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Australia's mothers and babies 2012

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PERINATAL STATISTICS SERIES
Number 30

Australia's mothers and babies

2012

Australian Institute of Health and Welfare
Canberra
Cat. no. PER 69

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This publication is part of the Australian Institute of Health and Welfare's perinatal statistics series. A complete list of the Institute's publications is available from the Institute's website <www.aihw.gov.au>.

ISSN 1321-8336
ISBN 978-1-74249-672-6

Suggested citation

Hilder L, Zhichao Z, Parker M, Jahan S, Chambers GM 2014. Australia's mothers and babies 2012. Perinatal statistics series no. 30. Cat. no. PER 69. Canberra: AIHW.

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Published by the Australian Institute of Health and Welfare

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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

Acknowledgments

Lisa Hilder, Zou Zhichao, Michael Parker, Shamshad Jahan and Georgina Chambers of the National Perinatal Epidemiology and Statistics Unit (NPESU), a collaborating centre of the Australian Institute of Health and Welfare (AIHW), wrote this report. The NPESU is a formally affiliated institution of the University of New South Wales, School of Women's and Children's Health, Faculty of Medicine.

The NPESU values the time, effort and expertise contributed by all states and territories, in particular maternity staff, in collecting and providing the data used in this report. We would like to acknowledge the staff members of the state and territory health authorities who provided data and reviewed the tables:

- Lee Taylor, Tim Harrold and Kim Lim, Centre for Epidemiology and Evidence, NSW Ministry of Health
- Vickie Veitch, Diana Stubbs and Gemma Wills (currently) and Danielle Cosgriff (formerly) at the Clinical Councils Unit, Health Service Program, Department of Health, Victoria
- Sue Cornes, Joanne Ellerington, Vesna Dunne, Neil Gardiner and Ben Wilkinson, Health Statistics Branch, Department of Health, Queensland
- Maureen Hutchinson, Alan Joyce and Tony Satti, Maternal and Child Health Unit, Data Integrity Directorate, Department of Health, Western Australia
- Wendy Scheil, Kevin Priest and Joan Scott, Pregnancy Outcome Unit, Department of Health, South Australia
- Peter Mansfield, Cynthia Rogers and Peter Russell, Data Standards and Integrity Unit, Department of Health and Human Services, Tasmania
- Rosalind Sexton, Louise Freebairn, Wayne Anderson and Leah Newman, Epidemiology Section, ACT Health
- Leanne O'Neil and Karen Dempsey, Department of Health and Families, Northern Territory.

Within the AIHW, Kathy Southgate and Laura Pritchard assisted in database management.

Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ART	assisted reproductive technology
ASGC	Australian Standard Geographical Classification
BMI	body mass index
IPPV	intermittent positive pressure ventilation
kg	kilogram
m^2	metres squared
METeOR	Metadata Online Registry
mmHg	millimetres of mercury
NHDD	*National health data dictionary*
NICU	neonatal intensive care unit
NMDS	National Minimum Data Set
NPDC	National Perinatal Data Collection
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
Vic	Victoria
WA	Western Australia
WHO	World Health Organization

Symbols

–	nil or rounded to zero
. .	not applicable
<	less than
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 2012 is the twenty-second annual report on pregnancy and childbirth in Australia. In 2012, a total of 307,474 women gave birth to 312,153 babies. This is a 3.4% increase in the total number of births compared with that for 2011.

Mothers

The average maternal age in 2012 was 30.1 compared with 29.5 in 2003. Approximately 42% of women were having their first baby and the average age of first-time mothers was 28.4. Of all first-time mothers in 2012, 14% were aged 35 or older compared with 12% in 2003. Assisted reproductive technology (ART) was used by 4% of women who gave birth in the 5 jurisdictions for which data on ART were available.

Antenatal factors

Smoking while pregnant was reported by about 13% of all mothers and by 35% of teenage mothers. About one-fifth (21%) of women who reported smoking during the first 20 weeks of pregnancy did not report smoking during the second 20 weeks. Over three-fifths (63%) of women attended at least 1 antenatal visit before 14 weeks gestation, although 15% of women did not receive antenatal care until after 20 weeks.

Indigenous mothers

Overall, 4% of women who gave birth during 2012 identified as Aboriginal and/or Torres Strait Islander. Indigenous mothers were younger than non-Indigenous mothers; their average age in 2012 was 25.2 compared with 30.3 for non-Indigenous mothers. Smoking during pregnancy was reported by almost half (48%) of Indigenous mothers. Of Aboriginal or Torres Strait Islander mothers who reported smoking during the first 20 weeks of pregnancy, 12% did not report smoking after 20 weeks, half that of non-Indigenous mothers (23%). One-quarter (25%) of Indigenous babies were born to mothers who identified as non-Indigenous.

Labour and delivery

The average duration of pregnancy was 38.7 weeks. Onset of labour was spontaneous for 54% of women giving birth and induced for 26%. Most women (68%) had a vaginal birth and, of these births, 82% did not involve the use of instruments. Overall, 32% of women gave birth by caesarean section in 2012, similar to the proportion (32.3%) in 2011. The caesarean section rate among first-time mothers was 33% in 2012. Among women who had already given birth at least once, 29% had had a previous birth by caesarean section.

Baby outcomes

In 2012, 9% of babies were born pre-term (before 37 completed weeks of gestation) and 0.6% post-term (42 weeks gestation or more). Overall, 6% of liveborn babies were of low birthweight (less than 2,500 grams) and this doubled (12%) among mothers who smoked during pregnancy. One in 5 (20%) babies received some form of resuscitation at birth, although almost half (49%) received only suction or oxygen therapy. The perinatal death rate was 9.6 per 1,000 births in 2012, with 7.2 fetal deaths per 1,000 births and 2.4 neonatal deaths per 1,000 live births. This compares with 9.9 perinatal deaths per 1,000 births in 2011, 7.4 fetal deaths per 1,000 births and 2.6 neonatal deaths per 1,000 live births.

1 Introduction

Australia's mothers and babies 2012 is the twenty-second report in the annual series prepared by the National Perinatal Epidemiology and Statistics Unit (NPESU) on behalf of the Australian Institute of Health and Welfare (AIHW). 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 by the AIHW, 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 this report is to provide national information for 2012 on births, the women who gave birth and the babies who were born. The report provides information to support the first of 7 long-term objectives identified by Australian and state and territory governments: that Australians are born healthy and remain healthy (COAG 2012). It presents national statistics about births 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 2012, 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 2012
- 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 the NPESU for all births from 1 January 2012 to 31 December 2012 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 at Appendix B.

Structure of the National Perinatal Data Collection

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

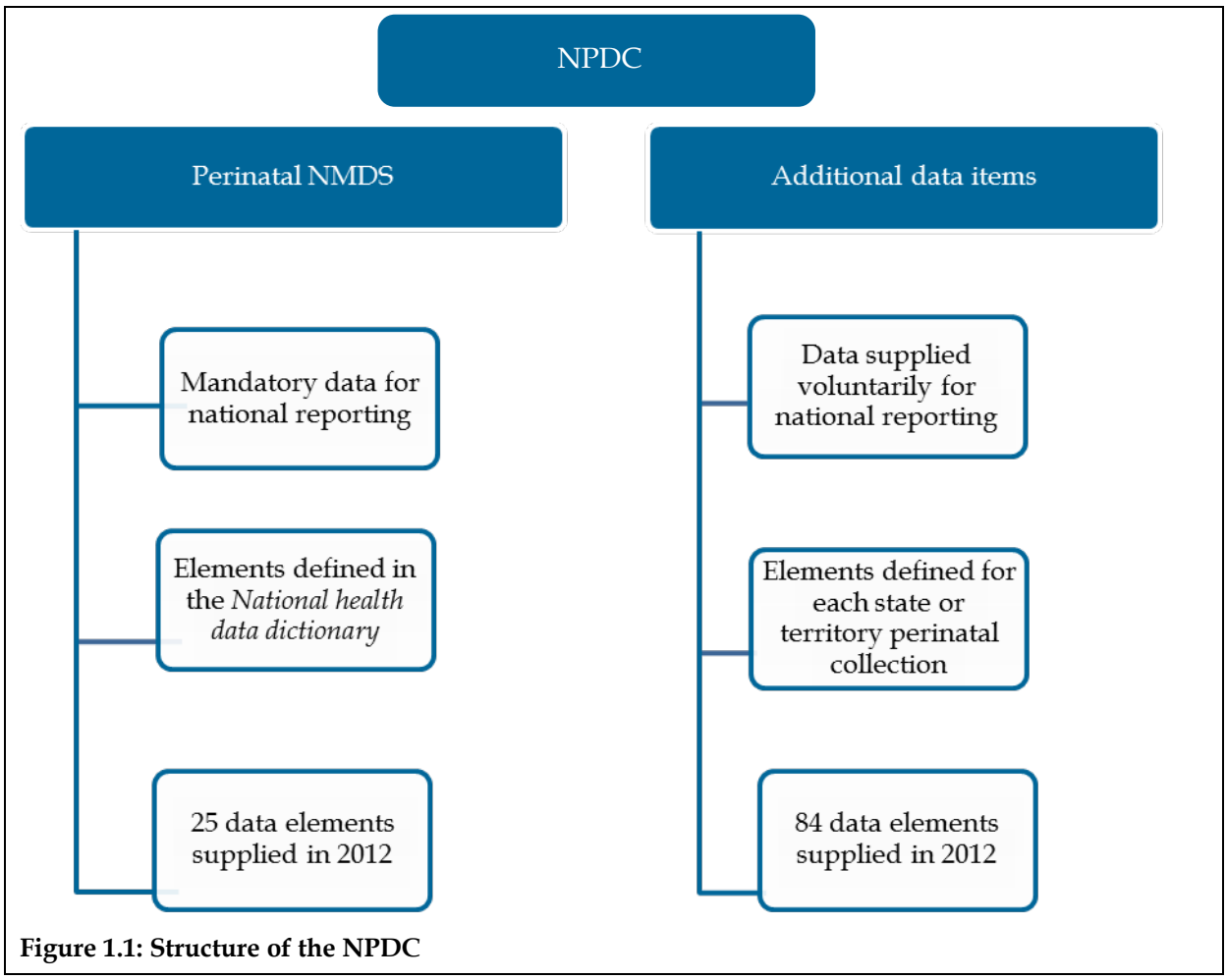


Figure 1.1: Structure of the NPDC

The Perinatal NMDS was first specified in 1997 and remains an agreed data set for national reporting (COAG 2012). 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 at Appendix C. Compliance of data provided for the Perinatal NMDS is evaluated intermittently to assess data quality and adherence to standards (Donnolley & Li 2012).

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 post-partum perineal status (METeOR item 269939) have had national data standards developed, but have not yet 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, as yet, 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.

Data quality, presentation and interpretation issues

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

This report presents perinatal data that can largely be compared with data in *Australia's mothers and babies 2011* (Li et al. 2012). Tabulated data in this report are based on births in each state and territory in 2012 that meet 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. Data from the NPDC are being progressively released online at <http://www.aihw.gov.au/perinatal-data/>.

Unless otherwise stated, the data in this report relate to the state or territory where births occurred in 2012 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 and figures.

Due to rounding, percentage totals in this report may not add up to 100.0 and subtotals may not sum to the percentages for the categories. Some percentages in the tables appear as 0.0% where numbers are small.

Unless otherwise stated, the age-standardised rate is calculated by the direct method using the 2001 estimated resident Australian female population as the standard.

$$\text{SR} = \frac{\sum(r_i P_i)}{\sum P_i}$$

Where:

SR is the age-standardised rate for the population being studied

r_i is the age-group specific rate for age group *i* in the population being studied

P_i is the population of age group *i* in the standard population

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

Which births are counted?

This report presents information from the NPDC about births in Australia, including births in hospitals, in birth centres and in the community. The Australian *National health data dictionary* (NHDD) defines a live birth as the complete expulsion or extraction from its mother of a baby of at any gestation that shows signs of life; and a stillbirth is the complete expulsion or extraction of a baby of least 20 weeks gestation or weighing at least 400 grams at

birth (the weight expected of a baby at 20 weeks gestational age) which shows no signs of life. The Perinatal NMDS and the NPDC require that either the birthweight or gestational age conditions are met for both live births and stillbirths. This means that the very small number of live births before 20 weeks gestation where the baby weighed less than 400 grams included in some jurisdictional perinatal data collections are not included in the NPDC. Live births and stillbirths may include termination of pregnancy after 20 weeks. Stillbirths can include fetus papyraceous and fetus compressus. In Western Australia, data were included for both live births and stillbirths of at least 20 weeks gestation or, if gestation was unknown, the birthweight was at least 400 grams. In Victoria, stillbirths were of at least 20 weeks gestation unless gestation was missing and the baby weighed 400 grams or more. South Australian data may not include all terminations of pregnancy for psychosocial reasons after 20 weeks gestation. Data for 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 gestational age or other criteria for defining live births and stillbirths. 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). For live births, the Perinatal NMDS and NPDC definition (above) is more restrictive than the World Health Organization (WHO) definition that specifies a live birth as a baby born showing signs of life irrespective of gestation (WHO 1992).

Small numbers

Cell values of less than 5 in tables have not been published, in line with 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

Indigenous status is a measure of whether a person identifies as being of Aboriginal and/or Torres Strait Islander origin (AIHW 2012). Indigenous status of the mother has been a mandatory data item for the Perinatal NMDS since its inception in 1997, but applying the data item to the baby was introduced to the NMDS for collection only in the 2012–13 reference year. For 2012, data on the baby's Indigenous status were obtained from New South Wales, Victoria, Queensland, Tasmania, the Australian Capital Territory and the Northern Territory.

Australian Capital Territory births include mothers resident in New South Wales

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

mothers who gave birth in the Australian Capital Territory who were residents elsewhere was 14.2% in 2012. 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 pre-term 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.

Data from Victoria are not final

Data from Victoria provided for the NPDC are provisional. Tables in this report are footnoted accordingly. Revised data may be available online in the future.

Neonatal deaths data may be incomplete

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 after birth or readmitted to hospital, and for those dying at home may not be included. Differences in mortality rates may be due to the small number of deaths, which results in statistical fluctuations, under-ascertainment, or actual differences in mortality experience.

Maternal information about multiple births

The number of babies is higher than the number of mothers because of multiple births. For multiple pregnancies, the data may be different for each baby, such as place of birth. Data on multiple births are presented 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.

National Perinatal Data Development Committee

The National Perinatal Data Development Committee has a key role in improving data quality. The committee comprises 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 committee works in consultation with clinical reference groups. It improves data provision, revises existing Perinatal NMDS items, develops existing perinatal METeOR items and contributes to the development of new perinatal data items.

2 Summary of births and women who gave birth in 2012

There were 307,474 women who gave birth in 2012 as reported to the NPDC. There were 312,153 births, of which 2,255 were stillbirths (Table 2.1). This represents a 3.4% increase from the 301,810 births reported in 2011, and a total increase of 21.5% since 2003.

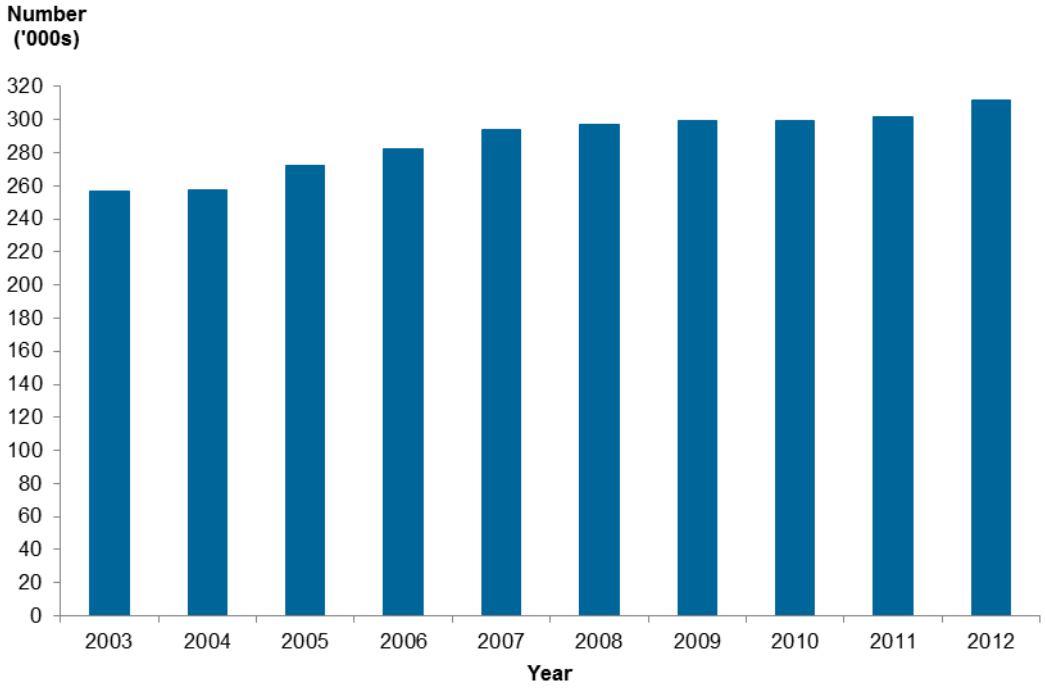
Table 2.1: Women who gave birth and births, by state and territory, 2012

	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Australia
Mothers	98,138	77,170	62,650	33,393	20,338	5,863	5,939	3,983	307,474
Fetal deaths	600	697	459	237	138	45	52	27	2,255
Live births	98,872	77,694	63,250	33,625	20,528	5,895	5,994	4,003	309,861
Not stated	35	2	—	—	—	—	—	—	37
All births	**99,507**	**78,393**	**63,709**	**33,862**	**20,666**	**5,940**	**6,046**	**4,030**	**312,153**

(a) Data provided by Vic are provisional.

The number of births has been increasing since 2003, when the lowest number of births (256,925) during the past decade was reported (Figure 2.1). From 2008 to 2011 the rate of increase declined, but rose again in 2012.

There were 309,861 live births in 2012 reported to the NPDC (Table 2.1). This was 279 more than the 309,582 live births registered in Australia in 2012 (ABS 2013). 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).

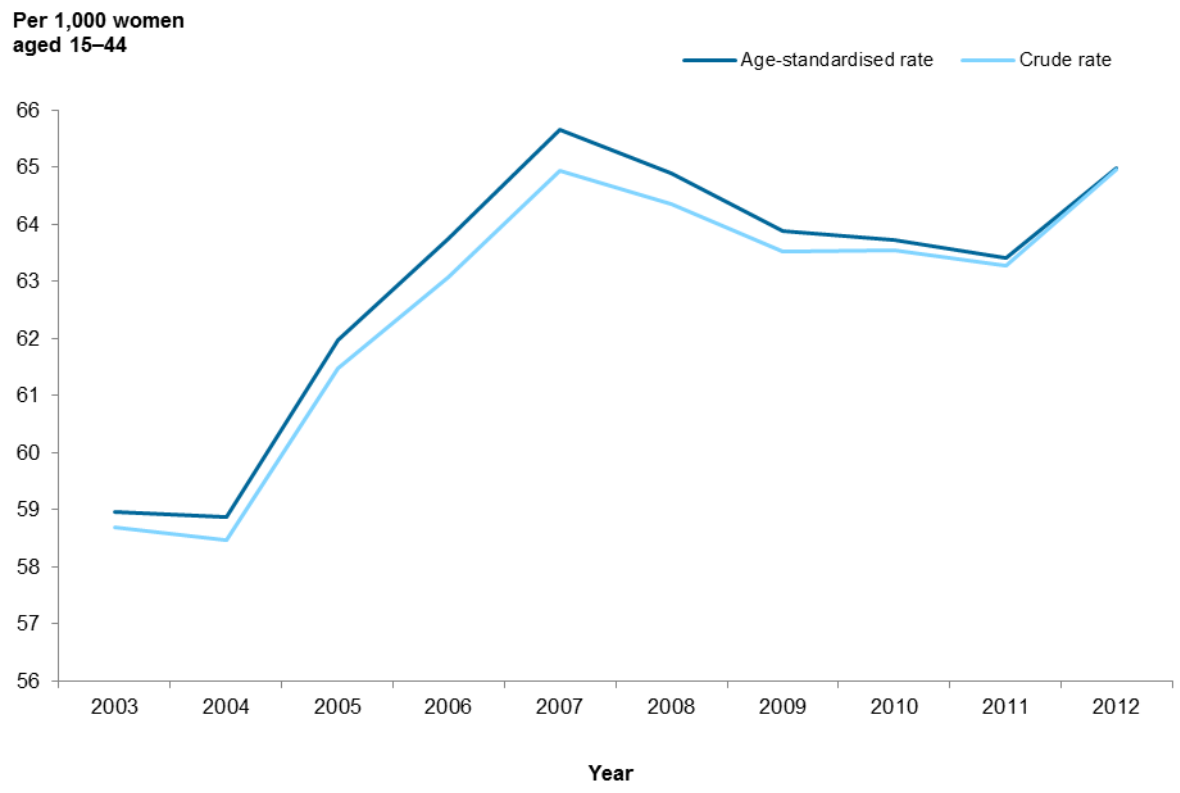


Notes

1. Provisional data were provided by Vic for 2009, 2010 and 2012.
2. Data for this figure are in Table E1.

Figure 2.1: Number of births, Australia, 2003 to 2012

As a proportion of females of reproductive age (15–44 years) in the population, the crude rate of women who gave birth in 2012 was 65.0 per 1,000. This rate is slightly higher than the previous high of 64.9 per 1,000 females aged 15–44 in 2007. There is a similar pattern for the age-standardised rates (Figure 2.2).



Notes

1. Provisional data were provided by Vic for 2009, 2010 and 2012.
2. Data for this figure are in Table E2.
3. Data are directly age-standardised using the 2001 estimated resident Australian female population.

Figure 2.2: Rate of women of reproductive age giving birth, 2003 to 2012

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 2012, the age of mothers ranged from under 15 to 56.

The average age of women who gave birth in Australia has increased by 7.9% since 1991. The mean age in 2012 was 30.1, compared with 29.5 in 2003, while the median age in 2012 remained at 30.0.

In 2012, the average age of mothers was higher in women who gave birth in Victoria and the Australian Capital Territory (30.7 in both) and lower in the Northern Territory (28.0) compared with the national average age of 30.1 (Table 3.1).

Nationally, the proportion of teenage mothers (younger than 20) was 3.6% in 2012—lower than the equivalent proportions in 2011 (3.7%) and in 2003 (4.6%). The proportion of women who gave birth and were teenagers in 2012 varied by place of residence, ranging from a low of 2.2% in the Australian Capital Territory to 9.7% in the Northern Territory (Table 3.1).

The proportion of mothers aged 20–24 fell from 14.9% in 2003 to 13.6% in 2012. The proportion of older mothers aged 35 and over increased from 18.8% in 2003 to 22.4% in 2012.

Mothers aged 40 and over made up 4.3% of women giving birth in 2012 compared with 3.2% in 2003 (Table 3.1). There were 606 women aged 45 and over who gave birth in 2012, accounting for 0.2% of women who gave birth.

Table 3.1: Women who gave birth, by maternal age and state and territory, 2012

Maternal age (years)	NSW	Vic[(a)]	Qld	WA	SA[(b)]	Tas	ACT[(c)]	NT	Australia
Mean	30.3	30.7	29.3	29.7	29.7	29.0	30.7	28.0	30.1
					Number				
Younger than 20	3,079	1,800	3,164	1,342	796	360	132	385	11,058
20–24	12,616	8,400	10,397	4,912	2,966	1,049	611	850	41,801
25–29	26,584	20,696	18,259	9,543	6,048	1,705	1,601	1,082	85,518
30–34	32,469	26,830	18,774	10,751	6,379	1,630	2,176	1,041	100,050
35–39	18,677	15,699	9,813	5,571	3,359	898	1,146	498	55,661
40 and over	4,699	3,692	2,243	1,274	790	221	273	127	13,319
Not stated	14	53	—	—	—	—	—	—	67
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
Younger than 20	3.1	2.3	5.1	4.0	3.9	6.1	2.2	9.7	3.6
20–24	12.9	10.9	16.6	14.7	14.6	17.9	10.3	21.3	13.6
25–29	27.1	26.8	29.1	28.6	29.7	29.1	27.0	27.2	27.8
30–34	33.1	34.8	30.0	32.2	31.4	27.8	36.6	26.1	32.5
35–39	19.0	20.3	15.7	16.7	16.5	15.3	19.3	12.5	18.1
40 and over	4.8	4.8	3.6	3.8	3.9	3.8	4.6	3.2	4.3
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) Data provided by Vic are provisional.

(b) For SA, the mean maternal age presented here may differ from that produced by the Pregnancy Outcome Statistics Unit which uses maternal age to 4 decimal places for this calculation. The NPDC contains maternal age in completed years.

(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore, care must be taken when comparing percentages between jurisdictions.

Aboriginal and/or 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 2012, 12,284 women who identified as being Aboriginal and/or Torres Strait Islander gave birth in Australia, representing 4.0% of all women who gave birth (Table 3.2). Aboriginal and Torres Strait Islander mothers accounted for a much greater proportion of all mothers in the Northern Territory (35.7%) than in other jurisdictions. There were also higher than average proportions of Aboriginal and Torres Strait Islander mothers who gave birth in Queensland, Tasmania and Western Australia (6.1%, 5.1% and 4.9%, respectively). Because of their larger overall populations, there were more Aboriginal and Torres Strait Islander women who gave birth in Queensland (3,838), New South Wales (3,348) and Western Australia (1,630) than in the Northern Territory (1,422) (Table 3.2).

Table 3.2: Women who gave birth, by Indigenous status and state and territory, 2012

Indigenous status	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
					Number				
Aboriginal or Torres Strait Islander	3,348	962	3,838	1,630	661	301	122	1,422	12,284
Non-Indigenous	94,735	75,713	58,807	31,763	19,677	5,456	5,816	2,558	294,525
Not stated	55	495	5	—	—	106	1	3	665
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
Aboriginal or Torres Strait Islander	3.4	1.2	6.1	4.9	3.3	5.1	2.1	35.7	4.0
Non-Indigenous	96.5	98.1	93.9	95.1	96.7	93.1	97.9	64.2	95.8
Not stated	0.1	0.6	0.0	—	—	1.8	0.0	0.1	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 24.8% of Aboriginal and/or Torres Strait Islander women who gave birth in the ACT in 2012 were non-ACT residents.

Proportionately, more Aboriginal and Torres Strait Islander mothers have their babies at a younger age than non-Indigenous mothers. The average age of Aboriginal and Torres Strait Islander women who gave birth in 2012 was 25.2 compared with 30.3 for non-Indigenous mothers (Table 3.3). Over 1 in 6 (18.6%) Aboriginal and Torres Strait Islander mothers were teenagers compared with 1 in 34 (3.0%) non-Indigenous mothers. Conversely, 8.9% of Aboriginal and Torres Strait Islander mothers were aged 35 and older compared with 23.0% of non-Indigenous mothers (Table 3.3).

Table 3.3: Women who gave birth, by maternal age and Indigenous status, 2012

Maternal age (years)	Indigenous	Non-Indigenous	Not stated	Total
Mean	25.2	30.3	29.9	30.1
		Number		
Younger than 20	2,291	8,740	27	11,058
20–24	4,037	37,672	92	41,801
25–29	3,064	82,268	186	85,518
30–34	1,795	98,045	210	100,050
35–39	887	54,650	124	55,661
40 and over	208	13,085	26	13,319
Not stated	2	65	—	67
Total	**12,284**	**294,525**	**665**	**307,474**
		Per cent		
Younger than 20	18.6	3.0	3.9	3.6
20–24	32.9	12.8	14.0	13.6
25–29	24.9	27.9	28.0	27.8
30–34	14.6	33.3	31.5	32.5
35–39	7.2	18.6	18.6	18.1
40 and over	1.7	4.4	3.9	4.3
Not stated	0.0	0.0	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

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, 14.2% of women who gave birth in the Australian Capital Territory lived elsewhere. For the remaining jurisdictions, the proportion of women who gave birth outside their state or territory of usual residence ranged from less than 0.1% in Western Australia to 2.1% 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, 2012

State/ territory of usual residence	State/territory of birth								
	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
NSW	97,068	1,360	459	<5	55	<5	834	n.p.	99,787
Vic	21	75,541	5	<5	58	<5	<5	<5	75,635
Qld	911	35	62,110	5	3	<5	<5	7	63,074
WA	5	25	14	33,348	6	<5	<5	32	33,433
SA	<5	22	<5	<5	20,184	<5	<5	37	20,253
Tas	<5	n.p.	—	—	<5	5,851	—	—	5,871
ACT	111	7	<5	—	<5	<5	5,098	—	5,220
NT	8	10	28	7	30	—	—	3,899	3,982
Non-resident[(b)]	—	n.p.	26	8	—	—	<5	—	40
Not stated	8	149	3	18	—	—	—	1	179
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
NSW	98.9	1.8	0.7	n.p.	0.3	n.p	14.0	n.p.	32.5
Vic	0.0	97.9	0.0	n.p.	0.3	n.p.	n.p.	n.p.	24.6
Qld	0.9	0.0	99.1	0.0	0.0	n.p.	n.p.	0.2	20.5
WA	0.0	0.0	0.0	99.9	0.0	n.p.	n.p.	0.8	10.9
SA	n.p.	0.0	n.p.	n.p.	99.2	n.p.	n.p.	0.9	6.6
Tas	n.p.	n.p.	—	—	n.p.	99.8	—	—	1.9
ACT	0.1	0.0	n.p.	—	n.p.	n.p.	85.8	—	1.7
NT	0.0	0.0	0.0	0.0	0.1	—	—	97.9	1.3
Non-resident[(b)]	—	n.p.	0.0	0.0	—	—	n.p.	—	0.0
Not stated	0.0	0.2	0.0	0.1	—	—	—	0.0	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) Not usually resident in Australia.

