	3,860	3,705	2,885	150,444
Private	23,846	n.r.	18,343	12,541	5,027	2,056	1,770	699	64,282
Not stated	1	n.r.	—	—	—	—	—	—	1
Total	**91,575**	**n.r.**	**59,829**	**30,125**	**18,223**	**5,916**	**5,475**	**3,584**	**214,727**
					Per cent				
Public	74.0	n.r.	69.3	58.4	72.4	65.2	67.7	80.5	70.1
Private	26.0	n.r.	30.7	41.6	27.6	34.8	32.3	19.5	29.9
Not stated	0.0	n.r.	—	—	—	—	—	—	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For WA, some private hospitals admit public women, hence the number of women who elected private status might be lower than women admitted to private hospitals. Care must be taken when interpreting these numbers.

n.r. Data not received at the time of publication.

Admitted patient election status

'Admitted patient election status' is the accommodation chargeable status elected by a patient on admission to hospital. Of women who gave birth in hospitals in 2010, the proportion who elected private status (that is, elected to be treated as a private patient) was 32.8%, ranging from 21.0% in the Northern Territory to 38.2% in Western Australia (Table 3.43).

Table 3.43: Women who gave birth in hospital, by admitted patient election status and state and territory, 2010

Admitted patient elected accommodation status	NSW	Vic	Qld	WA[(a)]	SA	Tas	ACT	NT	Australia
					Number				
Public	58,244	n.r.	39,982	18,449	12,187	4,174	3,619	2,831	139,486
Private	28,606	n.r.	19,847	11,512	6,036	1,738	1,840	753	70,332
Not stated	4,725	n.r.	—	164	—	4	16	—	4,909
Total	**91,575**	**n.r.**	**59,829**	**30,125**	**18,223**	**5,916**	**5,475**	**3,584**	**214,727**
					Per cent				
Public	63.6	n.r.	66.8	61.2	66.9	70.6	66.1	79.0	65.0
Private	31.2	n.r.	33.2	38.2	33.1	29.4	33.6	21.0	32.8
Not stated	5.2	n.r.	—	0.5	—	0.1	0.3	—	2.3
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For WA, some private hospitals admit public women, hence the number of women who elected private status might be lower than women admitted to private hospitals. Care must be taken when interpreting these numbers.

n.r. Data not received at the time of publication.

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 3.44). Women who gave birth in public hospitals reported higher levels of non-instrumental vaginal birth than those in private hospitals (61.0% compared with 42.7%). Private hospital patients had higher proportions of vaginal births requiring forceps (3.6% compared with 3.4%) or vacuum extraction (10.6% compared with 7.2%) (Table 3.44) than public hospital patients.

Of women who gave birth in public hospitals, the highest rate of forceps deliveries was in the Australian Capital Territory (6.3%), and of those in private hospitals, the highest rate of forceps deliveries was in the Northern Territory (7.2%). Vacuum extraction was most common for both public and private hospitals in Western Australia.

Of women who gave birth in hospitals in Australia in 2010, 32.6% had a caesarean section delivery. The caesarean section rate of 43.1% for women in private hospitals was higher than the rate in public hospitals (28.4%). The highest rate of caesarean section deliveries in private hospitals was in Queensland (47.9%), followed by the Australian Capital Territory (43.1%) and Western Australia (42.5%) (Table 3.44).

Table 3.44: Women who gave birth in hospital, by method of birth, hospital sector and state and territory, 2010

Hospital sector/ method of birth	NSW[(a)]	Vic	Qld	WA[(a)]	SA	Tas	ACT[(b)]	NT	Australia
Public					**Number**				
Non-instrumental vaginal	41,183	n.r.	26,612	10,330	7,243	2,430	2,191	1,828	91,817
Forceps	2,877	n.r.	638	516	745	76	235	51	5,138
Vacuum extraction	4,504	n.r.	2,974	1,710	946	265	218	183	10,800
Caesarean section	19,157	n.r.	11,262	5,028	4,262	1,089	1,061	823	42,682
Not stated	7	n.r.	—	—	—	—	—	—	7
Total	**67,728**	**n.r.**	**41,486**	**17,584**	**13,196**	**3,860**	**3,705**	**2,885**	**150,444**
					Per cent				
Non-instrumental vaginal	60.8	n.r.	64.1	58.7	54.9	63.0	59.1	63.4	61.0
Forceps	4.2	n.r.	1.5	2.9	5.6	2.0	6.3	1.8	3.4
Vacuum extraction	6.7	n.r.	7.2	9.7	7.2	6.9	5.9	6.3	7.2
Caesarean section	28.3	n.r.	27.1	28.6	32.3	28.2	28.6	28.5	28.4
Not stated	0.0	n.r.	—	—	—	—	—	—	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Private					**Number**				
Non-instrumental vaginal	10,596	n.r.	7,268	5,028	2,280	1,197	746	320	27,435
Forceps	945	n.r.	519	308	307	56	122	50	2,307
Vacuum extraction	2,502	n.r.	1,761	1,874	379	115	140	43	6,814
Caesarean section	9,790	n.r.	8,795	5,331	2,061	688	762	286	27,713
Not stated	13	n.r.	—	—	—	—	—	—	13
Total	**23,846**	**n.r.**	**18,343**	**12,541**	**5,027**	**2,056**	**1,770**	**699**	**64,282**
					Per cent				
Non-instrumental vaginal	44.4	n.r.	39.6	40.1	45.4	58.2	42.1	45.8	42.7
Forceps	4.0	n.r.	2.8	2.5	6.1	2.7	6.9	7.2	3.6
Vacuum extraction	10.5	n.r.	9.6	14.9	7.5	5.6	7.9	6.2	10.6
Caesarean section	41.1	n.r.	47.9	42.5	41.0	33.5	43.1	40.9	43.1
Not stated	0.1	n.r.	—	—	—	—	—	—	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

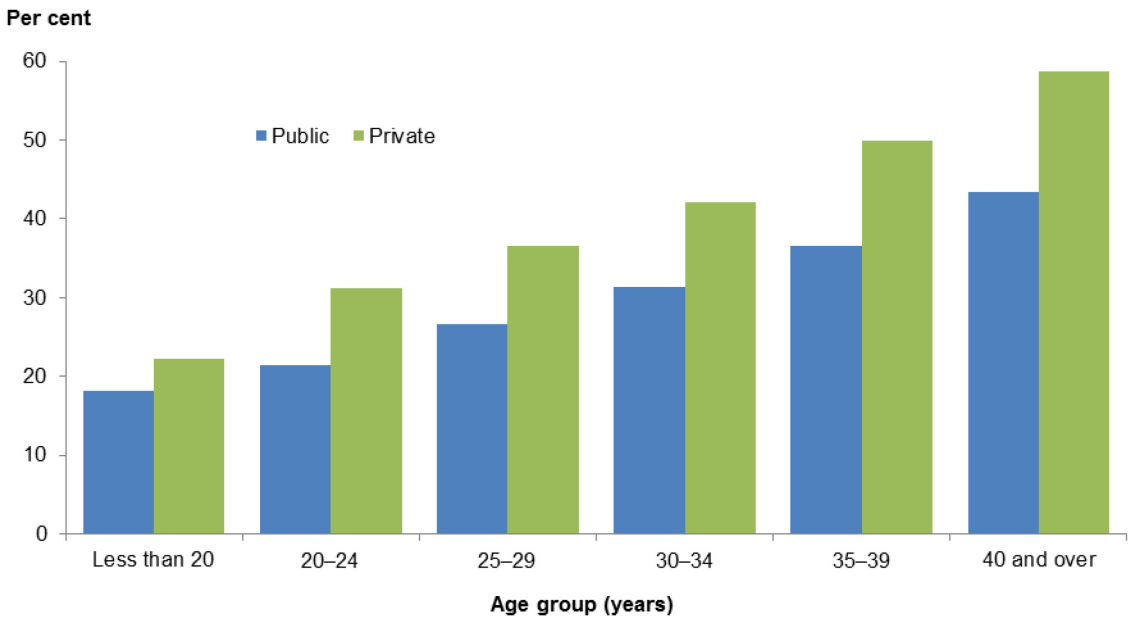
(a) For NSW and WA, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are only included where instruments were not used.

(b) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

n.r. Data not received at the time of publication.

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

Caesarean section rates were higher in private hospitals than in 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 who gave birth in private hospitals was 49.9% compared with 36.5% for those in public hospitals. Of mothers aged 40 or more, 58.7% in private hospitals had a caesarean section compared with 43.5% of similarly aged mothers in public hospitals.



Notes

1. Excludes Victoria.
2. Data for this figure is in Table E6.

Figure 3.4: Caesarean sections, by maternal age and hospital sector, 2010 (per cent)

Length of stay in hospital

Antenatal length of stay

Two-thirds of women (66.4%) gave birth within a day of admission to hospital. The proportion of women who gave birth within two days of admission was 93.1%. Only 0.8% of mothers were hospitalised for 7 days or more immediately before giving birth (Table 3.45).

Table 3.45: Women who gave birth in hospital, by length of antenatal stay and state and territory, 2010

Length of stay	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT	NT	Australia
					Number				
Less than 1 day	59,870	n.r.	41,493	19,966	11,595	3,706	3,615	2,298	142,543
1 day	24,415	n.r.	15,298	8,284	5,369	1,446	1,543	958	57,313
2–6 days	4,766	n.r.	2,648	1,468	1,031	265	292	283	10,753
7–13 days	514	n.r.	236	134	114	21	18	27	1,064
14 or more days	288	n.r.	154	109	114	9	7	18	699
Not stated	1,722	n.r.	—	164	—	469	—	—	2,355
Total	**91,575**	**n.r.**	**59,829**	**30,125**	**18,223**	**5,916**	**5,475**	**3,584**	**214,727**
					Per cent				
Less than 1 day	65.4	n.r.	69.4	66.3	63.6	62.6	66.0	64.1	66.4
1 day	26.7	n.r.	25.6	27.5	29.5	24.4	28.2	26.7	26.7
2–6 days	5.2	n.r.	4.4	4.9	5.7	4.5	5.3	7.9	5.0
7–13 days	0.6	n.r.	0.4	0.4	0.6	0.4	0.3	0.8	0.5
14 or more days	0.3	n.r.	0.3	0.4	0.6	0.2	0.1	0.5	0.3
Not stated	1.9	n.r.	—	0.5	—	7.9	—	—	1.1
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For Tas, these data are not fully reported due to the linkage issues between movement of cases between hospitals. Care must be taken when interpreting these numbers.

n.r. Data not received at the time of publication.

Postnatal length of stay

In 2010, the median postnatal hospital stay for mothers was 3.0 days (Table 3.46).The trend towards shorter postnatal stays in hospital is reflected by the higher proportion of mothers who were discharged less than 5 days after giving birth. In 2010, 17.6% of mothers were discharged less than 2 days after giving birth, and 63.1% were discharged between 2 and 4 days after giving birth (Table 3.46). This compares with 11.1% and 57.2% respectively in 2001. Relatively more mothers in Queensland (86.6%) and the Australian Capital Territory (82.0%) had stays of less than 5 days in 2010. Longer lengths of stay (of 5 or more days) were relatively more common in Western Australia.

Table 3.46: Women who gave birth in hospital[(a)], by length of postnatal stay and state and territory, 2010

Length of stay	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Median (days)	3.0	n.r.	3.0	3.0	3.0	3.0	3.0	3.0	3.0
					Number				
Less than 1 day	2,661	n.r.	2,431	805	495	189	264	161	7,006
1 day	12,223	n.r.	10,499	3,743	1,732	693	814	426	30,130
2 days	19,575	n.r.	13,582	5,060	3,371	1,136	996	623	44,343
3 days	18,709	n.r.	13,291	6,130	3,704	1,277	1,182	653	44,946
4 days	18,814	n.r.	11,532	5,783	4,504	1,242	1,178	619	43,672
5 days	12,067	n.r.	5,954	4,255	2,797	673	743	461	26,950
6 days	3,321	n.r.	1,246	2,157	823	266	165	190	8,168
7–13 days	2,207	n.r.	704	1,309	444	n.p.	n.p.	213	5,088
14 or more days	211	n.r.	39	33	22	n.p.	<5	27	356
Not stated	12	n.r.	—	—	—	—	—	—	12
Total	**89,800**	**n.r.**	**59,278**	**29,275**	**17,892**	**5,643**	**5,410**	**3,373**	**210,671**
					Per cent				
Less than 1 day	3.0	n.r.	4.1	2.7	2.8	3.3	4.9	4.8	3.3
1 day	13.6	n.r.	17.7	12.8	9.7	12.3	15.0	12.6	14.3
2 days	21.8	n.r.	22.9	17.3	18.8	20.1	18.4	18.5	21.0
3 days	20.8	n.r.	22.4	20.9	20.7	22.6	21.8	19.4	21.3
4 days	21.0	n.r.	19.5	19.8	25.2	22.0	21.8	18.4	20.7
5 days	13.4	n.r.	10.0	14.5	15.6	11.9	13.7	13.7	12.8
6 days	3.7	n.r.	2.1	7.4	4.6	4.7	3.0	5.6	3.9
7–13 days	2.5	n.r.	1.2	4.5	2.5	n.p.	n.p.	6.3	2.4
14 or more days	0.2	n.r.	0.1	0.1	0.1	n.p.	n.p.	0.8	0.2
Not stated	0.0	n.r.	—	—	—	—	—	—	0.0
Total	**100.0**	**n.r.**	**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

n.r. Data not received at the time of publication.

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 2010, compared with 2.0 days for those in public hospitals. The proportion of women with a postnatal stay of less than 5 days was 61.3% for those in private hospitals, compared with 89.2% in public hospitals.

Women who had a caesarean section birth had a longer median length of stay (4.0 days) than women who had a non-instrumental vaginal birth (2.0 days). The median length of stay for women who had a forceps or vacuum extraction delivery was 3.0 days. Of women who had a caesarean section, 5.1% had a postnatal length of stay of 7 days or longer (Table 3.47).

Table 3.47: Women who gave birth in hospital[(a)], by length of postnatal stay and method of birth, 2010

Length of stay	Non-instrumental vaginal[(b)]	Forceps	Vacuum extraction	Caesarean section	Not stated	Australia
Median (days)	2.0	3.0	3.0	4.0	4.0	3.0
			Number			
Less than 1 day	6,692	44	190	79	1	7,006
1 day	27,499	492	1,649	487	3	30,130
2 days	32,492	1,576	3,841	6,433	1	44,343
3 days	23,383	1,761	3,970	15,829	3	44,946
4 days	19,474	2,086	4,873	17,232	7	43,672
5 days	4,942	847	1,839	19,319	3	26,950
6 days	1,514	292	567	5,795	0	8,168
7–13 days	1,194	213	376	3,305	0	5,088
14 or more days	105	9	16	226	0	356
Not stated	4	—	—	6	2	12
Total	**117,299**	**7,320**	**17,321**	**68,711**	**20**	**210,671**
			Per cent			
Less than 1 day	5.7	0.6	1.1	0.1	5.0	3.3
1 day	23.4	6.7	9.5	0.7	15.0	14.3
2 days	27.7	21.5	22.2	9.4	5.0	21.0
3 days	19.9	24.1	22.9	23.0	15.0	21.3
4 days	16.6	28.5	28.1	25.1	35.0	20.7
5 days	4.2	11.6	10.6	28.1	15.0	12.8
6 days	1.3	4.0	3.3	8.4	0.0	3.9
7–13 days	1.0	2.9	2.2	4.8	0.0	2.4
14 or more days	0.1	0.1	0.1	0.3	0.0	0.2
Not stated	0.0	—	—	0.0	10.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Only includes mothers who were discharged home.

