

Pregnancy Outcome

in South Australia 2022



**Government
of South Australia**

Preventive Health SA

Published April 2025

Pregnancy Outcome in South Australia 2022

© Preventive Health SA

ISSN 0819-3835

Suggested citation: Pregnancy Outcome in South Australia 2022. Adelaide: Pregnancy Outcome Unit, Epidemiology and Research Division, Preventive Health SA, Government of South Australia, 2025.

Acknowledgements

We would like to express our thanks to the hospital midwives, privately practising midwives attending homebirths, and neonatal nurses in South Australia who provide information for the Supplementary Birth Records on which the South Australian Perinatal Data Collection is based, the doctors who notified births with congenital anomalies and those who notified terminations of pregnancy. The Pregnancy Outcome Unit also acknowledges Births, Deaths and Marriages within the Attorney-General's Department, and the State Coroner's Office for their contribution to the collation of perinatal data statistics in South Australia.

The ongoing expertise and contributions of staff members of the Pregnancy Outcome Unit, Information Systems Team, and the Data Analytics and Health Translation Branch within Preventive Health SA is greatly appreciated.

Abbreviations

ABS	Australian Bureau of Statistics
ASFR	age-specific fertility rate
APH	ante-partum haemorrhage
BMI	body mass index
CTG	cardiotocography
IPPV	intermittent positive pressure ventilation
FGR	fetal growth restriction (also referred to as intra-uterine growth restriction)
PPH	post-partum haemorrhage
SACC	Standard Australian Classification of Countries
SBR	Supplementary Birth Record
SD	Standard deviation

Contents

Acknowledgements	3
Abbreviations	3
Contents	4
Tables	6
Figures	7
Executive Summary	8
Background	10
Data Collection	10
Annual Report	10
1.1 Place of residence	11
1.2 Maternal Aboriginal status	12
1.3 Maternal age	12
1.4 Country of birth	14
1.5 Occupation of mother and partner	16
1.6 Body mass index (BMI)	16
1.7 Tobacco smoking status	17
1.8 Alcohol consumption	19
1.9 Immunisations during pregnancy	20
Pregnancy profile	20
2.1 Parity and previous pregnancy outcomes	20
2.2 Antenatal visits	21
2.3 Gestation at first antenatal visit	21
2.4 Type of antenatal care	22
2.5 Medical conditions	22
2.6 Obstetric complications	23
2.7 Procedures performed in current pregnancy	23
Labour	24
3.1 Onset of labour	24
3.2 Induction of labour	25
3.3 Augmentation of labour	26
3.4 Method of birth and fetal presentation	26
3.5 Analgesia for labour and anaesthesia for birth	28
3.6 Reason for caesarean section	29
3.7 Caesarean section by maternity service	30
3.8 Complications of labour and birth	31
3.9 Primary post-partum haemorrhage (PPH)	31
3.10 Perineal status after birth	32
3.11 Fetal monitoring during labour	33
3.12 Length of stay	33
Babies	34
4.1 Crude birth rate	34
4.2 Place of birth	35
4.3 Place of birth by Aboriginal status of mother	35
4.4 Hospital birth by perinatal service	35

4.5	Home birth.....	36
4.6	Sex	37
4.7	Plurality	38
4.8	Gestational age	38
4.9	Birthweight	40
4.10	Birthweight, plurality and gestational age	41
4.11	Apgar scores	42
4.12	Baby resuscitation	42
4.13	Birth injuries	43
4.14	Congenital anomalies.....	44
4.15	Treatment given in neonatal period	45
4.16	Level of neonatal care utilised	45
4.17	Perinatal outcome	46
4.18	Length of stay of live born babies	47
	Perinatal Mortality	48
	Terminations of Pregnancy	48
	Obstetric Profiles by Hospital Category	49
	National Core Maternity Indicators	51
	Antenatal Period: A1a A1b Smoking in pregnancy	51
	Antenatal Period: A2 Antenatal care in the first trimester	52
	Labour and Birth: Induction of labour for selected primiparae	52
	Labour and Birth: Unassisted vaginal birth for selected primiparae	53
	Labour and Birth: Assisted vaginal birth for selected primiparae	53
	Labour and Birth: Episiotomy for women having their first baby and giving birth vaginally	53
	Labour and birth: Caesarean section for selected primiparae	54
	Labour and birth: Women having their second birth vaginally whose first birth was by caesarean section	54
	Labour and Birth: General anaesthetic for women giving birth by caesarean section	55
	Birth Outcomes: Third and fourth degree tears for vaginal births	55
	Birth Outcomes: Apgar score of less than 7 at 5 minutes for births at or after term... ..	56
	Birth Outcomes: Small babies among births at or after 40 weeks gestation	56
	Key Statistics and Trends 2013 - 2022	57
	Summary Statistics for 2022	60
	Methods and Terminology	61
	References	65
	Appendix 1	66
	Appendix 2	67