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 2011 Australian Statistical Geography Standard (ASGS) remoteness area structure.

The distribution of remoteness area varied by state and territory of usual residence. In Queensland, 61.5% of women lived in *Major cities* compared with 75.0% 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. Almost all Australian Capital Territory residents lived in a *Major cities* area, while all Northern Territory residents 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, 2012

Remoteness area[a]	State/territory of usual residence								
	NSW	Vic[b]	Qld	WA	SA	Tas	ACT	NT	Total[c]
					Number				
Major cities	76,424	53,107	38,221	25,468	15,183	. .	5,095	. .	213,499
Inner regional	16,932	12,983	11,803	2,787	1,855	4,052	10	. .	50,422
Outer regional	5,282	2,800	9,863	2,535	2,438	1,701	. .	2,137	26,757
Remote	437	44	1,233	1,587	579	88	. .	824	4,792
Very remote	126	. .	1,016	776	187	23	. .	1,002	3,131
Total[c]	**99,201**	**68,934**	**62,136**	**33,153**	**20,242**	**5,864**	**5,105**	**3,963**	**298,601**
					Per cent				
Major cities	77.0	77.0	61.5	76.8	75.0	. .	99.8	. .	71.5
Inner regional	17.1	18.8	19.0	8.4	9.2	69.1	0.2	. .	16.9
Outer regional	5.3	4.1	15.9	7.6	12.0	29.0	. .	53.9	9.0
Remote	0.4	0.1	2.0	4.8	2.9	1.5	. .	20.9	1.6
Very remote	0.1	. .	1.6	2.3	0.9	0.4	. .	25.3	1.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Remoteness area derived by applying ABS 2011 Australian Statistical Geography Standard (ASGS) to area of mother's usual residence. Remoteness area only calculated where geographic area of usual residence was provided.

(b) Data provided by Vic are provisional.

(c) Data may not add to the total due to rounding.

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

Remoteness area of mother's usual residence also varied by Indigenous status. Of non-Indigenous women who gave birth in 2012, 73.3% lived in *Major cities* and 16.7% in *Inner regional* areas. Place of residence for Aboriginal and Torres Strait Islander women was more evenly spread across remoteness areas, with 30.6% living in *Major cities* and 24.1% in *Outer regional* areas. Few non-Indigenous women who gave birth lived in *Very remote* areas (0.5%) compared with Indigenous mothers (14.7%) (Table 3.6).

Table 3.6: Women who gave birth, by remoteness area of usual residence and Indigenous status, 2012

Remoteness area[(a)]	Indigenous	Non-Indigenous	Not stated	Total[(b)]
		Number		
Major cities	3,737	209,318	444	213,499
Inner regional	2,595	47,703	123	50,422
Outer regional	2,939	23,732	85	26,757
Remote	1,152	3,632	8	4,792
Very remote	1,793	1,337	1	3,131
Total[(b)]	**12,216**	**285,722**	**661**	**298,601**
		Per cent		
Major cities	30.6	73.3	67.2	71.5
Inner regional	21.2	16.7	18.6	16.9
Outer regional	24.1	8.3	12.9	9.0
Remote	9.4	1.3	1.2	1.6
Very remote	14.7	0.5	0.2	1.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

(a) Remoteness area derived by applying ABS 2011 Australian Statistical Geography Standard (ASGS) to area of mother's usual residence. Remoteness area only calculated where geographic area of usual residence was provided.

(b) Data may not add to the total due to rounding.

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

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 2012, 31.2% were born in countries other than Australia; 3.0% were born in New Zealand and 15.2% were born in an Asian country. Mothers born in the United Kingdom made up 2.6% of all mothers and accounted for a relatively high proportion of all mothers in Western Australia (6.3%). 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, 2012

Country of birth	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Australia	63,798	51,030	47,503	20,958	15,507	5,283	4,257	3,195	211,531
New Zealand	2,246	1,634	3,638	1,433	164	49	73	63	9,300
United Kingdom	2,185	1,539	1,511	2,095	480	73	120	67	8,070
Former Yugoslavia	140	162	n.p.	39	36	—	<5	—	393
Other Europe and former Union of Soviet Socialist Republics	2,741	2,050	1,269	1,107	418	79	154	73	7,891
Lebanon	1,337	445	n.p.	n.p.	34	<5	n.p.	—	1,879
Other Middle East and North Africa	2,649	1,985	630	638	362	32	136	19	6,451
China and Hong Kong	4,693	2,690	927	613	526	52	185	31	9,717
India	3,142	3,984	1,074	880	742	35	221	95	10,173
Philippines	1,494	759	683	433	191	30	52	116	3,758
Vietnam	1,861	1,861	440	381	305	<5	n.p.	24	4,952
Other Asia	6,928	5,301	2,190	2,177	973	110	400	172	18,251
Northern America	806	513	436	268	111	27	65	32	2,258
South and Central America and the Caribbean	899	470	339	208	116	12	47	10	2,101
Africa (excluding North Africa)	1,425	1,559	1,056	1,349	327	53	90	64	5,923
Other countries	1,501	525	900	96	46	13	46	20	3,147
Not stated	293	663	9	699	—	11	2	2	1,679
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**

(continued)

Table 3.7 (continued): Women who gave birth by country of birth and state and territory, 2012

Country of birth	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Australia	65.0	66.1	75.8	62.8	76.2	90.1	71.7	80.2	68.8
New Zealand	2.3	2.1	5.8	4.3	0.8	0.8	1.2	1.6	3.0
United Kingdom	2.2	2.0	2.4	6.3	2.4	1.2	2.0	1.7	2.6
Former Yugoslavia	0.1	0.2	n.p.	0.1	0.2	—	n.p.	—	0.1
Other Europe and former Union of Soviet Socialist Republics	2.8	2.7	2.0	3.3	2.1	1.3	2.6	1.8	2.6
Lebanon	1.4	0.6	n.p.	n.p.	0.2	n.p.	n.p.	—	0.6
Other Middle East and North Africa	2.7	2.6	1.0	1.9	1.8	0.5	2.3	0.5	2.1
China and Hong Kong	4.8	3.5	1.5	1.8	2.6	0.9	3.1	0.8	3.2
India	3.2	5.2	1.7	2.6	3.6	0.6	3.7	2.4	3.3
Philippines	1.5	1.0	1.1	1.3	0.9	0.5	0.9	2.9	1.2
Vietnam	1.9	2.4	0.7	1.1	1.5	n.p.	n.p.	0.6	1.6
Other Asia	7.1	6.9	3.5	6.5	4.8	1.9	6.7	4.3	5.9
Northern America	0.8	0.7	0.7	0.8	0.5	0.5	1.1	0.8	0.7
South and Central America and the Caribbean	0.9	0.6	0.5	0.6	0.6	0.2	0.8	0.3	0.7
Africa (excluding North Africa)	1.5	2.0	1.7	4.0	1.6	0.9	1.5	1.6	1.9
Other countries	1.5	0.7	1.4	0.3	0.2	0.2	0.8	0.5	1.0
Not stated	0.3	0.9	0.0	2.1	—	0.2	0.0	0.1	0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

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

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; primiparous women have had no previous pregnancies and multiparous women have had at least one previous pregnancy. In 2012, 42.4% of mothers had their first baby and 33.2% had their second baby. About 1 in 7 mothers (14.1%) had given birth 2 times previously and 8.5% had given birth 3 or more times (Table 3.8).

Parity of 3 or more was more common among mothers in the Northern Territory than in the other jurisdictions. In the Northern Territory, 6.6% of women who gave birth in 2012 had given birth 3 times previously and 6.5% 4 or more times compared with 5.0% and 3.5%, respectively, for Australia (Table 3.8).

In 2012, 33.2% of Aboriginal and Torres Strait Islander mothers had their first baby. More than 1 in 5 (22.8%) Indigenous women had given birth 3 or more times previously.

Table 3.8: Women who gave birth, by parity and state and territory, 2012

Parity	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	43,137	32,044	25,676	14,312	8,661	2,368	2,716	1,608	130,522
1	32,576	24,658	20,812	11,478	7,116	1,994	2,079	1,219	101,932
2	14,011	9,872	9,497	4,767	2,914	903	774	636	43,374
3	5,023	3,164	3,749	1,563	1,003	338	229	263	15,332
4 or more	3,285	2,146	2,915	1,072	644	260	141	257	10,720
Not stated	106	5,286	1	201	—	—	—	—	5,594
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
None	44.0	41.5	41.0	42.9	42.6	40.4	45.7	40.4	42.4
1	33.2	32.0	33.2	34.4	35.0	34.0	35.0	30.6	33.2
2	14.3	12.8	15.2	14.3	14.3	15.4	13.0	16.0	14.1
3	5.1	4.1	6.0	4.7	4.9	5.8	3.9	6.6	5.0
4 or more	3.3	2.8	4.7	3.2	3.2	4.4	2.4	6.5	3.5
Not stated	0.1	6.8	0.0	0.6	—	—	—	—	1.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

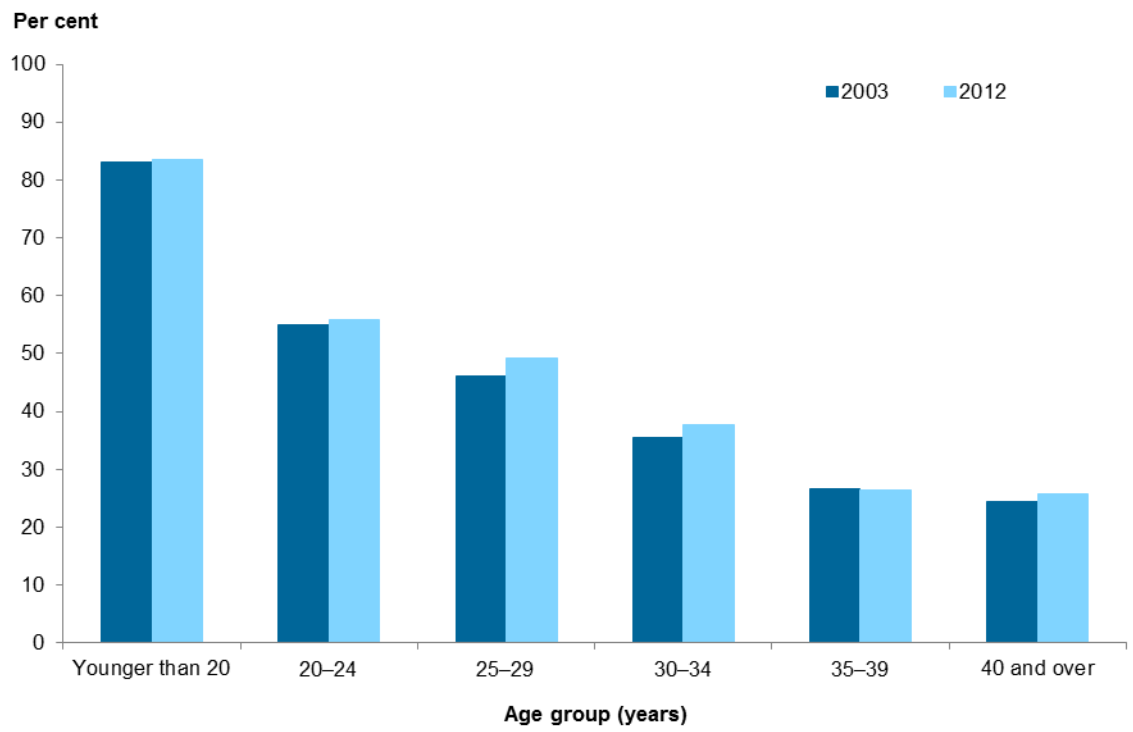
Parity and maternal age

The average age of first-time mothers was 28.4 in 2012, which was 0.1 years older than in 2011. The median age of first-time mothers was 29.0 in 2012 and 57.1% were younger than 30. The average age of women giving birth for the second time was 30.6.

The average age of first-time Aboriginal and Torres Strait Islander mothers was 21.5. This was markedly lower than that for first-time non-Indigenous mothers (28.6).

Figure 3.1 shows the proportion of first-time mothers in each age-group in 2003 and 2012. In 2012, 26.5% of women having a baby aged 35–39 were first-time mothers compared with 26.6% in 2003. Over one-quarter (25.8%) of women aged 40 or over who had a baby had their first baby in 2012 compared with 24.5% in 2003. Of all first-time mothers, 13.9% were aged 35 or older in 2012 compared with 11.8% in 2003.

The proportion of mothers who had given birth at least twice previously increased with maternal age from 1.5% for teenagers to 39.2% for mothers aged 40 and over (Table 3.9).



Note: Data for this figure are in Table E3.

Figure 3.1: First-time mothers in each maternal age group, 2003 and 2012

Table 3.9: Women who gave birth, by parity and maternal age, 2012

Parity	Age (years)						Not stated	Total
	Younger than 20	20–24	25–29	30–34	35–39	40 and over		
				Number				
None	9,238	23,338	42,006	37,755	14,743	3,433	9	130,522
1	1,594	13,006	26,393	36,164	20,515	4,257	3	101,932
2	157	4,014	10,437	15,129	11,103	2,532	2	43,374
3	n.p.	975	3,749	5,122	4,198	1,279	n.p.	15,332
4 or more	<5	263	1,919	3,636	3,486	1,412	n.p.	10,720
Not stated	58	205	1,014	2,244	1,616	406	51	5,594
Total	**11,058**	**41,801**	**85,518**	**100,050**	**55,661**	**13,319**	**67**	**307,474**
				Per cent				
None	83.5	55.8	49.1	37.7	26.5	25.8	13.4	42.4
1	14.4	31.1	30.9	36.1	36.9	32.0	4.5	33.2
2	1.4	9.6	12.2	15.1	19.9	19.0	3.0	14.1
3	n.p.	2.3	4.4	5.1	7.5	9.6	n.p.	5.0
4 or more	n.p.	0.6	2.2	3.6	6.3	10.6	n.p.	3.5
Not stated	0.5	0.5	1.2	2.2	2.9	3.0	76.1	1.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Previous caesarean sections

In 2012, 28.8% of multiparous women who gave birth in Australia had a history of previous caesarean section. This proportion ranged from 26.4% in Tasmania to 31.4% in South Australia (Table 3.10). Of those women who had a history of previous caesarean section, 23.0% 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, 2012

Previous caesarean sections	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	38,608	28,484	26,036	13,226	8,006	2,574	2,323	1,740	120,997
At least 1	15,365	11,218	10,936	5,653	3,671	921	900	635	49,299
1	11,878	8,792	8,221	4,337	2,816	711	703	475	37,933
2	2,819	1,959	2,130	1,080	664	157	160	122	9,091
3 or more	668	467	585	236	191	53	37	38	2,275
Not stated	922	138	1	1	—	—	—	—	1,062
Total	**54,895**	**39,840**	**36,973**	**18,880**	**11,677**	**3,495**	**3,223**	**2,375**	**171,358**
					Per cent				
None	70.3	71.5	70.4	70.1	68.6	73.6	72.1	73.3	70.6
At least 1	28.0	28.2	29.6	29.9	31.4	26.4	27.9	26.7	28.8
1	21.6	22.1	22.2	23.0	24.1	20.3	21.8	20.0	22.1
2	5.1	4.9	5.8	5.7	5.7	4.5	5.0	5.1	5.3
3 or more	1.2	1.2	1.6	1.3	1.6	1.5	1.1	1.6	1.3
Not stated	1.7	0.3	0.0	0.0	—	—	—	—	0.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

Assisted reproductive technology

Data on whether the pregnancy resulted from assisted reproductive technology (ART) were available for Victoria, Queensland, Western Australia, Tasmania and the Australian Capital Territory. Of women who gave birth in the 4 jurisdictions in 2012, 4.0% received ART treatment, ranging from 3.1% in the Australian Capital Territory to 5.1% in Tasmania (Table 3.11).

The average age of women who received ART treatment was 34.3. This was older than the average age of women who did not receive ART treatment (29.8). In 2012, 58.1% of mothers who received ART treatment were having their first baby and 41.9% had given birth previously. Of mothers who received ART treatment, 2.4% reported smoking during pregnancy compared with 13.1% of women who did not receive ART treatment.

Table 3.11: Women who gave birth, by whether pregnancy was the result of ART and state and territory, 2012

	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)(c)]	NT	Total
					Number				
ART	n.a.	2,815	2,933	1,132	n.a.	300	186	n.a.	7,366
Not ART	n.a.	74,128	59,710	32,261	n.a.	5,425	2,599	n.a.	174,123
Not stated	n.a.	227	7	—	n.a.	138	3,154	n.a.	3,526
Total	**n.a.**	**77,170**	**62,650**	**33,393**	**n.a.**	**5,863**	**5,939**	**n.a.**	**185,015**
					Per cent				
ART	n.a.	3.6	4.7	3.4	n.a.	5.1	3.1	n.a.	4.0
Not ART	n.a.	96.1	95.3	96.6	n.a.	92.5	43.8	n.a.	94.1
Not stated	n.a.	0.3	0.0	0.0	n.a.	2.4	53.1	n.a.	1.9
Total	**n.a.**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**	**100.0**	**n.a.**	**100.0**

(a) Data provided by Vic are provisional.

(b) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore care must be taken when comparing percentages between jurisdictions.

(c) Due to the low level of completeness of this variable in the ACT, the results should be interpreted with caution.

Antenatal period

Antenatal visits

There is a strong relationship between regular antenatal care and positive child health outcomes. Receiving antenatal care at least 4 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 all women who gave birth in 2012 in New South Wales, Queensland, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. Results for women who gave birth in Western Australia were available from 1 July 2012. Table 3.12 shows that 99.9% of women who gave birth in these jurisdictions had at least 1 antenatal visit, with 94.6% having 5 or more. Just 0.1% had no antenatal visits (Table 3.12).

When only women who gave birth at 32 weeks gestation or more were considered—thus excluding the very pre-term births—99.0% had at least one antenatal visit and 95.3% had 5 or more antenatal visits.

Aboriginal and Torres Strait Islander mothers had fewer antenatal visits than non-Indigenous mothers. Of Indigenous mothers who gave birth at 32 weeks or more, 85.9% had 5 or more visits compared with 95.9% of non-Indigenous mothers. The age-standardised rate of women who had 5 or more visits among Indigenous mothers who gave birth at 32 weeks or more was 83.3% compared with 95.3% among non-Indigenous mothers.

Table 3.12: Women who gave birth, by number of antenatal visits and state and territory, 2012

No. of antenatal visits[a]	NSW	Vic[b]	Qld	WA[c]	SA	Tas[d]	ACT[e]	NT[f]	Total
					Number				
None	—	n.a.	233	34	48	17	<5	n.p.	309
At least 1	95,481	n.a.	62,375	14,297	19,293	4,654	n.p.	n.p.	205,837
1	*695*	*n.a.*	*192*	*162*	*50*	*227*	*n.p.*	*n.p.*	*1,612*
2 to 4	*3,316*	*n.a.*	*2,906*	*950*	*468*	*474*	*n.p.*	*n.p.*	*9,179*
5 or more	*91,470*	*n.a.*	*59,277*	*13,185*	*18,727*	*3,953*	*4,808*	*3,578*	*194,998*
Not stated	2,657	n.a.	42	2,394	1,045	1,192	119	41	7,490
Total	**98,138**	**n.a.**	**62,650**	**16,725**	**20,338**	**5,863**	**5,939**	**3,983**	**213,636**
					Per cent[g]				
None	—	n.a.	0.4	0.2	0.2	0.4	n.p.	n.p.	0.1
At least 1	100.0	n.a.	99.6	99.8	99.8	99.6	n.p.	n.p.	99.9
1	*0.7*	*n.a.*	*0.3*	*1.1*	*0.3*	*4.9*	*n.p.*	*n.p.*	*0.8*
2 to 4	*3.5*	*n.a.*	*4.6*	*6.6*	*2.4*	*10.1*	*n.p.*	*n.p.*	*4.5*
5 or more	*95.8*	*n.a.*	*94.7*	*92.0*	*97.1*	*84.6*	*82.6*	*90.8*	*94.6*
Total	**100.0**	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Standardised data item for number of antenatal visits was added to the Perinatal NMDS from July 2012. Before this date, data may not be comparable across jurisdictions because of differences in definitions used and methods of data collection.

(b) Data provided by Vic are provisional.

(c) WA supplied data on the number of antenatal visits for births from July 2012.

(d) For Tas, data on number of antenatal visits were not reported by hospitals still using the paper-based form, so care must be taken when interpreting these data. Antenatal visit data will be included in the paper-based form from 1 January 2013.

(e) For the ACT, in many cases, early antenatal care provided by the woman's GP is not reported.

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

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

Duration of pregnancy at the first antenatal visit

In 2012, 62.7% of women attended at least 1 antenatal visit in the first trimester (before 14 weeks gestation) and 14.9% 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, 2012

Duration of pregnancy at first antenatal visit (weeks)[a]	NSW	Vic[b]	Qld	WA[c]	SA	Tas[d]	ACT[e]	NT	Australia
					Number				
Less than 14	59,779	43,094	40,598	19,443	14,747	3,811	2,508	2,917	186,897
14–19	21,487	19,307	13,630	5,106	3,113	n.p.	n.p.	549	65,886
20 and over	13,998	13,722	7,630	6,058	1,014	333	1,243	466	44,464
Not applicable[f]	—	288	233	69	48	n.p.	<5	22	680
Not stated	2,874	759	559	2,717	1,416	1,192	1	29	9,547
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent[g]				
Less than 14	62.8	56.4	65.4	63.4	77.9	81.6	42.2	73.8	62.7
14–19	22.6	25.3	22.0	16.6	16.5	n.p.	n.p.	13.9	22.1
20 and over	14.7	18.0	12.3	19.7	5.4	7.1	20.9	11.8	14.9
Not applicable[f]	—	0.4	0.4	0.2	0.3	n.p.	n.p.	0.6	0.2
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) Data provided by Vic are provisional.

(c) 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.

(d) For Tas, data on duration of pregnancy at first antenatal visit were not reported by hospitals still using the paper-based form, so these data should be interpreted with caution. Duration of pregnancy at first antenatal visit will be included in the paper-based form from 1 January 2013.

(e) For ACT, first antenatal visit is often the first hospital antenatal clinic visit. In many cases, earlier antenatal care provided by the woman's general practitioner is not reported.

(f) Includes women with no antenatal care.

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

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, pre-term birth, small for gestational age babies and perinatal death (Laws et al. 2006). Women who stop smoking during pregnancy can reduce the risk of adverse outcomes for themselves and for their babies (Scollo & Winstanley 2008). Advice on stopping smoking and referral to related programs are now widely available through antenatal clinics.

The proportion of women who smoked while pregnant ranged from 7.8% in the Australian Capital Territory to 24.4% in the Northern Territory. Nationally, 12.5% of women smoked during pregnancy (Table 3.14). This compares with 13.2% in 2011, 13.5% in 2010 and 14.5% in 2009.

Table 3.14: Women who gave birth, by tobacco smoking status during pregnancy and state and territory, 2012

Smoking status[(a)]	NSW	Vic[(b)]	Qld	WA[(c)]	SA[(d)]	Tas	ACT	NT	Total
					Number				
Smoked	10,224	8,612	9,503	3,863	3,132	955	461	956	37,706
Did not smoke	87,579	64,568	52,871	29,530	16,928	4,294	5,478	2,957	264,205
Not stated	335	3,990	276	—	278	614	—	70	5,563
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent[(e)]				
Smoked	10.5	11.8	15.2	11.6	15.6	18.2	7.8	24.4	12.5
Did not smoke	89.5	88.2	84.8	88.4	84.4	81.8	92.2	75.6	87.5
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) Data provided by Vic are provisional.

(c) 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.

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

(e) Percentages calculated after excluding records with missing values. Care must be taken when interpreting percentages.

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

The average age of mothers who smoked during pregnancy was 27.2 compared with 30.4 for those who did not smoke. Teenage mothers accounted for 10.2% of all mothers who reported smoking during pregnancy and 2.7% of mothers who did not smoke. Of all teenage mothers, 34.9% reported smoking.

Aboriginal and Torres Strait Islander mothers accounted for 15.7% of mothers who smoked during pregnancy. Almost half of the Aboriginal and Torres Strait Islander mothers reported smoking during pregnancy (48.1%) compared with 10.7% of non-Indigenous women who gave birth. The age-standardised rate of smoking during pregnancy among Aboriginal and Torres Strait Islander mothers was 46.4% compared with 13.8% among non-Indigenous mothers.

Of women who gave birth in 2012, 12.1% reported smoking during the first 20 weeks of pregnancy and 9.1% 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 2012, 21.1% of women who reported smoking during the first 20 weeks of pregnancy reported not smoking during the second 20 weeks of pregnancy. The proportion of smoking cessation in mothers of Aboriginal and Torres Strait Islander origin was 11.6%, which was half that of non-Indigenous mothers (22.9%).

Table 3.15: Women who gave birth, by tobacco smoking status during the first 20 weeks of pregnancy and state and territory, 2012

Smoking status[a]	NSW	Vic[b]	Qld	WA[c]	SA[d]	Tas[e]	ACT	NT	Total
					Number				
Smoked	9,628	8,452	9,436	3,787	3,129	917	460	951	36,760
Did not smoke	88,173	67,476	52,894	29,414	16,938	3,150	5,479	2,960	266,484
Not stated	337	1,242	320	192	271	1,796	—	72	4,230
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent[f]				
Smoked	9.8	11.1	15.1	11.4	15.6	22.5	7.7	24.3	12.1
Did not smoke	90.2	88.9	84.9	88.6	84.4	77.5	92.3	75.7	87.9
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) Data provided by Vic are provisional.

(c) For WA, smoking status was determined at multiple locations and times and is therefore difficult to report accurately at time of birth.

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

(e) For Tas, smoking status during the first 20 weeks of pregnancy was not reported by hospitals still using the paper-based form, so these data should be interpreted with caution. Smoking status during the first 20 weeks of pregnancy will be included in the paper-based form from 1 January 2013.

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

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

Table 3.16: Women who gave birth, by tobacco smoking status after 20 weeks of pregnancy and state and territory, 2012

Smoking status[a]	NSW	Vic[b]	Qld	WA[c]	SA[d]	Tas[e]	ACT	NT	Total
					Number				
Smoked	7,651	4,332	7,863	3,262	2,106	857	380	769	27,220
Did not smoke	90,451	67,014	54,500	29,929	17,842	3,210	5,559	2,792	271,297
Not stated	36	5,824	287	202	390	1,796	—	422	8,957
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent[f]				
Smoked	7.8	6.1	12.6	9.8	10.6	21.1	6.4	21.6	9.1
Did not smoke	92.2	93.9	87.4	90.2	89.4	78.9	93.6	78.4	90.9
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) Data provided by Vic are provisional.

(c) For WA, smoking status was determined at multiple locations and times and is therefore difficult to report accurately at time of birth.

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

(e) For Tas, data on smoking status during the first 20 weeks of pregnancy were not reported by hospitals still using the paper-based form, so these data should be interpreted with caution. Data on smoking status after 20 weeks of pregnancy will be included in the paper-based form from 1 January 2013.

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

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

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, post-partum 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 not obese (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 2012, data on maternal BMI were available for Victoria, Queensland, South Australia and Tasmania and were partially collected from Western Australia and the Australian Capital Territory. Data collection practices and coverage vary considerably between jurisdictions. In 2012, 20.7% of women with known BMI who gave birth in these jurisdictions were obese. This proportion ranged from 18.2% in Australian Capital Territory to 25.0% in Tasmania (Table 3.17).

Table 3.17: Women who gave birth, by BMI and state and territory, 2012

BMI (kg/m^2)[(a)]	NSW	Vic[(b)]	Qld[(c)]	WA	SA[(d)]	Tas[(c)]	ACT	NT	Australia
Mean	n.a.	25.9	25.4	26.6	26.5	26.5	25.3	n.a.	25.9
					Number				
Less than 18.5	n.a.	2,005	3,540	604	508	197	235	n.a.	7,089
18.5–24.9	n.a.	33,889	31,658	13,545	7,866	1,855	2,670	n.a.	91,483
25.0–29.9	n.a.	18,466	14,673	9,312	4,684	1,065	1,232	n.a.	49,432
30.0–39.9	n.a.	11,603	10,178	6,193	3,427	848	771	n.a.	33,020
40.0–49.9	n.a.	1,722	1,613	848	594	173	133	n.a.	5,083
50 and over	n.a.	176	161	77	61	18	18	n.a.	511
Not stated	n.a.	9,309	827	2,814	3,198	1,707	880	n.a.	18,735
Total	**n.a.**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**n.a.**	**205,353**
					Per cent[(e)]				
Less than 18.5	n.a.	3.0	5.7	2.0	3.0	4.7	4.6	n.a.	3.8
18.5–24.9	n.a.	49.9	51.2	44.3	45.9	44.6	52.8	n.a.	49.0
25.0–29.9	n.a.	27.2	23.7	30.5	27.3	25.6	24.4	n.a.	26.5
30.0–39.9	n.a.	17.1	16.5	20.3	20.0	20.4	15.2	n.a.	17.7
40.0–49.9	n.a.	2.5	2.6	2.8	3.5	4.2	2.6	n.a.	2.7
50 and over	n.a.	0.3	0.3	0.3	0.4	0.4	0.4	n.a.	0.3
Total	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**

(a) BMI source data and methods used for data collection in states and territories is not uniform. Care must be taken when comparing across jurisdictions.