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

Notes

1. Excludes Victoria.

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

Mode of separation from hospital

Nearly all women who gave birth in hospital were discharged to their homes (98.1%). About 1.7% of mothers were transferred to another hospital (Table 3.48). This usually occurs for continuing care in a hospital located nearer to the mother's place of residence or for further treatment of complications. The transfers to another hospital occurred more in Tasmania (4.6%) than in the other jurisdictions.

Table 3.48: Women who gave birth in hospital, by mode of separation and state and territory, 2010

Mode of separation	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Discharge home	89,800	n.r.	59,278	29,275	17,892	5,643	5,410	3,373	210,671
Transfer to another hospital	1,769	n.r.	548	548	330	272	61	40	3,568
Died	n.p.	n.r.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	8
Other[(a)]	n.p.	n.r.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	305
Not stated	4	n.r.	—	164	—	—	4	3	175
Total	**91,575**	**n.r.**	**59,829**	**30,125**	**18,223**	**5,916**	**5,475**	**3,584**	**214,727**
					Per cent				
Discharge home	98.1	n.r.	99.1	97.2	98.2	95.4	98.8	94.1	98.1
Transfer to another hospital	1.9	n.r.	0.9	1.8	1.8	4.6	1.1	1.1	1.7
Died	n.p.	n.r.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.0
Other[(a)]	n.p.	n.r.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.1
Not stated	0.0	n.r.	—	0.5	—	—	0.1	0.1	0.1
Total	**100.0**	**n.r.**	**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.'.

n.r. Data not received at the time of publication.

Homebirths

In 2010, there were 1,345 women who gave birth at home, representing 0.5% of all women who gave birth. The highest proportions were in Victoria, Western Australia and the Northern Territory (0.8%) (Table 3.18). It is probable that not all homebirths are reported to the perinatal data collections.

The mean age of mothers who gave birth at home was 31.8 years (Table 3.49). The proportion of mothers younger than 20 was 1.0%, and the proportion aged 35 and over was 28.7%. The proportion of mothers who gave birth at home who identified as being of Aboriginal or Torres Strait Islander origin was 0.9%. Most women who gave birth at home were living in *Major cities* (69.5%) (Table 3.49).

Of mothers who gave birth at home, one-quarter had their first baby (25.2%), and 74.3% were multiparous. The predominant method of birth for 99.3% of women who gave birth at home was non-instrumental vaginal (Table 3.49).The presentation was vertex for 97.2% of women who gave birth at home.

Of babies born at home in 2010, 99.7% were liveborn. The mean birthweight of these liveborn babies was 3,604 grams (Table 3.49). The proportion of liveborn babies of low birthweight born at home was 2.1%, and the proportion of preterm babies born at home was 2.2%.

Table 3.49: Selected characteristics of women who gave birth at home, 2010

Characteristic	Number	Per cent
Women who gave birth	1,345	—
Mean maternal age	31.8	—
Parity[(a)]		
None	196	25.2
One	303	38.9
Two	160	20.6
Three	70	9.0
Four or more	45	5.8
Remoteness area of mother's usual residence[(b)]		
Major cities	930	69.5
Inner regional	301	22.5
Outer regional	96	7.2
Remote/Very remote	11	0.8
Method of birth		
Non-instrumental vaginal[(c)]	1,335	99.3
Other	4	0.3
Births	1,354	—
Birth status		
Live births	1,350	99.7
Fetal deaths	4	0.3
Sex		
Male	698	51.6
Female	654	48.3
Mean birthweight of live births (g)	3,604.3	—

(a) Excludes Vic.

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

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

Note: Provisional data were provided by Victoria for this table.

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 in Australia as a death occurring before 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 (AIHW 2010). The scope of the NPDC restricts the inclusion of live births to those that are at least 400 grams birthweight.

There were 297,357 live births and 2,206 fetal deaths in Australia in 2010, with a total of 299,563 births reported to the NPDC (Table 2.1). This equates to a stillbirth rate of 7.4 per 1,000 births.

Month of birth

In 2010, the highest monthly percentage of births occurred in March (9.0%), May, July and September (8.5%). March births ranged from 8.7% in the Australian Capital Territory to 9.8% in the Northern Territory (Table 4.1).

Table 4.1: Births, by month of birth, 2010

Month	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
January	8,062	6,123	5,130	2,638	1,724	514	508	309	25,008
February	7,463	5,799	5,076	2,433	1,558	468	520	307	23,624
March	8,513	6,533	5,662	2,948	1,789	537	518	381	26,881
April	7,993	6,025	5,321	2,581	1,609	497	482	339	24,847
May	8,263	6,197	5,326	2,665	1,750	531	507	343	25,582
June	8,280	6,132	5,254	2,615	1,646	492	520	310	25,249
July	8,237	6,321	5,305	2,591	1,697	490	532	332	25,505
August	8,115	6,292	5,265	2,617	1,603	494	496	302	25,184
September	8,240	6,275	5,091	2,660	1,689	566	465	347	25,333
October	8,079	6,303	4,987	2,585	1,740	556	497	299	25,046
November	7,639	5,866	4,706	2,453	1,608	493	436	306	23,507
December	7,602	5,954	4,902	2,479	1,588	499	465	308	23,797
Total	**96,486**	**73,820**	**62,025**	**31,265**	**20,001**	**6,137**	**5,946**	**3,883**	**299,563**
					Per cent				
January	8.4	8.3	8.3	8.4	8.6	8.4	8.5	8.0	8.3
February	7.7	7.9	8.2	7.8	7.8	7.6	8.7	7.9	7.9
March	8.8	8.8	9.1	9.4	8.9	8.8	8.7	9.8	9.0
April	8.3	8.2	8.6	8.3	8.0	8.1	8.1	8.7	8.3
May	8.6	8.4	8.6	8.5	8.7	8.7	8.5	8.8	8.5
June	8.6	8.3	8.5	8.4	8.2	8.0	8.7	8.0	8.4
July	8.5	8.6	8.6	8.3	8.5	8.0	8.9	8.6	8.5
August	8.4	8.5	8.5	8.4	8.0	8.0	8.3	7.8	8.4
September	8.5	8.5	8.2	8.5	8.4	9.2	7.8	8.9	8.5
October	8.4	8.5	8.0	8.3	8.7	9.1	8.4	7.7	8.4
November	7.9	7.9	7.6	7.8	8.0	8.0	7.3	7.9	7.8
December	7.9	8.1	7.9	7.9	7.9	8.1	7.8	7.9	7.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Provisional data were provided by Victoria for this table.

Sex

Male births exceeded female births in all states and territories, and accounted for 51.1% of all live births nationally in 2010. This proportion was similar across the states and territories. In 2010, the sex ratio for Australia, defined as the number of male liveborn babies per 100 female liveborn babies, was 104.8 (Table 4.2).

Table 4.2: Live births, by sex and state and territory, 2010

Sex	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Sex ratio (M:F)	104.8	105.1	103.9	104.0	106.3	108.3	104.3	106.7	104.8
					Number				
Males	49,070	37,382	31,390	15,829	10,244	3,169	3,000	1,986	152,070
Females	46,833	35,582	30,222	15,218	9,638	2,925	2,877	1,862	145,157
Indeterminate/ not stated	28	98	—	—	—	1	2	1	130
Total	**95,931**	**73,062**	**61,612**	**31,047**	**19,882**	**6,095**	**5,879**	**3,849**	**297,357**
					Per cent				
Males	51.2	51.2	50.9	51.0	51.5	52.0	51.0	51.6	51.1
Females	48.8	48.7	49.1	49.0	48.5	48.0	48.9	48.4	48.8
Indeterminate/ not stated	0.0	0.1	—	—	—	0.0	0.0	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Provisional data were provided by Victoria for this table.

For singleton live births, the sex ratio was 104.8 male births per 100 female births. The sex ratio for twins was 102.9 male births per 100 female births, and for higher-order multiples 81.5 male births per 100 female births. The sex ratio for all live births was highest in Tasmania, at 108.3 male births per 100 female births, and lowest in Queensland, at 103.9 male births per 100 female births.

Babies of Aboriginal and Torres Strait Islander mothers

The 11,494 mothers reported to the NPDC for 2010 who identified as being Aboriginal or Torres Strait Islander gave birth to 11,511 liveborn and 129 stillborn babies (fetal deaths). There were 282,528 non-Indigenous mothers who gave birth to 285,071 liveborn and 2,046 stillborn babies (Table 4.3).

Table 4.3: Births, by maternal Indigenous status and state and territory, 2010

Indigenous status[(a)]	NSW	Vic	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
Aboriginal or Torres Strait Islander									
Fetal deaths	26	18	34	25	5	<5	<5	18	129
Live births	3,112	867	3,516	1,676	625	n.p.	n.p.	1,392	11,511
All births	**3,138**	**885**	**3,550**	**1,701**	**630**	**230**	**96**	**1,410**	**11,640**
Non-Indigenous									
Fetal deaths	524	714	379	193	114	40	66	16	2,046
Live births	92,575	71,768	58,091	29,371	19,257	5,810	5,783	2,416	285,071
All births	**93,099**	**72,482**	**58,470**	**29,564**	**19,371**	**5,850**	**5,849**	**2,432**	**287,117**

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

(b) 36.2% of Aboriginal and Torres Strait Islander women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 60 of the 96 babies were born in the ACT to ACT resident Aboriginal or Torres Strait Islander women in 2010.

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

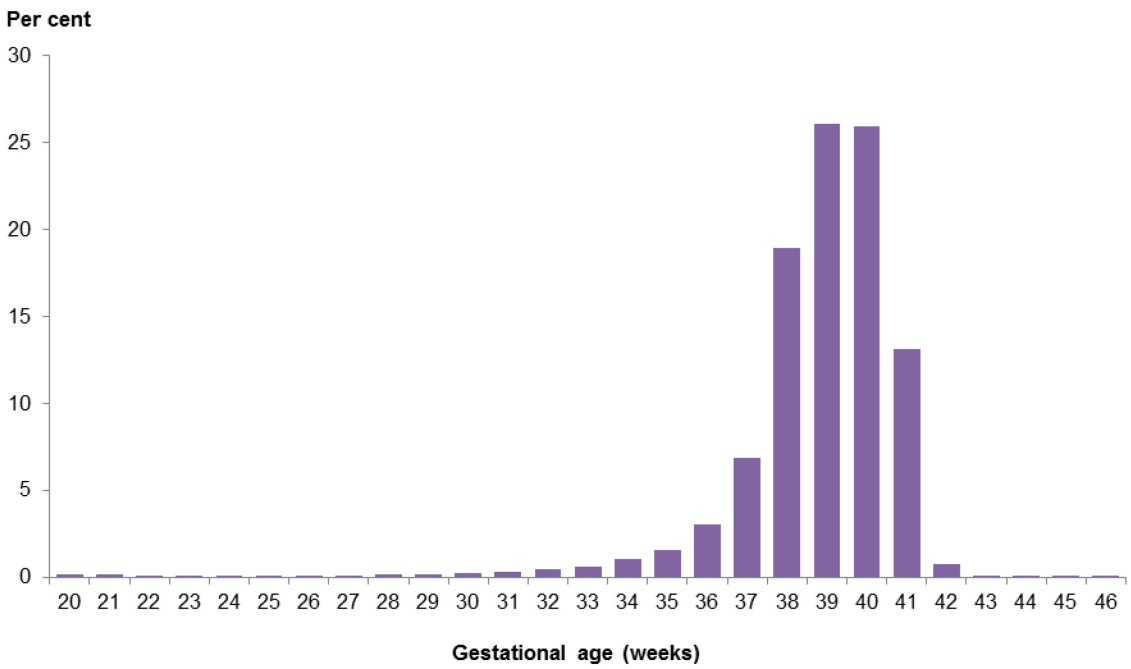
Note: Provisional data were provided by Victoria for this table.

Outcomes

Gestational age

In 2010, the mean gestational age for all babies was 38.7 weeks. The proportion of babies born at term (37–41 weeks gestation) was 90.9% (Table 4.4).

Preterm birth (before 37 completed weeks of gestation) is associated with a higher risk of adverse neonatal outcomes. Preterm births were classified according to the criteria of the WHO into groups of 20–27, 28–31 and 32–36 completed weeks. Of all babies born in 2010, 8.3% were preterm, most of which occurred at a gestational age of 32–36 completed weeks (Figure 4.1; Table 4.4).



Notes

1. Provisional data were provided by Victoria for this figure.
2. Data for this figure is in Table 4.4.

Figure 4.1: Distribution of gestational age, 2010 (per cent)

Most stillbirths were preterm (82.0%) compared with 7.7% of liveborn babies (Table 4.4).

Table 4.4: Births, by gestational age and birth status, 2010

Gestational age	Live births		Fetal deaths		Total	
(weeks)	Number	Per cent	Number	Per cent	Number	Per cent
20	62	0.0	302	13.7	364	0.1
21	100	0.0	268	12.1	368	0.1
22	96	0.0	221	10.0	317	0.1
23	141	0.0	174	7.9	315	0.1
24	187	0.1	121	5.5	308	0.1
25	209	0.1	84	3.8	293	0.1
26	272	0.1	80	3.6	352	0.1
27	303	0.1	49	2.2	352	0.1
28	365	0.1	46	2.1	411	0.1
29	442	0.1	43	1.9	485	0.2
30	619	0.2	64	2.9	683	0.2
31	792	0.3	50	2.3	842	0.3
32	1,186	0.4	59	2.7	1,245	0.4
33	1,741	0.6	45	2.0	1,786	0.6
34	2,948	1.0	66	3.0	3,014	1.0
35	4,545	1.5	64	2.9	4,609	1.5
36	8,944	3.0	72	3.3	9,016	3.0
37	20,428	6.9	83	3.8	20,511	6.8
38	56,704	19.1	87	3.9	56,791	19.0
39	78,137	26.3	89	4.0	78,226	26.1
40	77,521	26.1	92	4.2	77,613	25.9
41	39,209	13.2	42	1.9	39,251	13.1
42	n.p.	n.p.	<5	n.p.	2,229	0.7
43	95	0.0	—	—	95	0.0
44[(a)]	n.p.	n.p.	<5	n.p.	36	0.0
Not stated	51	0.0	—	—	51	0.0
Total	**297,357**	**100.0**	**2,206**	**100.0**	**299,563**	**100.0**
20–36	*22,952*	*7.7*	*1,808*	*82.0*	*24,760*	*8.3*
Mean (weeks)	38.8		27.6		38.7	

(a) Includes six babies of greater than 44 weeks gestation.

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

Note: Provisional data were provided by Victoria for this table.

The mean gestational age for all preterm births in 2010 was 33.2 weeks. Nationally, 0.9% of births were at 20–27 weeks gestation, 0.8% were at 28–31 weeks and 6.6% were at 32–36 weeks. The Northern Territory had the highest proportion of preterm births, at 10.6% of all births, and New South Wales had the lowest, at 7.4% (Table 4.5).

Table 4.5: Preterm births, by gestational age and state and territory, 2010

Gestational age (weeks)	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
Mean	33.4	32.8	33.2	33.4	33.4	33.3	32.8	32.9	33.2
					Number				
20–27	662	842	545	268	173	62	71	46	2,669
28–31	676	635	538	227	162	72	57	54	2,421
32–36	5,762	4,759	4,286	2,216	1,437	492	406	312	19,670
Total	**7,100**	**6,236**	**5,369**	**2,711**	**1,772**	**626**	**534**	**412**	**24,760**
					Per cent of total births				
20–27	0.7	1.1	0.9	0.9	0.9	1.0	1.2	1.2	0.9
28–31	0.7	0.9	0.9	0.7	0.8	1.2	1.0	1.4	0.8
32–36	6.0	6.4	6.9	7.1	7.2	8.0	6.8	8.0	6.6
Total	**7.4**	**8.4**	**8.7**	**8.7**	**8.9**	**10.2**	**9.0**	**10.6**	**8.3**

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

(b) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of preterm births among babies of ACT residents who gave birth in the ACT was 7.0% compared with 19.2% of non-ACT residents who gave birth in the ACT.

Note: Provisional data were provided by Victoria for this table.

In 2010, 13.5% of babies of Aboriginal and Torres Strait Islander mothers were born preterm, compared with 8.0% of babies of non-Indigenous mothers. For singletons, the mean gestational age was 38.9 weeks, compared with 35.1 weeks for twins and 31.0 weeks for higher-order multiple births. Preterm birth occurred in 56.7% of twins and in 97.3% of higher-order multiple births, compared with 6.7% of singleton births (Table 4.6). The downward shift in the distributions of gestational age for babies born as multiples compared with singletons increased markedly for babies of less than 32 weeks gestation, when the risks of subsequent complications are much higher. In 2010, birth before 32 weeks gestation occurred for 11.3% of twin births and 44.4% of higher-order multiple births, but only in 1.4% singleton births (Table 4.6).

In contrast, only 0.8% of babies were born post-term (at 42 weeks or more gestation) (Table 4.6). The duration of pregnancy by state and territory is in Table 3.20.

Table 4.6: Births, by gestational age and plurality, 2010

Gestational age (weeks)	Singletons		Twins		Other multiple births		Total[(a)]	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
20–27	2,227	0.8	410	4.5	32	14.2	2,669	0.9
28–31	1,720	0.6	633	6.9	68	30.2	2,421	0.8
32–36	15,383	5.3	4,168	45.3	119	52.9	19,670	6.6
37–41	268,406	92.5	3,977	43.2	6	2.7	272,392	90.9
42 and over	2,354	0.8	6	0.1	—	—	2,360	0.8
Not stated	49	0.0	2	0.0	—	—	51	0.0
Total	**290,139**	**100.0**	**9,196**	**100.0**	**225**	**100.0**	**299,563**	**100.0**
20–36	*19,330*	*6.7*	*5,211*	*56.7*	*219*	*97.3*	*24,760*	*8.3*
Mean (weeks)	38.9		35.1		31.0		38.7	

(a) Includes plurality 'Not stated'.

Note: Provisional data were provided by Victoria for this table.

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. 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).

In 2010, 91.9% of liveborn babies had a birthweight in the range 2,500–4,499 grams. The average birthweight of liveborn babies was 3,369 grams, ranging from 3,292 grams in the Northern Territory to 3,382 grams in Queensland (Table 4.7).

In Australia in 2010, there were 18,522 (6.2%) liveborn babies of low birthweight. From 2001 to 2010, the proportion of low birthweight liveborn babies ranged from 6.1% to 6.4%. The 3,120 very low birthweight babies constituted 1.0% of all live births in 2010, and the 1,396 extremely low birthweight babies constituted 0.5% (Table 4.7).

Table 4.7: Live births, by birthweight and state and territory, 2010

Birthweight (g)	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
Mean	3,376	3,366	3,382	3,353	3,344	3,374	3,362	3,292	3,369
					Number				
Less than 1,000	361	383	330	120	105	41	29	27	1,396
1,000–1,499	500	445	367	164	113	49	48	38	1,724
1,500–1,999	1,085	919	799	376	289	93	85	65	3,711
2,000–2,499	3,573	2,868	2,461	1,227	842	269	243	208	11,691
2,500–2,999	14,595	11,283	9,028	4,934	3,171	905	876	709	45,501
3,000–3,499	34,966	26,139	21,373	11,503	7,218	2,035	2,075	1,337	106,646
3,500–3,999	29,552	22,158	19,500	9,449	5,945	1,894	1,833	1,039	91,370
4,000–4,499	9,647	7,314	6,559	2,848	1,884	681	580	362	29,875
4,500 and over	1,642	1,391	1,192	425	314	128	110	64	5,266
Not stated	10	162	3	1	1	—	—	—	177
Total	**95,931**	**73,062**	**61,612**	**31,047**	**19,882**	**6,095**	**5,879**	**3,849**	**297,357**
Less than 1,500	*861*	*828*	*697*	*284*	*218*	*90*	*77*	*65*	*3,120*
Less than 2,500	*5,519*	*4,615*	*3,957*	*1,887*	*1,349*	*452*	*405*	*338*	*18,522*
					Per cent				
Less than 1,000	0.4	0.5	0.5	0.4	0.5	0.7	0.5	0.7	0.5
1,000–1,499	0.5	0.6	0.6	0.5	0.6	0.8	0.8	1.0	0.6
1,500–1,999	1.1	1.3	1.3	1.2	1.5	1.5	1.4	1.7	1.2
2,000–2,499	3.7	3.9	4.0	4.0	4.2	4.4	4.1	5.4	3.9
2,500–2,999	15.2	15.4	14.7	15.9	15.9	14.8	14.9	18.4	15.3
3,000–3,499	36.4	35.8	34.7	37.1	36.3	33.4	35.3	34.7	35.9
3,500–3,999	30.8	30.3	31.6	30.4	29.9	31.1	31.2	27.0	30.7
4,000–4,499	10.1	10.0	10.6	9.2	9.5	11.2	9.9	9.4	10.0
4,500 and over	1.7	1.9	1.9	1.4	1.6	2.1	1.9	1.7	1.8
Not stated	0.0	0.2	0.0	0.0	0.0	—	—	—	0.1
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*	*0.9*	*1.1*	*1.5*	*1.3*	*1.7*	*1.0*
Less than 2,500	*5.8*	*6.3*	*6.4*	*6.1*	*6.8*	*7.4*	*6.9*	*8.8*	*6.2*

(a) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of live births of ACT residents who gave birth in the ACT where the birthweight was less than 1,500 grams was 0.6% and where the birthweight was less than 2,500 grams the percentage was 5.5%.

Note: Provisional data were provided by Victoria for this table.

The mean birthweight of stillborn babies was 1,230 grams in 2010 compared with 3,369 grams for liveborn babies. Low birthweight occurred in 78.3% of stillborn babies. More than half (59.4%) of the stillborn babies had a birthweight of less than 1,000 grams (Table 4.8).

A smaller proportion of male liveborn babies was low birthweight (5.7%) than female babies (6.8%). The average birthweight of liveborn male babies was 3,429 grams, 123 grams higher than that of females (3,306 grams).

Table 4.8: Births, by birthweight and birth status, 2010

	Live births		Fetal deaths		Total	
Birthweight (g)	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Less than 1,000	1,396	0.5	1,311	59.4	2,707	0.9
1,000–1,499	1,724	0.6	140	6.3	1,864	0.6
1,500–1,999	3,711	1.2	145	6.6	3,856	1.3
2,000–2,499	11,691	3.9	131	5.9	11,822	3.9
2,500–2,999	45,501	15.3	163	7.4	45,664	15.2
3,000–3,499	106,646	35.9	137	6.2	106,783	35.6
3,500–3,999	91,370	30.7	77	3.5	91,447	30.5
4,000–4,499	29,875	10.0	24	1.1	29,899	10.0
4,500 and over	5,266	1.8	11	0.5	5,277	1.8
Not stated	177	0.1	67	3.0	244	0.1
Total	**297,357**	**100.0**	**2,206**	**100.0**	**299,563**	**100.0**
Less than 1,500	*3,120*	*1.0*	*1,451*	*65.8*	*4,571*	*1.5*
Less than 2,500	*18,522*	*6.2*	*1,727*	*78.3*	*20,249*	*6.8*
Mean (g)	3,369		1,230		3,353	

Note: Provisional data were provided by Victoria for this table.

For liveborn singletons, the mean birthweight was 3,401 grams, compared with 2,390 grams for twins and 1,570 grams for other multiple births. Low birthweight occurred in half of all liveborn twins (51.0%) and in almost all higher-order multiple births (99.1%), which was markedly higher than the proportion of 4.8% for singleton births (Table 4.9).

Table 4.9: Live births, by birthweight and plurality, 2010

	Singletons		Twins		Other multiple births		Total[(a)]	
Birthweight (g)	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Less than 1,000	n.p.	n.p.	322	3.6	n.p.	n.p.	1,396	0.5
1,000–1,499	1,163	0.4	505	5.6	56	25.9	1,724	0.6
1,500–1,999	2,478	0.9	1,153	12.8	80	37.0	3,711	1.2
2,000–2,499	9,029	3.1	2,618	29.0	44	20.4	11,691	3.9
2,500–2,999	42,329	14.7	n.p.	n.p.	<5	n.p.	45,501	15.3
3,000–3,499	105,520	36.6	n.p.	n.p.	<5	n.p.	106,646	35.9
3,500–3,999	91,258	31.7	111	1.2	—	—	91,370	30.7
4,000–4,499	29,861	10.4	13	0.1	—	—	29,875	10.0
4,500 and over	n.p.	n.p.	<5	0.0	—	—	5,266	1.8
Not stated	173	0.1	4	0.0	—	—	177	0.1
Total	**288,116**	**100.0**	**9,022**	**100.0**	**216**	**100.0**	**297,357**	**100.0**
Less than 1,500	*2,203*	*0.8*	*827*	*9.2*	*90*	*41.7*	*3,120*	*1.0*
Less than 2,500	*13,710*	*4.8*	*4,598*	*51.0*	*214*	*99.1*	*18,522*	*6.2*
Mean (g)	3,401		2,390		1,570		3,369	

(a) Includes plurality 'Not stated'.

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

Note: Provisional data were provided by Victoria for this table.

In 2010, the average birthweight of liveborn babies of Aboriginal and Torres Strait Islander mothers was 3,190 grams. This was 186 grams lighter than the average of 3,376 grams for liveborn babies of non-Indigenous mothers. The proportion of low birthweight in liveborn babies of Aboriginal and Torres Strait Islander mothers was 12.0% (Table 4.10), twice that of babies of non-Indigenous mothers (6.0%). The mean birthweight of liveborn babies of Aboriginal or Torres Strait Islander mothers, and the proportion with low birthweight, varied markedly among the states and territories.

Table 4.10: Live births of Aboriginal or Torres Strait Islander mothers, by birthweight and state and territory, 2010

Birthweight (g)	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
Mean	3,233	3,234	3,199	3,139	3,130	3,294	3,063	3,119	3,190
					Number				
Less than 1,500	49	22	82	44	20	<5	n.p.	38	265
1,500–2,499	283	67	322	184	80	12	18	154	1,120
2,500–2,999	656	189	759	401	134	54	16	341	2,550
3,000–3,499	1,048	291	1,203	536	197	73	23	472	3,843
3,500–3,999	768	202	845	368	136	58	23	288	2,688
4,000–4,499	249	77	243	130	49	21	8	79	856
4,500 and over	59	17	62	13	9	n.p.	<5	20	187
Not stated	—	2	—	—	—	—	—	—	2
Total	**3,112**	**867**	**3,516**	**1,676**	**625**	**228**	**95**	**1,392**	**11,511**
Less than 2,500	*332*	*89*	*404*	*228*	*100*	*16*	*24*	*192*	*1,385*
					Per cent				
Less than 1,500	1.6	2.5	2.3	2.6	3.2	n.p.	n.p.	2.7	2.3
1,500–2,499	9.1	7.7	9.2	11.0	12.8	5.3	18.9	11.1	9.7
2,500–2,999	21.1	21.8	21.6	23.9	21.4	23.7	16.8	24.5	22.2
3,000–3,499	33.7	33.6	34.2	32.0	31.5	32.0	24.2	33.9	33.4
3,500–3,999	24.7	23.3	24.0	22.0	21.8	25.4	24.2	20.7	23.4
4,000–4,499	8.0	8.9	6.9	7.8	7.8	9.2	8.4	5.7	7.4
4,500 and over	1.9	2.0	1.8	0.8	1.4	n.p.	n.p.	1.4	1.6
Not stated	—	0.2	—	—	—	—	—	—	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	*10.7*	*10.3*	*11.5*	*13.6*	*16.0*	*7.0*	*25.3*	*13.8*	*12.0*

(a) 36.2% of Aboriginal and Torres Strait Islander women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of liveborn babies born in the ACT to ACT resident Aboriginal or Torres Strait Islander women in 2010 where the birthweight was less than 2,500 grams was 13.6%.

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

Note: Provisional data were provided by Victoria for this table.

Mothers aged 30–34 had the lowest proportion of low birthweight liveborn babies (5.8%). The proportion was higher among babies of younger and older mothers (8.4% for mothers younger than 20, 7.7% for mothers aged 40–44 and 12.4% for mothers aged 45 and older).

Of hospital births, the proportion of low birthweight liveborn babies was higher in babies of mothers who gave birth in public hospitals (7.2%) than in babies of mothers who gave birth in private hospitals (4.3%). Liveborn babies of mothers who reported smoking during pregnancy had a higher proportion of low birthweight babies (11.0%) than mothers who did not smoke (5.4%).

Presentation at birth

In 2010, vertex presentations occurred for 93.9% of all babies. Breech presentation occurred for 4.3% and other presentations for 1.0%. 30.1% of twins and one-third of higher-order multiple births (32.9%) had non-vertex presentations at birth (Table 4.11).

Table 4.11: Births, by presentation at birth and plurality, 2010

	Singletons		Twins		Other multiple births		Total[(a)]	
Presentation	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Vertex	274,797	94.7	6,207	67.5	147	65.3	281,154	93.9
Breech	10,445	3.6	2,484	27.0	68	30.2	12,997	4.3
Other[(b)]	2,739	0.9	282	3.1	6	2.7	3,027	1.0
Not stated	2,158	0.7	223	2.4	4	1.8	2,385	0.8
Total	**290,139**	**100.0**	**9,196**	**100.0**	**225**	**100.0**	**299,563**	**100.0**

(a) Includes plurality 'Not stated'.