(b) Data provided by Vic are provisional.

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

(d) For SA, BMI was calculated from mother's height and weight measured at the first antenatal visit.

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

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 297,987 women who gave birth in hospitals (96.9%) in 2012. A further 6,942 women gave birth in birth centres (2.3%); this proportion was highest in South Australia (6.8%) and the Australian Capital Territory (6.3%). 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 (2,510 women, 0.8%) (Table 3.18).

Table 3.18: Women who gave birth, by actual place of birth and state and territory, 2012

Place of birth	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Hospital	94,588	75,611	61,089	32,858	18,767	5,799	5,522	3,753	297,987
Birth centre	2,837	845	1,027	325	1,378	27	375	128	6,942
Home	191	547	84	210	95	11	7	32	1,177
Other	497	158	449	—	98	26	35	70[(b)]	1,333
Not stated	25	9	1	—	—	—	—	—	35
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
Hospital	96.4	98.0	97.5	98.4	92.3	98.9	93.0	94.2	96.9
Birth centre	2.9	1.1	1.6	1.0	6.8	0.5	6.3	3.2	2.3
Home	0.2	0.7	0.1	0.6	0.5	0.2	0.1	0.8	0.4
Other	0.5	0.2	0.7	—	0.5	0.4	0.6	1.8[(b)]	0.4
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) Data provided by Vic are provisional.

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

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

Intended place of birth

The jurisdictions collect intended place of birth at different times during the pregnancy. Care must be taken when comparing data across the jurisdictions due to these differing practices.

In 2012, the intended place of birth was hospital for 96.1% of mothers and birth centre for 2.7%. Less than 1% of mothers intended to give birth at home or in other settings and 3.5% intended to give birth outside a labour-ward setting (Table 3.19). Just 3.1% of mothers actually did so, giving birth in places such as birth centres or at home (Table 3.18).

Table 3.19: Women who gave birth, by intended place of birth and state and territory, 2012

Place of birth	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Hospital	93,942	74,624	61,141	32,522	n.a.	4,649	5,363	n.a.	272,241
Birth centre	3,433	1,640	1,375	527	n.a.	13	551	n.a.	7,539
Home	232	390	111	259	n.a.	n.p.	n.p.	n.a.	1,005
Other	519	474	20	80	n.a.	<5	n.p.	n.a.	1,097
Not stated	12	42	3	5	n.a.	1,192	17	n.a.	1,271
Total	**98,138**	**77,170**	**62,650**	**33,393**	**n.a.**	**5,863**	**5,939**	**n.a.**	**283,153**
					Per cent				
Hospital	95.7	96.7	97.6	97.4	n.a.	79.3	90.3	n.a.	96.1
Birth centre	3.5	2.1	2.2	1.6	n.a.	0.2	9.3	n.a.	2.7
Home	0.2	0.5	0.2	0.8	n.a.	n.p.	n.p.	n.a.	0.4
Other	0.5	0.6	0.0	0.2	n.a.	n.p.	n.p.	n.a.	0.4
Not stated	0.0	0.1	0.0	0.0	n.a.	20.3	0.3	n.a.	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**	**100.0**	**n.a.**	**100.0**

(a) Data provided by Vic are provisional.

Note: Intended place of birth at time of booking for SA, Tas and NT. Intended place of birth at onset of labour for NSW, Qld, WA and ACT. In Victoria, intended place of birth is collected at the time of booking and supplemented by additional information collected at the time of birth. Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions.

Duration of pregnancy

Different methods may be used to estimate 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 and the baby's date of birth. For most pregnancies, the gestational age derived from known menstrual dates provides a good estimate of the duration of pregnancy. When the date of last menstrual period 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 1 ultrasound examination in early pregnancy.

Pre-term birth (less than 37 completed weeks of gestation) occurred for 7.7% of all mothers in 2012. The average duration of pregnancy in Australia was 38.7 weeks. A small proportion of mothers gave birth at 20–27 weeks (0.8%) and 28–31 weeks (0.7%), while 6.2% gave birth at 32–36 weeks. There was a higher proportion of pre-term birth in Tasmania (9.6%) 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 teenage mothers (tables 3.1 and 3.3).

Of women who gave birth in 2012, 91.7% gave birth at 37–41 completed weeks of gestation (term) and 0.6% 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 and Victoria (0.9%) (Table 3.20).

The numbers reported here are based on the duration of pregnancies, and so differ from the figures on infant gestational age reported 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, 2012

Duration of pregnancy (weeks)	NSW	Vic[(a)(b)]	Qld	WA[(c)]	SA	Tas	ACT[(d)]	NT	Australia
Mean	38.8	38.8	38.7	38.6	38.6	38.7	38.8	38.7	38.7
					Number				
20–27[(e)]	632	727	483	251	185	53	52	31	2,414
28–31	596	498	481	232	157	47	59	40	2,110
32–36	5,523	4,573	4,245	2,248	1,395	464	386	292	19,126
37–41	90,802	70,647	57,102	30,529	18,541	5,273	5,391	3,595	281,880
42 and over	568	691	337	133	60	26	51	25	1,891
Not stated	17	34	2	—	—	—	—	—	53
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
20–27[(e)]	0.6	0.9	0.8	0.8	0.9	0.9	0.9	0.8	0.8
28–31	0.6	0.6	0.8	0.7	0.8	0.8	1.0	1.0	0.7
32–36	5.6	5.9	6.8	6.7	6.9	7.9	6.5	7.3	6.2
37–41	92.5	91.5	91.1	91.4	91.2	89.9	90.8	90.3	91.7
42 and over	0.6	0.9	0.5	0.4	0.3	0.4	0.9	0.6	0.6
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) Pre-term birth rates are higher in Vic as the majority of late terminations for psychosocial indications performed in Australia are undertaken in Vic, and many women travel from interstate (and overseas) to Vic to have the termination undertaken.

(b) Data provided by Vic are provisional.

(c) For WA, births include late termination of pregnancy.

(d) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of ACT resident women who gave birth at 20–27 weeks gestation was 0.7%; at 28–31 weeks gestation it was 0.8%.

(e) Includes 3 pregnancies of less than 20 weeks duration.

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

Multiple pregnancy

The number of multiple births has increased in the last 2 decades. This can be attributed largely to the increased use of fertility treatment, to delay in child bearing and to 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 2012, there were 4,612 multiple pregnancies (1.5% of all mothers) (Table 3.21), consisting of 4,550 twin pregnancies and 62 triplet and other higher order multiple pregnancies.

Table 3.21: Women who gave birth, by plurality and state and territory, 2012

Plurality	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
					Number				
Singleton	96,790	75,962	61,612	32,926	20,015	5,786	5,834	3,936	302,861
Multiple	1,348	1,207	1,038	467	323	77	105	47	4,612
Not stated	—	1	—	—	—	—	—	—	1
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
Singleton	98.6	98.4	98.3	98.6	98.4	98.7	98.2	98.8	98.5
Multiple	1.4	1.6	1.7	1.4	1.6	1.3	1.8	1.2	1.5
Not stated	—	0.0	—	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of multiple births for ACT residents who gave birth in the ACT was 1.5%.

There were 14.9 multiple births per 1,000 mothers in 2012. The twinning rate was 15.0 per 1,000 mothers. In 2003, there were 4,259 multiple births (16.7 per 1,000 mothers), with a twinning rate of 16.5 per 1,000 mothers. Triplet and higher order multiple births have remained fairly stable with a rate of 0.2 to 0.4 per 1,000 mothers since 2003.

In the 5 jurisdictions where data were available on whether the pregnancy resulted from ART (Table 3.11), 8.3% of women who had ART treatment had a multiple pregnancy. Of these, 8.1% had twins and 0.2% had higher order multiples. This compared with 1.2% 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 or induced, or as no labour (where a caesarean section was performed before labour started). In 2012, the onset of labour was spontaneous for 54.2% of all women who gave birth, and there was no labour for 19.4% of mothers. Labour was induced for 26.3% of mothers (Table 3.22).

The proportion of mothers with spontaneous onset of labour was highest in the Northern Territory (60.7%) and lowest in Western Australia (50.1%). Queensland and Western Australia had the highest proportions of mothers with no labour (20.9% and 20.8%, respectively) (Table 3.22).

The proportion of women who were induced was higher in Tasmania (32.2%) than in the other states and territories. Overall, combined medical and surgical induction of labour was more common than either type alone.

Once labour starts, it may be necessary to intervene to speed up or augment the labour. In 2012, labour was augmented for 17.6% of all mothers, representing almost one-third (32.4%) of mothers with spontaneous onset of labour. There was considerable variation in practice among the states and territories regarding augmentation, ranging from 12.6% of all women who gave birth in Tasmania to 20.1% in the Northern Territory (Table 3.22).

Table 3.22: Women who gave birth, by onset of labour and state and territory, 2012

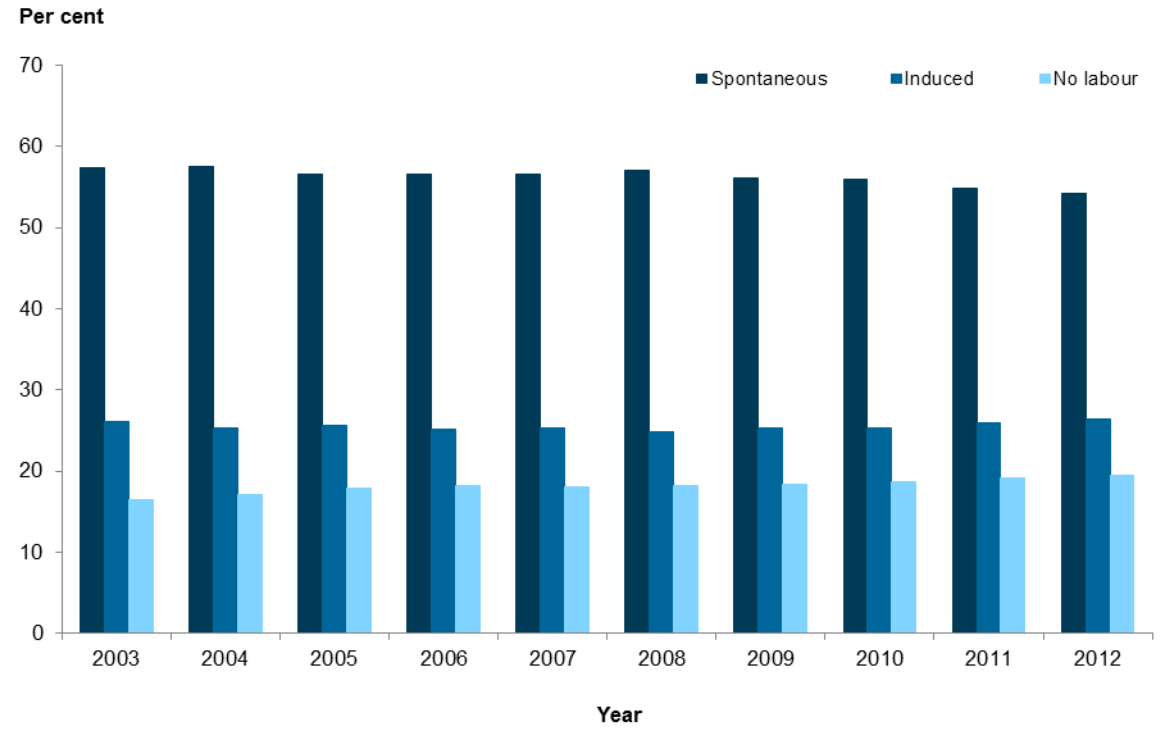
Onset of labour/type of augmentation or induction	NSW	Vic[a]	Qld	WA	SA	Tas	ACT[b]	NT	Total
					Number				
Spontaneous	53,061	42,634	34,918	16,717	10,377	2,956	3,554	2,416	166,633
No augmentation	*38,128*	*28,487*	*22,703*	*10,560*	*6,451*	*2,215*	*2,570*	*1,611*	*112,725*
Medical only[c]	*5,240*	*3,869*	*3,332*	*1,931*	*1,055*	*205*	*299*	*245*	*16,176*
Surgical only	*6,388*	*7,766*	*6,438*	*2,613*	*2,260*	*384*	*400*	*398*	*26,647*
Combined	*3,291*	*2,511*	*2,423*	*1,607*	*609*	*152*	*285*	*157*	*11,035*
Other/not stated	*14*	*1*	*22*	*6*	*2*	—	—	*5*	*50*
Induced	26,804	19,427	14,615	9,720	6,290	1,885	1,316	940	80,997
Medical only[c]	*8,465*	*5,634*	*4,682*	*1,870*	*1,671*	*743*	*306*	*304*	*23,675*
Surgical only	*1,729*	*1,361*	*1,188*	*650*	*755*	*217*	*84*	*36*	*6,020*
Combined	*16,447*	*12,222*	*8,584*	*7,062*	*3,829*	*898*	*924*	*598*	*50,564*
Other/not stated	*163*	*210*	*161*	*138*	*35*	*27*	*2*	*2*	*738*
No labour	18,253	15,041	13,117	6,956	3,671	1,022	1,069	627	59,756
Not stated	20	68	—	—	—	—	—	—	88
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
Spontaneous	54.1	55.2	55.7	50.1	51.0	50.4	59.8	60.7	54.2
No augmentation	*38.9*	*36.9*	*36.2*	*31.6*	*31.7*	*37.8*	*43.3*	*40.4*	*36.7*
Medical only[c]	*5.3*	*5.0*	*5.3*	*5.8*	*5.2*	*3.5*	*5.0*	*6.2*	*5.3*
Surgical only	*6.5*	*10.1*	*10.3*	*7.8*	*11.1*	*6.5*	*6.7*	*10.0*	*8.7*
Combined	*3.4*	*3.3*	*3.9*	*4.8*	*3.0*	*2.6*	*4.8*	*3.9*	*3.6*
Other/not stated	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	—	—	*0.1*	*0.0*
Induced	27.3	25.2	23.3	29.1	30.9	32.2	22.2	23.6	26.3
Medical only[c]	*8.6*	*7.3*	*7.5*	*5.6*	*8.2*	*12.7*	*5.2*	*7.6*	*7.7*
Surgical only	*1.8*	*1.8*	*1.9*	*1.9*	*3.7*	*3.7*	*1.4*	*0.9*	*2.0*
Combined	*16.8*	*15.8*	*13.7*	*21.1*	*18.8*	*15.3*	*15.6*	*15.0*	*16.4*
Other/not stated	*0.2*	*0.3*	*0.3*	*0.4*	*0.2*	*0.5*	*0.0*	*0.1*	*0.2*
No labour	18.6	19.5	20.9	20.8	18.0	17.4	18.0	15.7	19.4
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) Data provided by Vic are provisional.

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

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

Figure 3.2 presents the trends in type of onset of labour from 2003 to 2012. In line with the increase in caesarean sections, spontaneous onset of labour generally decreased during this time, from 57.3% of all women giving birth in 2003 to 54.2% in 2012. The proportion of women giving birth without labour gradually increased from 16.5% in 2003 to 19.4% in 2012. The proportion of women having induction of labour has remained constant over recent years.



Notes

1. Provisional data were provided by Vic for 2009, 2010 and 2012.
2. Data for this figure are in Table E4.

Figure 3.2: Onset of labour, all mothers, 2003 to 2012

Information about the main reason for induction of labour for women giving birth in New South Wales, Queensland, South Australia, Tasmania and the Northern Territory is in Table 3.23. 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.

Table 3.23 shows similar proportions of women having induction for medical and fetal conditions and complications for the 5 jurisdictions. In these jurisdictions, hypertension or pre-eclampsia (range 9.0% to 13.2%) and premature rupture of membranes (range 8.5% to 15.9%) 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, 2012

Reason for induction[a]	NSW	Vic[b]	Qld	WA	SA	Tas[c]	ACT	NT
				Number				
Prolonged pregnancy	5,552	n.a.	3,530	n.a.	1,067	315	n.a.	212
Hypertension/pre-eclampsia	2,530	n.a.	1,419	n.a.	833	170	n.a.	92
Premature rupture of membranes	4,253	n.a.	1,854	n.a.	532	280	n.a.	148
Diabetes	2,435	n.a.	1,221	n.a.	465	105	n.a.	88
Intrauterine growth restriction	1,216	n.a.	702	n.a.	366	84	n.a.	32
Fetal death	221	n.a.	187	n.a.	50	15	n.a.	13
Fetal distress	573	n.a.	229	n.a.	18	25	n.a.	—
Isoimmunisation	38	n.a.	40	n.a.	<5	<5	n.a.	—
Chorioamnionitis	39	n.a.	19	n.a.	n.p.	n.p.	n.a.	—
Other[d]	9,831	n.a.	5,414	n.a.	2,937	561	n.a.	330
Not stated	116	n.a.	—	n.a.	11	322	n.a.	25
Total	**26,804**	**n.a.**	**14,615**	**n.a.**	**6,290**	**1,885**	**n.a.**	**940**
				Per cent				
Prolonged pregnancy	20.7	n.a.	24.2	n.a.	17.0	16.7	n.a.	22.6
Hypertension/pre-eclampsia	9.4	n.a.	9.7	n.a.	13.2	9.0	n.a.	9.8
Premature rupture of membranes	15.9	n.a.	12.7	n.a.	8.5	14.9	n.a.	15.7
Diabetes	9.1	n.a.	8.4	n.a.	7.4	5.6	n.a.	9.4
Intrauterine growth restriction	4.5	n.a.	4.8	n.a.	5.8	4.5	n.a.	3.4
Fetal death	0.8	n.a.	1.3	n.a.	0.8	0.8	n.a.	1.4
Fetal distress	2.1	n.a.	1.6	n.a.	0.3	1.3	n.a.	—
Isoimmunisation	0.1	n.a.	0.3	n.a.	n.p.	n.p.	n.a.	—
Chorioamnionitis	0.1	n.a.	0.1	n.a.	n.p.	n.p.	n.a.	—
Other[d]	36.7	n.a.	37.0	n.a.	46.7	29.8	n.a.	35.1
Not stated	0.4	n.a.	—	n.a.	0.2	17.1	n.a.	2.7
Total	**100.0**	**n.a.**	**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) Reason for induction of labour data are available in Victoria.

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

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

Pain relief during labour and operative delivery

The type of analgesia or anaesthesia used during labour or delivery influences 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) were available for all jurisdictions. Information on the types of analgesic or anaesthetic is also available and more than 1 type could be recorded for each woman. Epidural or caudal, spinal and combined spinal–epidural analgesia or anaesthesia have been grouped into the categories 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), 76.5% had analgesia administered. This proportion ranged from 64.2% in the Australian Capital Territory to 80.1% in Western Australia.

Table 3.24: Women who gave birth, by whether analgesia was administered to relieve pain for labour and state and territory, 2012

Analgesia[(a)]	NSW	Vic[(b)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	18,685	13,263	13,445	5,270	3,817	1,029	1,743	751	58,003
Analgesia administered	61,101	48,781	36,087	21,167	12,850	3,689	3,127	2,605	189,407
Not stated	79	17	1	—	—	123	—	—	220
Total	**79,865**	**62,061**	**49,533**	**26,437**	**16,667**	**4,841**	**4,870**	**3,356**	**247,630**
					Per cent				
None	23.4	21.4	27.1	19.9	22.9	21.3	35.8	22.4	23.4
Analgesia administered	76.5	78.6	72.9	80.1	77.1	76.2	64.2	77.6	76.5
Not stated	0.1	0.0	0.0	—	—	2.5	—	—	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

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

(b) Data provided by Vic are provisional.

Of first-time mothers who laboured, 86.7% had analgesia administered for labour. This was markedly higher than the proportion of multiparous women (67.5%) who had analgesia administered for labour.

Table 3.25 shows the method of analgesia administration for labour. As more than 1 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 over half of all women who laboured (52.6%), with the highest proportion of use in Victoria (57.7%). Regional analgesia was used for 32.5% of women, epidural or caudal method for 30.5%, and a spinal or combined spinal–epidural for 2.2%. Systemic opioids were administered to about one-fifth of women who laboured (20.8%).

Table 3.25: Types of analgesia administered to relieve pain for labour, by state and territory, 2012

Type of analgesia[(a)]	NSW	Vic[(b)]	Qld	WA[(c)]	SA	Tas	ACT[(d)]	NT[(e)]	Total
					Number				
Nitrous oxide	42,163	35,834	26,199	11,490	8,139	2,499	1,938	1,912	130,174
Systemic opioids	13,855	16,398	10,382	3,979	3,501	1,649	1,051	753	51,568
Regional	24,628	17,901	15,139	12,881	6,502	1,278	1,399	632	80,360
Epidural orcaudal	*23,773*	*16,599*	*13,482*	*12,232*	*6,380*	*n.p.*	*1,257*	*n.p.*	*75,604*
Spinal	*575*	*813*	*1,569*	*245*	*148*	*n.p.*	*134*	*<5*	*3,509*
Combined spinal–epidural	*310*	*539*	*331*	*656*	*8*	*n.p.*	*32*	*<5*	*1,885*
Other	6,834	8,368	407	984	484	260	473	1,021	18,831
Total women	**79,865**	**62,061**	**49,533**	**26,437**	**16,667**	**4,841**	**4,870**	**3,356**	**247,630**
					Rate per 100 women who gave birth				
Nitrous oxide	52.8	57.7	52.9	43.5	48.8	51.6	39.8	57.0	52.6
Systemic opioids	17.3	26.4	21.0	15.1	21.0	34.1	21.6	22.4	20.8
Regional	30.8	28.8	30.6	48.7	39.0	26.4	28.7	18.8	32.5
Epidural or caudal	*29.8*	*26.7*	*27.2*	*46.3*	*38.3*	*25.8*	*25.8*	*18.8*	*30.5*
Spinal	*0.7*	*1.3*	*3.2*	*0.9*	*0.9*	*n.p.*	*2.8*	*n.p.*	*1.4*
Combined spinal–epidural	*0.4*	*0.9*	*0.7*	*2.5*	*0.0*	*n.p.*	*0.7*	*n.p.*	*0.8*
Other	8.6	13.5	0.8	3.7	2.9	5.4	9.7	30.4	7.6

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

(b) Data provided by Vic are provisional.

(c) For WA, systemic opioid includes intramuscular opioid injection. For WA, 'Other' includes intravenous narcotics, transcutaneous electrical nerve stimulation (TENS), acupuncture, hypnotherapy and oral analgesia.

(d) For ACT, for 3 of the 4 ACT hospitals, 'Other' includes non-pharmacological methods such as bath, shower, spa, heat pack, aromatherapy, acupressure and acupuncture. In most cases, it has been reported in addition to other listed pharmacological methods.

(e) For NT, 'Other' includes non-narcotic oral analgesia and non-pharmacological methods.

Note: More than 1 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 2012 and had a forceps, vacuum extraction or caesarean section delivery, 95.1% had anaesthesia administered. This proportion ranged from 89.4% in Queensland to 97.3% in New South Wales (Table 3.26).

Table 3.26: Women who gave birth and had caesarean section or instrumental vaginal deliveries, by whether anaesthetic was administered for the operative delivery and state and territory, 2012

Anaesthesia	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	1,106	1,417	2,863	540	307	211	204	60	6,708
Anaesthesia administered	40,597	34,740	24,192	16,039	8,927	2,234	2,592	1,486	130,807
Not stated	28	22	—	—	—	—	—	—	50
Total	**41,731**	**36,179**	**27,055**	**16,579**	**9,234**	**2,445**	**2,796**	**1,546**	**137,565**
					Per cent				
None	2.7	3.9	10.6	3.3	3.3	8.6	7.3	3.9	4.9
Anaesthesia administered	97.3	96.0	89.4	96.7	96.7	91.4	92.7	96.1	95.1
Not stated	0.1	0.1	—	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

Note: Instrumental vaginal deliveries include forceps and vacuum extraction.

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. This may be reflected in the differences reported among the states and territories.

In 2012, 64.2% of women who had a caesarean section had a spinal anaesthetic, 20.9% had an epidural or caudal anaesthetic and 10.5% 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 1 type can be reported.

A general anaesthetic was administered for 6.7% of caesarean sections (Table 3.27). The proportion of women having a general anaesthetic for caesarean section varied by state and territory, from 4.2% in Western Australia to 9.2% in the Australian Capital Territory.

Table 3.27: Types of anaesthetic administered for caesarean sections, by state and territory, 2012

Type of anaesthetic[(a)]	NSW	Vic[(b)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Regional	28,324	23,683	19,668	11,140	6,547	1,672	1,770	1,122	93,926
Epidural or caudal	*6,563*	*4,164*	*3,539*	*4,005*	*1,653*	*330*	*403*	*182*	*20,839*
Spinal	*18,469*	*18,624*	*13,959*	*4,296*	*4,900*	*1,338*	*1,365*	*933*	*63,884*
Combined spinal–epidural	*3,377*	*1,081*	*2,390*	*3,446*	*62*	*17*	*37*	*20*	*10,430*
General	2,583	1,361	1,383	489	419	136	176	104	6,651
Total women	**30,558**	**24,806**	**20,783**	**11,541**	**6,875**	**1,794**	**1,908**	**1,209**	**99,474**
					Rate per 100 women who gave birth				
Regional	92.7	95.5	94.6	96.5	95.2	93.2	92.8	92.8	94.4
Epidural or caudal	*21.5*	*16.8*	*17.0*	*34.7*	*24.0*	*18.4*	*21.1*	*15.1*	*20.9*
Spinal	*60.4*	*75.1*	*67.2*	*37.2*	*71.3*	*74.6*	*71.5*	*77.2*	*64.2*
Combined spinal–epidural	*11.1*	*4.4*	*11.5*	*29.9*	*0.9*	*0.9*	*1.9*	*1.7*	*10.5*
General	8.5	5.5	6.7	4.2	6.1	7.6	9.2	8.6	6.7

(a) Table excludes 635 cases of local anaesthetic to perineum, pudendal anaesthetic and other types of anaesthetic.

(b) Data provided by Vic are provisional.

Note: More than 1 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 6,651 women who had a general anaesthetic for caesarean section, 54.2% had a caesarean section in labour and 45.8% had a caesarean section without labour. Of the women who had a caesarean section in labour and a general anaesthetic, 59.5% had a spontaneous onset of labour and 40.5% had an induction of labour. Of the women who had a regional anaesthetic for caesarean section, 39.1% had a caesarean section in labour and 60.9% 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 (56.3%). Administration of a general anaesthetic was rare at 4 per 1,000 women who had an instrumental vaginal birth. A local anaesthetic to the perineum was administered in 26.8% of instrumental deliveries and a pudendal block in 6.2% of them (Table 3.28).

Table 3.28: Types of anaesthetic administered for instrumental vaginal deliveries, by state and territory, 2012

Type of anaesthetic	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
None	1,101	1,417	2,862	540	307	211	204	60	6,702
Local anaesthetic to perineum	4,318	3,007	942	1,029	452	189	156	118	10,211
Pudendal	647	1,095	173	158	170	56	47	19	2,365
Regional	6,089	6,569	2,586	3,685	1,596	233	518	154	21,430
Epidural or caudal	*5,631*	*5,926*	*2,409*	*3,477*	*1,521*	*200*	*455*	*129*	*19,748*
Spinal	*396*	*502*	*147*	*87*	*74*	*31*	*61*	*23*	*1,321*
Combined spinal–epidural	*66*	*162*	*40*	*n.p.*	*<5*	*<5*	*5*	*<5*	*427*
General	107	22	9	<5	<5	<5	5	<5	149
Other	105	482	10	70	24	<5	—	7	700
Total women	**11,173**	**11,373**	**6,272**	**5,038**	**2,359**	**651**	**888**	**337**	**38,091**
					Rate per 100 women who gave birth				
None	9.9	12.5	45.6	10.7	13.0	32.4	23.0	17.8	17.6
Local anaesthetic to perineum	38.6	26.4	15.0	20.4	19.2	29.0	17.6	35.0	26.8
Pudendal	5.8	9.6	2.8	3.1	7.2	8.6	5.3	5.6	6.2
Regional	54.5	57.8	41.2	73.1	67.7	35.8	58.3	45.7	56.3
Epidural or caudal	*50.4*	*52.1*	*38.4*	*69.0*	*64.5*	*30.7*	*51.2*	*38.3*	*51.8*
Spinal	*3.5*	*4.4*	*2.3*	*1.7*	*3.1*	*4.8*	*6.9*	*6.8*	*3.5*
Combined spinal–epidural	*0.6*	*1.4*	*0.6*	*n.p.*	*n.p.*	*n.p.*	*0.6*	*n.p.*	*1.1*
General	1.0	0.2	0.1	n.p.	n.p.	n.p.	0.6	n.p.	0.4
Other	0.9	4.2	0.2	1.4	1.0	n.p.	0.0	2.1	1.8

(a) Data provided by Vic are provisional.

Notes

1. More than 1 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%.

2. Instrumental vaginal deliveries include forceps and vacuum extraction.

Presentation at birth

Data are presented in this section by mother. Women who gave birth to more than 1 baby are categorised according to the presentation at birth of the first-born baby. Presentation at birth is defined as the presenting part of the fetus at birth. Table 4.12 shows the presentation for each individual baby by plurality.