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

Note: Provisional data were provided by Victoria for this table.

Table 3.29 shows the presentation at birth for mothers, where the presentation at birth of the first born baby in multiple births is used.

Method of birth

Of all births in 2010, 32.2% of babies were delivered by caesarean section and 55.9% had a non-instrumental vaginal birth. About 1 in 9 babies was born by an instrumental vaginal delivery (11.9%). Two-thirds of all twins (68.7%) and the majority of higher-order multiples were delivered by caesarean section (91.6%) (Table 4.12).

Table 3.30 presents data for mothers, where the method of birth of the first born baby in multiple births is used.

Table 4.12: Births, by method of birth and plurality, 2010

Method of birth	Singletons		Twins		Other multiple births		Total[(a)]	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Non-instrumental vaginal[(b)]	165,080	56.9	2,211	24.0	19	8.4	167,311	55.9
Instrumental vaginal[(c)]	35,046	12.1	664	7.2	—	—	35,711	11.9
Caesarean section	89,969	31.0	6,321	68.7	206	91.6	96,497	32.2
Not stated	44	0.0	—	—	—	—	44	0.0
Total	**290,139**	**100.0**	**9,196**	**100.0**	**225**	**100.0**	**299,563**	**100.0**

(a) Includes plurality 'Not stated'.

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

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

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

Note: Provisional data were provided by Victoria for this table.

Method of birth for babies with breech presentations

Of babies with breech presentations at birth in 2010, 87.8% were born by caesarean section. This ranged from 83.1% in the Australian Capital Territory to 90.7% in South Australia (Table 4.13). The remaining babies were born vaginally.

Table 4.13: Babies with breech presentations, by method of birth and state and territory, 2010

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Total
					Number				
Vaginal[(b)]	473	450	337	166	84	n.p.	46	28	1,584
Caesarean section	3,416	3,045	2,547	1,204	821	n.p.	226	141	11,400
Total	**3,889**	**3,495**	**2,884**	**1,370**	**905**	**n.p.**	**272**	**169**	**12,984**
					Per cent				
Vaginal[(b)]	12.2	12.9	11.7	12.1	9.3	n.p.	16.9	16.6	12.2
Caesarean section	87.8	87.1	88.3	87.9	90.7	n.p.	83.1	83.4	87.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.p.**	**100.0**	**100.0**	**100.0**

(a) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of babies born in the ACT to ACT residents with a breech presentation by a vaginal birth was 15.9%.

(b) Includes instrumental vaginal births.

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

Note: Provisional data were provided by Victoria for this table.

Of singleton babies born at term with breech presentations, 96.0% were born by caesarean section. Three-quarters of all term singleton breech births were delivered by caesarean section without labour (77.2%) (Table 4.14).

Table 4.14: Singleton term babies with breech presentations, by method of birth and state and territory, 2010

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Total
					Number				
Vaginal[(b)]	97	73	93	25	19	n.p.	n.p.	<5	322
Caesarean section	2,499	1,990	1,660	816	536	n.p.	n.p.	n.p.	7,734
Labour	*533*	*352*	*342*	*130*	*108*	*n.p.*	*n.p.*	*n.p.*	*1,518*
No labour	*1,966*	*1,638*	*1,318*	*686*	*428*	*n.p.*	*114*	*66.*	*6,216*
Not stated	—	—	—	—	—	n.p.	—	—	—
Total	**2,596**	**2,063**	**1,753**	**841**	**555**	**n.p.**	**152**	**96**	**8,056**
					Per cent				
Vaginal[(b)]	3.7	3.5	5.3	3.0	3.4	n.p.	n.p.	n.p.	4.0
Caesarean section	96.3	96.5	94.7	97.0	96.6	n.p.	n.p.	n.p.	96.0
Labour	*20.5*	*17.1*	*19.5*	*15.5*	*19.5*	*n.p.*	*n.p.*	*n.p.*	*18.8*
No labour	*75.7*	*79.4*	*75.2*	*81.6*	*77.1*	*n.p.*	*75.0.*	*68.8*	*77.2*
Not stated	—	—	—	—	—	n.p.	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.p.**	**100.0**	**100.0**	**100.0**

(a) 15.9% of women who gave birth in the ACT were non-ACT residents.

(b) Includes instrumental vaginal births.

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

Note: Provisional data were provided by Victoria for this table.

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 2010, 1.6% 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 0.4% of all live births nationally, and scores of 4–6 were recorded in 1.3% of live births. Among the states and territories, the distribution of low Apgar scores at 5 minutes ranged from 1.4% of all live births in Western Australia and South Australia to 2.4% in the Northern Territory (Table 4.15).

Table 4.15: Live births, by Apgar score at 5 minutes and state and territory, 2010

Apgar score	NSW	Vic	Qld	WA	SA	Tas	ACT[(a)]	NT	Australia
					Number				
0–3	317	283	244	64	52	29	32	22	1,043
4–6	1,135	1,073	704	385	228	86	69	69	3,749
7–10	94,201	71,601	60,609	30,570	19,566	5,969	5,773	3,747	292,036
Not stated	278	105	55	28	36	11	5	11	529
Total	**95,931**	**73,062**	**61,612**	**31,047**	**19,882**	**6,095**	**5,879**	**3,849**	**297,357**
Less than 7	*1,452*	*1,356*	*948*	*449*	*280*	*115*	*101*	*91*	*4,792*
					Per cent				
0–3	0.3	0.4	0.4	0.2	0.3	0.5	0.5	0.6	0.4
4–6	1.2	1.5	1.1	1.2	1.1	1.4	1.2	1.8	1.3
7–10	98.2	98.0	98.4	98.5	98.4	97.9	98.2	97.3	98.2
Not stated	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.3	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 7	*1.5*	*1.9*	*1.5*	*1.4*	*1.4*	*1.9*	*1.7*	*2.4*	*1.6*

(a) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

Note: Provisional data were provided by Victoria for this table.

Resuscitation at birth

The types of active resuscitation measures given to babies immediately after birth are in Table 4.16. For these data, the type of resuscitation used is coded hierarchically from lowest 'None' to highest 'External cardiac massage and ventilation', with the category 'Other' not included in the hierarchy. 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. Just over one-quarter (26.3%) of babies required some form of resuscitation at birth, although two-thirds of these babies (67.0%) required only suction or oxygen therapy. Ventilatory assistance by intermittent positive pressure respiration (IPPR) through a bag and mask or after endotracheal intubation was performed for at least 7.5% of all live births in 2010. External cardiac massage and ventilation was provided for a minority of babies (0.3%) (Table 4.16).

Table 4.16: Live births, by active resuscitation measures at birth and state and territory, 2010

Resuscitation type[(a)]	NSW	Vic	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
					Number				
None	72,993	n.r.	40,987	23,695	15,378	4,783	4,560	2,855	165,251
Suction	7,344	n.r.	6,412	1,633	758	236	358	207	16,948
Oxygen therapy	8,615	n.r.	8,207	2,385	2,194	531	368	290	22,590
IPPR through bag and mask	5,990	n.r.	4,544	1,851	1,374	476	470	359	15,064
Endotracheal intubation and IPPR	621	n.r.	716	222	137	43	88	26	1,853
External cardiac massage and ventilation	358	n.r.	162	61	40	23	26	8	678
Other	—	n.r.	[(c)]579	[(d)]1,200	1	3	—	[(e)]79	1,862
Not stated	10	n.r.	5	—	—	—	9	25	49
Total	**95,931**	**n.r.**	**61,612**	**31,047**	**19,882**	**6,095**	**5,879**	**3,849**	**224,295**
					Per cent				
None	76.1	n.r.	66.5	76.3	77.3	78.5	77.6	74.2	73.7
Suction	7.7	n.r.	10.4	5.3	3.8	3.9	6.1	5.4	7.6
Oxygen therapy	9.0	n.r.	13.3	7.7	11.0	8.7	6.3	7.5	10.1
IPPR through bag and mask	6.2	n.r.	7.4	6.0	6.9	7.8	8.0	9.3	6.7
Endotracheal intubation and IPPR	0.6	n.r.	1.2	0.7	0.7	0.7	1.5	0.7	0.8
External cardiac massage and ventilation	0.4	n.r.	0.3	0.2	0.2	0.4	0.4	0.2	0.3
Other	—	n.r.	[(c)]0.9	[(d)]3.9	0.0	0.0	—	[(e)]2.1	0.8
Not stated	0.0	n.r.	0.0	—	—	—	0.2	0.6	0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

(c) For Qld, 'Other' includes tactile stimulation.

(d) For WA, 'Other' includes continuous positive airway pressure, laryngoscopy, and medications for resuscitation including Adrenalin and Narcan.

(e) For NT, 'Other' includes continuous positive airway pressure, intubation and tracheal suctioning to prevent meconium aspiration syndrome or stimulation by intramuscular injection.

IPPR intermittent positive pressure respiration.

n.r. Data not received at the time of publication.

Admission to special care nurseries or neonatal intensive care units

Babies are admitted to an SCN or NICU if they require more specialised medical care and treatment than is available on the postnatal ward. Of liveborn babies in 2010, 14.7% were admitted to an SCN or NICU. This proportion appears low in Western Australia because only babies who stayed in an SCN or NICU for 1 day or more were included. In the other states and territories, the proportion of liveborn babies admitted to an SCN or NICU for any length of time ranged from 13.3% in Tasmania to 17.0% in the Northern Territory (Table 4.17).

Table 4.17: Live births, by admission to special care nursery or neonatal intensive care unit and state and territory, 2010

Admission to SCN or NICU	NSW	Vic	Qld	WA[(a)]	SA	Tas	ACT[(b)]	NT	Australia
					Number				
Admitted	14,430	n.r.	9,973	3,054	3,218	809	927	654	33,065
Not admitted	81,442	n.r.	51,639	27,993	16,664	5,286	4,952	3,094	191,070
Not stated	59	n.r.	—	—	—	—	—	101	160
Total	**95,931**	**n.r.**	**61,612**	**31,047**	**19,882**	**6,095**	**5,879**	**3,849**	**224,295**
					Per cent				
Admitted	15.0	n.r.	16.2	9.8	16.2	13.3	15.8	17.0	14.7
Not admitted	84.9	n.r.	83.8	90.2	83.8	86.7	84.2	80.4	85.2
Not stated	0.1	n.r.	—	—	—	—	—	2.6	0.1
Total	**100.0**	**n.r.**	**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 1 day or more and if infant was admitted to an SCN or NICU at the birth site.

(b) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages.

n.r. Data not received at the time of publication.

Hospital births

Length of stay in hospital of birth

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

In 2010, the median length of stay in hospital for babies born in hospital who were discharged home was 3.0 days. The majority of babies remained in their hospital of birth for less than 6 days (90.0%), and more than half stayed for less than 4 days (57.1%). Relatively more babies born in Queensland had a length of stay of less than 4 days (64.1%). Nationally in 2010, babies hospitalised for 7 or more days accounted for 6.1% of babies born in hospital (Table 4.18).

Table 4.18: Babies born in hospital[a], by length of stay and state and territory, 2010

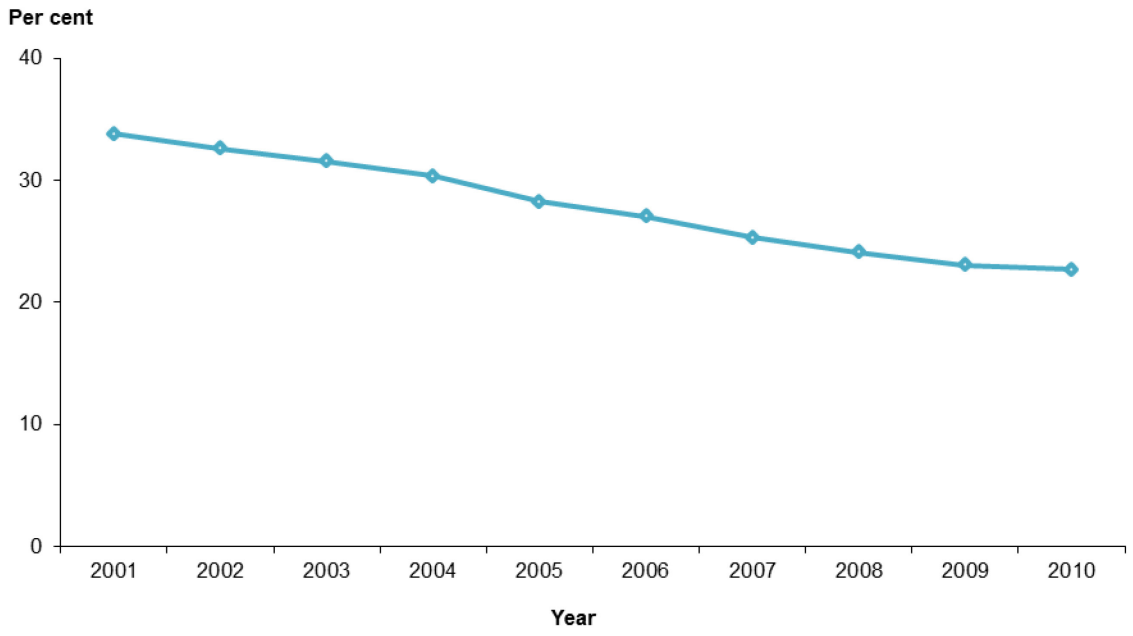
Length of stay (days)	NSW	Vic	Qld	WA	SA	Tas	ACT[b]	NT	Australia
Median	3.0	n.r.	3.0	4.0	4.0	3.0	3.0	3.0	3.0
					Number				
Less than 1 day	2,362	n.r.	2,190	693	433	179	259	156	6,272
1 day	11,765	n.r.	10,011	3,165	1,588	649	732	408	28,318
2 days	18,942	n.r.	12,961	4,485	3,133	1,094	918	605	42,138
3 days	18,003	n.r.	12,559	5,663	3,485	1,206	1,099	600	42,615
4 days	18,315	n.r.	10,885	5,913	4,297	1,161	1,092	570	42,233
5 days	11,685	n.r.	5,670	4,786	2,703	616	673	425	26,558
6 days	3,239	n.r.	1,302	2,196	810	248	169	196	8,160
7–13 days	3,138	n.r.	1,619	1,471	695	259	194	279	7,655
14–20 days	878	n.r.	738	194	255	81	65	74	2,285
21–27 days	344	n.r.	354	68	177	54	28	41	1,066
28 or more days	554	n.r.	517	180	251	63	14	83	1,662
Not stated	12	n.r.	—	—	—	—	1	1	14
Total	**89,237**	**n.r.**	**58,806**	**28,814**	**17,827**	**5,610**	**5,244**	**3,438**	**208,976**
					Per cent				
Less than 1 day	2.6	n.r.	3.7	2.4	2.4	3.2	4.9	4.5	3.0
1 day	13.2	n.r.	17.0	11.0	8.9	11.6	14.0	11.9	13.6
2 days	21.2	n.r.	22.0	15.6	17.6	19.5	17.5	17.6	20.2
3 days	20.2	n.r.	21.4	19.7	19.5	21.5	21.0	17.5	20.4
4 days	20.5	n.r.	18.5	20.5	24.1	20.7	20.8	16.6	20.2
5 days	13.1	n.r.	9.6	16.6	15.2	11.0	12.8	12.4	12.7
6 days	3.6	n.r.	2.2	7.6	4.5	4.4	3.2	5.7	3.9
7–13 days	3.5	n.r.	2.8	5.1	3.9	4.6	3.7	8.1	3.7
14–20 days	1.0	n.r.	1.3	0.7	1.4	1.4	1.2	2.2	1.1
21–27 days	0.4	n.r.	0.6	0.2	1.0	1.0	0.5	1.2	0.5
28 or more days	0.6	n.r.	0.9	0.6	1.4	1.1	0.3	2.4	0.8
Not stated	0.0	n.r.	—	—	—	—	0.0	0.0	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) 15.9% 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 (47.2% and 41.8% respectively).

n.r. Data not received at the time of publication.