In 2012, the predominant presentation at birth was cephalic (95.2%), which included presentation of any part (vertex, face or brow) of the fetal head in labour or at birth. Vertex presentation, where the crown (vertex) of the fetal head is the presenting part, occurred for 94.9% of all women who gave birth, while face or brow presentation occurred for 0.3% of mothers. Breech presentation, the presentation of the baby's buttocks or feet in labour or at birth, occurred for 3.8% of mothers. Summary data for breech presentation are shown; data were not available on complete, incomplete and frank breech presentations (Table 3.29). Of the 11,657 women with a breech presentation, 92.2% were singleton pregnancies and 7.8% were multiple pregnancies where the first baby born had a breech presentation.

Table 3.29: Women who gave birth, by presentation at birth and state and territory, 2012

Presentation	NSW	Vic[(a)]	Qld	WA	SA	Tas[(b)]	ACT[(c)]	NT	Australia
					Number				
Vertex	94,018	73,145	59,238	31,545	19,257	5,209	5,495	3,800	291,707
Breech	3,317	3,025	2,577	1,365	855	140	243	135	11,657
Face	106	82	74	82	28	5	104	8	489
Brow	86	104	75	38	21	8	n.p.	<5	343
Other[(d)]	581	720	683	338	144	37	81	27	2,611
Not stated	30	94	3	25	33	464	n.p.	n.p.	667
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
Vertex	95.8	94.8	94.6	94.5	94.7	88.8	92.5	95.4	94.9
Breech	3.4	3.9	4.1	4.1	4.2	2.4	4.1	3.4	3.8
Face	0.1	0.1	0.1	0.2	0.1	0.1	1.8	0.2	0.2
Brow	0.1	0.1	0.1	0.1	0.1	0.1	n.p.	n.p.	0.1
Other[(d)]	0.6	0.9	1.1	1.0	0.7	0.6	1.4	0.7	0.8
Not stated	0.0	0.1	0.0	0.1	0.2	7.9	n.p.	n.p.	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) For Tas, presentations via caesarean births were not reported by hospitals still using the paper-based form, so care must be taken when interpreting these data. Presentations via caesarean births will be included in the paper-based form from 1 January 2013.

(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the percentage of breech presentation for ACT residents who gave birth in the ACT was 3.9%, and 5.1% for non-ACT residents who gave birth in the ACT.

(d) Includes shoulder/transverse and compound presentations.

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

Method of birth

Data are presented in this section by mother. For multiple births, women are categorised according to the method of birth for the first-born baby. Table 4.13 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. Six (6) of the 8 jurisdictions were able to provide data in this way; therefore, the 'Non-instrumental vaginal' category for 2012 may include women in New South Wales and Western Australia who had breech births where instruments were used.

Tables 4.14 and 4.15 present information on method of birth for babies with breech presentations.

Vaginal births

In 2012, 207,979 women (67.6%) had a vaginal birth, and most of these (81.7%) did not involve instruments.

Of all women who gave birth in 2012, 55.3% had a non-instrumental vaginal birth. The proportion of non-instrumental vaginal births ranged from 50.4% in Western Australia to 61.2% in the Northern Territory (Table 3.30).

About 1 in 8 mothers (12.4%) 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 the Northern Territory to 15.1% in Western Australia. Forceps delivery occurred for 4.3% of mothers and was most common in Victoria (6.4%). Deliveries by vacuum extraction occurred for 8.1% of women who gave birth, ranging from 5.6% in the Northern Territory to 12.2% in Western Australia (Table 3.30).

Table 3.30: Women who gave birth, by method of birth and state and territory, 2012

Method of birth	NSW[(a)]	Vic[(b)]	Qld	WA[(a)]	SA	Tas	ACT[(c)]	NT	Australia
					Number				
Non-instrumental vaginal	56,389	40,988	35,595	16,814	11,104	3,418	3,143	2,437	169,888
Forceps	4,192	4,935	1,374	957	1,130	230	376	114	13,308
Vacuum extraction	6,981	6,438	4,898	4,081	1,229	421	512	223	24,783
Caesarean section	30,558	24,806	20,783	11,541	6,875	1,794	1,908	1,209	99,474
Labour	*12,298*	*9,754*	*7,666*	*4,585*	*3,204*	*772*	*839*	*582*	*39,700*
No labour	*18,253*	*15,041*	*13,117*	*6,956*	*3,671*	*1,022*	*1,069*	*627*	*59,756*
Not stated onset	*7*	*11*	—	—	—	—	—	—	*18*
Not stated	18	3	—	—	—	—	—	—	21
Total	**98,138**	**77,170**	**62,650**	**33,393**	**20,338**	**5,863**	**5,939**	**3,983**	**307,474**
					Per cent				
Non-instrumental vaginal	57.5	53.1	56.8	50.4	54.6	58.3	52.9	61.2	55.3
Forceps	4.3	6.4	2.2	2.9	5.6	3.9	6.3	2.9	4.3
Vacuum extraction	7.1	8.3	7.8	12.2	6.0	7.2	8.6	5.6	8.1
Caesarean section	31.1	32.1	33.2	34.6	33.8	30.6	32.1	30.4	32.4
Labour	*12.5*	*12.6*	*12.2*	*13.7*	*15.8*	*13.2*	*14.1*	*14.6*	*12.9*
No labour	*18.6*	*19.5*	*20.9*	*20.8*	*18.0*	*17.4*	*18.0*	*15.7*	*19.4*
Not stated onset	*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 included only where instruments were not used.

(b) Data provided by Vic are provisional.

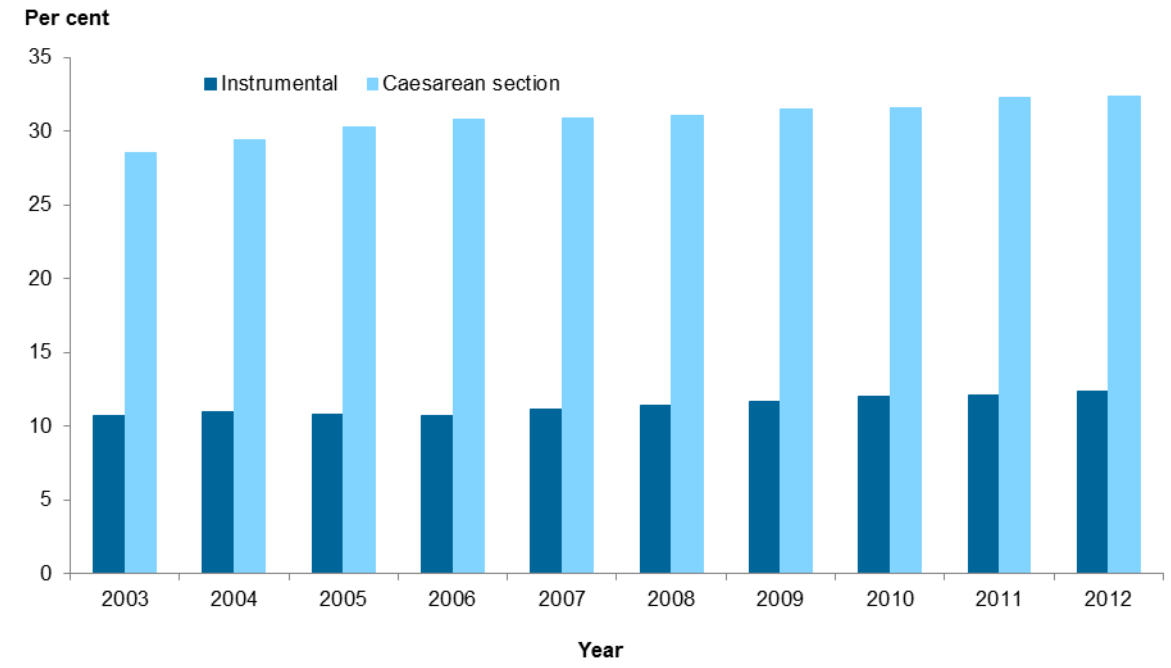
(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, 31.8% of ACT resident women had a caesarean section compared with 36.0% of non-ACT residents who gave birth in the ACT.

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

Caesarean sections

There were 99,474 caesarean sections performed in 2012. The proportion of caesarean birth varied by state and territory, ranging from 30.4% in the Northern Territory to 34.6% in Western Australia (Table 3.30). Of all women who gave birth, 19.4% had a caesarean section without labour and 12.9% had a caesarean section with labour.

The caesarean section rate showed an upward trend in the 10 years to 2012, increasing from 28.5% nationally in 2003 to a peak of 32.4% in 2012. In contrast, the proportion of instrumental deliveries remained stable at about 12.4% throughout this period (Figure 3.3).



Notes

1. Provisional data were provided by Vic for 2009, 2010 and 2012.
2. Data for this figure are in Table E5.

Figure 3.3: Caesarean section and instrumental deliveries, 2003 to 2012

Direct age-standardised rates of caesarean section were calculated for states and territories for 2012 using the female Australian estimated resident population in 2001 as the standard. The age-standardised caesarean section rates varied across states and territories, ranging from 31.3% in New South Wales to 35.5% in Western Australia (Table 3.31).

Table 3.31: Women who gave birth by caesarean section, by age and state and territory, 2012

Age (years)	NSW	Vic[a]	Qld	WA	SA	Tas	ACT[b]	NT	Australia
					Number				
Younger than 20	502	305	517	239	148	67	25	84	1,887
20–24	2,638	1,802	2,387	1,162	747	234	133	210	9,313
25–29	7,065	5,669	5,348	2,873	1,819	506	465	313	24,058
30–34	10,641	8,936	7,053	4,015	2,339	534	707	356	34,581
35–39	7,454	6,264	4,296	2,562	1,429	344	438	187	22,974
40 and over	2,254	1,817	1,182	690	393	109	140	59	6,644
Not stated	4	13	—	—	—	—	—	—	17
Total	**30,558**	**24,806**	**20,783**	**11,541**	**6,875**	**1,794**	**1,908**	**1,209**	**99,474**
					Per cent				
Younger than 20	1.6	1.2	2.5	2.1	2.2	3.7	1.3	6.9	1.9
20–24	8.6	7.3	11.5	10.1	10.9	13.0	7.0	17.4	9.4
25–29	23.1	22.9	25.7	24.9	26.5	28.2	24.4	25.9	24.2
30–34	34.8	36.0	33.9	34.8	34.0	29.8	37.1	29.4	34.8
35–39	24.4	25.3	20.7	22.2	20.8	19.2	23.0	15.5	23.1
40 and over	7.4	7.3	5.7	6.0	5.7	6.1	7.3	4.9	6.7
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[c]				
Rate	31.3	32.0	34.4	35.5	34.4	32.4	32.5	32.7	32.8

(a) Data provided by Vic are provisional.

(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.

(c) Directly age-standardised using the 2001 estimated female Australian resident population as the standard.

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

Information about the main reason for carrying out a caesarean section 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 31.6% to 41.4%). 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, 2012[(a)]

Main reason for caesarean section	NSW[(b)]	Vic[(c)]	Qld	WA	SA	Tas	ACT	NT
				Number				
Previous caesarean section	n.p.	n.a.	7,587	n.a.	2,464	742	n.a.	382
Fetal distress	n.p.	n.a.	2,289	n.a.	842	292	n.a.	190
Malpresentation	n.p.	n.a.	1,818	n.a.	671	141	n.a.	117
Antepartum haemorrhage	n.p.	n.a.	489	n.a.	106	38	n.a.	22
Hypertension/ pre-eclampsia	n.p.	n.a.	494	n.a.	138	24	n.a.	—
Multiple pregnancy	n.p.	n.a.	338	n.a.	112	10	n.a.	—
Intrauterine growth restriction	n.p.	n.a.	270	n.a.	64	12	n.a.	—
Other[(d)]	n.p.	n.a.	7,498	n.a.	2,391	534	n.a.	486
Not stated	n.p.	n.a.	—	n.a.	87	1	n.a.	12
Total	**n.p.**	**n.a.**	**20,783**	**n.a.**	**6,875**	**1,794**	**n.a.**	**1,209**
				Per cent				
Previous caesarean section	n.p.	n.a.	36.5	n.a.	35.8	41.4	n.a.	31.6
Fetal distress	n.p.	n.a.	11.0	n.a.	12.2	16.3	n.a.	15.7
Malpresentation	n.p.	n.a.	8.7	n.a.	9.8	7.9	n.a.	9.7
Antepartum haemorrhage	n.p.	n.a.	2.4	n.a.	1.5	2.1	n.a.	1.8
Hypertension/ pre-eclampsia	n.p.	n.a.	2.4	n.a.	2.0	1.3	n.a.	—
Multiple pregnancy	n.p.	n.a.	1.6	n.a.	1.6	0.6	n.a.	—
Intrauterine growth restriction	n.p.	n.a.	1.3	n.a.	0.9	0.7	n.a.	—
Other[(c)]	n.p.	n.a.	36.1	n.a.	34.8	29.8	n.a.	40.2
Not stated	n.p.	n.a.	—	n.a.	1.3	0.1	n.a.	1.0
Total	**n.p.**	**n.a.**	**100.0**	**n.a.**	**100.0**	**100.0**	**n.a.**	**100.0**

(a) Data for NSW not published as complete data were not available in a comparable format.

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

(c) Indications for caesarean section data are available in Vic.

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

Method of birth and maternal age

Table 3.33 presents methods of birth by maternal age group. Non-instrumental vaginal birth was most common for women younger than 20 (70.2%) and declined progressively with increasing maternal age. The proportion of instrumental vaginal births was highest in the 25–29 years age group (13.8%).

Caesarean section rates increased with advancing maternal age. In 2012, caesarean section rates ranged from 17.1% for mothers younger than 20 to 49.9% for mothers aged 40 and over (Table 3.33).

Table 3.33: Method of birth, by maternal age, 2012

	Age (years)							
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)]	7,768	27,593	49,665	52,412	26,902	5,510	38	169,888
Forceps	419	1,605	4,247	4,632	1,999	404	2	13,308
Vacuum extraction	984	3,288	7,546	8,411	3,784	760	10	24,783
Caesarean section	1,887	9,313	24,058	34,581	22,974	6,644	17	99,474
Not stated	—	2	2	14	2	1	—	21
Total	**11,058**	**41,801**	**85,518**	**100,050**	**55,661**	**13,319**	**67**	**307,474**
				Per cent				
Non-instrumental vaginal[(a)]	70.2	66.0	58.1	52.4	48.3	41.4	56.7	55.3
Forceps	3.8	3.8	5.0	4.6	3.6	3.0	3.0	4.3
Vacuum extraction	8.9	7.9	8.8	8.4	6.8	5.7	14.9	8.1
Caesarean section	17.1	22.3	28.1	34.6	41.3	49.9	25.4	32.4
Not stated	—	0.0	0.0	0.0	0.0	0.0	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(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 included only where instruments were not used.

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

Method of birth and Indigenous status

Mothers who identified as being of Aboriginal and/or Torres Strait Islander origin had a higher proportion of non-instrumental vaginal births than non-Indigenous mothers (67.3% compared with 54.7%) and a lower proportion of instrumental vaginal deliveries (forceps or vacuum extraction). The caesarean section rate of 26.3% for mothers who identified as Aboriginal and/or Torres Strait Islander was less than that for non-Indigenous mothers (32.6%) (Table 3.34). This may be partially explained by the younger age of Indigenous mothers, which averaged 25.2. The age-standardised rate of caesarean section among Aboriginal and Torres Strait Islander mothers was 29.9% compared with 32.8% among non-Indigenous mothers.

Table 3.34: Women who gave birth, by Indigenous status, method of birth and state and territory, 2012

Indigenous status[(a)] / method of birth	NSW[(b)]	Vic[(c)]	Qld	WA[(b)]	SA	Tas	ACT[(d)]	NT	Australia
Indigenous					**Number**				
Non-instrumental vaginal	2,278	627	2,644	1,106	399	195	79	945	8,273
Instrumental vaginal[(e)]	225	85	201	105	42	26	12	80	776
Caesarean section	844	250	993	419	220	80	31	397	3,234
Not stated	1	—	—	—	—	—	—	—	1
Total	**3,348**	**962**	**3,838**	**1,630**	**661**	**301**	**122**	**1,422**	**12,284**
					Per cent				
Non-instrumental vaginal	68.0	65.2	68.9	67.9	60.4	64.8	64.8	66.5	67.3
Instrumental vaginal[(e)]	6.7	8.8	5.2	6.4	6.4	8.6	9.8	5.6	6.3
Caesarean section	25.2	26.0	25.9	25.7	33.3	26.6	25.4	27.9	26.3
Not stated	0.0	—	—	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Non-Indigenous					**Number**				
Non-instrumental vaginal	54,080	40,105	32,948	15,708	10,705	3,150	3,063	1,490	161,249
Instrumental vaginal[(e)]	10,943	11,212	6,070	4,933	2,317	613	876	257	37,221
Caesarean section	29,695	24,393	19,789	11,122	6,655	1,693	1,877	811	96,035
Not stated	17	3	—	—	—	—	—	—	20
Total	**94,735**	**75,713**	**58,807**	**31,763**	**19,677**	**5,456**	**5,816**	**2,558**	**294,525**
					Per cent				
Non-instrumental vaginal	57.1	53.0	56.0	49.5	54.4	57.7	52.7	58.2	54.7
Instrumental vaginal[(e)]	11.6	14.8	10.3	15.5	11.8	11.2	15.1	10.0	12.6
Caesarean section	31.3	32.2	33.7	35.0	33.8	31.0	32.3	31.7	32.6
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 included only where instruments were not used.

(c) Data provided by Vic are provisional.

(d) In 2012, 24.2% 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, 19.1% of ACT resident Indigenous women had a caesarean section compared with 43.3% of non-ACT resident Indigenous women who gave birth in the ACT.

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

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

Age-specific rates of caesarean section were calculated by Indigenous status (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, 2012

	Age (years)							
Indigenous status	Younger than 20	20–24	25–29	30–34	35–39	40 and over	Not stated	Total
				Number				
Indigenous	432	985	857	559	321	80	—	3,234
Non-Indigenous	1,451	8,311	23,153	33,948	22,604	6,551	17	96,035
Not stated	4	17	48	74	49	13	—	205
Total	**1,887**	**9,313**	**24,058**	**34,581**	**22,974**	**6,644**	**17**	**99,474**
				Age-specific rate				
Indigenous	18.9	24.4	28.0	31.1	36.2	38.5	0.0	26.3
Non-Indigenous	16.6	22.1	28.1	34.6	41.4	50.1	26.2	32.6
				Age-standardised rate[(a)]				
Indigenous	. .	. .	. .	. .	. .	. .	. .	29.9
Non-Indigenous	. .	. .	. .	. .	. .	. .	. .	32.8

(a) Direct method using the 2001 estimated female Australian resident population as the standard.

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

Primary caesarean sections

The rate of primary caesarean section varied by parity, with 32.9% of primiparous women giving birth by caesarean section compared with 10.5% of multiparous women. The rate of caesarean section for primiparous women ranged from 31.3% in Tasmania to 34.9% in Western Australia. The overall rate for women without a history of previous caesarean section was 22.1% (Table 3.36).

Table 3.36: Primary caesarean sections, by parity and state and territory, 2012

Parity	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Primiparas	13,730	10,410	8,680	4,991	2,906	740	910	520	42,887
Multiparas[(b)]	3,823	2,932	2,837	1,480	889	274	261	195	12,691
Total	**17,553**	**13,342**	**11,517**	**6,471**	**3,795**	**1,014**	**1,171**	**715**	**55,578**
					Primary caesarean section rate				
Primiparas	31.8	32.5	33.8	34.9	33.6	31.3	33.5	32.3	32.9
Multiparas[(b)]	9.9	10.3	10.9	11.2	11.1	10.6	11.2	11.2	10.5
Total	**21.5**	**22.0**	**22.3**	**23.5**	**22.8**	**20.5**	**23.2**	**21.4**	**22.1**

(a) Data provided by Vic are provisional.

(b) Includes only multiparous women who had not previously had a caesarean section.

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

Method of birth and previous caesarean section

In 2012, 11.9% of mothers who had previously had a caesarean section had a non-instrumental vaginal birth and 3.7% had an instrumental vaginal birth. Repeat caesarean sections occurred for 84.4% of mothers with a history of caesarean section, and ranged from 77.8% in the Northern Territory to 87.9% 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, 2012

Method of birth	NSW[(a)]	Vic[(b)]	Qld	WA[(a)]	SA	Tas	ACT	NT	Total
					Number				
Non-instrumental vaginal	1,923	1,302	1,350	514	455	110	110	119	5,883
Instrumental vaginal[(c)]	588	482	320	171	136	31	53	22	1,803
Caesarean section	12,853	9,433	9,266	4,968	3,080	780	737	494	41,611
Not stated	1	1	—	—	—	—	—	—	2
Total	**15,365**	**11,218**	**10,936**	**5,653**	**3,671**	**921**	**900**	**635**	**49,299**
					Per cent				
Non-instrumental vaginal	12.5	11.6	12.3	9.1	12.4	11.9	12.2	18.7	11.9
Instrumental vaginal[(c)]	3.8	4.3	2.9	3.0	3.7	3.4	5.9	3.5	3.7
Caesarean section	83.7	84.1	84.7	87.9	83.9	84.7	81.9	77.8	84.4
Not stated	0.0	0.0	—	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For 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 included only where instruments were not used.

(b) Data provided by Vic are provisional.

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

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

In 2012, the rate of caesarean section for women giving birth at term (37–41 weeks gestational age) to a singleton baby was 31.0% (Table 3.38). The caesarean rate varied by gestational age at birth. The 8,123 women who gave birth to a singleton baby by caesarean at 37 weeks accounted for 39.2% of all births at this gestation. The peak rate for caesarean birth (45.4%) was at 38 weeks gestation and the lowest rate (18.7%) was at 40 weeks gestation. Caesarean section in labour was most common at 41 weeks. The rate of no labour caesarean section peaked at 38 weeks at 35.2%.

Table 3.38: Women who gave birth to term singleton babies and had a caesarean section, by gestational age and onset of labour, 2012

Gestational age (weeks)	Labour	No labour	Total caesarean[(a)]
		Number	
37	2,799	5,332	8,131
38	6,169	21,229	27,398
39	8,182	19,564	27,746
40	10,461	3,861	14,322
41	7,757	1,525	9,282
Total	**35,368**	**51,511**	**86,879**
		Per cent[(b)]	
37	13.5	25.7	39.2
38	10.2	35.2	45.4
39	9.7	23.2	32.9
40	13.7	5.1	18.7
41	20.3	4.0	24.3
Total	**12.6**	**18.4**	**31.0**

(a) Includes 'Not stated' onset of labour.

(b) Per cent of all women who gave birth at that gestation.

Perineal status after vaginal birth

In 2012, more than one-quarter of mothers (26.1%) had an intact perineum after vaginal birth. A first or second degree laceration or graze was reported in 47.2% of women after vaginal birth. A third or fourth degree laceration of the perineum was reported in 2.1% of vaginal births. This proportion varied among the states and territories, from 1.6% in Tasmania to 4.1% in the Australian Capital Territory. An episiotomy only was performed for 16.2% of vaginal births, with the highest rate recorded in Victoria (20.9%). A combined laceration and episiotomy occurred in 3.0% of women who had a vaginal birth, giving a total of 19.2% 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, 2012

Perineal status	NSW[(a)]	Vic[(b)]	Qld[(c)]	WA[(a)]	SA	Tas[(d)]	ACT	NT	Total
					Number				
Episiotomy	10,177	10,953	5,597	3,619	2,174	431	464	313	33,728
Intact	14,766	12,168	12,455	7,844	3,610	1,182	1,294	895	54,214
1st degree laceration/vaginal graze	19,689	7,987	7,758	3,229	3,423	1,074	526	740	44,426
2nd degree laceration	18,214	12,406	11,090	5,321	3,554	924	1,524	680	53,713
3rd/4th degree laceration	1,347	1,020	836	500	307	67	166	79	4,322
Combined laceration and episiotomy	2,229	2,055	363	886	n.p.	117	57	n.p.	6,148
Other	1,132	5,656	3,768	435	<5	274	—	n.p.	11,280
Not stated	8	116	—	18	—	—	—	6	148
Total	**67,562**	**52,361**	**41,867**	**21,852**	**13,463**	**4,069**	**4,031**	**2,774**	**207,979**
					Per cent				
Episiotomy	15.1	20.9	13.4	16.6	16.1	10.6	11.5	11.3	16.2
Intact	21.9	23.2	29.7	35.9	26.8	29.0	32.1	32.3	26.1
1st degree laceration/vaginal graze	29.1	15.3	18.5	14.8	25.4	26.4	13.0	26.7	21.4
2nd degree laceration	27.0	23.7	26.5	24.4	26.4	22.7	37.8	24.5	25.8
3rd/4th degree laceration	2.0	1.9	2.0	2.3	2.3	1.6	4.1	2.8	2.1
Combined laceration and episiotomy	3.3	3.9	0.9	4.1	n.p.	2.9	1.4	n.p.	3.0
Other	1.7	10.8	9.0	2.0	n.p.	6.7	—	n.p.	5.4
Not stated	0.0	0.2	—	0.1	—	—	—	0.2	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For NSW and WA, unspecified perineal tear and vulval or perineal haematoma are included in 'Other' .

(b) Data provided by Vic are provisional.

(c) For Qld, genital grazes, such as clitoral or labial, are included in 'Other'.

(d) 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.

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. They should be examined independently for each state and territory as they are not standard across jurisdictions. The pre-existing essential hypertension rates ranged from 6.3 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 86.0 per 1,000 women in Tasmania to 179.3 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 48.3 per 1,000 women in Tasmania to 102.7 per 1,000 women in the Northern Territory.

Table 3.40: Women who gave birth, by selected medical and obstetric conditions and state and territory, 2012

Medical and obstetric condition or complication[a]	NSW	Vic[b][c]	Qld[d]	WA	SA	Tas	ACT[e]	NT
				Number				
Pre-existing hypertension	776	n.a.	394	358	227	73	65	30
Pre-existing diabetes mellitus	662	n.a.	387	261	140	39	55	66
Epilepsy	n.a.	n.a.	242	157	97	88	23	20
Antepartum haemorrhage	n.a.	n.a.	1,512	1,137	638	111	183	54
Placenta praevia	*n.a.*	*n.a.*	*382*	*243*	*104*	*24*	*81*	*28*
Abruptio placenta	*n.a.*	*n.a.*	*249*	*90*	*90*	*18*	*34*	—
Other	*n.a.*	*n.a.*	*881*	*804*	*444*	*69*	*68*	*26*
Pregnancy-induced hypertension	6,434	n.a.	2,744	440	1,461	287	337	88
Gestational diabetes	7,292	n.a.	4,218	2,351	1,468	283	374	409
Fetal distress	n.a.	n.a.	11,233	3,392	2,417	504	1,036	519
Cord prolapse	n.a.	n.a.	98	50	35	9	10	2
Post-partum haemorrhage	1,384	10,472	3,637	6,439	2,457	182	764	1,057
Retained placenta	n.a.	n.a.	683	341	282	84	227	46
				Rate per 1,000 women who gave birth				
Pre-existing hypertension	7.9	n.a.	6.3	10.7	11.2	12.5	10.9	7.5
Pre-existing diabetes mellitus	6.7	n.a.	6.2	7.8	6.9	6.7	9.3	16.6
Epilepsy	n.a.	n.a.	3.9	4.7	4.8	15.0	3.9	5.0
Antepartum haemorrhage	n.a.	n.a.	24.1	34.0	31.4	18.9	30.8	13.6
Placenta praevia	*n.a.*	*n.a.*	*6.1*	*7.3*	*5.1*	*4.1*	*13.6*	*7.0*
Abruptio placenta	*n.a.*	*n.a.*	*4.0*	*2.7*	*4.4*	*3.1*	*5.7*	—
Other	*n.a.*	*n.a.*	*14.1*	*24.1*	*21.8*	*11.8*	*11.4*	*6.5*
Pregnancy-induced hypertension	65.6	n.a.	43.8	13.2	71.8	49.0	56.7	22.1
Gestational diabetes	74.3	n.a.	67.3	70.4	72.2	48.3	63.0	102.7
Fetal distress	n.a.	n.a.	179.3	101.6	118.8	86.0	174.4	130.3
Cord prolapse	n.a.	n.a.	1.6	1.5	1.7	1.5	1.7	0.5
Post-partum haemorrhage	14.1	135.7	58.1	192.8	120.8	31.0	128.6	265.4
Retained placenta	n.a.	n.a.	10.9	10.2	13.9	14.3	38.2	11.5

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

(b) Maternal medical conditions and obstetric complications data are available in Vic.

(c) Data provided by Vic are provisional.

(d) In Qld, 'Fetal distress' includes fetal distress and/or meconium liquor. In Qld, 'Post-partum haemorrhage' includes primary and secondary post-partum.

(e) In 2012, 14.2% 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.

Women who gave birth in hospitals

Hospitals and birth centres

The size of maternity units in hospitals and birth centres was categorised by the number of women who gave birth in them in 2012. The size of units varies, from 100 births or less to more than 2,000 births, and is 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 2012, 35.7% of the hospitals or birth centres had 100 or fewer women who gave birth, and 14.2% 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, 2012

Number of women who gave birth	NSW	Vic[(b)]	Qld	WA[(b)]	SA	Tas	ACT	NT	Australia
					Number				
1–100	32	25	46	16	18	3	—	1	123
101–500	32	18	23	9	12	1	1	2	86
501–1,000	16	10	9	4	6	3	—	2	44
1,001–2,000	13	11	10	4	2	2	2	1	43
2,001 and over	19	14	11	3	3	—	1	—	49
Total	**112**	**78**	**99**	**36**	**41**	**9**	**4**	**6**	**345**
					Per cent				
1–100	28.6	32.1	46.5	44.4	43.9	33.3	—	16.7	35.7
101–500	28.6	23.1	23.2	25.0	29.3	11.1	25.0	33.3	24.9
501–1,000	14.3	12.8	9.1	11.1	14.6	33.3	—	33.3	12.8
1,001–2,000	11.6	14.1	10.1	11.1	4.9	22.2	50.0	16.7	12.5
2,001 and over	17.0	17.9	11.1	8.3	7.3	—	25.0	—	14.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) In WA, private hospitals are not individually coded. In total, more than 2000 births in WA are in private hospitals.

Note: In some jurisdictions, a birth centre and co-located hospital labour ward would be considered as 1 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 2012, the proportion in private hospitals was 29.0%, ranging from 17.7% in the Northern Territory to 41.7% in Western Australia (Table 3.42).

Table 3.42: Women who gave birth in hospital, by hospital sector and state and territory, 2012

Hospital sector	NSW	Vic[(a)]	Qld	WA[(b)]	SA	Tas	ACT	NT	Australia
					Number				
Public	70,131	54,627	43,164	19,164	13,511	3,798	4,081	3,087	211,563
Private	24,457	20,984	17,925	13,694	5,256	2,001	1,441	666	86,424
Total	**94,588**	**75,611**	**61,089**	**32,858**	**18,767**	**5,799**	**5,522**	**3,753**	**297,987**
					Per cent				
Public	74.1	72.2	70.7	58.3	72.0	65.5	73.9	82.3	71.0
Private	25.9	27.8	29.3	41.7	28.0	34.5	26.1	17.7	29.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

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

Admitted patient election status

'Admitted patient election status' is the accommodation chargeable status elected by a patient on admission to hospital. The proportion of women who gave birth in hospitals in 2012 who elected private status (that is, who elected to be treated as a private patient) was 31.4%, ranging from 20.3% in the Northern Territory to 37.8% in Western Australia (Table 3.43).

Table 3.43: Women who gave birth in hospital, by admitted patient election status and state and territory, 2012

Admitted patient elected accommodation status	NSW	Vic[(a)]	Qld	WA[(b)]	SA	Tas	ACT	NT	Australia
					Number				
Public	60,850	52,853	41,361	20,369	13,115	4,217	4,080	2,991	199,836
Private	29,103	22,747	19,728	12,434	5,652	1,582	1,442	762	93,450
Not stated	4,635	11	—	55	—	—	—	—	4,701
Total	**94,588**	**75,611**	**61,089**	**32,858**	**18,767**	**5,799**	**5,522**	**3,753**	**297,987**
					Per cent				
Public	64.3	69.9	67.7	62.0	69.9	72.7	73.9	79.7	67.1
Private	30.8	30.1	32.3	37.8	30.1	27.3	26.1	20.3	31.4
Not stated	4.9	0.0	—	0.2	—	—	—	—	1.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) For WA, some private hospitals admit public women; hence, the number of women who elected private status might be lower than the number of women admitted to private hospitals. Care must be taken when interpreting these numbers. 'Not stated' for WA are cases that were not able to be linked to admission records, most predominantly those giving birth before admission.

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 (59.1% compared with 41.0%). Private hospital patients had higher proportions of vaginal births requiring forceps (4.5% compared with 4.4%) or vacuum extraction than public hospital patients (10.9% compared with 7.2%) (Table 3.44).

Of women who gave birth in public hospitals, the highest rate of forceps deliveries was in South Australia (6.5%), and, of those in private hospitals, the highest rate of forceps deliveries was in the Australian Capital Territory (9.4%). Vacuum extraction was most common for both public and private hospitals in Western Australia.

Of women who gave birth in hospitals in Australia in 2012, 33.4% had a caesarean section delivery. The caesarean section rate of 43.6% for women in private hospitals was higher than the rate in public hospitals (29.2%). The highest rate of caesarean section deliveries in private hospitals was in Queensland (47.9%), followed by the Australian Capital Territory (45.6%) and New South Wales (43.5%) (Table 3.44). The age-standardised caesarean section rate of women who gave birth in public hospitals was 30.2% compared with 40.5% among women who gave birth in private hospitals.

Table 3.44: Women who gave birth in hospital, by method of birth, hospital sector and state and territory, 2012

Hospital sector/ method of birth	NSW[a]	Vic[b]	Qld	WA[a]	SA	Tas	ACT[c]	NT	Australia
Public					**Number**				
Non-instrumental vaginal	42,530	31,167	26,962	10,929	7,150	2,291	2,189	1,910	125,128
Forceps	3,214	3,367	846	592	879	164	240	77	9,379
Vacuum extraction	4,471	4,048	3,161	1,968	747	272	401	179	15,247
Caesarean section	19,911	16,045	12,195	5,675	4,735	1,071	1,251	921	61,804
Not stated	5	—	—	—	—	—	—	—	5
Total	**70,131**	**54,627**	**43,164**	**19,164**	**13,511**	**3,798**	**4,081**	**3,087**	**211,563**
					Per cent				
Non-instrumental vaginal	60.6	57.1	62.5	57.0	52.9	60.3	53.6	61.9	59.1
Forceps	4.6	6.2	2.0	3.1	6.5	4.3	5.9	2.5	4.4
Vacuum extraction	6.4	7.4	7.3	10.3	5.5	7.2	9.8	5.8	7.2
Caesarean section	28.4	29.4	28.3	29.6	35.0	28.2	30.7	29.8	29.2
Not stated	0.0	—	—	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Private					**Number**				
Non-instrumental vaginal	10,422	8,272	7,074	5,350	2,430	1,063	543	297	35,451
Forceps	941	1,563	528	365	245	66	135	37	3,880
Vacuum extraction	2,440	2,385	1,736	2,113	441	149	106	44	9,414
Caesarean section	10,645	8,761	8,587	5,866	2,140	723	657	288	37,667
Not stated	9	3	—	—	—	—	—	—	12
Total	**24,457**	**20,984**	**17,925**	**13,694**	**5,256**	**2,001**	**1,441**	**666**	**86,424**
					Per cent				
Non-instrumental vaginal	42.6	39.4	39.5	39.1	46.2	53.1	37.7	44.6	41.0
Forceps	3.8	7.4	2.9	2.7	4.7	3.3	9.4	5.6	4.5
Vacuum extraction	10.0	11.4	9.7	15.4	8.4	7.4	7.4	6.6	10.9
Caesarean section	43.5	41.8	47.9	42.8	40.7	36.1	45.6	43.2	43.6
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**

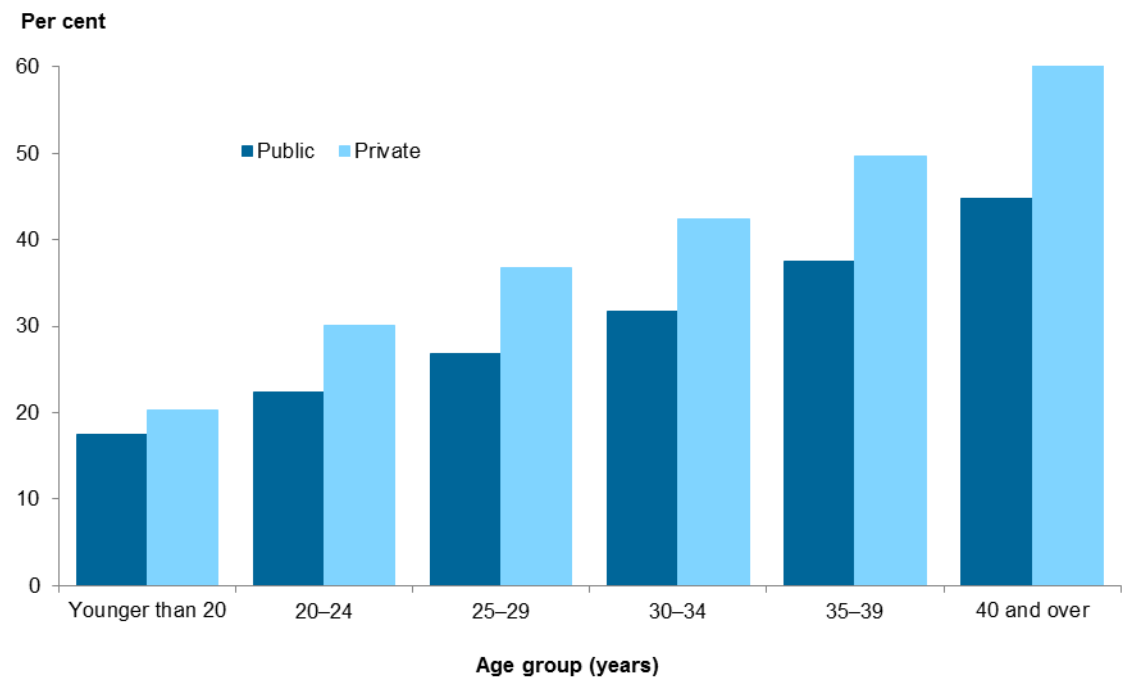
(a) For NSW and WA, 'Non-instrumental vaginal' includes all women who had a vaginal breech birth, whether or not instruments were used. For the remaining jurisdictions, vaginal breech births are included only where instruments were not used.

(b) Data provided by Vic are provisional.

(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore, care must be taken when comparing percentages between jurisdictions.

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 49.6% compared with 37.4% for those in public hospitals. Of mothers aged 40 or more, 60.2% in private hospitals had a caesarean section compared with 44.8% of similarly aged mothers in public hospitals.



Note: Data for this figure are in Table E6.

Figure 3.4: Caesarean sections, by maternal age and hospital sector, 2012

Length of stay in hospital

Antenatal length of stay

Two-thirds of women (66.7%) gave birth within 1 day of admission to hospital. The proportion of women who gave birth within 2 days of admission was 93.6%. Just 0.9% 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, 2012

Length of stay (days)	NSW	Vic[(a)]	Qld	WA	SA	Tas[(b)]	ACT	NT	Australia
					Number				
Less than 1	61,380	52,712	42,082	21,965	11,533	3,132	3,464	2,344	198,612
1	25,961	19,411	15,846	9,105	5,870	1,492	1,512	1,100	80,297
2–6	5,003	2,695	2,854	1,478	1,143	303	419	264	14,159
7–13	500	281	187	157	117	21	80	26	1,369
14 or more	331	444	120	97	104	7	47	18	1,168
Not stated	1,413	68	—	56[(c)]	—	844	—	1	2,382
Total	**94,588**	**75,611**	**61,089**	**32,858**	**18,767**	**5,799**	**5,522**	**3,753**	**297,987**
					Per cent				
Less than 1	64.9	69.7	68.9	66.8	61.5	54.0	62.7	62.5	66.7
1	27.4	25.7	25.9	27.7	31.3	25.7	27.4	29.3	26.9
2–6	5.3	3.6	4.7	4.5	6.1	5.2	7.6	7.0	4.8
7–13	0.5	0.4	0.3	0.5	0.6	0.4	1.4	0.7	0.5
14 or more	0.3	0.6	0.2	0.3	0.6	0.1	0.9	0.5	0.4
Not stated	1.5	0.1	—	0.2[(c)]	—	14.6	—	0.0	0.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) 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.

(c) 'Not stated' for WA are cases that were not able to be linked to admission records, most predominantly those giving birth before admission.

Postnatal length of stay

In 2012, 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 2012, 18.0% of mothers were discharged less than 2 days after giving birth, and 64.9% were discharged between 2 and 4 days after giving birth (Table 3.46). This compares with 10.8% and 60.2%, respectively, in 2003. Relatively more mothers in Queensland (88.0%) and Victoria (85.2%) had stays of less than 5 days in 2012. Longer lengths of stay (of 5 or more days) were relatively more common in the Northern Territory.

Table 3.46: Women who gave birth in hospital[a], by length of postnatal stay and state and territory, 2012

Length of stay (days)	NSW	Vic[b]	Qld	WA	SA	Tas	ACT	NT	Australia
Median	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
					Number				
Less than 1	3,144	1,851	2,856	950	550	238	364	148	10,101
1	14,088	7,885	11,900	4,727	1,923	825	911	421	42,680
2	20,455	21,249	14,470	6,046	3,578	1,144	911	689	68,542
3	18,684	15,011	13,267	7,169	4,211	1,257	1,058	749	61,406
4	18,506	17,644	10,795	6,053	4,263	1,088	1,116	651	60,116
5	12,269	8,478	5,469	4,328	2,659	648	648	453	34,952
6	3,445	1,441	1,129	1,742	760	258	176	147	9,098
7–13	2,194	879	651	1,004	431	132	162	179	5,632
14 or more	193	98	30	32	13	14	10	17	407
Not stated	14	158	—	—	—	—	—	—	172
Total	**92,992**	**74,694**	**60,567**	**32,051**	**18,388**	**5,604**	**5,356**	**3,454**	**293,106**
					Per cent				
Less than 1	3.4	2.5	4.7	3.0	3.0	4.2	6.8	4.3	3.4
1	15.1	10.6	19.6	14.7	10.5	14.7	17.0	12.2	14.6
2	22.0	28.4	23.9	18.9	19.5	20.4	17.0	19.9	23.4
3	20.1	20.1	21.9	22.4	22.9	22.4	19.8	21.7	21.0
4	19.9	23.6	17.8	18.9	23.2	19.4	20.8	18.8	20.5
5	13.2	11.4	9.0	13.5	14.5	11.6	12.1	13.1	11.9
6	3.7	1.9	1.9	5.4	4.1	4.6	3.3	4.3	3.1
7–13	2.4	1.2	1.1	3.1	2.3	2.4	3.0	5.2	1.9
14 or more	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.5	0.1
Not stated	0.0	0.2	—	—	—	—	—	—	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Only includes mothers who were discharged home.

(b) Data provided by Vic are provisional.

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 2012, compared with 2.0 days for those in public hospitals. The proportion of women with a postnatal stay of less than 5 days was 62.3% for those in private hospitals compared with 91.4% 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, 3.9% had a postnatal length of stay of 7 days or longer (Table 3.47).

Table 3.47: Women who gave birth in hospital, by length of postnatal stay and method of birth, 2012

Length of stay (days)	Non-instrumental vaginal[(a)]	Forceps	Vacuum extraction	Caesarean section	Australia[(b)]
Median	2.0	3.0	3.0	4.0	4.0
Less than 1	9,645	101	284	71	10,101
1	38,265	1,018	2,596	799	42,680
2	49,180	3,633	6,244	9,484	68,542
3	27,136	2,840	5,127	26,299	61,406
4	25,489	3,610	6,911	24,101	60,116
5	5,300	1,171	2,063	26,417	34,952
6	1,589	390	671	6,447	9,098
7–13	1,397	262	407	3,566	5,632
14 or more	165	14	22	206	407
Not stated	98	8	15	49	172
Total	**158,264**	**13,047**	**24,340**	**97,439**	**293,106**
Less than 1	6.1	0.8	1.2	0.1	3.4
1	24.2	7.8	10.7	0.8	14.6
2	31.1	27.8	25.7	9.7	23.4
3	17.1	21.8	21.1	27.0	20.9
4	16.1	27.7	28.4	24.7	20.5
5	3.3	9.0	8.5	27.1	11.9
6	1.0	3.0	2.8	6.6	3.1
7–13	0.9	2.0	1.7	3.7	1.9
14 or more	0.1	0.1	0.1	0.2	0.1
Not stated	0.1	0.1	0.1	0.1	0.1
Total	**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.

(b) Includes 'Not stated' method of birth.

Notes

1. Table only includes mothers who gave birth in hospital and were discharged home.
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 (98.4%). Approximately 1.5% of mothers were transferred to another hospital (Table 3.48). This transfer usually occurs for continuing care in a hospital located nearer to the mother's place of residence or for further treatment of complications. More transfers to another hospital occurred in Tasmania (3.4%) than in the other jurisdictions (Table 3.48).

Table 3.48: Women who gave birth in hospital, by mode of separation and state and territory, 2012

Mode of separation	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Discharge home	92,992	74,694	60,567	32,051	18,388	5,604	5,356	3,454	293,106
Transfer to another hospital	1,572	906	520	572	377	195	157	60	4,359
Died	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	8
Other[(b)]	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	419
Not stated	24	7	—	55[(c)]	—	—	9	—	95
Total	**94,588**	**75,611**	**61,089**	**32,858**	**18,767**	**5,799**	**5,522**	**3,753**	**297,987**
					Per cent				
Discharge home	98.3	98.8	99.1	97.5	98.0	96.6	97.0	92.0	98.4
Transfer to another hospital	1.7	1.2	0.9	1.7	2.0	3.4	2.8	1.6	1.5
Died	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.0
Other[(b)]	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.1
Not stated	0.0	0.0	—	0.2[(c)]	—	—	0.2	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

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

(c) 'Not stated' for WA are cases that were not able to be linked to admission records, most probably those giving birth before admission.

Homebirths

In 2012, there were 1,177 women who gave birth at home, representing 0.4% of all women who gave birth. The highest proportion was in 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 31.7 and most women who gave birth at home were living in *Major cities* (74.7%) (Table 3.49). The proportion of mothers younger than 20 was 0.8%, and the proportion aged 35 and over was 30.9%. The proportion of mothers who gave birth at home who identified as being of Aboriginal and/or Torres Strait Islander origin was 1.2%.

Of mothers who gave birth at home, about 1 in 6 had their first baby (17.2%) and 62.2% were known to be multiparous. The predominant method of birth for women who gave birth at home was non-instrumental vaginal (>99.5%) with vertex presentation (98.0%).

Of babies born at home in 2012, 99.4% were liveborn. The mean birthweight of these liveborn babies was 3,586 grams (Table 3.49). The proportion of liveborn babies of low birthweight born at home was 1.6%, and the proportion of pre-term babies born at home was 1.3%.

Table 3.49: Selected characteristics of women who gave birth at home, 2012

Characteristic	Number	Per cent
Women who gave birth at home[(a)]	1,177	—
Mean maternal age (years)	31.7	—
Parity		
None	*203*	*17.2*
1	*365*	*31.0*
2	*203*	*17.2*
3	*90*	*7.6*
4 or more	*74*	*6.3*
Not stated	*242*	*20.6*
Remoteness area of mother's usual residence[(a)]		
Major cities	*879*	*74.7*
Inner regional	*199*	*16.9*
Outer regional	*75*	*6.4*
Remote/Very remote	*19*	*1.6*
Births	1,180	—
Birth status		
Live births	*1,173*	*99.4*
Fetal deaths	*6*	*0.5*
Sex		
Male	*592*	*50.2*
Female	*585*	*49.7*
Mean birthweight of live births (grams)	3,586	—

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

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 2012). The scope of the NPDC restricts the inclusion of live births to those that are at least 400 grams birthweight.

There were 309,861 live births and 2,255 fetal deaths in Australia in 2012, with a total of 312,153 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 2012, the highest monthly percentage of births occurred in October (8.7%), March and May (both 8.6%). October births ranged from 8.1% in the Northern Territory to 9.1% in Australian Capital Territory. Despite these minor variations, births were fairly evenly distributed across months (Table 4.1).

Table 4.1: Births, by month of birth, 2012

Month	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
January	8,371	6,453	5,347	2,773	1,729	531	515	329	26,048
February	7,838	6,303	5,157	2,701	1,622	519	482	340	24,962
March	8,514	6,663	5,619	2,971	1,708	459	517	368	26,819
April	8,169	6,399	5,176	2,713	1,666	469	439	333	25,364
May	8,674	6,443	5,515	2,941	1,770	512	469	386	26,710
June	8,178	6,313	5,322	2,806	1,656	464	496	347	25,582
July	8,433	6,564	5,396	2,785	1,742	501	543	347	26,311
August	8,491	6,718	5,413	2,850	1,825	506	526	339	26,668
September	8,283	6,468	5,229	2,752	1,707	487	524	308	25,758
October	8,575	7,019	5,399	2,967	1,790	516	553	326	27,145
November	8,129	6,566	5,092	2,819	1,775	476	482	303	25,642
December	7,852	6,484	5,044	2,784	1,676	500	500	304	25,144
Total	**99,507**	**78,393**	**63,709**	**33,862**	**20,666**	**5,940**	**6,046**	**4,030**	**312,153**
					Per cent				
January	8.4	8.2	8.4	8.2	8.4	8.9	8.5	8.2	8.3
February	7.9	8.0	8.1	8.0	7.8	8.7	8.0	8.4	8.0
March	8.6	8.5	8.8	8.8	8.3	7.7	8.6	9.1	8.6
April	8.2	8.2	8.1	8.0	8.1	7.9	7.3	8.3	8.1
May	8.7	8.2	8.7	8.7	8.6	8.6	7.8	9.6	8.6
June	8.2	8.1	8.4	8.3	8.0	7.8	8.2	8.6	8.2
July	8.5	8.4	8.5	8.2	8.4	8.4	9.0	8.6	8.4
August	8.5	8.6	8.5	8.4	8.8	8.5	8.7	8.4	8.5
September	8.3	8.3	8.2	8.1	8.3	8.2	8.7	7.6	8.3
October	8.6	9.0	8.5	8.8	8.7	8.7	9.1	8.1	8.7
November	8.2	8.4	8.0	8.3	8.6	8.0	8.0	7.5	8.2
December	7.9	8.3	7.9	8.2	8.1	8.4	8.3	7.5	8.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

Sex

Male births exceeded female births in all states and territories, and accounted for 51.5% of all live births nationally in 2012. This proportion was similar across the states and territories. In 2012, the sex ratio for Australia, defined as the number of male liveborn babies per 100 female liveborn babies, was 106.4 (Table 4.2).

Table 4.2: Live births, by sex and state and territory, 2012

Sex	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Australia
Sex ratio (M:F)	107.4	105.7	106.7	105.6	106.2	103.7	104.8	101.8	106.4
					Number				
Males	51,185	39,914	32,654	17,273	10,571	3,001	3,065	2,019	159,682
Females	47,669	37,761	30,595	16,350	9,957	2,894	2,926	1,984	150,136
Indeterminate/ not stated	18	19	1	2	—	—	3	—	43
Total	**98,872**	**77,694**	**63,250**	**33,625**	**20,528**	**5,895**	**5,994**	**4,003**	**309,861**
					Per cent				
Males	51.8	51.4	51.6	51.4	51.5	50.9	51.1	50.4	51.5
Females	48.2	48.6	48.4	48.6	48.5	49.1	48.8	49.6	48.5
Indeterminate/ not stated	0.0	0.0	0.0	0.0	—	—	0.1	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

For singleton live births, the sex ratio was 106.4 male births per 100 female births. The sex ratio for twins was 105.9 male births per 100 female births, and for higher order multiples was 120.3 male births per 100 female births. The sex ratio for all live births was highest in New South Wales, at 107.4 male births per 100 female births, and lowest in the Northern Territory, at 101.8 male births per 100 female births.

Aboriginal and Torres Strait Islander babies

The 12,284 mothers reported to the NPDC for 2012 who identified as being Aboriginal and Torres Strait Islander (Table 3.2) gave birth to 12,314 liveborn and 134 stillborn babies (fetal deaths). There were 294,525 non-Indigenous mothers (Table 3.2) who gave birth to 296,875 liveborn and 2,117 stillborn babies (Table 4.3).

Table 4.3: Births, by maternal Indigenous status and state and territory, 2012

Indigenous status[(a)]	NSW	Vic	Qld	WA	SA	Tas	ACT[(c)]	NT	Australia
Aboriginal and Torres Strait Islander									
Fetal deaths	28	21	32	28	5	<5	<5	13	134
Live births	3,367	951	3,858	1,629	663	n.p.	n.p.	1,424	12,314
All births[(d)]	**3,399**	**972**	**3,890**	**1,657**	**668**	**n.p.**	**n.p.**	**1,437**	**12,452**
Non-Indigenous									
Fetal deaths	571	674	427	209	133	n.p.	n.p.	13	2,117
Live births	95,451	76,241	59,386	31,996	19,865	n.p.	n.p.	2,577	296,875
All births[(d)]	**96,053**	**76,917**	**59,813**	**32,205**	**19,998**	**n.p.**	**n.p.**	**2,590**	**299,025**

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

(b) Data provided by Vic are provisional.

(c) In 2012, 24.6% 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, 95 of the 126 babies were born in the ACT to ACT resident Aboriginal and Torres Strait Islander women in 2012.

(d) Includes birth status 'Not stated'.

There were 15,601 Indigenous babies born in 2012 representing 5.0% of all births (Table 4.4). About one-quarter (24.5%) of Indigenous babies were born to mothers who identified as non-Indigenous. The proportion of Indigenous babies with a non-Indigenous mother ranged from 40.3% in Victoria to 6.7% in Northern Territory.

Indigenous status of the baby is a new data item reported for the first time for babies born in 2012. This item, when used in conjunction with the mother's Indigenous status, is a better baseline measure of health for all Indigenous children. However, the outcomes of babies of Indigenous mothers remain a key data resource for assessing antenatal care in pregnancy and other interventions before or during pregnancy aimed at improving the health of mothers and babies.

Table 4.4: Indigenous status of the mother and the baby by state and territory, 2012

Indigenous status	NSW	Vic[a]	Qld	WA	SA	Tas	ACT	NT	Australia
Indigenous status of baby:					**Number**				
Indigenous[b]	5,105	1,094	4,360	2,143	906	302	167	1,524	15,601
With Indigenous mother	*3,316*	*651*	*3,681*	*1,651*	*668*	*256*	*123*	*1,422*	*11,768*
With non-Indigenous mother	*1,788*	*441*	*678*	*492*	*238*	*45*	*44*	*102*	*3,828*
Non-Indigenous[b]	94,302	76,596	59,315	31,718	19,616	4,269	5,875	2,477	294,168
With Indigenous mother	*72*	*305*	*208*	*6*	*—*	*28*	*<5*	*n.p.*	*633*
With non-Indigenous mother	*94,203*	*75,866*	*59,104*	*31,712*	*19,616*	*4,208*	*n.p.*	*2,463*	*293,046*
Not stated[b]	100	703	34	1	144	1,369	4	29	2,384
With Indigenous mother	*11*	*16*	*1*	*—*	*—*	*21*	*—*	*2*	*51*
With non-Indigenous mother	*62*	*610*	*31*	*1*	*144*	*1,275*	*3*	*25*	*2,151*
Total births	**99,507**	**78,393**	**63,709**	**33,862**	**20,666**	**5,940**	**6,046**	**4,030**	**312,153**
Indigenous status of the baby:					**Per cent**				
Indigenous[b]	5.1	1.4	6.8	6.3	4.4	5.1	2.8	37.8	5.0
Non-Indigenous[b]	94.8	97.7	93.1	93.7	94.9	71.9	97.2	61.5	94.2
Not stated	0.1	0.9	0.1	0.0	0.7	23.0	0.1	0.7	0.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Indigenous baby					**Per cent [b]**				
With Indigenous mother	*65.0*	*59.5*	*84.4*	*77.0*	*73.7*	*84.8*	*73.7*	*93.3*	*75.4*
With non-Indigenous mother	*35.0*	*40.3*	*15.6*	*23.0*	*26.0*	*14.9*	*26.0*	*6.7*	*24.5*
All Indigenous babies	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

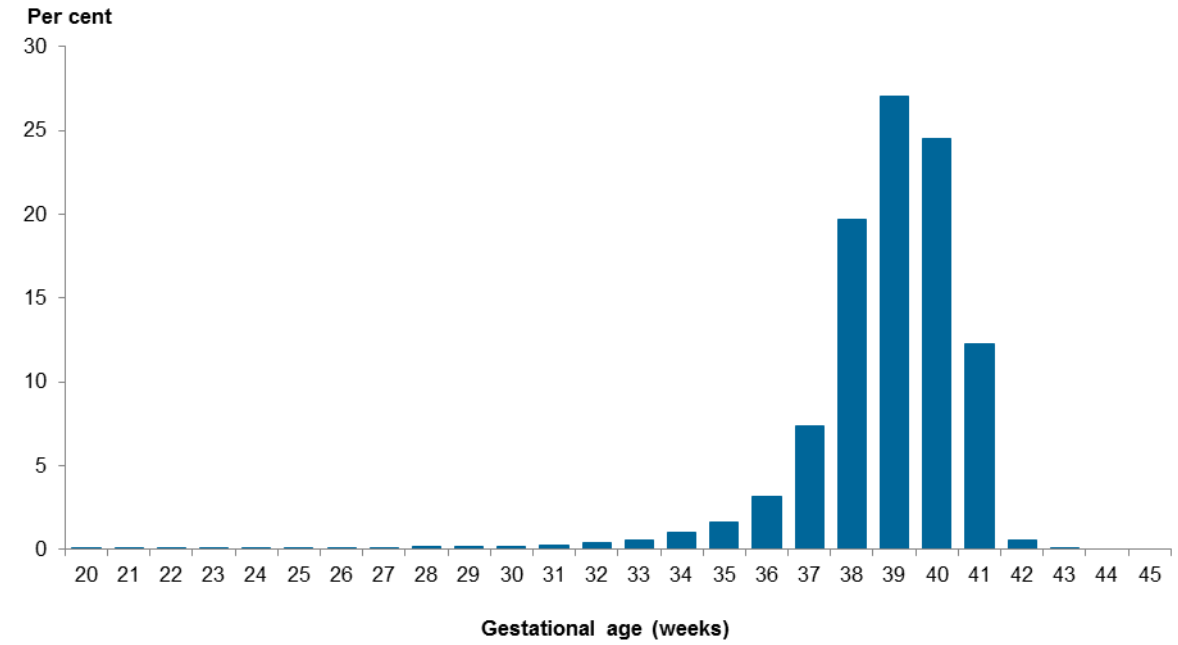
(b) Includes babies whose mother's Indigenous status is not stated.