From 2001 to 2010, the proportion of hospital-born babies with a length of stay of less than 5 days increased from 66.2% to 77.3%, while the proportion of babies with a length of stay in hospital of 5 days or more decreased from 33.8% to 22.7% (Figure 4.2).



Notes

1. Excludes Victoria.
2. Only babies who were discharged home are included.
3. Data for this figure is in Table E7.

Figure 4.2: Length of stay of 5 days or more for babies born in hospital, 2001 to 2010 (per cent)

Mode of separation from hospital

In 2010, 95.8% of babies born in hospital were discharged home, varying from 93.0% in Tasmania to 96.7% in Queensland. A total of 3.3% of babies were transferred to another hospital from their hospital of birth (Table 4.19).

Babies dying at their hospital of birth accounted for 0.9% of separations. These data do not include babies born outside hospital, and may not include all babies who are transferred to another hospital and die, or babies discharged home who subsequently die.

Table 4.19: Babies born in hospital[a], by mode of separation and state and territory, 2010

Mode of separation	NSW	Vic	Qld	WA	SA	Tas	ACT[b]	NT	Australia
					Number				
Discharge home	89,237	n.r.	58,806	28,814	17,827	5,610	5,244	3,438	208,976
Transfer to another hospital[c]	3,036	n.r.	1,422	1,452	578	351	184	85	7,108
Fetal or neonatal death	778	n.r.	581	260	149	59	90	39	1,956
Other[d]	—	n.r.	16	20	—	12	—	[e]74	122
Not stated	8	n.r.	—	—	—	—	77	—	85
Total	**93,059**	**n.r.**	**60,825**	**30,546**	**18,554**	**6,032**	**5,595**	**3,636**	**218,247**
					Per cent				
Discharge home	95.9	n.r.	96.7	94.3	96.1	93.0	93.7	94.6	95.8
Transfer to another hospital[c]	3.3	n.r.	2.3	4.8	3.1	5.8	3.3	2.3	3.3
Fetal or neonatal death	0.8	n.r.	1.0	0.9	0.8	1.0	1.6	1.1	0.9
Other[d]	—	n.r.	0.0	0.1	—	0.2	—	[e]2.0	0.1
Not stated	0.0	n.r.	—	—	—	—	1.4	—	0.0
Total	**100.0**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) 15.9% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of live babies born in the ACT to ACT residents who were transferred to another hospital was 2.0%.

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

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

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

n.r. Data not received at the time of publication.

5 Perinatal mortality

Definitions

There are different definitions in Australia for reporting and registering perinatal deaths (Figure 5.1). The NPDC uses a definition of perinatal deaths to include all fetal and neonatal deaths of at least 400 grams birthweight or at least 20 weeks gestation.

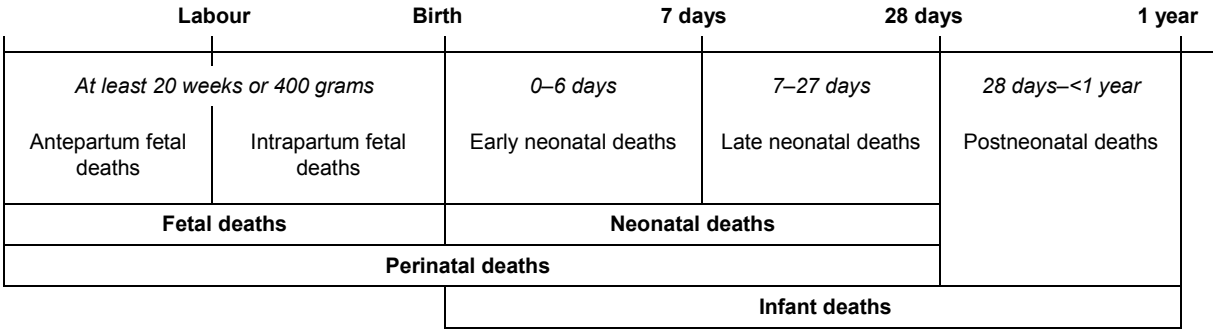
In Australia, all fetal and neonatal deaths of at least 400 grams birthweight or, if birthweight is unavailable, a gestational age of at least 20 weeks should be registered (ABS 2011). Further information on these definitions and the issues surrounding the collection of data on perinatal deaths is in a previous edition of this report (Laws & Sullivan 2004).

Figure 5.1: 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 & NPESU	400 grams	20 weeks	<28 days

Figure 5.2 shows the definitions of periods of perinatal and infant deaths used by the NPESU. Neonatal deaths are those occurring in live births up to 27 completed days after birth. Infant deaths are those occurring in live births at less than 1 year of age.

Figure 5.2: Perinatal and infant death periods



The ABS definition of a perinatal death includes birthweight of at least 400 grams or, where birthweight is unknown, a gestational age of at least 20 weeks. Deaths where both the birthweight and gestational age are unknown are included. The data on perinatal deaths published by the ABS are based on the year of registration of the death rather than on the year of birth or death. Data are in the *Cause of death, Australia* report (ABS 2012).

Australia's mothers and babies 2010 presents data on perinatal deaths from the NPDC. For vital statistics, refer to ABS data at <www.abs.gov.au>.

Fetal deaths

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

In 2010, there were 2,206 fetal deaths reported to the NPDC, resulting in a fetal death rate of 7.4 per 1,000 births. The state and territory fetal death rates ranged from 5.8 per 1,000 births in New South Wales to 11.3 per 1,000 births in the Australian Capital Territory (Table 5.1).

Table 5.1: Fetal, neonatal and perinatal deaths, by state and territory, 2010

	State/territory of birth								
	NSW	**Vic[a]**	**Qld**	**WA**	**SA**	**Tas**	**ACT[b]**	**NT[c]**	**Total**
					Number				
Live births[d]	95,931	73,062	61,612	31,047	19,882	6,095	5,879	3,849	297,357
Fetal deaths	555	758	413	218	119	42	67	34	2,206
Neonatal deaths[e]	236	n.r.	235	67	43	20	24	16	[f]641
Perinatal deaths	*791*	*n.r.*	*648*	*285*	*162*	*62*	*91*	*50*	*[f]2,089*
Total births	**96,486**	**73,820**	**62,025**	**31,265**	**20,001**	**6,137**	**5,946**	**3,883**	**299,563**
					Rate per 1,000 births[g]				
Fetal deaths	5.8	10.3	6.7	7.0	5.9	6.8	11.3	8.8	7.4
Neonatal deaths[e]	2.5	n.r.	3.8	2.2	2.2	3.3	4.1	4.2	[f]2.9
Perinatal deaths	*8.2*	*n.r.*	*10.4*	*9.1*	*8.1*	*10.1*	*15.3*	*12.9*	*[f]9.3*

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

(b) 15.9% 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 9.0 fetal deaths per 1,000 births, 2.6 neonatal deaths per 1,000 live births and 11.6 perinatal deaths per 1,000 births.

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

(d) Includes neonatal deaths.

(e) 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.

(f) Excludes Vic.

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

n.r. Data not received at the time of publication.

Note: Provisional data were provided by Victoria for this table.

Table 5.2 presents fetal, neonatal and perinatal deaths by state or territory of the mother's usual residence, excluding women who were usually resident overseas. It shows that for 2010, the state and territory fetal death rates ranged from 6.3 per 1,000 births for babies of mothers who lived in New South Wales, to 10.3 per 1,000 births to mothers who lived in the Australian Capital Territory (Table 5.2). For Victoria, the rate of fetal death declined by 1.5 deaths per 1,000 births, from 10.3 per 1,000 births occurring in Victoria (Table 5.1) to 8.8 per 1,000 births for women who lived in Victoria (Table 5.2). For the Australian Capital Territory, where 15.9% of women who gave birth were non-residents, the fetal death rate changed from 11.3 per 1,000 births by territory of birth (Table 5.1) to 10.3 per 1,000 births by territory of mother's usual residence (Table 5.2).

Table 5.2: Fetal, neonatal and perinatal deaths, by state and territory of mother's usual residence, 2010

	State/territory of usual residence								
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT[a]**	**Total**
					Number				
Live births[b]	97,255	71,667	61,888	31,089	19,816	6,102	4,999	3,838	296,654
Fetal deaths	618	637	449	229	127	44	52	37	2,193
Neonatal deaths[c]	252	n.r.	227	67	44	20	13	16	[d]639
Perinatal deaths	*870*	*n.r.*	*676*	*296*	*171*	*64*	*65*	*53*	*[d]2,195*
Total births	**97,873**	**72,304**	**62,337**	**31,318**	**19,943**	**6,146**	**5,051**	**3,875**	**298,847**
					Rate per 1,000 births[e]				
Fetal deaths	6.3	8.8	7.2	7.3	6.4	7.2	10.3	9.5	7.3
Neonatal deaths[c]	2.6	n.r.	3.7	2.2	2.2	3.3	2.6	4.2	[e]2.8
Perinatal deaths	*8.9*	*n.r.*	*10.8*	*9.5*	*8.6*	*10.4*	*12.9*	*13.7*	*[e]9.7*

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

(b) Includes neonatal deaths.

(c) 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) Excludes Vic.

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

n.r. Data not received at the time of publication.

Notes

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

2. Provisional data were provided by Victoria for this table.

Fetal and neonatal death data were stratified by a number of demographic, pregnancy and risk factors in Table 5.3. Data did not include timing of fetal death (antepartum or intrapartum) or cause of death. Therefore, data do not adjust for or discriminate between deaths due to lethal congenital anomalies or the underlying population risk profile for perinatal death.

There was variation in fetal and perinatal death rates according to maternal age, with higher rates reported for teenage mothers. The age-group specific fetal death rates ranged from 5.8 per 1,000 births for babies of mothers aged 30–34 to 14.4 per 1,000 births for babies of mothers younger than 20 (Table 5.3).

The fetal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 11.1 per 1,000 births, compared with 7.1 per 1,000 births for non-Indigenous mothers. For

Australian-born mothers the fetal death rate was 7.4 per 1,000 births, compared with 7.3 per 1,000 births for mothers born overseas (Table 5.3). For the four jurisdictions where data were available on whether the mother received ART treatment, the fetal death rate was 12.2 per 1,000 births for women giving birth after ART treatment.

Fetal death rates were higher among babies of first-time mothers (6.6 per 1,000 births) than among babies whose mothers had at least one previous birth (6.3 per 1,000 births) (Table 5.3). However, for grand multiparous women (women who have had four or more previous pregnancies resulting in a live birth or stillbirth), the rate was higher at 10.9 per 1,000 births.

Fetal deaths occurred more frequently in the lowest gestational age and birthweight groups (Table 5.3).

The fetal death rate of twins (18.9 per 1,000 births) and higher-order multiples (40.0 per 1,000 births) was higher than that of singleton babies (7.0 per 1,000 births) (Table 5.3). For singleton term babies, the fetal death rate was 1.4 per 1,000 births.

Table 5.3: Rates of fetal, neonatal and perinatal deaths, by selected characteristics, 2010

Characteristic	Fetal deaths	Neonatal deaths[a][b]	Perinatal deaths[a]
		Rate per 1,000 births[c]	
Maternal age			
Younger than 20	14.4	4.3	13.3
20–24	8.6	2.6	9.3
25–29	6.8	2.7	8.7
30–34	5.8	2.6	8.0
35–39	7.7	3.0	10.2
40 and over	10.4	4.7	13.5
Maternal Indigenous status			
Aboriginal or Torres Strait Islander	11.1	6.9	17.1
Non-Indigenous	7.1	2.7	8.8
Maternal country of birth			
Australia	7.4	2.8	9.3
Other	7.3	3.1	9.1
Parity[b]			
Primipara	6.6	3.2	9.7
Multipara	6.3	2.6	8.9

(continued)

Table 5.3 (continued): Rates of fetal, neonatal and perinatal deaths, by selected characteristics, 2010

Characteristic	Fetal deaths	Neonatal deaths[(a)(b)]	Perinatal deaths[(a)]
		Rate per 1,000 births[(c)]	
Plurality			
Singletons	7.0	2.4	8.4
Twins	18.9	17.6	35.0
Higher order multiples	40.0	58.1	93.2
Gestational age			
20–27	486.7	397.1	658.5
28–31	83.8	23.1	98.5
32–36	15.6	4.7	20.2
37–41	1.4	0.6	2.0
42 and over	2.1	0.7	2.7
Birthweight (g)			
Less than 1,500	315.2	195.1	418.9
1,500–2,499	17.4	5.1	22.1
2,500–2,999	3.6	1.2	4.7
3,000–3,999	1.1	0.5	1.5
4,000 and over	1.0	0.2	1.3

(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) Excludes Vic.

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

Note: Provisional data were provided by Victoria for this table.

Neonatal deaths

There were 641 neonatal deaths reported to the NPDC for 2010, giving a rate of 2.9 per 1,000 live births (Table 5.1). Ascertainment of neonatal deaths within 28 days of birth is likely to be incomplete. In particular, deaths occurring among babies transferred to another hospital, readmitted to hospital or dying at home may not be known to midwives who collect these data or staff who compile state and territory data. Neonatal deaths occurring in a different state or territory from where the birth occurred may also not be included.

The Perinatal NMDS did not include neonatal or perinatal death data items. However, this information is collected as part of the NPDC. Neonatal death rates based on NPDC data varied among the states and territories. The variation in rates may reflect differences in ascertainment practices of deaths by states and territories as well as absolute differences in mortality in the states or territories. The neonatal death rates ranged from 2.2 per 1,000 live births in Western Australia and South Australia to 4.2 per 1,000 live births in the Northern Territory (Table 5.1).

A significant proportion of women who gave birth in the Australian Capital Territory were New South Wales residents (15.7% in 2010). Many women from southern New South Wales with high-risk pregnancies gave birth in the Australian Capital Territory (Table 3.4), so death

rates are likely to appear higher than for those based on births to residents of the Australian Capital Territory. Presenting the deaths by state or territory of usual residence of the mother addresses this issue. The neonatal death rate for mothers usually resident in the Australian Capital Territory was 2.6 per 1,000 live births (Table 5.2) compared with 4.1 per 1,000 live births to women who gave birth in this territory (Table 5.1).