Outcomes

Gestational age

In 2012, the mean gestational age for all babies was 38.8 weeks. The proportion of babies born at term (37–41 weeks gestation) was 90.9% (Table 4.5).

Pre-term birth (before 37 completed weeks of gestation) is associated with a higher risk of adverse neonatal outcomes. Pre-term births were classified according to the criteria of the WHO into groups of 20–27, 28–31 and 32–36 completed weeks. In 2012, 8.5% of babies were born pre-term, most at gestational ages of 32–36 completed weeks (Figure 4.1; Table 4.5).



Notes

1. The 3 babies born at less than 20 weeks gestation were included with those born at 20 weeks gestation.
2. Data for this figure are in Table 4.5.

Figure 4.1: Distribution of gestational age, 2012

Most stillbirths were pre-term (82.3%) compared with 8.0% of liveborn babies (Table 4.5).

Table 4.5: Births, by gestational age and birth status, 2012

	Live births		Fetal deaths		Total[a]	
Gestational age (weeks)	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
20[b]	66	0.0	314	13.9	380	0.1
21	100	0.0	296	13.1	396	0.1
22	104	0.0	211	9.4	315	0.1
23	118	0.0	178	7.9	296	0.1
24	148	0.0	123	5.5	271	0.1
25	207	0.1	86	3.8	293	0.1
26	256	0.1	71	3.1	331	0.1
27	268	0.1	65	2.9	333	0.1
28	398	0.1	60	2.7	458	0.1
29	481	0.2	50	2.2	531	0.2
30	586	0.2	44	2.0	630	0.2
31	766	0.2	52	2.3	818	0.3
32	1,269	0.4	56	2.5	1,325	0.4
33	1,789	0.6	55	2.4	1,844	0.6
34	3,130	1.0	51	2.3	3,183	1.0
35	5,089	1.6	65	2.9	5,155	1.7
36	9,896	3.2	79	3.5	9,976	3.2
37	23,045	7.4	84	3.7	23,129	7.4
38	61,243	19.8	104	4.6	61,354	19.7
39	84,329	27.2	91	4.0	84,427	27.0
40	76,407	24.7	64	2.8	76,478	24.5
41	38,223	12.3	42	1.9	38,270	12.3
42	1,791	0.6	5	0.2	1,797	0.6
43	84	0.0	0	0.0	84	0.0
44[c]	11	0.0	0	0.0	11	0.0
Not stated	57	0.0	9	0.4	68	0.0
Total	**309,861**	**100.0**	**2,255**	**100.0**	**312,153**	**100.0**
20–36	*24,671*	*8.0*	*1,856*	*82.3*	*26,535*	*8.5*
37–41	*283,247*	*91.4*	*385*	*17.1*	*283,658*	*90.9*
Mean (weeks)	38.8		27.4		38.7	

(a) Includes 37 'Not stated' birth status.

(b) Includes 3 babies of less than 20 weeks gestation.

(c) Includes 3 babies of more than 44 weeks gestation.

The mean gestational age for all pre-term births in 2012 was 33.3 weeks. Nationally, 0.8% of births were at 20–27 weeks gestation, 0.8% were at 28–31 weeks and 6.9% were at 32–36 weeks. Tasmania had the highest proportion of pre-term births, at 10.4% of all births, and New South Wales had the lowest, at 7.6% (Table 4.6).

Table 4.6: Pre-term births, by gestational age and state and territory, 2012

Gestational age (weeks)	NSW	Vic[(a)(b)]	Qld	WA[(c)]	SA	Tas	ACT[(d)]	NT	Australia
Mean	33.5	33.1	33.4	33.5	33.2	33.4	33.1	33.4	33.3
					Number				
20–27[(e)]	682	782	537	273	196	56	57	32	2,615
28–31	678	584	561	268	184	54	65	43	2,437
32–36	6,175	5,177	4,808	2,486	1,570	507	442	318	21,483
Total	**7,535**	**6,543**	**5,906**	**3,027**	**1,950**	**617**	**564**	**393**	**26,535**
					Per cent of total births				
20–27[(e)]	0.7	1.0	0.8	0.8	0.9	0.9	0.9	0.8	0.8
28–31	0.7	0.7	0.9	0.8	0.9	0.9	1.1	1.1	0.8
32–36	6.2	6.6	7.5	7.3	7.6	8.5	7.3	7.9	6.9
Total	**7.6**	**8.3**	**9.3**	**8.9**	**9.4**	**10.4**	**9.3**	**9.8**	**8.5**

(a) Pre-term birth rates are higher in Vic as the majority of late terminations for psychosocial indications performed in Australia are undertaken in Vic, and many women travel from interstate (and overseas) to Vic to have the termination undertaken.

(b) Data provided by Vic are provisional.

(c) For WA, births include late termination of pregnancy.

(d) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportion of pre-term births among babies of ACT residents who gave birth in the ACT was 7.7% compared with 18.5% of non-ACT residents who gave birth in the ACT.

(e) Includes 3 babies of less than 20 weeks gestation.

In 2012, 14.3% of babies of Aboriginal and Torres Strait Islander mothers were born pre-term, compared with 8.3% of babies of non-Indigenous mothers.

For singletons, the mean gestational age was 38.8 weeks compared with 35.0 weeks for twins and 31.0 weeks for higher order multiple births. Pre-term birth occurred in 60.8% of twins and in 94.8% of higher order multiple births compared with 6.9% of singleton births (Table 4.7). 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 2012, birth before 32 weeks gestation occurred for 10.5% of twin births and 41.3% of higher order multiple births, but in just 1.3% of singleton births (Table 4.7).

In contrast, just 0.6% of babies were born post-term (at 42 weeks or more gestation) (Table 4.7). Data on the duration of pregnancy by state and territory is at Table 3.20.

Table 4.7: Births, by gestational age and plurality, 2012

Gestational age (weeks)	Singletons		Twins		Other multiple births		Total[(a)]	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
20–27[(b)]	2,219	0.7	370	4.1	26	13.6	2,615	0.8
28–31	1,802	0.6	582	6.4	53	27.7	2,437	0.8
32–36	16,804	5.5	4,577	50.3	102	53.4	21,483	6.9
37–41	280,106	92.5	3,543	38.9	8	4.2	283,658	90.9
42 and over	1,890	0.6	2	0.0	—	—	1,892	0.6
Not stated	40	0.0	26	0.3	2	1.0	68	0.0
Total	**302,861**	**100.0**	**9,100**	**100.0**	**191**	**100.0**	**312,153**	**100.0**
20–36[(b)]	*20,825*	*6.9*	*5,529*	*60.8*	*181*	*94.8*	*26,535*	*8.5*
Mean (weeks)	38.8		35.0		31.0		38.7	

(a) Includes plurality 'Not stated'.

(b) Includes 3 babies of less than 20 weeks gestation.

Birthweight

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

In 2012, 92.1% of liveborn babies had a birthweight in the range 2,500–4,499 grams. The average birthweight of liveborn babies was 3,367 grams, ranging from 3,303 grams in the Northern Territory to 3,382 grams in Tasmania (Table 4.7).

In Australia in 2012, there were 19,243 (6.2%) liveborn babies of low birthweight. From 2003 to 2012, the proportion of low birthweight liveborn babies ranged from 6.1% to 6.4%. The 3,071 very low birthweight babies made up 1.0% of all live births in 2012, and the 1,299 extremely low birthweight babies made up 0.4% (Table 4.8).

Table 4.8: Live births, by birthweight and state and territory, 2012

Birthweight (grams)	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
Mean	3,369	3,369	3,380	3,352	3,338	3,382	3,352	3,303	3,367
					Number				
Less than 1,000	370	336	290	122	95	29	34	23	1,299
1,000–1,499	486	437	396	185	141	47	51	29	1,772
1,500–1,999	1,120	967	855	390	317	69	92	64	3,874
2,000–2,499	3,668	2,993	2,610	1,344	927	276	266	214	12,298
2,500–2,999	15,309	11,971	9,168	5,324	3,176	827	860	710	47,345
3,000–3,499	36,580	28,032	22,172	12,597	7,499	1,995	2,211	1,442	112,528
3,500–3,999	30,139	23,726	19,926	10,241	6,151	1,891	1,766	1,095	94,935
4,000–4,499	9,565	7,851	6,561	2,957	1,908	630	604	357	30,433
4,500 and over	1,615	1,287	1,266	465	314	131	110	69	5,257
Not stated	20	94	6	—	—	—	—	—	120
Total	**98,872**	**77,694**	**63,250**	**33,625**	**20,528**	**5,895**	**5,994**	**4,003**	**309,861**
Less than 1,500	*856*	*773*	*686*	*307*	*236*	*76*	*85*	*52*	*3,071*
Less than 2,500	*5,644*	*4,733*	*4,151*	*2,041*	*1,480*	*421*	*443*	*330*	*19,243*
					Per cent				
Less than 1,000	0.4	0.4	0.5	0.4	0.5	0.5	0.6	0.6	0.4
1,000–1,499	0.5	0.6	0.6	0.6	0.7	0.8	0.9	0.7	0.6
1,500–1,999	1.1	1.2	1.4	1.2	1.5	1.2	1.5	1.6	1.3
2,000–2,499	3.7	3.9	4.1	4.0	4.5	4.7	4.4	5.3	4.0
2,500–2,999	15.5	15.4	14.5	15.8	15.5	14.0	14.3	17.7	15.3
3,000–3,499	37.0	36.1	35.1	37.5	36.5	33.8	36.9	36.0	36.3
3,500–3,999	30.5	30.5	31.5	30.5	30.0	32.1	29.5	27.4	30.6
4,000–4,499	9.7	10.1	10.4	8.8	9.3	10.7	10.1	8.9	9.8
4,500 and over	1.6	1.7	2.0	1.4	1.5	2.2	1.8	1.7	1.7
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**
Less than 1,500	*0.9*	*1.0*	*1.1*	*0.9*	*1.1*	*1.3*	*1.4*	*1.3*	*1.0*
Less than 2,500	*5.7*	*6.1*	*6.6*	*6.1*	*7.2*	*7.1*	*7.4*	*8.2*	*6.2*

(a) Data provided by Vic are provisional.

(b) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. The proportion of live births of ACT residents who gave birth in the ACT where the birthweight was less than 1,500 grams was 1.1%, and where the birthweight was less than 2,500 grams was 5.9%.

The mean birthweight of stillborn babies was 1,204 grams in 2012 compared with 3,367 grams for liveborn babies. Low birthweight occurred in 79.0% of stillborn babies. Of stillborn babies, 60.6% had a birthweight of less than 1,000 grams (Table 4.9).

The proportion of male liveborn babies of low birthweight (5.7%) was lower than that for female babies (6.7%). The average birthweight of liveborn male babies was 3,422 grams, 115 grams higher than that of liveborn female babies (3,307 grams).

Table 4.9: Births, by birthweight and birth status, 2012

	Live births		Fetal deaths		Total[(a)]	
Birthweight (grams)	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Less than 1,000	1,299	0.4	1,366	60.6	2,668	0.9
1,000–1,499	1,772	0.6	143	6.3	1,916	0.6
1,500–1,999	3,874	1.3	135	6.0	4,009	1.3
2,000–2,499	12,298	4.0	137	6.1	12,436	4.0
2,500–2,999	47,345	15.3	142	6.3	47,490	15.2
3,000–3,499	112,528	36.3	152	6.7	112,694	36.1
3,500–3,999	94,935	30.6	78	3.5	95,022	30.4
4,000–4,499	30,433	9.8	23	1.0	30,457	9.8
4,500 and over	5,257	1.7	5	0.2	5,262	1.7
Not stated	120	0.0	74	3.3	199	0.1
Total	**309,861**	**100.0**	**2,255**	**100.0**	**312,153**	**100.0**
Less than 1,500	*3,071*	*1.0*	*1,509*	*66.9*	*4,584*	*1.5*
Less than 2,500	*19,243*	*6.2*	*1,781*	*79.0*	*21,029*	*6.7*
Mean (grams)	3,367		1,204		3,351	

(a) Total includes 37 births with 'Not stated' vital status at birth.

For liveborn singletons, the mean birthweight was 3,397 grams compared with 2,379 grams for twins and 1,633 grams for other multiple births. Low birthweight occurred in just over half of all liveborn twins (53.1%), in almost all higher order multiple births (96.0%) and in just 4.8% of singleton births (Table 4.10).

Mothers aged 30–34 had the lowest proportion of low birthweight liveborn babies (5.6%). The proportion was higher among babies of younger and older mothers (8.3% for mothers younger than 20, 8.1% for mothers aged 40–44 and 15.5% for mothers aged 45 and older).

The proportion of low birthweight liveborn babies was higher in babies of mothers who gave birth in public hospitals (7.1%) than in babies of mothers who gave birth in private hospitals (4.5%). Mothers who reported smoking during pregnancy had a higher proportion of low birthweight liveborn babies (11.5%) than mothers who did not smoke (5.4%).

Table 4.10: Live births, by birthweight and plurality, 2012

Birthweight (grams)	Singletons		Twins		Other multiple births		Total[(a)]	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Less than 1,000	1,016	0.3	264	3.0	19	10.9	1,299	0.4
1,000–1,499	1,220	0.4	500	5.6	52	29.9	1,772	0.6
1,500–1,999	2,620	0.9	1,193	13.4	61	35.1	3,874	1.3
2,000–2,499	9,495	3.2	2,768	31.1	35	20.1	12,298	4.0
2,500–2,999	44,277	14.7	3,062	34.4	6	3.4	47,345	15.3
3,000–3,499	111,526	37.1	1,001	11.2	<5	n.p.	112,528	36.3
3,500–3,999	94,834	31.5	100	1.1	—	—	94,935	30.6
4,000–4,499	30,429	10.1	<5	n .p.	—	—	30,433	9.8
4,500 and over	5,255	1.7	<5	n.p.	—	—	5,257	1.7
Not stated	116	0.0	4	0.0	—	—	120	0.0
Total	**300,788**	**100.0**	**8,898**	**100.0**	**174**	**100.0**	**309,861**	**100.0**
Less than 1,500	*2,236*	*0.7*	*764*	*8.6*	*71*	*40.8*	*3,071*	*1.0*
Less than 2,500	*14,351*	*4.8*	*4,725*	*53.1*	*167*	*96.0*	*19,243*	*6.2*
Mean (grams)	3,397		2,379		1,633		3,367	

(a) Includes 1 birth with plurality 'Not stated'.

In 2012, the average birthweight of liveborn babies of Aboriginal and Torres Strait Islander mothers was 3,211 grams. This was 162 grams lighter than the average birthweight of 3,373 grams for liveborn babies of non-Indigenous mothers. The proportion of low birthweight in liveborn babies of Aboriginal and Torres Strait Islander mothers was 11.8% (Table 4.11), twice that of babies of non-Indigenous mothers (6.0%). The mean birthweight of liveborn babies of Aboriginal and Torres Strait Islander mothers, and the proportion with low birthweight, varied markedly among the states and territories.

Table 4.11: Live births of Aboriginal and Torres Strait Islander mothers, by birthweight and state and territory, 2012

Birthweight (grams)	NSW	Vic[a]	Qld	WA	SA	Tas	ACT[b]	NT	Australia
Mean	3,245	3,298	3,233	3,128	3,131	3,313	3,133	3,128	3,211
					Number				
Less than 1,500	56	10	76	43	26	n.p.	<5	36	257
1,500–2,499	297	81	351	193	72	n.p.	n.p.	158	1,193
2,500–2,999	674	168	765	362	139	45	27	357	2,537
3,000–3,499	1,134	322	1,307	562	225	103	39	469	4,161
3,500–3,999	858	267	986	352	141	86	30	301	3,021
4,000–4,499	282	91	308	96	53	29	7	82	948
4,500 and over	66	12	65	21	7	5	—	21	197
Not stated	—	—	—	—	—	—	—	—	—
Total	**3,367**	**951**	**3,858**	**1,629**	**663**	**301**	**121**	**1,424**	**12,314**
Less than 2,500	*353*	*91*	*427*	*236*	*98*	*33*	*18*	*194*	*1,450*
					Per cent				
Less than 1,500	1.7	1.1	2.0	2.6	3.9	n.p.	n.p.	2.5	2.1
1,500–2,499	8.8	8.5	9.1	11.8	10.9	n.p.	n.p.	11.1	9.7
2,500–2,999	20.0	17.7	19.8	22.2	21.0	15.0	22.3	25.1	20.6
3,000–3,499	33.7	33.9	33.9	34.5	33.9	34.2	32.2	32.9	33.8
3,500–3,999	25.5	28.1	25.6	21.6	21.3	28.6	24.8	21.1	24.5
4,000–4,499	8.4	9.6	8.0	5.9	8.0	9.6	5.8	5.8	7.7
4,500 and over	2.0	1.3	1.7	1.3	1.1	1.7	—	1.5	1.6
Not stated	—	—	—	—	—	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 2,500	*10.5*	*9.6*	*11.1*	*14.5*	*14.8*	*11.0*	*14.9*	*13.6*	*11.8*

(a) Data provided by Vic are provisional.

(b) In 2012, 24.2% 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 in 2012 to Aboriginal and Torres Strait Islander women resident in the ACT where the birthweight was less than 2,500 grams was 6.5%.

Presentation at birth

In 2012, vertex presentations occurred for 94.3% of all babies. Breech presentation occurred for 4.3% of all babies and other presentations for 1.2%. Non-vertex presentations occurred for 30.8% of twins and 36.6% of higher order multiple births (Table 4.12).

Table 4.12: Births, by presentation at birth and plurality, 2012

	Singletons		Twins		Other multiple births[a]		Total[b]	
Presentation	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Vertex	288,091	95.1	6,301	69.2	121	63.4	294,514	94.3
Breech[a]	10,751	3.5	2,468	27.1	62	32.5	13,281	4.3
Other[c]	3,368	1.1	279	3.1	n.p.[a]	n.p.[a]	3,647	1.2
Not stated	651	0.2	52	0.6	8	4.2	711	0.2
Total	**302,861**	**100.0**	**9,100**	**100.0**	**191**	**100.0**	**312,153**	**100.0**

(a) Fewer than 5 'Other multiple births' with 'Other' presentations are included with 'Breech presentation' to maintain confidentiality.

(b) Total includes1 birth with plurality 'Not stated'.

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

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 2012, 32.9% of babies were delivered by caesarean section and 54.8% had a non-instrumental vaginal birth. About 1 in 9 babies was born by an instrumental vaginal delivery (12.3%). About two-thirds of all twins (68.5%) and the majority of higher order multiples were delivered by caesarean section (85.3%) (Table 4.13).

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

Table 4.13: Births, by method of birth and plurality, 2012

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]	168,777	55.7	2,189	24.1	26	13.6	170,993	54.8
Instrumental vaginal[c]	37,723	12.5	681	7.5	—	—	38,404	12.3
Caesarean section	96,340	31.8	6,230	68.5	163	85.3	102,733	32.9
Not stated	21	0.0	—	—	2	1.0	23	0.0
Total	**302,861**	**100.0**	**9,100**	**100.0**	**191**	**100.0**	**312,153**	**100.0**

(a) Total includes 1 birth with 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 included only where instruments were not used.

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

Method of birth for babies with breech presentations

Of babies with breech presentations at birth in 2012, 87.0% were born by caesarean section. This ranged from 77.1% in Tasmania to 88.6% in South Australia and the Australian Capital Territory (Table 4.14). The remaining babies were born vaginally.

Table 4.14: Babies with breech presentations, by method of birth and state and territory, 2012

Method of birth	NSW	Vic[(a)]	Qld	WA	SA	Tas[(b)]	ACT[(c)]	NT	Total
					Number				
Vaginal[(d)]	513	467	362	181	110	36	32	21	1,722
Caesarean section	3,166	3,076	2,604	1,354	854	121	248	132	11,555
Not stated	2	—	—	—	—	—	—	—	2
Total	**3,681**	**3,543**	**2,966**	**1,535**	**964**	**157**	**280**	**153**	**13,279**
					Per cent				
Vaginal[(d)]	13.9	13.2	12.2	11.8	11.4	22.9	11.4	13.7	13.0
Caesarean section	86.0	86.8	87.8	88.2	88.6	77.1	88.6	86.3	87.0
Not stated	0.1	—	—	—	—	—	—	—	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) For Tas, presentations via caesarean births were not reported by hospitals still using the paper-based form, so care must be taken when interpreting these data. Presentations via caesarean births will be included in the paper-based form from 1 January 2013.

(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore care must be taken when comparing percentages between jurisdictions.

(d) Includes instrumental vaginal births.

Of singleton babies born at term with breech presentations, 95.4% were born by caesarean section. Over three-quarters of all term singleton breech births were delivered by caesarean section without labour (77.9%) (Table 4.15).

Table 4.15: Singleton term babies with breech presentations, by method of birth and state and territory, 2012

Method of birth	NSW	Vic[(a)]	Qld	WA	SA	Tas[(b)]	ACT[(c)]	NT	Total
					Number				
Vaginal[(d)]	113	98	95	25	23	5	8	7	374
Caesarean section	2,361	2,001	1,662	903	571	85	158	83	7,824
Labour	*408*	*333*	*344*	*159*	*122*	*14*	*36*	*19*	*1,435*
No labour	*1,953*	*1,668*	*1,318*	*744*	*449*	*71*	*122*	*64*	*6,389*
Total	**2,474**	**2,099**	**1,757**	**928**	**594**	**90**	**166**	**90**	**8,198**
					Per cent				
Vaginal[(d)]	4.6	4.7	5.4	2.7	3.9	5.6	4.8	7.8	4.6
Caesarean section	95.4	95.3	94.6	97.3	96.1	94.4	95.2	92.2	95.4
Labour	*16.5*	*15.9*	*19.6*	*17.1*	*20.5*	*15.6*	*21.7*	*21.1*	*17.5*
No labour	*78.9*	*79.5*	*75.0*	*80.2*	*75.6*	*78.9*	*73.5*	*71.1*	*77.9*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) For Tas, presentations via caesarean births were not reported by hospitals still using the paper-based form, so care must be taken when interpreting these data. Presentations via caesarean births will be included in the paper-based form from 1 January 2013.

(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore care must be taken when comparing percentages between jurisdictions.

(d) Includes instrumental vaginal births.

Apgar scores

Apgar scores are clinical indicators of the baby's condition shortly after birth, based on assessment of the heart rate, breathing, colour, muscle tone and reflex irritability. Between 0 and 2 points are given for each of these 5 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 2012, 1.7% of liveborn babies had a low Apgar score (between 0 and 6) at 5 minutes. Scores of 0–3 were recorded at 5 minutes in 0.3% of all live births nationally, and scores of 4–6 were recorded in 1.4% of live births. Among the states and territories, the distribution of low Apgar scores at 5 minutes ranged from 1.5% of all live births in Western Australia to 2.6% in the Australian Capital Territory (Table 4.16).

Table 4.16: Live births, by Apgar score at 5 minutes and state and territory, 2012

Apgar score	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
					Number				
0–3	283	274	249	60	59	23	21	19	988
4–6	1,310	1,197	793	450	280	106	132	66	4,334
7–10	97,052	76,117	62,155	33,100	20,160	5,745	5,832	3,910	304,071
Not stated	227	106	53	15	29	21	9	8	468
Total	**98,872**	**77,694**	**63,250**	**33,625**	**20,528**	**5,895**	**5,994**	**4,003**	**309,861**
Less than 7	*1,593*	*1,471*	*1,042*	*510*	*339*	*129*	*153*	*85*	*5,322*
					Per cent				
0–3	0.3	0.4	0.4	0.2	0.3	0.4	0.4	0.5	0.3
4–6	1.3	1.5	1.3	1.3	1.4	1.8	2.2	1.6	1.4
7–10	98.2	98.0	98.3	98.4	98.2	97.5	97.3	97.7	98.1
Not stated	0.2	0.1	0.1	0.0	0.1	0.4	0.2	0.2	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 7	*1.6*	*1.9*	*1.6*	*1.5*	*1.7*	*2.2*	*2.6*	*2.1*	*1.7*

(a) Data provided by Vic are provisional.

(b) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore care must be taken when comparing percentages between jurisdictions.

Resuscitation at birth

The types of active resuscitation measures given to babies immediately after birth are in Table 4.17. 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 1 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. One-fifth (20.0%) of babies required some form of resuscitation at birth, although about one half of these babies (49.0%) required only suction or oxygen therapy. Ventilatory assistance by intermittent positive pressure ventilation (IPPV) through a bag and mask or after endotracheal intubation was performed for at least 6.4% of all live births in 2012. External cardiac massage and ventilation were provided for a minority of babies (0.3%) (Table 4.17).

Table 4.17: Live births, by active resuscitation measures at birth and state and territory, 2012

Resuscitation type[a]	NSW	Vic[b]	Qld[c]	WA[d]	SA	Tas	ACT[e]	NT[f]	Australia
					Number				
None	79,291	58,745	44,709	26,532	16,374	4,796	4,970	3,148	238,565
Suction	5,645	3,593	2,859	1,537	686	171	267	196	14,954
Oxygen therapy	5,889	2,152	3,379	1,829	1,571	338	163	243	15,564
IPPV through bag and mask	7,075	3,650	2,584	—	1,710	552	469	334	16,374
Endotracheal intubation and IPPV	563	488	350	1,854	125	21	101	37	3,539
External cardiac massage and ventilation	400	181	90	194	n.p.	n.p.	24	13	966
Other	—	8,867	359	1,613	<5	<5	—	23	10,869
Not stated	9	18	8,920	66	8	—	—	9	9,030
Total	**98,872**	**77,694**	**63,250**	**33,625**	**20,528**	**5,895**	**5,994**	**4,003**	**309,861**
					Per cent				
None	80.2	75.6	70.7	78.9	79.8	81.4	82.9	78.6	77.0
Suction	5.7	4.6	4.5	4.6	3.3	2.9	4.5	4.9	4.8
Oxygen therapy	6.0	2.8	5.3	5.4	7.7	5.7	2.7	6.1	5.0
IPPV through bag and mask	7.2	4.7	4.1	—	8.3	9.4	7.8	8.3	5.3
Endotracheal intubation and IPPV	0.6	0.6	0.6	5.5	0.6	0.4	1.7	0.9	1.1
External cardiac massage and ventilation	0.4	0.2	0.1	0.6	n.p.	n.p.	0.4	0.3	0.3
Other	—	11.4	0.6	4.8	n.p.	n.p.	—	0.6	3.5
Not stated	0.0	0.0	14.1	0.2	0.0	—	—	0.2	2.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) A hierarchical coding system is used for this item, starting with suction up to external cardiac massage and ventilation. If more than 1 type of resuscitation was used, the highest order type in the hierarchy is coded.

(b) Data provided by Vic are provisional.

(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) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore care must be taken when comparing percentages between jurisdictions.

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

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 2012, 15.4% were reported as admitted to an SCN or NICU. Babies transferred to an SCN or NICU at a hospital other than the birth hospital may not be included. This will disproportionately affect jurisdictions with higher numbers of births in non-tertiary centres. This proportion appears lower than expected in Western Australia because only babies who stayed in an SCN or NICU for 1 day or more and who were admitted to an SCN or NICU at the birth site 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 8.8% in the Northern Territory to 17.9% in Queensland (Table 4.18).

Table 4.18: Live births, by admission to an SCN or NICU and state and territory, 2012

Admission to an SCN or NICU	NSW	Vic[(a)]	Qld	WA[(b)]	SA	Tas	ACT[(c)]	NT	Australia
					Number				
Admitted	14,926	12,239	11,328	3,577	3,447	998	881	352	47,748
Not admitted	83,936	62,953	51,922	18,094	17,081	4,897	5,112	1,723	245,718
Not stated	10	2,502	—	11,954	—	—	1	1,928	16,395
Total	**98,872**	**77,694**	**63,250**	**33,625**	**20,528**	**5,895**	**5,994**	**4,003**	**309,861**
					Per cent				
Admitted	15.1	15.8	17.9	10.6	16.8	16.9	14.7	8.8	15.4
Not admitted	84.9	81.0	82.1	53.8	83.2	83.1	85.3	43.0	79.3
Not stated	0.0	3.2	—	35.6	—	—	0.0	48.2	5.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) 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 the infant was admitted to an SCN or NICU at the birth site.

(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Therefore care must be taken when comparing percentages between jurisdictions.

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 2 factors that influence the duration of hospitalisation. Twins and higher order multiple births usually have longer stays in hospital than singleton babies.

In 2012, 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 (90.9%), and more than half stayed for less than 4 days (59.3%). Relatively more babies born in Queensland had a length of stay of less than 4 days (66.5%). Nationally in 2012, babies hospitalised for 7 or more days accounted for 5.8% of babies born in hospital (Table 4.19).