Higher neonatal death rates were reported for younger and older mothers. The age-group specific neonatal death rate was 4.3 per 1,000 live births for babies of teenage mothers (aged less than 20 years) and 4.7 per 1,000 live births for babies of mothers aged 40 and over (Table 5.3).

The neonatal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 6.9 per 1,000 live births. The neonatal death rate for babies of non-Indigenous mothers was 2.7 per 1,000 live births (Table 5.3). The neonatal death rate was 8.4 per 1,000 live births for women giving birth after ART treatment, where data were available.

The neonatal death rate of twins (17.6 per 1,000 live births) and higher-order multiples (58.1 per 1,000 live births) was higher than that of singleton babies (2.4 per 1,000 live births) (Table 5.3). For singleton term babies, the neonatal death rate was 0.6 per 1,000 live births.

Neonatal death rates decreased with increasing gestational age, from 397.1 per 1,000 live births for those born at 20–27 weeks gestation to 0.6 per 1,000 live births for those born at term. For babies of less than 1,500 grams birthweight, the neonatal death rate was 195.1 per 1,000 live births, compared with 0.5 per 1,000 live births for babies of 3,000–3,999 grams, and 0.2 per 1,000 live births for babies of 4,000 grams or more (Table 5.3).

Perinatal deaths

There were 2,089 perinatal deaths reported to the NPDC for 2010, giving a rate of 9.3 perinatal deaths per 1,000 births (Table 5.1). Of these, 69.3% were fetal deaths.

For the Australian Capital Territory, where 15.9% of women who gave birth were non-residents, the crude rate of perinatal mortality changed from 15.3 per 1,000 births by territory of birth (Table 5.1) to 12.9 per 1,000 births by territory of mother's usual residence (Table 5.2).

Perinatal death data were stratified by a number of demographic, pregnancy and risk factors in Table 5.3. Perinatal death rates were highest in babies of mothers aged 40 and over (13.5 per 1,000 births), followed by babies of teenage mothers (13.3 per 1,000 births). The perinatal death rate of babies born to Aboriginal or Torres Strait Islander mothers was 17.1 per 1,000 births. The rate was 8.8 per 1,000 births in babies born to non-Indigenous mothers (Table 5.3). The perinatal death rate was 20.5 per 1,000 births for women giving birth after ART treatment, compared with 10.8 per 1,000 births for non-ART women, where data were available.

Perinatal death rates were higher among babies of first-time mothers (9.7 per 1,000 births) than among babies whose mothers had at least one previous birth (8.9 per 1,000 births) (Table 5.3).

Table 5.3 shows that perinatal death rates were higher for babies in the 20–27 week gestational age group (658.5 per 1,000 births) and lowest at 37–41 weeks (2.0 per 1,000 births). Babies weighing less than 1,500 grams at birth had the highest perinatal death rate (418.9 per 1,000 births).

Causes of perinatal deaths

The majority of states and territories have implemented the Perinatal Society of Australia and New Zealand Perinatal Death Classification (PSANZ-PDC) to classify causes of perinatal deaths. Further details on these classifications are at <http://www.psanz.com.au/special-interest-groups/pnm.aspx/>.

For the 2010 data, six jurisdictions provided causes of death according to the PSANZ-PDC: Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. The main causes of perinatal deaths in these jurisdictions were congenital abnormalities (anomalies) (26.5%), spontaneous preterm birth (22.9%) and unexplained antepartum death (15.7%). These three groups of causes accounted for more than half of all perinatal deaths in these states (65.1%) and the rates were 2.7, 2.3 and 1.6 respectively per 1,000 births in the six jurisdictions. Specific perinatal conditions (8.3%) were also commonly reported causes of perinatal death, with a rate of 0.8 per 1,000 births (Table 5.4).

Applying these classifications reveals variability by jurisdiction in the leading causes of perinatal death. The largest apparent difference relates to the category of 'Maternal conditions'. This category includes late terminations undertaken for psychosocial indications. Differences in the rates of termination of pregnancy may reflect different provision of services, with the majority undertaken in Victoria (CCOPMM 2010). There may also be some differential assignment of the ranking related to jurisdictional differences in applying the classifications, as well as variability due to small number of deaths in some categories.

Table 5.4: Perinatal deaths, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and state and territory, 2010

Cause of death	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total	Rate[(a)]
					Number					
Congenital abnormality	n.a.	n.r.	169	83	52	10	25	5	344	2.7
Perinatal infection	n.a.	n.r.	9	11	6	<5	<5	<5	38	0.3
Hypertension	n.a.	n.r.	18	7	6	8	<5	<5	41	0.3
Antepartum haemorrhage (APH)	n.a.	n.r.	32	8	14	6	5	—	65	0.5
Maternal conditions	n.a.	n.r.	6	15	6	<5	—	<5	29	0.2
Specific perinatal conditions	n.a.	n.r.	47	31	15	<5	10	<5	108	0.8
Hypoxic peripartum death	n.a.	n.r.	19	5	6	<5	<5	<5	33	0.3
Fetal growth restriction (FGR)	n.a.	n.r.	30	19	17	9	5	5	85	0.7
Spontaneous preterm	n.a.	n.r.	164	72	16	17	17	11	297	2.3
Unexplained antepartum death	n.a.	n.r.	138	n.p.	n.p.	5	14	<5	204	1.6
No obstetric antecedent	n.a.	n.r.	16	n.p.	<5	—	—	—	25	0.2
Not stated	n.a.	n.r.	—	3	—	—	9	17	29	0.2
Total	**n.a.**	**n.r.**	**648**	**285**	**162**	**62**	**91**	**50**	**1,298**	**10.0**
					Per cent					
Congenital abnormality	n.a.	n.r.	26.1	29.1	32.1	16.1	27.5	10.0	26.5	—
Perinatal infection	n.a.	n.r.	1.4	3.9	3.7	n.p.	n.p.	n.p.	2.9	—
Hypertension	n.a.	n.r.	2.8	2.5	3.7	12.9	n.p.	n.p.	3.2	—
Antepartum haemorrhage (APH)	n.a.	n.r.	4.9	2.8	8.6	9.7	5.5	—	5.0	—
Maternal conditions	n.a.	n.r.	0.9	5.3	3.7	n.p.	—	n.p.	2.2	—
Specific perinatal conditions	n.a.	n.r.	7.3	10.9	9.3	n.p.	11.0	n.p.	8.3	—
Hypoxic peripartum death	n.a.	n.r.	2.9	1.8	3.7	n.p.	n.p.	n.p.	2.5	—
Fetal growth restriction (FGR)	n.a.	n.r.	4.6	6.7	10.5	14.5	5.5	10.0	6.5	—
Spontaneous preterm	n.a.	n.r.	25.3	25.3	9.9	27.4	18.7	22.0	22.9	—
Unexplained antepartum death	n.a.	n.r.	21.3	n.p.	n.p.	8.1	15.4	n.p.	15.7	—
No obstetric antecedent	n.a.	n.r.	2.5	n.p.	n.p.	—	—	—	1.9	—
Not stated	n.a.	n.r.	—	1.1	—	—	9.9	34.0	2.2	—
Total	**n.a.**	**n.r.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**—**

(a) Rate per 1,000 births in Qld, WA, SA, Tas, ACT and NT. The total number of births in the six jurisdictions was 129,257 in 2010.

n.a. Data not available.

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

n.r. Data not received at the time of publication.

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

Table 5.5 presents causes of perinatal deaths by gestational age group for Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. The main cause of perinatal death was congenital abnormalities at 20–21 weeks (38.2%) and 32–36 weeks gestation (30.2%). The leading cause of death at 22–27 weeks gestation was spontaneous preterm (39.4%). Perinatal deaths of babies at 37 and over weeks were most commonly due to unexplained antepartum death.

Table 5.5: Perinatal deaths, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2010

Cause of death	Gestational age (weeks)					
	20–21	22–27	28–31	32–36	37 and over	Total
			Number			
Congenital abnormality	129	92	23	51	49	344
Perinatal infection	11	n.p.	<5	6	10	38
Hypertension	<5	21	6	10	<5	41
Antepartum haemorrhage (APH)	13	23	8	14	7	65
Maternal conditions	<5	6	<5	7	11	29
Specific perinatal conditions	19	27	18	15	29	108
Hypoxic peripartum death	—	—	<5	<5	31	33
Fetal growth restriction (FGR)	5	28	9	20	23	85
Spontaneous preterm	119	165	10	<5	<5	297
Unexplained antepartum death	22	38	27	39	78	204
No obstetric antecedent	<5	<5	<5	<5	15	25
Not stated	11	7	3	2	6	29
Total	**338**	**419**	**110**	**169**	**262**	**1,298**
			Per cent			
Congenital abnormality	38.2	22.0	20.9	30.2	18.7	26.5
Perinatal infection	3.3	n.p.	n.p.	3.6	3.8	2.9
Hypertension	n.p.	5.0	5.5	5.9	n.p.	3.2
Antepartum haemorrhage (APH)	3.8	5.5	7.3	8.3	2.7	5.0
Maternal conditions	n.p.	1.4	n.p.	4.1	4.2	2.2
Specific perinatal conditions	5.6	6.4	16.4	8.9	11.1	8.3
Hypoxic peripartum death	—	—	n.p.	n.p.	11.8	2.5
Fetal growth restriction (FGR)	1.5	6.7	8.2	11.8	8.8	6.5
Spontaneous preterm	35.2	39.4	9.1	n.p.	n.p.	22.9
Unexplained antepartum death	6.5	9.1	24.5	23.1	29.9	15.7
No obstetric antecedent	n.p.	n.p.	n.p.	n.p.	5.7	1.9
Not stated	3.3	1.7	2.7	1.2	2.3	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

Notes

1. Includes Qld, WA, SA, Tas, ACT and NT.

2. The total number of births in the six jurisdictions included in the table was 129,257 in 2010.

The causes of death differed for fetal and neonatal deaths. Spontaneous preterm was the leading cause of neonatal deaths (39.5%), while congenital abnormality was the leading cause of fetal deaths (25.8%). Among neonatal deaths, congenital abnormalities accounted for 76.1% of babies at 32–36 weeks and 44.1% of babies at 37 weeks and over. The second most common cause of fetal deaths was unexplained antepartum death (22.5%) (Table 5.6).

Table 5.6: Fetal and neonatal deaths, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2010

	Fetal deaths				
Cause of death	**20–27**	**28–31**	**32–36**	**37 and over**	**Total**
			Number		
Congenital abnormality	191	15	16	8	230
Perinatal infection	13	<5	6	n.p.	28
Hypertension	15	<5	10	<5	29
Antepartum haemorrhage (APH)	16	n.p.	12	<5	39
Maternal conditions	9	<5	n.p.	11	27
Specific perinatal conditions	31	14	11	24	80
Hypoxic peripartum death	—	—	<5	n.p.	12
Fetal growth restriction (FGR)	31	9	18	21	79
Spontaneous preterm	134	<5	<5	<5	137
Unexplained antepartum death	58	27	39	77	201
No obstetric antecedent	7	—	<5	<5	9
Not stated	14	2	2	4	22
Total	**519**	**82**	**123**	**169**	**893**
			Per cent		
Congenital abnormality	36.8	18.3	13.0	4.7	25.8
Perinatal infection	2.5	n.p.	4.9	n.p.	3.1
Hypertension	2.9	n.p.	8.1	n.p.	3.2
Antepartum haemorrhage (APH)	3.1	n.p.	9.8	n.p.	4.4
Maternal conditions	1.7	n.p.	n.p.	6.5	3.0
Specific perinatal conditions	6.0	17.1	8.9	14.2	9.0
Hypoxic peripartum death	—	—	n.p.	n.p.	1.3
Fetal growth restriction (FGR)	6.0	11.0	14.6	12.4	8.8
Spontaneous preterm	25.8	n.p.	n.p.	n.p.	15.3
Unexplained antepartum death	11.2	32.9	31.7	45.6	22.5
No obstetric antecedent	1.3	—	n.p.	n.p.	1.0
Not stated	2.7	2.4	1.6	2.4	2.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(continued)

Table 5.6 (continued): Fetal and neonatal deaths, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2010

	Neonatal deaths				
Cause of death	**20–27**	**28–31**	**32–36**	**37 and over**	**Total**
			Number		
Congenital abnormality	30	8	35	41	114
Perinatal infection	6	<5	—	<5	10
Hypertension	8	<5	—	<5	12
Antepartum haemorrhage (APH)	20	—	<5	<5	26
Maternal conditions	—	<5	<5	—	2
Specific perinatal conditions	15	<5	<5	5	28
Hypoxic peripartum death	—	<5	—	n.p.	21
Fetal growth restriction (FGR)	<5	—	<5	<5	6
Spontaneous preterm	150	n.p.	<5	—	160
Unexplained antepartum death	<5	—	—	<5	3
No obstetric antecedent	<5	—	<5	14	16
Not stated	4	1	—	2	7
Total	**238**	**28**	**46**	**93**	**405**
			Per cent		
Congenital abnormality	12.6	28.6	76.1	44.1	28.1
Perinatal infection	2.5	n.p.	—	n.p.	2.5
Hypertension	3.4	n.p.	—	n.p.	3.0
Antepartum haemorrhage (APH)	8.4	—	n.p.	n.p.	6.4
Maternal conditions	—	n.p.	n.p.	—	0.5
Specific perinatal conditions	6.3	n.p.	n.p.	5.4	6.9
Hypoxic peripartum death	—	n.p.	—	n.p.	5.2
Fetal growth restriction (FGR)	n.p.	—	n.p.	n.p.	1.5
Spontaneous preterm	63.0	n.p.	n.p.	—	39.5
Unexplained antepartum death	n.p.	—	—	n.p.	0.7
No obstetric antecedent	n.p.	—	n.p.	15.1	4.0
Not stated	1.7	3.6	—	2.2	1.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

Notes

1. Includes Qld, WA, SA, Tas, ACT and NT.

2. The total number of births in the six jurisdictions included in the table was 129,257 in 2010.

The most common cause of perinatal death in singletons was congenital abnormalities (28.8%). Deaths of twins and higher-order multiples were mostly due to spontaneous preterm birth and specific perinatal conditions (Table 5.7).