Table 4.19: Babies born in hospital, by length of stay and state and territory, 2012

Length of stay (days)[a]	NSW	Vic[b]	Qld	WA	SA[c]	Tas	ACT[d]	NT	Australia
Median	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
					Number				
Less than 1	2,851	1,485	2,599	838	477	234	335	141	8,960
1	13,427	7,329	11,304	4,325	1,787	788	865	400	40,225
2	19,698	19,723	13,593	5,677	3,297	1,094	853	638	64,573
3	17,838	14,041	12,487	6,785	3,911	1,180	988	674	57,904
4	18,004	16,983	10,216	5,763	4,035	1,035	1,018	602	57,656
5	11,829	8,278	5,243	4,543	2,511	613	621	403	34,041
6	3,401	1,672	1,243	1,774	768	230	164	152	9,404
7–13	3,195	2,000	1,705	1,270	712	215	223	208	9,528
14–20	870	802	755	205	266	94	72	67	3,131
21–27	363	424	436	67	163	63	37	31	1,584
28 or more	581	598	553	221	329	73	48	51	2,454
Not stated	12	151	—	—	—	—	—	—	163
Total	**92,069**	**73,486**	**60,134**	**31,468**	**18,256**	**5,619**	**5,224**	**3,367**	**289,623**
					Per cent				
Less than 1	3.1	2.0	4.3	2.7	2.6	4.2	6.4	4.2	3.1
1	14.6	10.0	18.8	13.7	9.8	14.0	16.6	11.9	13.9
2	21.4	26.8	22.6	18.0	18.1	19.5	16.3	18.9	22.3
3	19.4	19.1	20.8	21.6	21.4	21.0	18.9	20.0	20.0
4	19.6	23.1	17.0	18.3	22.1	18.4	19.5	17.9	19.9
5	12.8	11.3	8.7	14.4	13.8	10.9	11.9	12.0	11.8
6	3.7	2.3	2.1	5.6	4.2	4.1	3.1	4.5	3.2
7–13	3.5	2.7	2.8	4.0	3.9	3.8	4.3	6.2	3.3
14–20	0.9	1.1	1.3	0.7	1.5	1.7	1.4	2.0	1.1
21–27	0.4	0.6	0.7	0.2	0.9	1.1	0.7	0.9	0.5
28 or more	0.6	0.8	0.9	0.7	1.8	1.3	0.9	1.5	0.8
Not stated	0.0	0.2	—	—	—	—	—	—	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

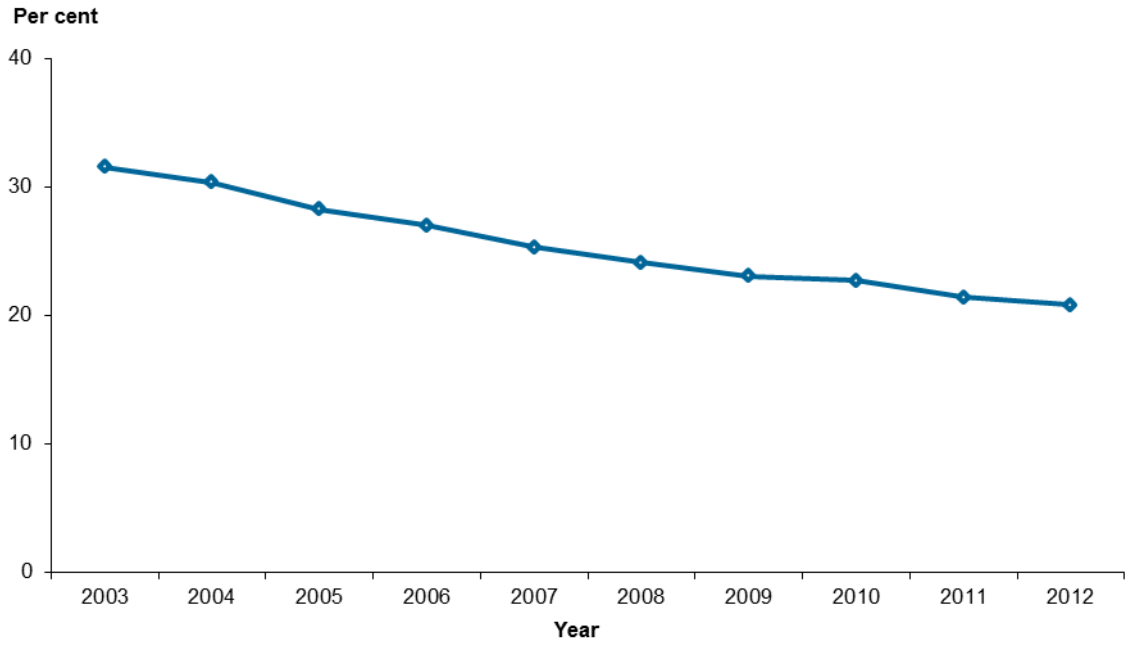
(a) Only babies who were discharged home are included. For multiple births, the place of birth of the first-born baby was used for all subsequent babies.

(b) Data provided by Vic are provisional.

(c) For SA, babies born in birthing units are not included.

(d) In 2012, 14.2% 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 (44.2% and 41.8%, respectively).

From 2003 to 2012, the proportion of hospital-born babies with a length of stay of less than 5 days increased from 68.5% to 79.2%, while the proportion of babies with a length of stay in hospital of 5 days or more decreased from 31.5% to 20.8% (Figure 4.2).



Notes

1. Excludes Vic for 2009, 2010 and 2012.
2. Only babies who were discharged home are included.
3. Data for this figure are in Table E7.

Figure 4.2: Length of stay of 5 days or more for babies born in hospital, 2003 to 2012

Mode of separation from hospital

In 2012, 95.7% of babies born in hospital were discharged home, varying from 88.6% in the Northern Territory to 96.8% in Queensland. A total of 3.2% of babies were transferred to another hospital from their hospital of birth (Table 4.20).

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 4.20: Babies born in hospital, by mode of separation and state and territory, 2012

Mode of separation	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(b)]	NT	Australia
					Number				
Discharge home	92,069	73,486	60,134	31,468	18,256	5,619	5,224	3,367	289,623
Transfer to another hospital[(c)]	3,065	2,478	1,405	1,536	660	192	315	97	9,748
Fetal or neonatal death	783	849	598	270	179	63	66	21	2,829
Other[(d)]	n.p.	n.p.	n.p.	n.p.	—	n.p.	n.p.	n.p.	307
Not stated	n.p.	n.p.	n.p.	n.p.	—	n.p.	n.p.	n.p.	146
Total	**95,949**	**76,830**	**62,147**	**33,327**	**19,095**	**5,876**	**5,629**	**3,800**	**302,653**
					Per cent				
Discharge home	96.0	95.6	96.8	94.4	95.6	95.6	92.8	88.6	95.7
Transfer to another hospital[(c)]	3.2	3.2	2.3	4.6	3.5	3.3	5.6	2.6	3.2
Fetal or neonatal death	0.8	1.1	1.0	0.8	0.9	1.1	1.2	0.6	0.9
Other[(d)]	n.p.	n.p.	n.p.	n.p.	—	n.p.	n.p.	n.p.	0.1
Not stated	n.p.	n.p.	n.p.	n.p.	—	n.p.	n.p.	n.p.	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data provided by Vic are provisional.

(b) In 2012, 14.2% 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 2.2%.

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

(d) 'Other' includes mothers discharged with their babies against medical advice, babies transferred to accommodation hostels, statistical discharges and postneonatal deaths.

Note: The place of birth of the first-born baby was used for all subsequent babies from a multiple birth.

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 2013). 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).

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

Figure 5.1: Definitions of perinatal mortality

Figure 5.2 shows the definitions of periods of perinatal and infant deaths used by the NPDC. 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.

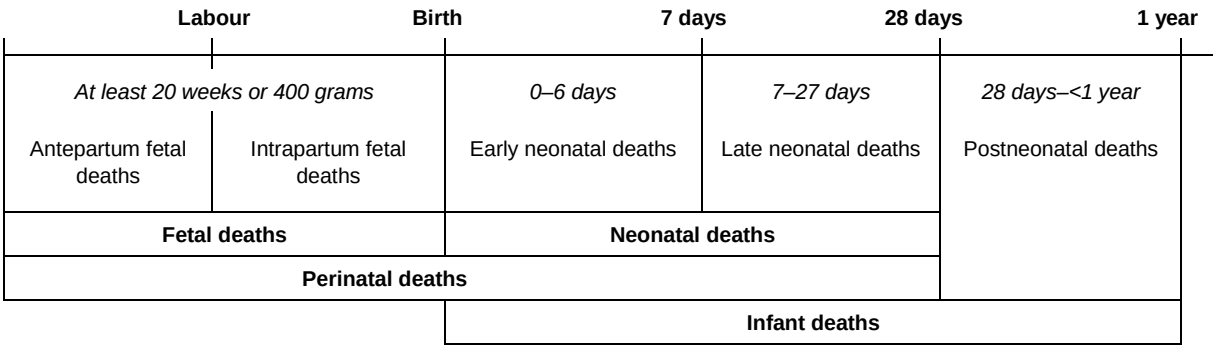


Figure 5.2: Perinatal and infant death periods

The ABS definition of a perinatal death is the death of any liveborn baby within 28 days of birth or a baby born without signs of life with a 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 *Cause of death, Australia 2012* (ABS 2014). For vital statistics, refer to ABS data at <http://www.abs.gov.au>. *Australia's mothers and babies 2012* presents data on perinatal deaths from the NPDC.

Baby deaths

As noted previously, fetal deaths are included in the NPDC if the birthweight is at least 400 grams or the gestational age at birth is 20 weeks or more. Infant deaths reported to the NPDC include most neonatal deaths and some postneonatal deaths. In 2012, baby death status could not be determined for 37 births (Table 5.1) because information about vital status at birth was missing. These baby deaths contribute to total birth data, but not to fetal or perinatal deaths.

Table 5.1: Deaths, by state and territory, 2012

	State/territory of birth								
	NSW	**Vic**[a]	**Qld**	**WA**[b]	**SA**	**Tas**	**ACT**[c]	**NT**	**Total**
					Number				
Live births[d]	98,872	77,694	63,250	33,625	20,528	5,895	5,994	4,003	309,861
Fetal deaths	600	697	459	237	138	45	52	27	2,255
Neonatal deaths[e]	209	207	182	48	46	19	16	10	737
Other deaths[f]	*15*	*13*	—	*41*	*13*	*1*	*1*	*1*	*85*
Perinatal deaths	*809*	*904*	*641*	*285*	*184*	*64*	*68*	*37*	*2,992*
Not stated[g]	35	2	—	—	—	—	—	—	37
Total births	**99,507**	**78,393**	**63,709**	**33,862**	**20,666**	**5,940**	**6,046**	**4,030**	**312,153**
					Rate per 1,000 births[f]				
Fetal deaths	6.0	8.9	7.2	7.0	6.7	7.6	8.6	6.7	7.2
Neonatal deaths[e]	2.1	2.7	2.9	1.4	2.2	3.2	2.7	2.5	2.4
Perinatal deaths	*8.1*	*11.5*	*10.1*	*8.4*	*8.9*	*10.8*	*11.2*	*9.2*	*9.6*

(a) Perinatal deaths in Vic include terminations of pregnancy and fetus papyraceous. The majority of late terminations for psychosocial indications performed in Australia are undertaken in Vic, and many women travel from interstate (and overseas) to Vic to have the termination undertaken. Neonatal deaths for Vic may be incomplete as deaths that occurred outside the birth episode or outside Vic are not included. Data provided by Vic are provisional.

(b) For WA, fetal deaths and neonatal deaths include late termination of pregnancy.

(c) In 2012, 14.2% of women who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting rates. For example, for ACT residents who gave birth in the ACT, there were 8.4 fetal deaths per 1,000 births, 2.3 neonatal deaths per 1,000 live births and 10.6 perinatal deaths per 1,000 births.

(d) Neonatal deaths are included with live births. Total births comprise live births and stillbirths (fetal deaths).

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

(g) There were 37 babies with 'Not stated' vital status at birth that contribute to total births but do not contribute to fetal or perinatal deaths.

Table 5.2 presents fetal, neonatal and perinatal deaths reported to the NPDC by state or territory of the mother's usual residence, excluding women who were usually resident overseas. It shows that, for 2012, the state and territory fetal death rates ranged from 6.2 per 1,000 births for babies of mothers who lived in New South Wales to 8.7 per 1,000 births to mothers who lived in the Australian Capital Territory and the Northern Territory (Table 5.2). For the Australian Capital Territory, where 14.2% of women who gave birth were non-residents, the fetal death rate was 8.6 per 1,000 births by territory of birth (Table 5.1) and 8.7 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, 2012

	State/territory of usual residence								
	NSW	**Vic**[(a)]	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Total**
					Number				
Live births[(b)]	100,553	76,210	63,641	33,651	20,441	5,901	5,250	3,998	309,645
Fetal deaths	632	616	484	250	136	48	46	35	2,247
Neonatal deaths[(c)]	219	197	181	48	46	20	13	10	734
Perinatal deaths	*851*	*813*	*665*	*298*	*182*	*68*	*59*	*45*	*2,981*
Not stated[(d)]	35	2	—	—	—	—	—	—	37
Total births	**101,220**	**76,828**	**64,125**	**33,901**	**20,577**	**5,949**	**5,296**	**4,033**	**311,929**
					Rate per 1,000 births[(e)]				
Fetal deaths	6.2	8.0	7.5	7.4	6.6	8.1	8.7	8.7	7.2
Neonatal deaths[(c)]	2.2	2.6	2.8	1.4	2.3	3.4	2.5	2.5	2.4
Perinatal deaths	*8.4*	*10.6*	*10.4*	*8.8*	*8.8*	*11.4*	*11.1*	*11.2*	*9.6*

(a) Neonatal deaths for Vic may be incomplete as deaths that occurred outside the birth episode or outside Vic are not included. Perinatal deaths in Vic include terminations of pregnancy and fetus papyraceous. Data provided by Vic are provisional.

(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) There were 37 babies with 'Not stated' vital status at birth that contribute to total births but do not contribute to fetal or perinatal deaths.

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

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

Fetal deaths

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. Fetal and perinatal death rates varied according to maternal age, with higher rates reported for teenage mothers. The age-group specific fetal death rates ranged from 6.4 per 1,000 births for babies of mothers aged 25–29 to 12.6 per 1,000 births for babies of mothers younger than 20 (Table 5.3).

In 2012, there were 2,255 fetal deaths reported to the NPDC, resulting in a fetal death rate of 7.2 per 1,000 births. The fetal death rate has not changed substantially from 7.1 per 1,000 births in 2003, but with some minor fluctuations to a maximum of 7.8 per 1,000 births in 2009. In 2012, the state and territory fetal death rates ranged from 6.0 per 1,000 births in New

South Wales to 8.9 per 1,000 births in Victoria (Table 5.1). Fetal death rates are highest in Victoria, as the majority of late terminations for psychosocial indications performed in Australia are undertaken in Victoria, and many women travel from interstate (and overseas) to Victoria to have their pregnancy termination. The fetal death rate for Victorian residents was 8.0 per 1,000 births for women (Table 5.2), which is lower than the rate of fetal death of 8.9 per 1,000 births occurring in Victoria (Table 5.1).

The fetal death rate of babies born to Aboriginal and Torres Strait Islander mothers was 10.8 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 7.2 per 1,000 births compared with 7.3 per 1,000 births for mothers born overseas (Table 5.3). For the 5 jurisdictions where data were available on whether the mother received ART treatment, the fetal death rate was 12.9 per 1,000 births for women giving birth after ART treatment.

Fetal death rates were higher among babies of first-time mothers (7.3 per 1,000 births) than among babies whose mothers had at least 1 previous birth (6.5 per 1,000 births) (Table 5.3). However, for grand multiparous women (women who have had 4 or more previous pregnancies resulting in a live birth or stillbirth), the rate was higher at 11.7per 1,000 births.

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

Table 5.3: Rates of fetal, neonatal and perinatal deaths, by selected characteristics, 2012

Characteristic	Fetal deaths	Neonatal deaths[(a)]	Perinatal deaths[(a)]
		Rate per 1,000 births[(b)]	
Maternal age (years)			
Younger than 20	*12.6*	*3.4*	*15.9*
20–24	*7.6*	*2.6*	*10.2*
25–29	*6.4*	*2.3*	*8.7*
30–34	*6.6*	*2.0*	*8.6*
35–39	*7.1*	*2.6*	*9.7*
40 and over	*11.7*	*3.3*	*15.0*
Maternal Indigenous status			
Aboriginal and Torres Strait Islander	*10.8*	*4.1*	*14.9*
Non-Indigenous	*7.1*	*2.3*	*9.4*
Maternal country of birth			
Australia	*7.2*	*2.4*	*9.6*
Other	*7.3*	*2.3*	*9.5*
Parity			
Primipara	*7.3*	*2.6*	*9.9*
Multipara	*6.5*	*2.2*	*8.7*

(continued)

Table 5.3 (continued): Rates of fetal, neonatal and perinatal deaths, by selected characteristics, 2012

Characteristic	Fetal deaths	Neonatal deaths[a]	Perinatal deaths[a]
		Rate per 1,000 births[b]	
Plurality			
Singletons	*6.7*	*2.1*	*8.8*
Twins	*22.2*	*10.9*	*32.9*
Higher order multiples	*78.5*	*28.7*	*104.7*
Gestational age (weeks)			
20–27	*514.0*	*374.1*	*695.2*
28–31	*84.5*	*21.5*	*104.2*
32–36	*14.2*	*4.2*	*18.3*
37–41	*1.4*	*0.4*	*1.8*
42 and over	*2.6*	*0.0*	*6.3*
Birthweight (grams)			
Less than 1,500	*329.2*	*171.3*	*443.9*
1,500–2,499	*16.5*	*4.5*	*20.9*
2,500–2,999	*3.0*	*0.8*	*3.8*
3,000–3,999	*1.1*	*0.4*	*1.5*
4,000 and over	*0.8*	*0.2*	*1.0*

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

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

The fetal death rate of twins (22.2 per 1,000 births) and higher order multiples (78.5 per 1,000 births) was higher than that of singleton babies (6.7 per 1,000 births) (Table 5.3). For singleton term babies, the fetal death rate was 1.3 per 1,000 births.

Neonatal deaths

There were 737 neonatal deaths reported to the NPDC for 2012, giving a rate of 2.4 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 to staff who compile state and territory data. Neonatal deaths occurring in a different state or territory than the one 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 1.4 per 1,000 live births in Western Australia to 3.2 per 1,000 live births in Tasmania (Table 5.1).

A substantial proportion of women who gave birth in the Australian Capital Territory were New South Wales residents (14.0% in 2012). 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 2.5 per 1,000 live births (Table 5.2) compared with 2.7 per 1,000 live births to women who gave birth in this territory (Table 5.1).

Higher neonatal death rates were reported for younger mothers. The age-group specific neonatal death rate was 3.4 per 1,000 live births for babies of teenage mothers (younger than 20) (Table 5.3).

The neonatal death rate of babies born to Aboriginal and Torres Strait Islander mothers was 4.1 per 1,000 live births. The neonatal death rate for babies of non-Indigenous mothers was 2.3 per 1,000 live births (Table 5.3). The neonatal death rate was 5.3 per 1,000 live births for women giving birth after ART treatment, where data were available.

The neonatal death rate of twins (10.9 per 1,000 live births) and higher order multiples (28.7 per 1,000 live births) was higher than that of singleton babies (2.1 per 1,000 live births) (Table 5.3). For singleton term babies, the neonatal death rate was 0.4 per 1,000 live births.

Neonatal death rates decreased with increasing gestational age, from 374.1 per 1,000 live births for those born at 20–27 weeks gestation to 0.4 per 1,000 live births for those born at term. For babies of less than 1,500 grams birthweight, the neonatal death rate was 171.3 per 1,000 live births compared with 0.4 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 2,992 perinatal deaths reported to the NPDC for 2012, giving a rate of 9.6 perinatal deaths per 1,000 births (Table 5.1). Of these, 75.4% were fetal deaths.

For the Australian Capital Territory, where 14.2% of women who gave birth were non-residents, the crude rate of perinatal mortality was 11.2 per 1,000 births by territory of birth (Table 5.1) and 11.1 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 teenage mothers (15.9 per 1,000 births), followed by babies of mothers aged 40 and over (15.0 per 1,000 births). The perinatal death rate of babies born to Aboriginal and Torres Strait Islander mothers was 14.9 per 1,000 births. The rate was 9.4 per 1,000 births in babies born to non-Indigenous mothers (Table 5.3). The perinatal death rate was 18.0 per 1,000 births for women giving birth after ART treatment compared with 9.9 per 1,000 births for non-ART women, where data were available.

Perinatal death rates were higher among babies of first-time mothers (9.9 per 1,000 births) than among babies whose mothers had at least 1 previous birth (8.7 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 (695.2 per 1,000 births) and lowest in the 37–41 weeks gestational age

group (1.8 per 1,000 births). Babies weighing less than 1,500 grams at birth had the highest perinatal death rate (443.9 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 that have been reviewed by a locality or jurisdictional multidisciplinary team. Further details on this classification are at <http://www.psanz.com.au/special-interest/perinatal-mortality-group/psanzcpg>.

For the 2012 data, 6 jurisdictions provided causes of death according to the PSANZ-PDC: Victoria, Queensland, Western Australia, South Australia, Tasmania and the Australian Capital Territory. The main causes of perinatal deaths in these jurisdictions were congenital abnormalities (anomalies) (29.1%), spontaneous pre-term birth (16.5%) and unexplained antepartum death (15.2%). These 3 groups of causes accounted for more than half of all perinatal deaths in these jurisdictions (60.8%), with the rates being 3.1, 1.7 and 1.6, respectively, per 1,000 births in the 4 jurisdictions. Maternal conditions (7.9%) and specific perinatal conditions (7.3%) were also commonly reported causes of perinatal death, both with a rate of 0.8 per 1,000 births (Table 5.4). Victoria and the Australian Capital Territory did not provide PSANZ-PDC data for either 2010 or 2011, so caution is advised when comparing cause of death reported over time.

Applying this classification 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 these services, with the majority undertaken in Victoria (CCOPMM 2012). 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 PSANZ-PDC and state and territory, 2012

Cause of death	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT	NT	Total	Rate[(b)]
					Number					
Congenital abnormality	n.a.	270	178	88	67	22	12	n.a.	637	**3.1**
Perinatal infection	n.a.	18	15	n.p.	15	<5	<5	n.a.	58	**0.3**
Hypertension	n.a.	25	14	n.p.	9	<5	<5	n.a.	69	**0.3**
Antepartum haemorrhage	n.a.	60	39	n.p.	8	<5	6	n.a.	130	**0.6**
Maternal conditions	n.a.	153	6	n.p.	<5	—	—	n.a.	173	**0.8**
Specific perinatal conditions	n.a.	57	59	23	10	<5	n.p.	n.a.	159	**0.8**
Hypoxic peripartum death	n.a.	12	23	5	<5	<5	<5	n.a.	47	**0.2**
Fetal growth restriction	n.a.	53	18	23	19	<5	5	n.a.	121	**0.6**
Spontaneous pre-term	n.a.	118	117	77	28	15	5	n.a.	360	**1.7**
Unexplained antepartum death	n.a.	105	162	26	19	12	8	n.a.	332	**1.6**
No obstetric antecedent	n.a.	<5	10	15	<5	<5	<5	n.a.	30	**0.1**
Not stated	n.a	29	—	20	—	2	19	n.a.	70	**0.3**
Total	**n.a.**	**901**	**641**	**326**	**184**	**65**	**69**	**n.a.**	**2,186**	**10.5**
					Per cent					
Congenital abnormality	n.a.	30.0	27.8	27.0	36.4	33.8	17.4	n.a.	29.1	
Perinatal infection	n.a.	2.0	2.3	n.p.	8.2	n.p.	n.p.	n.a.	2.7	
Hypertension	n.a.	2.8	2.2	n.p.	4.9	n.p.	n.p.	n.a.	3.2	
Antepartum haemorrhage	n.a.	6.7	6.1	n.p.	4.3	n.p.	8.7	n.a.	5.9	
Maternal conditions	n.a.	17.0	0.9	n.p.	n.p.	—	—	n.a.	7.9	
Specific perinatal conditions	n.a.	6.3	9.2	7.1	5.4	n.p.	n.p.	n.a.	7.3	
Hypoxic peripartum death	n.a.	1.3	3.6	1.5	n.p.	n.p.	n.p.	n.a.	2.2	
Fetal growth restriction	n.a.	5.9	2.8	7.1	10.3	n.p.	7.2	n.a.	5.5	
Spontaneous pre-term	n.a.	13.1	18.3	23.6	15.2	23.1	7.2	n.a.	16.5	
Unexplained antepartum death	n.a.	11.7	25.3	8.0	10.3	18.5	11.6	n.a.	15.2	
No obstetric antecedent	n.a.	n.p.	1.6	4.6	n.p.	n.p.	n.p.	n.a.	1.4	
Total	**n.a.**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.a.**	**100.0**	

(a) Data provided by Vic are provisional.

(b) Rate per 1,000 births in states and territories that provided PSANZ-PDC in 2012.These rates are not comparable with rates in earlier years because different states and territories are included in the table.

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 Victoria, Queensland, Western Australia, South Australia, Tasmania and the Australian Capital Territory. The main cause of perinatal death was congenital abnormalities at 20–21 weeks (37.9%), 22–27 weeks (28.4%) and 28–31 weeks (28.4%). Between 20–21 weeks and 32–36 weeks gestation, deaths due to spontaneous pre-term birth declined from 28.0% to 1.1%. The proportion of deaths due to congenital abnormality declined with increasing duration of pregnancy. In contrast, the proportion of unexplained antepartum deaths increased to become the most common cause of death at term (37 or more weeks gestation).

Table 5.5: Perinatal deaths, by PSANZ-PDC and gestational age, 2012

	Gestational age (weeks)					
Cause of death	**20–21**	**22–27**	**28–31**	**32–36**	**37 and over**	**Total[(a)]**
			Number			
Congenital abnormality	222	213	54	74	73	637
Perinatal infection	14	12	6	5	21	58
Hypertension	5	33	9	14	8	69
Antepartum haemorrhage	29	57	10	23	11	130
Maternal conditions	57	81	6	13	10	173
Specific perinatal conditions	33	47	18	31	29	159
Hypoxic peripartum death	<5	7	n.p.	5	26	47
Fetal growth restriction	n.p.	49	21	19	27	121
Spontaneous pre-term	164	179	n.p.	<5	—	360
Unexplained antepartum death	28	62	41	77	123	332
No obstetric antecedent	—	—	<5	n.p.	22	30
Not stated	27	11	3	6	22	70
Total	**586**	**751**	**190**	**277**	**372**	**2,186**
			Per cent			
Congenital abnormality	37.9	28.4	28.4	26.7	19.6	29.1
Perinatal infection	2.4	1.6	3.2	1.8	5.6	2.7
Hypertension	0.9	4.4	4.7	5.1	2.2	3.2
Antepartum haemorrhage	4.9	7.6	5.3	8.3	3.0	5.9
Maternal conditions	9.7	10.8	3.2	4.7	2.7	7.9
Specific perinatal conditions	5.6	6.3	9.5	11.2	7.8	7.3
Hypoxic peripartum death	n.p.	0.9	n.p.	1.8	7.0	2.2
Fetal growth restriction	0.9	6.5	11.1	6.9	7.3	5.5
Spontaneous pre-term	28.0	23.8	n.p.	n.p.	—	16.5
Unexplained antepartum death	4.8	8.3	21.6	27.8	33.1	15.2
No obstetric antecedent	—	—	n.p.	2.5	5.9	1.4
Not stated	4.6	1.5	1.6	2.2	5.9	3.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Total includes 10 records with missing gestational age at birth.

Note: Includes Vic, Qld, WA, SA, Tas and ACT. The total number of births in 6 jurisdictions included in the table was 208,616 in 2012.

The causes of death differed for fetal and neonatal deaths. Congenital abnormality was the leading cause of both neonatal deaths (35.2%) and fetal deaths (27.1%). The second most common cause of fetal deaths was unexplained antepartum death (20.4%) (Table 5.6). At 28–36 weeks, congenital abnormalities accounted for 54.5% of neonatal deaths and 42.6% at 37 weeks and over.

Table 5.6: Fetal and neonatal deaths, by PSANZ-PDC and gestational age, 2012

	Gestational age at birth (years)			
Fetal deaths—cause of death	**20–27**	**28–36**	**37 and over**	**Total[a]**
		Number		
Congenital abnormality	351	67	21	440
Hypertension	30	23	7	60
Antepartum haemorrhage	51	29	9	89
Maternal conditions	137	18	9	170
Specific perinatal conditions	61	40	26	128
Hypoxic peripartum death	7	5	8	20
Fetal growth restriction	48	36	25	109
Spontaneous pre-term	183	7	—	190
Unexplained antepartum death	90	118	123	332
Other categories[b]	18	8	14	40
Not stated	35	4	8	48
Total	**1,011**	**355**	**250**	**1,626**
		Per cent		
Congenital abnormality	34.7	18.9	8.4	27.1
Hypertension	3.0	6.5	2.8	3.7
Antepartum haemorrhage	5.0	8.2	3.6	5.5
Maternal conditions	13.6	5.1	3.6	10.5
Specific perinatal conditions	6.0	11.3	10.4	7.9
Hypoxic peripartum death	0.7	1.4	3.2	1.2
Fetal growth restriction	4.7	10.1	10.0	6.7
Spontaneous pre-term	18.1	2.0	—	11.7
Unexplained antepartum death	8.9	33.2	49.2	20.4
Other categories[b]	1.7	2.3	5.6	2.4
Not stated	3.5	1.1	3.2	3.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

(continued)

Table 5.6 (continued): Fetal and neonatal deaths, by PSANZ-PDC and gestational age, 2012

Neonatal deaths—cause of death	Gestational age at birth (years)			Total[(a)]
	20–27	28–36	37 and over	
		Number		
Congenital abnormality	84	61	52	197
Perinatal infection	n.p.	<5	7	19
Antepartum haemorrhage	35	<5	<5	41
Specific perinatal conditions	19	n.p.	<5	31
Hypoxic peripartum death	<5	n.p.	18	27
Spontaneous pre-term	160	10	—	170
No obstetric antecedent	—	7	22	29
Other categories[(c)]	14	n.p.	<5	23
Not stated	3	5	14	22
Total	**325**	**112**	**122**	**559**
		Per cent		
Congenital abnormality	25.8	54.5	42.6	35.2
Perinatal infection	n.p.	n.p.	5.7	3.4
Antepartum haemorrhage	10.8	n.p.	n.p.	7.3
Specific perinatal conditions	5.8	n.p.	n.p.	5.5
Hypoxic peripartum death	n.p.	n.p.	14.8	4.8
Spontaneous pre-term	49.2	8.9	—	30.4
No obstetric antecedent	4.3	4.5	3.3	4.1
Other categories[(c)]	—	n.p.	n.p.	5.2
Not stated	0.9	4.5	11.5	3.9
Total	**100.0**	**100.0**	**100.0**	**100.0**

(a) Total includes 10 births with 'Not stated' gestational age at birth.