Table 5.7: Perinatal deaths, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and plurality, 2010

Cause of death	Singletons	Twins and higher-order multiples	Total
		Number	
Congenital abnormality	325	19	344
Perinatal infection	n.p.	<5	38
Hypertension	n.p.	<5	41
Antepartum haemorrhage (APH)	n.p.	<5	65
Maternal conditions	n.p.	<5	29
Specific perinatal conditions	69	39	108
Hypoxic peripartum death	n.p.	<5	33
Fetal growth restriction (FGR)	77	8	85
Spontaneous preterm	227	70	297
Unexplained antepartum death	188	16	204
No obstetric antecedent	n.p.	<5	25
Not stated	25	4	29
Total	**1,130**	**168**	**1,298**
		Per cent	
Congenital abnormality	28.8	11.3	26.5
Perinatal infection	n.p.	n.p.	2.9
Hypertension	n.p.	n.p.	3.2
Antepartum haemorrhage (APH)	n.p.	n.p.	5.0
Maternal conditions	n.p.	n.p.	2.2
Specific perinatal conditions	6.1	23.2	8.3
Hypoxic peripartum death	n.p.	n.p.	2.5
Fetal growth restriction (FGR)	6.8	4.8	6.5
Spontaneous preterm	20.1	41.7	22.9
Unexplained antepartum death	16.6	9.5	15.7
No obstetric antecedent	n.p.	n.p.	1.9
Not stated	2.2	2.4	2.2
Total	**100.0**	**100.0**	**100.0**

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

Notes

1. Includes Qld, WA, SA ,Tas, ACT and NT.

2. The total number of births in the six jurisdictions included in the table was 129,257 in 2010.

Causes of death for singletons were examined by gestational age. This showed that 33.9% of 20–27 week babies had congenital abnormalities. The most common cause of death for 28–31 week babies was unexplained antepartum death (27.5%), while the most common cause for babies of 32–36 weeks was congenital abnormality (30.3%). For babies of 37 weeks and over, the leading categories were unexplained antepartum death (30.2%), congenital abnormality (17.3%) and hypoxic peripartum death (11.7%) (Table 5.8).

Table 5.8: Singleton perinatal deaths, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and gestational age, 2010

	Gestational age (weeks)				
Cause of death	**20–27**	**28–31**	**32–36**	**37 and over**	**Total**
			Number		
Congenital abnormality	220	19	43	43	325
Perinatal infection	17	<5	n.p.	10	36
Hypertension	22	n.p.	8	<5	38
Antepartum haemorrhage (APH)	35	8	12	7	62
Maternal conditions	n.p.	<5	7	n.p.	29
Specific perinatal conditions	21	9	11	28	69
Hypoxic peripartum death	—	<5	<5	29	31
Fetal growth restriction (FGR)	31	8	16	22	77
Spontaneous preterm	217	n.p.	<5	—	227
Unexplained antepartum death	55	25	33	75	188
No obstetric antecedent	n.p.	—	<5	15	23
Not stated	16	2	1	6	25
Total	**649**	**91**	**142**	**248**	**1,130**
			Per cent		
Congenital abnormality	33.9	20.9	30.3	17.3	28.8
Perinatal infection	2.6	n.p.	n.p.	4.0	3.2
Hypertension	3.4	n.p.	5.6	n.p.	3.4
Antepartum haemorrhage (APH)	5.4	8.8	8.5	2.8	5.5
Maternal conditions	n.p.	n.p.	4.9	n.p.	2.6
Specific perinatal conditions	3.2	9.9	7.7	11.3	6.1
Hypoxic peripartum death	—	n.p.	n.p.	11.7	2.7
Fetal growth restriction (FGR)	4.8	8.8	11.3	8.9	6.8
Spontaneous preterm	33.4	n.p.	n.p.	—	20.1
Unexplained antepartum death	8.5	27.5	23.2	30.2	16.6
No obstetric antecedent	n.p.	—	n.p.	6.0	2.0
Not stated	2.5	2.2	0.7	2.4	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

Notes

1. Includes Qld, WA, SA, TAS,ACT and NT.

2. The total number of births in the six jurisdictions included in the table was 129,257 in 2010.

Of perinatal deaths to mothers younger than 20, one-quarter were related to spontaneous preterm (25.0%). In mothers aged 40 and over, 40.6% of perinatal deaths were caused by congenital abnormalities as well as spontaneous preterm (17.2%). Nearly one-third (30.8%) of perinatal deaths caused by congenital abnormalities were to mothers aged 35-39(Table 5.9).

Table 5.9: Perinatal deaths, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and maternal age, 2010

	Maternal age (years)						
Cause of death	**Less than 20**	**20–24**	**25–29**	**30–34**	**35–39**	**40 and over**	**Total**
				Number			
Congenital abnormality	21	38	89	92	78	26	344
Perinatal infection	<5	9	11	6	9	<5	38
Hypertension	<5	<5	12	11	9	<5	41
Antepartum haemorrhage (APH)	<5	21	11	16	11	<5	65
Maternal conditions	<5	<5	7	10	n.p.	—	29
Specific perinatal conditions	<5	21	20	32	24	n.p.	108
Hypoxic peripartum death	<5	<5	7	12	7	<5	33
Fetal growth restriction (FGR)	7	14	23	25	10	6	85
Spontaneous preterm	22	52	88	65	59	11	297
Unexplained antepartum death	14	35	61	53	35	6	204
No obstetric antecedent	<5	6	6	5	<5	<5	25
Not stated	3	3	8	13	1	1	29
Total	**88**	**210**	**343**	**340**	**253**	**64**	**1,298**
				Per cent			
Congenital abnormality	23.9	18.1	25.9	27.1	30.8	40.6	26.5
Perinatal infection	n.p.	4.3	3.2	1.8	3.6	n.p.	2.9
Hypertension	n.p.	n.p.	3.5	3.2	3.6	n.p.	3.2
Antepartum haemorrhage (APH)	n.p.	10.0	3.2	4.7	4.3	n.p.	5.0
Maternal conditions	n.p.	n.p.	2.0	2.9	n.p.	—	2.2
Specific perinatal conditions	n.p.	10.0	5.8	9.4	9.5	n.p.	8.3
Hypoxic peripartum death	n.p.	n.p.	2.0	3.5	2.8	n.p.	2.5
Fetal growth restriction (FGR)	8.0	6.7	6.7	7.4	4.0	9.4	6.5
Spontaneous preterm	25.0	24.8	25.7	19.1	23.3	17.2	22.9
Unexplained antepartum death	15.9	16.7	17.8	15.6	13.8	9.4	15.7
No obstetric antecedent	n.p.	2.9	1.7	1.5	n.p.	n.p.	1.9
Not stated	3.4	1.4	2.3	3.8	0.4	1.6	2.2
Total	**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.

Notes

1. Includes Qld, WA, SA, Tas, ACT and NT.

2. The total number of births in the six jurisdictions included in the table was 129,257 in 2010.

Of perinatal deaths to women who gave birth in hospital, 27.5% were due to congenital abnormalities. This proportion was higher in public (29.4%) than in private hospitals (18.1%). Specific perinatal conditions occurred in 13.9% of perinatal deaths to women in private hospitals, compared with 7.2% in public hospitals (Table 5.10). Of all perinatal deaths in hospitals at 32 weeks gestation or more, 27.5% were unexplained antepartum deaths (29.9% in private hospitals and 26.9% in public hospitals), and 23.9% were due to congenital abnormalities (17.2% in private hospitals and 25.7% in public hospitals).

Table 5.10: Perinatal deaths to women who gave birth in hospital, by Perinatal Society of Australia and New Zealand Perinatal Death Classification and hospital sector, 2010

Cause of death	Public	Private	Total
		Number	
Congenital abnormality	305	39	344
Perinatal infection	29	6	35
Hypertension	32	8	40
Antepartum haemorrhage (APH)	57	6	63
Maternal conditions	n.p.	<5	29
Specific perinatal conditions	75	30	105
Hypoxic peripartum death	25	5	30
Fetal growth restriction (FGR)	68	15	83
Spontaneous preterm	234	43	277
Unexplained antepartum death	153	46	199
No obstetric antecedent	n.p.	n.p.	23
Not stated	15	9	24
Total	**1,036**	**216**	**1,252**
		Per cent	
Congenital abnormality	29.4	18.1	27.5
Perinatal infection	2.8	2.8	2.8
Hypertension	3.1	3.7	3.2
Antepartum haemorrhage (APH)	5.5	2.8	5.0
Maternal conditions	n.p.	n.p.	2.3
Specific perinatal conditions	7.2	13.9	8.4
Hypoxic peripartum death	2.4	2.3	2.4
Fetal growth restriction (FGR)	6.6	6.9	6.6
Spontaneous preterm	22.6	19.9	22.1
Unexplained antepartum death	14.8	21.3	15.9
No obstetric antecedent	n.p.	n.p.	1.8
Not stated	1.4	4.2	1.9
Total	**100.0**	**100.0**	**100.0**

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

Notes

1. Includes Qld, WA, SA, Tas, ACT and NT.

2. The total number of births in the six jurisdictions included in the table was 129,257 in 2010.

Appendix A: State and territory perinatal data collections, contacts and recent reports

New South Wales

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Latest report:

Centre for Epidemiology and Research. NSW Department of Health. New South Wales Mothers and Babies 2008. NSW Public Health Bull 2010;21(S-2).

Victoria

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Clinical Councils Unit
Department of Health
GPO Box 4003
Melbourne Vic 3001

Phone: (03) 9096 2693
Fax: (03) 9096 2700
Email: <perinatal.data@health.vic.gov.au>
Website: <www.health.vic.gov.au/perinatal>

Latest report:

CCOPMM (Consultative Council on Obstetric and Paediatric Mortality and Morbidity) 2012. *Annual report for the year 2009*, State Government of Victoria, Melbourne.

Queensland

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Health Statistics Centre
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Phone: (07) 3234 0921
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Website: <www.health.qld.gov.au/hic>

Latest report:

Health Statistics Centre 2012. Perinatal statistics Queensland 2010. Brisbane: Queensland Health.

Western Australia

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Website: <www.health.wa.gov.au>

Latest report:

Joyce A, Hutchinson M (2012). Western Australia's Mothers and Babies, 2010: Twenty-eighth Annual Report of the Western Australian Midwives' Notification System, Department of Health, Western Australia.

South Australia

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Website: <www.dh.sa.gov.au/pehs/pregnancyoutcome.htm>

Latest reports:

Scheil W, Scott J, Catcheside B, Sage L. Pregnancy Outcome in South Australia 2010. Adelaide: Pregnancy Outcome Unit, SA Health, Government of South Australia, 2012.

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Appendix B: Collection and collation of data for the National Perinatal Data Collection

Figure B1 shows the pathway of perinatal data to the NPESU for national collation.

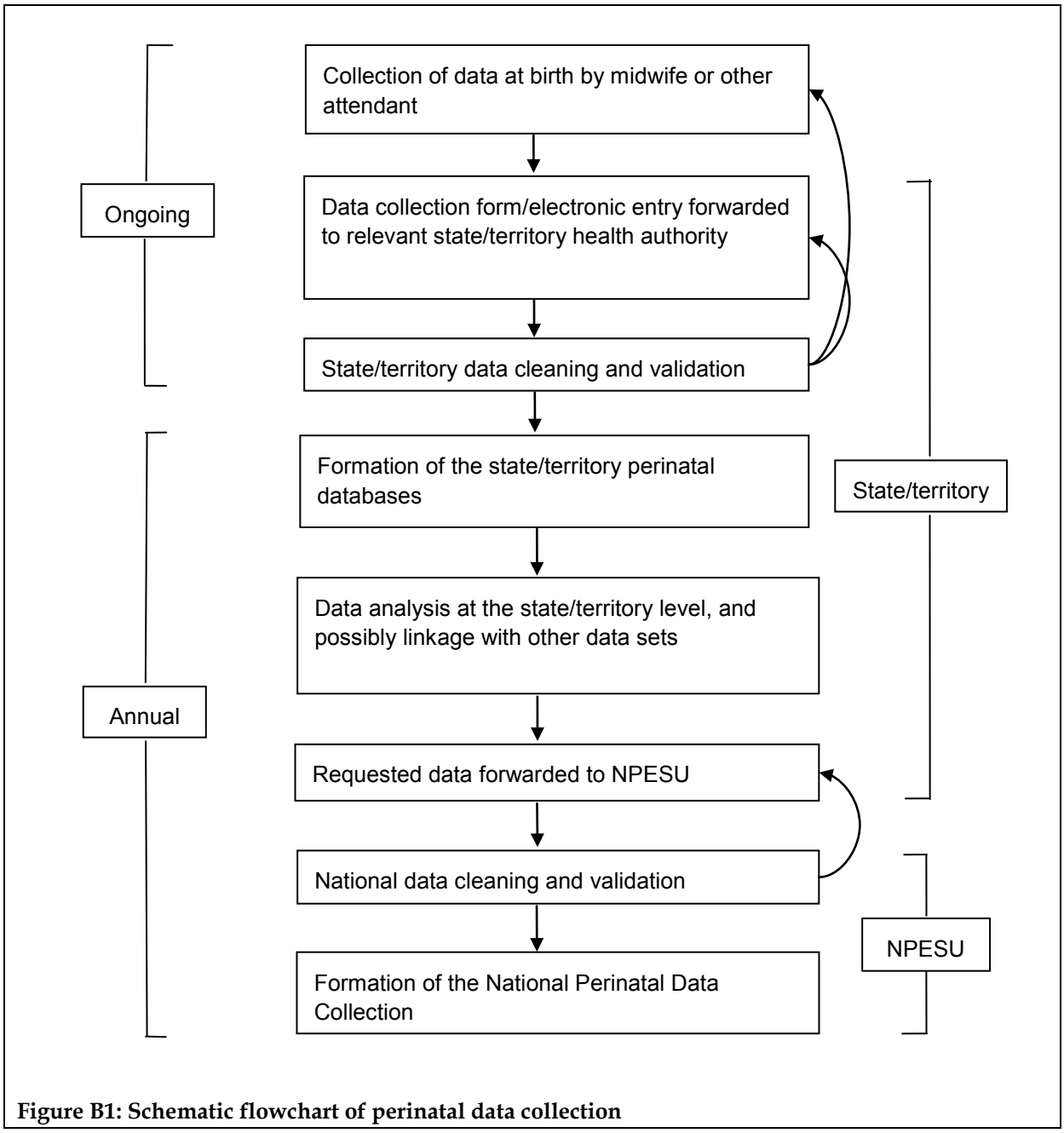

Figure B1: Schematic flowchart of perinatal data collection

Appendix C: Perinatal National Minimum Data Set items

Table C1: Perinatal NMDS 2008–2010 data 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—country of birth, code (SACC 1998) NNNN (ABS 1998)	270277
Person—date of birth, DDMMYYYY	287007
Person—Indigenous status, code N	291036
Person—person identifier, XXXXXX[X(14)]	290046
Person—sex, code N	287316

Note: Implementation start date 1 July 2008; Implementation end date 30 June 2010.

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

Table C2: Perinatal NMDS 2010–2011 data items

Data element name	METeOR identifier
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
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
Episode of admitted patient care—separation date, DDMMYYYY	270025
Establishment—organisation identifier (Australian), NNX[X]NNNNN	269973
Female (pregnant)—number of cigarettes smoked (per day after 20 weeks of pregnancy), number N[NN]	365445
Female (pregnant)—tobacco smoking indicator (after twenty weeks of pregnancy), yes/no code N	365417
Female (pregnant)—tobacco smoking indicator (first twenty weeks of pregnancy), yes/no code N	365404
Person—area of usual residence, geographical location code (ASGC 2009) NNNNN	386783
Person—country of birth, code (SACC 2008) NNNN	370943
Person—date of birth, DDMMYYYY	287007
Person—Indigenous status, code N	291036
Person—person identifier, XXXXXX[X(14)]	290046
Person—sex, code N	287316
Pregnancy—estimated duration (at the first visit for antenatal care), completed weeks N[N]	379597
Product of conception—gestational age, completed weeks N[N]	298105

Note: Implementation start date 1 July 2010; Implementation end date 30 June 2011.

Source: <http://meteor.aihw.gov.au/content/index.phtml/itemId/363256 >.

Appendix D: Data quality statement National Perinatal Data Collection

Summary of key issues

- The National Perinatal Data Collection (NPDC) provides national information on the pregnancy and childbirth of mothers, and the characteristics and outcomes of their babies.
- It contains information on all births in Australia in hospitals, birth centres and the community.
- It includes information on the Indigenous status of the mother only. Since 2005, all jurisdictions have collected information on Indigenous status of the mother in accordance with the Perinatal National Minimum Data Set (NMDS).
- Data items about neonatal deaths collected as part of the NPDC may be incomplete.
- Data from Victoria are not final.
- The Australian Capital Territory data contain a relatively high proportion of New South Wales residents who gave birth in the Australian Capital Territory.

Description

The NPDC is a national population-based cross-sectional data collection of pregnancy and childbirth. The data are based on births reported to the perinatal data collection in each state and territory in Australia. Midwives and other staff, using information obtained from mothers and from hospital or other records, complete notification forms for each birth. Selected information is compiled annually into this national data set by the National Perinatal Epidemiology and Statistics Unit (NPESU). Information is included in the NPDC on both live births and stillbirths of at least 400 grams birthweight or at least 20 weeks gestation, except in Western Australia, where the births included were at least 20 weeks gestation or, if gestation was unknown, the birthweight was at least 400 grams.

Institutional environment

Data in the NPDC include data collected as part of the Perinatal NMDS and supplied by state and territory health authorities to the NPESU, a collaborating unit of the Australian Institute of Health and Welfare (AIHW). The state and territory health authorities receive these data from patient administrative and clinical records. This information is usually collected by midwives or other birth attendants. States and territories use these data for service planning, monitoring and internal and public reporting.

States and territories supplied these data under the terms of the National Health Information Agreement:

National Health Information Agreement

<http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=6442475527>.

Data specifications for the NPDC are documented in the AIHW online metadata repository, METeOR, and the Maternity Information Matrix:

METeOR - AIHW online metadata repository

<http://meteor.aihw.gov.au/content/index.phtml/itemId/181162>

Perinatal National Minimum Data Set (NMDS)

<http://meteor.aihw.gov.au/content/index.phtml/itemId/426735>

Maternity Information Matrix <http://www.npesu.com.au/maternityinformation/>

The AIHW is Australia's national agency for health and welfare statistics and information. The role of the AIHW is to provide information on Australia's health and welfare, through statistics and data development that inform discussion and decisions on policy and services.

The AIHW works closely with all state, territory and Australian government health authorities in collecting, analysing and disseminating data. The AIHW is an independent statutory authority within the Health and Ageing portfolio, and is responsible to the Minister for Health and Ageing. The Institute is governed by a board, which is accountable to the Parliament of Australia through the minister.

Timeliness

NPDC data are collated annually for calendar years. The majority of jurisdictions need 12 months lead time to undertake data entry, validation and linking with hospital as required after the end of the data collection period. Data were due to be submitted on 30 April 2012. Two jurisdictions supplied required data by this date. Final, useable, data was received from all participating jurisdictions by 25 September 2012. Data are published in the *Australia's mothers and babies* report in November/December each year, about 2 years after the end of the data collection period. The National Health Information Standards and Statistics Committee agreed to move to financial year data collection from July 2013.

Accessibility

The NPESU provides a variety of products that draw upon the NPDC. Published products available are:

- Australia's mothers and babies annual report
- Indigenous mothers and their babies reports
- METeOR—online metadata repository
- National health data dictionary.

Ad hoc data are also available on request (charges apply to recover costs).

Data for selected indicators are also published biennially in reports such as *Australia's Health*, the *Aboriginal and Torres Strait Islander Health Performance Framework* report, *A Picture of Australia's Children*, and the *Overcoming Indigenous Disadvantage* report.

The latest publication on the National Perinatal Data Collection is *Australia's mothers and babies 2010*. This is the twentieth annual report on pregnancy and childbirth in Australia providing national information on women who gave birth and the characteristics and outcomes of their babies.

Interpretability

Supporting information on the use and quality of the NPDC are published annually in *Australia's mothers and babies* (Chapter 1), and available in hard copy or on the NPESU website. Comprehensive information on the quality of Perinatal NMDS elements are published in *Perinatal National Minimum Data Set compliance evaluation 2006 to 2009* (Donnolley and Li 2012). Readers are advised to read caveat information to ensure appropriate interpretation of data. Metadata information for the NPDC are published in METeOR, the *National health data dictionary* and the Maternity Information Matrix.

Relevance

The NPDC comprises data items as specified in the Perinatal National Minimum Data Set plus additional items collected by the states and territories. The purpose of the NPDC is to collect information at birth for monitoring pregnancy, childbirth and the neonatal period for both the mother and baby.

The NPDC is a specification for data collected on all births in Australia in hospitals, birth centres and the community. It includes information for all live births and stillbirths of at least 400 grams birthweight, or at least 20 weeks gestation. 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, gestational age at birth, birthweight and neonatal morbidity and fetal deaths.

A program of national perinatal data development has led to improvements in data provision and reporting. The program involves revision of existing Perinatal NMDS items, data development work on existing perinatal METeOR items and the development of new perinatal items. The scope of the NPDC has not changed. Many of the core data elements have also not changed since the beginning of the data collection in 1991. Definitions and data domains of some individual data elements have changed over time in response to data development, however, in many cases, data can be mapped to create a consistent time series. New data elements introduced into the NPDC will not be available for the entire period. Developments to the Perinatal NMDS are under way to include additional data elements. Collection of data for alcohol use in pregnancy is under development. Three new data elements were introduced into the Perinatal NMDS from July 2010: smoking before 20 weeks gestation, smoking after 20 weeks gestation, and duration of pregnancy at first antennal visit. Implementation issues have delayed comprehensive reporting of these items in 2010. Variable completeness of data is expected during the first year when new items are phased into existing data collections. State and territories can mandate data collection from public hospitals, but not private hospitals. Indigenous status of the baby have been added to the NMDS, with data collection beginning from 1 July 2012. The number of antenatal visits has been put forward for endorsement as an additional NMDS item for collection from 1 July 2012.

Due to the time delay between collection of data by the state and territory perinatal data collections and their inclusion into the NPDC, these items will not appear in published data until after 2013. Enhancement of perinatal data is a priority for the Council of Australian Governments.

Accuracy

Inaccurate responses may occur in all data provided to the NPESU. The NPESU does not have direct access to perinatal records to determine the accuracy of the data provided. However, the NPESU undertakes validation on receipt of data. Data received from states and territories are checked for completeness, validity and logical errors. Potential errors are queried with jurisdictions, and corrections and resubmissions are made in response to these edit queries. The NPESU does not adjust data to account for possible data errors.

Errors may occur during the processing of data by the states and territories or at the NPESU. Processing errors before data supply may be found through the validation checks applied by the NPESU.

Before publication, data are referred back to jurisdictions for checking and review. The NPESU does not adjust the data to correct for missing values. Note that because of data

editing and subsequent updates of state/territory databases, numbers reported may differ from those in reports published by the states and territories.

According to the NHDD, Indigenous status is a measure of whether a person identifies as being of Aboriginal or Torres Strait Islander origin (AIHW 2010). All states and territories have a data item to record Indigenous status of the mother on their perinatal form, although there are some differences among the jurisdictions. For 2010, data on the baby's Indigenous status were available from the Australian Capital Territory and the Northern Territory for the whole year and Queensland for the second half of the year.

Additional data items about neonatal deaths collected as part of the NPDC may be incomplete. In some jurisdictions, neonatal deaths for babies transferred to another hospital or readmitted to hospital and those dying at home may not be included. Neonatal deaths for the Northern Territory are considered to be incomplete for 2010 as data do not include deaths occurring outside the Northern Territory. Due to the small number of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

Coherence

NPDC data are reported and published annually by the AIHW. While definitions and data domains of some individual data elements have changed over time in response to data development, in many cases it is possible to map coding changes to make meaningful comparisons over time.

The other national data sources on perinatal data are Australian Bureau of Statistics (ABS) and National Hospital Morbidity Database (NHMD). The ABS compiles statistics and publishes reports on registrations of live births and perinatal deaths from data made available by the Registrars of Births, Deaths and Marriages in each states and territory. The ABS collection includes all live births that were not previously registered and stillbirths of at least 400 grams, or at least 20 weeks gestation where birthweight is unknown. The NHMD is compiled from data supplied by the state and territory health authorities. It is a collection of electronic confidentialised summary records for separations (that is, episodes of care) in public and private hospitals in Australia.

As these collections differ greatly from NPDC in scope, collection methodology, definitions and reference periods, comparisons between collections should be made with caution.

Appendix E: Data used in figures

Table E1: Number of births, 2001 to 2010

Year	Births
2001	254,326
2002	255,095
2003	256,925
2004	257,205
2005	272,419
2006	282,169
2007	294,205
2008	296,925
2009	299,220
2010	299,563

Note: Provisional data were provided by Victoria for 2009 and 2010.

Table E2: Women giving birth in the population, 2001 to 2010 (per 1,000 women aged 15-44)

Rate	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crude	58.9	58.7	58.7	58.5	61.5	63.1	64.9	64.4	63.6	63.6
Age-adjusted	58.8	58.7	58.9	58.7	61.8	63.6	65.5	64.6	63.5	63.3

Note: Provisional data were provided by Victoria for 2009 and 2010.

Table E3: Primiparous women who gave birth, by maternal age, 2001 and 2010 (per cent)

Maternal age (years)	2001	2010
Younger than 20	82.9	83.0
20–24	53.7	55.1
25–29	44.4	47.2
30–34	34.0	36.4
35–39	25.6	26.9
40 and over	23.4	24.8

Note: Provisional data were provided by Victoria for 2010.

Table E4: Women who gave birth, by onset of labour, 2001 to 2010 (per cent)

Onset of labour	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Spontaneous	59.0	57.9	57.3	57.6	56.5	56.6	56.6	57.0	56.1	56.0
Induced	26.7	26.6	26.1	25.3	25.6	25.1	25.3	24.8	25.3	25.4
No labour	14.3	15.5	16.5	17.1	17.9	18.3	18.1	18.2	18.4	18.6

Note: Provisional data were provided by Victoria for 2009 and 2010.

Table E5: Women who gave birth, by caesarean section and instrumental birth, 2001 to 2010 (per cent)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Caesarean section	25.4	27.0	28.5	29.4	30.3	30.8	30.9	31.1	31.5	31.6
Instrumental	10.9	10.8	10.7	11.0	10.8	10.7	11.2	11.4	11.7	12.0

Note: Provisional data were provided by Victoria for 2009 and 2010.

Table E6: Women who gave birth, by caesarean section by maternal age and hospital sector, 2010 (per cent)

Maternal age (years)	Public	Private
Less than 20	18.1	22.3
20–24	21.5	31.1
25–29	26.6	36.6
30–34	31.4	42.1
35–39	36.5	49.9
40 and over	43.5	58.7

Note: Excludes Vic.

Table E7: Length of stay of 5 days or more for babies born in hospital, 2001 to 2010 (per cent)

Length of stay	2001	2002	2003	2004	2005	2006	2007	2008	2009[(a)]	2010[(a)]
5 days and over	33.8	32.6	31.5	30.3	28.2	27.0	25.3	24.1	23.0	22.7

*(*a) Excludes Vic.

Note: Only babies who were discharged home are included.

Glossary

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

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

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

assisted reproductive technology: Treatments or procedures that involve the in vitro handling of human oocytes (eggs) and sperm or embryos for the purposes of establishing a pregnancy.

augmentation of labour: Intervention after the onset of labour to assist the progress of labour.

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

birth status: Status of the baby immediately after birth.

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

caesarean section: Operative birth by surgical incision through the abdominal wall and uterus.

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

early neonatal death: Death of a liveborn baby within 7 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 before the complete expulsion or extraction from its mother of a product of conception of 20 or more completed weeks of gestation or of 400 grams or more birthweight. The death is indicated by the fact that after such separation the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

forceps: Assisted birth using a metallic obstetric instrument.

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

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

induction of labour: Intervention to stimulate the onset of labour.

instrumental delivery: Vaginal delivery using forceps or vacuum extraction.

intrapartum fetal death: Fetal death occurring during labour.

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

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

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

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

low birthweight: Birthweight of less than 2,500 grams.

maternal age: Mother's age in completed years at the birth of her baby.

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

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

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

neonatal death: Death of a liveborn baby within 28 days of birth.

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

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

perinatal death: A fetal or neonatal death of at least 20 weeks gestation or at least 400 grams birthweight.

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

plurality: The number of births resulting from a pregnancy.

postneonatal death: Death of a liveborn baby after 28 days and within 1 year of birth.

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

presentation at birth: Presenting part of the fetus at birth.

preterm birth: Birth before 37 completed weeks of gestation.

primary caesarean section: Caesarean section to mother with no previous history of caesarean section.

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

pudendal: Local anaesthetic to block the pudendal nerves.

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

sex ratio: Number of male liveborn babies per 100 female liveborn babies.

spontaneous vaginal: Birth without intervention in which the baby's head is the presenting part.

stillbirth: See *Fetal death (stillbirth).*

teenage mother: Mother aged less than 20 years at the birth of her baby.
vacuum extraction: Assisted birth using a suction cap applied to the baby's head.
vaginal breech: Vaginal birth in which the baby's buttocks is the presenting part.
very low birthweight: Birthweight of less than 1,500 grams.

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List of tables

List of figures

Related publications

This report, *Australia's mothers and babies 2010*, is part of an annual series. The earlier editions and any published subsequently can be downloaded for free from the AIHW website <http://www.aihw.gov.au/mothers-and-babies-publications/>. The website also includes information on ordering printed copies.

The following AIHW publications relating to mothers and babies might also be of interest:

- Leeds K, Gourley M, Laws P, Zhang J, Al-Yaman F & Sullivan EA 2007. Indigenous mothers and their babies, Australia 2001–2004. Perinatal statistics series no. 19. Cat. no. PER 38. Canberra: AIHW.
- Macaldowie A, Wang YA, Chambers GM & Sullivan EA 2012. Assisted reproductive technology in Australia and New Zealand 2010. Assisted reproduction technology series no. 16. Cat. no. PER 55. Canberra: AIHW.
- Donnolley N & Li Z 2012. Perinatal National Minimum Data Set compliance evaluation 2006 to 2009. Perinatal statistics series no. 26. Cat. no. PER 54. Sydney: AIHW National Perinatal Epidemiology and Statistics Unit.

In 2010, 294,814 women gave birth to 299,563 babies in Australia. The average age of mothers has increased gradually, from 29.2 years in 2001 to 30.0 years in 2010. The caesarean section rate has shown an upward trend over the last 10 years, increasing from 25.4% nationally in 2001 to a peak of 31.6% in 2010.

Perinatal statistics series