(b) 'Other' fetal deaths combines the categories: 'Perinatal infection' and 'No obstetric antecedent'.

(c) 'Other' neonatal deaths combines the categories: 'Hypertension'; 'Maternal conditions' and 'Fetal growth restriction'. 'Unexplained antepartum death' does not apply to neonates.

Note: Includes Vic, Qld, WA, SA, Tas and ACT. The total number of births in the 6 jurisdictions included in the table was 208,616 in 2012.

The most common cause of perinatal death in singletons was congenital abnormalities (30.7%). Deaths of twins and higher order multiples were mostly due to spontaneous pre-term birth and specific perinatal conditions (Table 5.7).

Table 5.7: Perinatal deaths, by PSANZ-PDC and plurality, 2012

Cause of death	Singletons	Twins and higher-order multiples	Total
		Number	
Congenital abnormality	599	38	637
Perinatal infection	58	—	58
Hypertension	n.p.	<5	69
Antepartum haemorrhage	117	13	130
Maternal conditions	n.p.	<5	173
Specific perinatal conditions	100	59	159
Hypoxic peripartum death	n.p.	<5	47
Fetal growth restriction	114	6	121
Spontaneous pre-term	284	76	360
Unexplained antepartum death	305	27	332
No obstetric antecedent	n.p.	<5	30
Not stated	62	8	70
Total	**1,950**	**235**	**2,186**
		Per cent	
Congenital abnormality	30.7	16.2	29.1
Perinatal infection	3.0	—	2.7
Hypertension	n.p.	n.p.	3.2
Antepartum haemorrhage	6.0	5.5	5.9
Maternal conditions	n.p.	n.p.	7.9
Specific perinatal conditions	5.1	25.1	7.3
Hypoxic peripartum death	n.p.	n.p.	2.2
Fetal growth restriction	5.8	2.6	5.5
Spontaneous pre-term	14.6	32.3	16.5
Unexplained antepartum death	15.6	11.5	15.2
No obstetric antecedent	n.p.	n.p.	1.4
Not stated	3.2	3.4	3.2
Total	**100.0**	**100.0**	**100.0**

Notes

1. Includes Vic, Qld, WA, SA, Tas and ACT. The total number of births in the 6 jurisdictions included in the table was 208,616 in 2012.
2. Total includes 1 birth with 'Not stated' plurality.

Causes of death for singletons were examined by gestational age. This showed that the leading cause of death for singleton babies born at 20–27 and 28–31 weeks gestation was congenital abnormality (35.5% and 29.5%, respectively). For babies of 32–36 weeks gestation and 37 weeks and over, the leading category was unexplained antepartum death (26.4% and 33.0%, respectively). For babies of 37 weeks and over, congenital abnormality (18.9%) was the next most common cause of perinatal death (Table 5.8).

Table 5.8: Singleton perinatal deaths, by PSANZ-PDC and gestational age, 2012

	Gestational age (weeks)				
Cause of death	**20–27**	**28–31**	**32–36**	**37 and over**	**Total**
			Number		
Congenital abnormality	421	49	62	66	599
Perinatal infection	26	6	5	21	58
Hypertension	36	7	14	8	65
Antepartum haemorrhage	73	10	23	11	117
Maternal conditions	137	6	13	10	172
Specific perinatal conditions	38	12	25	25	100
Hypoxic peripartum death	9	n.p.	<5	26	45
Fetal growth restriction	52	19	18	25	114
Spontaneous pre-term	271	n.p.	<5	—	284
Unexplained antepartum death	87	38	64	115	305
No obstetric antecedent	—	<5	n.p.	22	29
Not stated	35	2	5	20	62
Total	**1,185**	**166**	**242**	**349**	**1,950**
			Per cent		
Congenital abnormality	35.5	29.5	25.6	18.9	30.7
Perinatal infection	2.2	3.6	2.1	6.0	3.0
Hypertension	3.0	4.2	5.8	2.3	3.3
Antepartum haemorrhage	6.2	6.0	9.5	3.2	6.0
Maternal conditions	11.6	3.6	5.4	2.9	8.8
Specific perinatal conditions	3.2	7.2	10.3	7.2	5.1
Hypoxic peripartum death	0.8	n.p.	n.p.	7.4	2.3
Fetal growth restriction	4.4	11.4	7.4	7.2	5.8
Spontaneous pre-term	22.9	n.p.	n.p.	—	14.6
Unexplained antepartum death	7.3	22.9	26.4	33.0	15.6
No obstetric antecedent	—	n.p.	n.p.	6.3	1.5
Not stated	3.0	1.2	2.1	5.7	3.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Notes

1. Includes Vic, Qld, WA, SA, Tas and ACT. The total number of births in the 6 jurisdictions included in the table was 208,616 in 2012.

2. Total includes missing gestational age.

In mothers younger than 20 years, almost one-third of perinatal deaths were due to maternal conditions (27.8%) and about one-fifth were due to the consequences of spontaneous pre-term birth (18.0%) (Table 5.9). In mothers aged 40 years and over, 17.3% of perinatal deaths were caused by congenital abnormalities. Among mothers aged 30–34 years, over 1 in 6 perinatal deaths were unexplained antepartum deaths (17.8%).

Table 5.9: Perinatal deaths, by PSANZ-PDC and maternal age, 2012

	Maternal age (years)						
Cause of death	**Younger than 20**	**20–24**	**25–29**	**30–34**	**35–39**	**40 and over**	**Total**
				Number			
Congenital abnormality	23	78	147	200	131	58	637
Perinatal infection	n.p.	17	12	10	12	<5	58
Hypertension	n.p.	9	18	17	15	<5	69
Antepartum haemorrhage	n.p.	20	39	37	24	<5	130
Maternal conditions	37	41	35	26	21	12	173
Specific perinatal conditions	8	17	42	44	31	17	159
Hypoxic peripartum death	<5	5	13	15	n.p.	<5	47
Fetal growth restriction	9	16	30	41	20	5	121
Spontaneous pre-term	24	55	112	97	58	14	360
Unexplained antepartum death	12	56	83	112	48	21	332
No obstetric antecedent	<5	6	12	6	<5	<5	30
Not stated	1	8	18	24	15	4	70
Total	**133**	**328**	**561**	**629**	**388**	**146**	**2,186**
				Per cent			
Congenital abnormality	17.3	23.8	26.2	31.8	33.8	39.7	29.1
Perinatal infection	n.p.	5.2	2.1	1.6	3.1	n.p.	2.7
Hypertension	n.p.	2.7	3.2	2.7	3.9	n.p.	3.2
Antepartum haemorrhage	n.p.	6.1	7.0	5.9	6.2	n.p.	5.9
Maternal conditions	27.8	12.5	6.2	4.1	5.4	8.2	7.9
Specific perinatal conditions	6.0	5.2	7.5	7.0	8.0	11.6	7.3
Hypoxic peripartum death	n.p.	1.5	2.3	2.4	n.p.	n.p.	2.2
Fetal growth restriction	6.8	4.9	5.3	6.5	5.2	n.p.	5.5
Spontaneous pre-term	18.0	16.8	20.0	15.4	14.9	9.6	16.5
Unexplained antepartum death	9.0	17.1	14.8	17.8	12.4	14.4	15.2
No obstetric antecedent	n.p.	1.8	2.1	1.0	n.p.	n.p.	1.4
Not stated	0.8	2.4	3.2	3.8	3.9	2.7	3.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Notes

1. Includes Vic, Qld, WA, SA, Tas and ACT. The total number of births in the 6 jurisdictions included in the table was 208,616 in 2012.
2. Total includes 1 birth with 'Not stated' mother's age.

The proportion of perinatal deaths due to congenital abnormalities was higher among women who gave birth in a public hospital (31.5%) than for those who gave birth in private hospitals (21.4%) (Table 5.10). Perinatal deaths as a consequence of spontaneous pre-term births were also proportionally more common in public than in private hospitals (18.1% versus 11.0%).

Table 5.10: Perinatal deaths to women who gave birth in hospital, by PSANZ-PDC and hospital sector, 2012

Cause of death	Public	Private	Total
		Number	
Congenital abnormality	530	107	637
Perinatal infection	53	5	58
Hypertension	59	10	69
Antepartum haemorrhage	108	22	130
Maternal conditions	37	135	173
Specific perinatal conditions	114	45	159
Hypoxic peripartum death	n.p.	n.p.	47
Fetal growth restriction	101	19	121
Spontaneous pre-term	304	55	360
Unexplained antepartum death	248	84	332
No obstetric antecedent	n.p.	<5	30
Not stated	60	10	70
Total	**1,681**	**500**	**2,186**
		Per cent	
Congenital abnormality	31.5	21.4	29.1
Perinatal infection	3.2	1.0	2.7
Hypertension	3.5	2.0	3.2
Antepartum haemorrhage	6.4	4.4	5.9
Maternal conditions	2.2	27.0	7.9
Specific perinatal conditions	6.8	9.0	7.3
Hypoxic peripartum death	n.p.	n.p.	2.2
Fetal growth restriction	6.0	3.8	5.5
Spontaneous pre-term	18.1	11.0	16.5
Unexplained antepartum death	14.8	16.8	15.2
No obstetric antecedent	n.p.	n.p.	1.4
Not stated	3.6	2.0	3.2
Total	**100.0**	**100.0**	**100.0**

Note: Includes Vic, Qld, WA, SA, Tas and ACT. The total number of births in the 4 jurisdictions included in the table was 200,382 in 2012.

Perinatal deaths to women in private hospitals were 12.2% compared with 7.0% in public hospitals. This reflects the siting of neonatal intensive care units in public hospitals and the antenatal transfer of the care of high risk pregnant women to these hospitals for birth. Terminations of medically uncomplicated pregnancies are more commonly carried out in the private sector and consequently, maternal conditions are the leading cause of perinatal death among births in this sector.

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

New South Wales

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Health Services, Epidemiology and Biostatistics
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NSW Ministry of Health
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Phone: (02) 9391 9680
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Email: jbent@doh.health.nsw.gov.au, pcorr@doh.health.nsw.gov.au
Website: <http://www.health.nsw.gov.au/topics/maternal.asp>

Latest report:

Centre for Epidemiology and Evidence 2012. *New South Wales mothers and babies 2010*. Sydney: NSW Ministry of Health.

Victoria

Ms Vickie Veitch, Manager
Clinical Councils Unit
Department of Health
GPO Box 4003
Melbourne Vic 3001

Phone: (03) 9906 2697
Fax: (03) 9096 2700
Email: perinatal.data@health.vic.gov.au
Website: <http://www.health.vic.gov.au/perinatal>

Latest report:

Consultative Council on Obstetric and Paediatric Mortality and Morbidity 2014. *Victoria's mother's and babies: Victoria's maternal, perinatal, child and adolescent mortality 2010/2011*. Melbourne: Victorian Department of Health.

Queensland

Ms Sue Cornes
Executive Director
Health Statistics Branch
Health Commissioning Queensland
Department of Health
Queensland Government
GPO Box 48
Brisbane Qld 4001

Phone: (07) 3234 0921
Fax: (07) 3234 0564
Email: sue.cornes@health.qld.gov.au
Website: <http://www.health.qld.gov.au/hsu>

Latest report:

Queensland Health (Health Statistics Unit) 2014. *Perinatal statistics Queensland 2012*. Brisbane: Queensland Health.

Western Australia

Ms Maureen Hutchinson
Manager
Maternal and Child Health Unit
Data Collection & Analysis—Statutory and Non-Admitted Branch
Data Integrity Directorate
Performance Activity and Quality Division
Department of Health, Western Australia
189 Royal Street
East Perth WA 6004

Phone: (08) 9222 2417
Fax: (08) 9222 4408
Email: maureen.hutchinson@health.wa.gov.au
Website: <http://www.health.wa.gov.au/healthdata>

Latest reports:

Gee V 2013. *Perinatal, infant and maternal mortality in Western Australia, 2006–2010*. Perth: Western Australian Department of Health.

Hutchinson M & Joyce A 2014. *Western Australia's mothers and babies, 2011: twenty-ninth annual report of the Western Australian Midwives' Notification System, Department of Health, Western Australia*. Perth: Western Australian Department of Health.

South Australia

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SA Health
PO Box 6, Rundle Mall
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Website: <http://www.sahealth.sa.gov.au/pregnancyoutcomes>

Latest reports:

Maternal, Perinatal and Infant Mortality Committee 2013. *Maternal, Perinatal and Infant Mortality in South Australia 2011*. Adelaide: SA Health.

Scheil W, Scott J, Catcheside B, Sage L, Kennare R 2013. *Pregnancy outcome in South Australia 2011*. Adelaide: SA Health (Pregnancy Outcome Unit).

Tasmania

Mr Peter Mansfield
Team Leader
Data Standards and Integrity Unit
Health Statistics
Department of Health and Human Services
Level 5, 24 Davey Street
Hobart Tas 7000

Phone: (03) 6233 2173
Fax: (03) 6233 7167
Email: peter.mansfield@dhhs.tas.gov.au
Website: <http://www.dhhs.tas.gov.au>

Latest report:

Council of Obstetric and Paediatric Mortality and Morbidity 2014. *Annual report 2012*. Hobart: Department of Health and Human Services.

Australian Capital Territory

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Epidemiology Section, Health Improvement Branch
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Canberra ACT 2601

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Website: <http://www.health.act.gov.au/healthinfo>

Latest report:

ACT Health (Epidemiology Branch) 2011. *Maternal and perinatal health in the ACT, 1999–2008*. Canberra: ACT Health.

Northern Territory

Ms Lee O'Neil
Perinatal Business Analyst
Health Gains Planning Branch
Department of Health
PO Box 40596
Casuarina NT 0811

Phone: (08) 8922 7673
Email: leanne.o'neil@nt.gov.au
Website: <http://www.health.nt.gov.au>

Latest report:

Thompson F 2014. Northern Territory Midwives' Collection: *Mothers and babies 2011*. Darwin: Northern Territory Department of Health.

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.

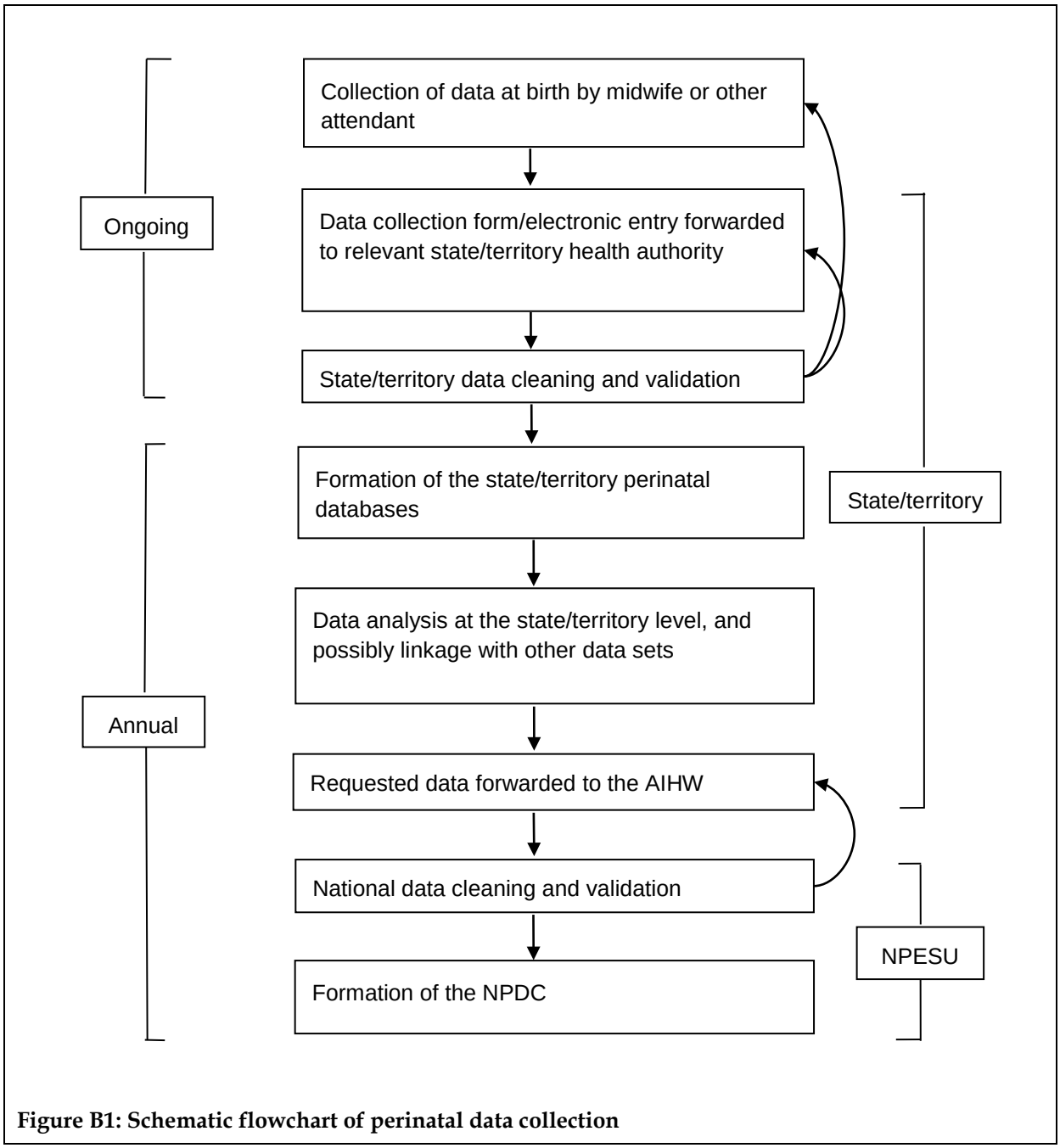

Figure B1: Schematic flowchart of perinatal data collection

Appendix C: Perinatal National Minimum Data Set items

Table C1: Perinatal NMDS 2011–2012 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—birthweight, 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 20 weeks of pregnancy), yes/no code N	365417
Female (pregnant)—tobacco smoking indicator (first 20 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 2011; implementation end date 30 June 2012.

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

Table C2: Perinatal NMDS 2012–2013 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 20 weeks of pregnancy), yes/no code N	365417
Female (pregnant)—tobacco smoking indicator (first 20 weeks of pregnancy), yes/no code N	365404
Person—area of usual residence, geographical location code (ASGC 2009) NNNNN	426285
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 2012; implementation end date 30 June 2013.

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

Appendix D: Data quality statement National Perinatal Data Collection for 2012

Summary of key issues

- The 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 NMDS.
- Neonatal deaths collected as part of the NPDC may be incomplete.
- 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 collection of data on 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 AIHW's 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 AIHW. The NPESU is a collaborating unit of the AIHW. 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's 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 NMDS

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

Maternity Information Matrix

<http://maternitymatrix.aihw.gov.au/>.

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 portfolio, and is responsible to the Minister for Health. 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. Most jurisdictions need at least 12 months lead time to undertake data entry, validation and linking with hospitals data as required after the end of the data collection period. Data were requested to be submitted on 30 April 2014. No jurisdictions supplied required data by this date. Final and useable data were received from all jurisdictions by 17 October 2014. Data are published in *Australia's mothers and babies* 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 that jurisdictions would move to financial year data collection from July 2013.

Accessibility

The AIHW's 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
- *National core maternity indicators* reports.

Select aggregated data from the NPDC are also available from an online portal as at 16 December 2014 <http://www.aihw.gov.au/perinatal-data/>.

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*, *Aboriginal and Torres Strait Islander health performance framework*, *A picture of Australia's children* and *Overcoming Indigenous disadvantage*.

The latest publication on the NPDC is *Australia's mothers and babies 2012*. This is the twenty-first 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 is published annually in *Australia's mothers and babies* (Chapter 1), and is available in hard copy or on the AIHW website. Comprehensive information on the quality of Perinatal NMDS elements is published in *Perinatal National Minimum Data Set compliance evaluation 2006 to 2009* (Donnolley & 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 NMDS, 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 start 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 in the reference period may 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. Indigenous status of the baby has been added to the NMDS, with data collection starting from 1 July 2012. The number of antenatal care visits, post-partum perineal status, type of analgesia administered and type of anaesthesia administered have been added to the NMDS 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 in 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 does undertake 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 and Torres Strait Islander origin (AIHW 2012). 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 2012, data on the baby's Indigenous status were available from New South Wales, Victoria, Queensland, Tasmania, the Australian Capital Territory and the Northern Territory. 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 2012 as data do not include deaths occurring outside the Northern Territory. Differences in mortality rates may be due to the small number of deaths, which result in statistical fluctuations, under-ascertainment, or actual differences in mortality experience.

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 the ABS and the AIHW's 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 state 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 admitted patient care) in public and private hospitals in Australia.

As these collections differ from the 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, 2003 to 2012

Year	No. of births
2003	256,925
2004	257,205
2005	272,419
2006	282,169
2007	294,205
2008	296,925
2009	299,220
2010	299,563
2011	301,810
2012	312,153

Note: Provisional data were provided by Vic for 2009, 2010 and 2012.

Table E2: Women giving birth in the population, 2003 to 2012 (per 1,000 women aged 15–44)

Rate	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Crude	58.7	58.5	61.5	63.1	64.9	64.4	63.6	63.6	63.3	65.0
Age-standardised rate	59.0	58.9	62.0	63.7	65.6	64.9	63.9	63.7	63.4	65.0

Note: Provisional data were provided by Vic for 2009, 2010 and 2012.

Table E3: Primiparous women who gave birth, by maternal age, 2003 and 2012 (per cent)

Maternal age (years)	2003	2012
Younger than 20	83.1	83.5
20–24	55.0	55.8
25–29	46.2	49.1
30–34	35.5	37.7
35–39	26.6	26.5
40 and over	24.5	25.8

Table E4: Women who gave birth, by onset of labour, 2003 to 2012 (per cent)

Onset of labour	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Spontaneous	57.3	57.6	56.5	56.6	56.6	57.0	56.1	56.0	54.8	54.2
Induced	26.1	25.3	25.6	25.1	25.3	24.8	25.3	25.4	26.0	26.3
No labour	16.5	17.1	17.9	18.3	18.1	18.2	18.4	18.6	19.1	19.4

Note: Provisional data were provided by Vic for 2009, 2010 and 2012.

Table E5: Women who gave birth, by caesarean section and instrumental birth, 2003 to 2012 (per cent)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Caesarean section	28.5	29.4	30.3	30.8	30.9	31.1	31.5	31.6	32.3	32.4
Instrumental	10.7	11.0	10.8	10.7	11.2	11.4	11.7	12.0	12.1	12.4

Note: Provisional data were provided by Vic for 2009, 2010 and 2012.

Table E6: Women who gave birth, by caesarean section by maternal age and hospital sector, 2012 (per cent)

Maternal age (years)	Public	Private
Younger than 20	17.5	20.3
20–24	22.3	30.2
25–29	26.9	36.8
30–34	31.7	42.3
35–39	37.4	49.6
40 and over	44.8	60.2

Table E7: Length of stay of 5 days or more for babies born in hospital, 2003 to 2012 (per cent)

Length of stay	2003	2004	2005	2006	2007	2008	2009[(a)]	2010[(a)]	2011	2012[(b)]
5 days and over	31.5	30.3	28.2	27.0	25.3	24.1	23.0	22.7	21.4	20.8

(a) Excludes Vic.

(b) Data provided by Vic are provisional.

Note: Only babies who were discharged home are included.

Glossary

age-specific rate: A rate for a specific age group. The numerator and denominator relate to the same age group.

age standardisation: A method of removing the influence of age when comparing populations with different *age structures*. This is usually necessary because the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure, and then the disease rates that would have occurred with that structure are calculated and compared.

age structure: The relative number of people in each age group in a population.

antenatal: The period covering conception up to the time of birth. Synonymous with *prenatal*.

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 at 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. 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 1 hour of birth).

body mass index (BMI): The most commonly used method of assessing whether a person is normal weight, underweight, overweight or obese (see *obesity*). It is calculated by dividing the person's weight (in kilograms) by their height (in metres) squared; that is, kg ÷ m^2. For both men and women, underweight is a BMI below 18.5, acceptable weight is from 18.5 to less than 25, overweight is from 25 to less than 30, and obese is 30 and over. Sometimes overweight and obese are combined, and is defined as a BMI of 25 and over.

breech presentation: A fetal presentation in which the buttocks are at the opening of the womb. In a frank breech, the legs are straight up in front of the body. In a complete breech the legs are folded, but the feet are above the buttocks. In an incomplete breech, the feet are below the buttocks.

caesarean section: A method of birth in which a surgical incision is made into the mother's womb via the abdomen to directly remove the baby.

caudal anaesthesia or analgesia: The injection of an anaesthetic agent into the lowest (caudal) end of the spinal canal.

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

diabetes (diabetes mellitus): A chronic condition in which the body cannot properly use its main energy source, the sugar glucose. This is due to a relative or absolute deficiency in insulin. Insulin, a hormone produced by the pancreas, helps glucose enter the body's cells from the bloodstream and then be processed by them. Diabetes is marked by an abnormal build-up of glucose in the blood. It can have serious short- and long-term effects.

early neonatal death: Death of a liveborn baby within 7 days of birth.

epidural: Injection of an anaesthetic agent into the epidural space of the spinal cord.

epilepsy: A disturbance of brain function marked by recurrent fits and loss of consciousness.

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.

fetal death rate: Number of fetal deaths per 1,000 total births (fetal deaths plus live births).

first degree laceration: Graze, laceration, rupture or tear of the perineal skin during delivery that may be considered to be slight or that involves fourchette, labia, vagina or vulva.

forceps: Handheld, hinged obstetric instrument applied to the fetal head to assist birth.

fourth degree laceration: Perineal laceration, rupture or tear, as in third degree laceration, occurring during delivery and also involving anal mucosa or rectal mucosa.

frank breech presentation: See *breech presentation*.

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.

gestational diabetes: A form of *diabetes* that is first diagnosed during pregnancy (gestation). It may disappear after pregnancy but signals a high risk of diabetes occurring later on.

grand multipara: Pregnant woman who has had 4 or more previous pregnancies resulting in a live birth or stillbirth.

high blood pressure/hypertension: Definitions vary but a well-accepted one is from the World Health Organization: a systolic blood pressure of 140 mmHg or more or a diastolic blood pressure of 90 mmHg or more, or [the person is] receiving medication for high blood pressure.

Indigenous: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander.

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: Weight of a baby at birth that is 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 1 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.

neonatal mortality rate: Number of neonatal deaths per 1,000 live births.

non-Indigenous: People who have declared they are not of Aboriginal and Torres Strait Islander descent.

obesity: Marked degree of overweight, defined for population studies as a *body mass index* of 30 or over.

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.

perinatal mortality rate: Number of perinatal deaths per 1,000 total births (fetal deaths plus live births).

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.

pre-term 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 transmission of pain and sensation by 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.

second degree laceration: Perineal laceration, rupture or tear, as in first degree laceration, occurring during delivery and also involving pelvic floor, perineal muscles or vaginal muscles.

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 younger than 20 at the birth of her baby.

third degree laceration: perineal laceration, rupture or tear, as in second degree laceration, occurring during delivery and also involving anal floor, rectovaginal septum or sphincter not otherwise specified.

vacuum extraction: Assisted birth using traction or rotation on a suction cap applied to the baby's head.

very low birthweight: Birthweight of less than 1,500 grams.

vital statistics: Statistics concerning human life or the conditions affecting human life and the maintenance of population, such as births, marriages and deaths.

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List of tables

List of figures

Related publications

This report, *Australia's mothers and babies 2012*, 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 publications relating to mothers and babies might also be of interest:

- AIHW National Perinatal Epidemiology and Statistics Unit and AIHW 2013. National core maternity indicators. Cat. no. PER 58. 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.
- 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 2014. Assisted reproductive technology in Australia and New Zealand 2011. Sydney: National Perinatal Epidemiology and Statistics Unit, the University of New South Wales.

In 2012, 307,474 women gave birth to 312,153 babies in Australia. This was an increase of 10,343 births (3.4%) from that reported in 2011, and a total increase of 21.5% since 2003. Nationally, the proportion of teenage mothers (younger than 20) declined from 3.7% in 2011 to 3.6% in 2012, compared with 4.6% in 2003.

Perinatal statistics series