Tables

Table 1: Births and crude birth rate by ABS Statistical Geographical Boundaries (ASGS 2021), South Australia, 2022.....	11
Table 2: Aboriginal status of women who gave birth, South Australia, 2022	12
Table 3: Age and Aboriginal status of women who gave birth, South Australia, 2022.....	12
Table 4: Age-specific fertility rates (ASFR), South Australia, 2022	13
Table 5: Country of birth group ¹ for women who gave birth, South Australia, 2022.....	14
Table 6: Specified country of birth ¹ for women who gave birth, South Australia, 2022.....	15
Table 7: Occupation ¹ of mother and partner, South Australia, 2022.....	16
Table 8: BMI of women at the first antenatal visit, South Australia, 2022	17
Table 9: Tobacco smoking status at any time during pregnancy by age and Aboriginal status, South Australia, 2022 ¹	18
Table 10: Parity by Aboriginal status of women who gave birth, South Australia, 2022	20
Table 11: Previous adverse pregnancy outcomes, multigravidae women, South Australia, 2022 (n=13,209).....	21
Table 12: Antenatal visits by Aboriginal status of women who gave birth, South Australia, 2022	21
Table 13: Gestation at first antenatal visit, women who gave birth by Aboriginal status, South Australia, 2022	21
Table 14: Type of antenatal care, women who gave birth, South Australia, 2022	22
Table 15: Specified medical conditions in current pregnancy, women who gave birth, South Australia, 2022	22
Table 16: Obstetric complications specified in current pregnancy, women who gave birth, South Australia, 2022	23
Table 17: Procedures performed in current pregnancy, women who gave birth, South Australia, 2022	23
Table 18: Onset of labour, women who gave birth, South Australia, 2022	24
Table 19: Method of induction of labour, women who gave birth, South Australia, 2022	25
Table 20: Reasons for induction of labour, South Australia, 2022 (n=7,139).....	25
Table 21: Augmentation after spontaneous labour onset, women who gave birth, South Australia, 2022	26
Table 22: Method of birth, women with live babies, South Australia, 2022	26
Table 23: Fetal presentation, live births, South Australia, 2022	27
Table 24: Method of birth by fetal presentation, live births, South Australia 2022	27
Table 25: Method of birth by plurality, live breech births, South Australia, 2022	27
Table 26: Analgesia for labour, women who laboured, South Australia, 2022.....	28
Table 27: Anaesthesia for birth, women who gave birth via caesarean section or instrumental birth, South Australia, 2022.....	29
Table 28: Caesarean section by maternity service, South Australia, 2022	30
Table 29: Selected complications of labour and birth, women who gave birth, South Australia, 2022	31
Table 30: Method of birth ¹ and perineal status for women who gave birth vaginally to live babies, South Australia, 2022.....	32
Table 31: Cardiotocography performed during labour, women who gave birth, South Australia, 2022	33
Table 32: Length of stay by patient type, women who gave birth in South Australian hospitals ¹ , 2022	33
Table 33: Postnatal length of stay by patient and birth type, women who gave birth in South Australian hospitals ¹ , 2022	33
Table 34: Crude birth rate for babies born, South Australia, 1986 - 2022.....	34
Table 35: Total births notified by place of birth and plurality, South Australia, 2022.....	35
Table 36: Total births notified by place of birth and Aboriginal status of mother, South Australia, 2022	35
Table 37: Hospital births by perinatal service delineation and Aboriginal status of mother, South Australia, 2022	36
Table 38: Age of women in planned home births, South Australia, 2022.....	36

Table 39: Method of birth in planned home births, South Australia, 2022.....	36
Table 40: Birthweight of planned home births, South Australia, 2022.....	37
Table 41: Perinatal outcome in planned home births, South Australia, 2022.....	37
Table 42: Sex of baby, all births, South Australia, 2022.....	37
Table 43: Sex of baby by birth status, South Australia, 2022.....	38
Table 44: Plurality of birth by maternal Aboriginal status for babies born, South Australia, 2022.....	38
Table 45: Gestation at birth by Aboriginal status of women, South Australia, 2022	38
Table 46: Gestation at birth by plurality, South Australia, 2022	39
Table 47: Gestational age at birth for singleton babies by birth status, South Australia, 2022	39
Table 48: Birthweight distribution of all births, South Australia, 2022	40
Table 49: Birthweight by plurality, all births, South Australia, 2022.....	41
Table 50: Birthweight by gestation for singleton babies ¹ born in South Australia, 2022	42
Table 51: Apgar scores ¹ at one and five minutes after birth for babies born alive, South Australia, 2022	42
Table 52: Resuscitation received by babies born alive in South Australia, 2022	43
Table 53: Birth injuries among liveborn babies, South Australia, 2022	43
Table 54: Selected congenital anomalies, South Australia, 2012 - 2022	44
Table 55: Neonatal treatment given, all live births, South Australia, 2022	45
Table 56: Level of nursery care by birthweight, all live births ¹ , South Australia, 2022	45
Table 57: Perinatal outcome by plurality, all births, South Australia, 2022	46
Table 58: Perinatal outcome by Aboriginal status of mother, all births, South Australia, 2022.....	46
Table 59: Length of stay of liveborn babies in hospital ¹ , South Australia, 2022.....	47
Table 60: Obstetric profiles by hospital category, South Australia, 2022	50
Table 61: Socio-demographic aspects of perinatal statistics, South Australia, 1986 and 2013 – 2022	58
Table 62: Obstetric aspects of perinatal statistics, South Australia, 1986 and 2013 – 2022	59

Figures

Figure 1: Broad age groups of women who gave birth, South Australia, 1986 - 2022.....	13
Figure 2: Body Mass Index of women at the first antenatal visit (excluding unknown), South Australia, 2007 - 2022.....	17
Figure 3: Proportion of women smoking during pregnancy by Aboriginal status, South Australia, 2022 (excludes unknown) ¹	18
Figure 4: Proportion of women consuming alcohol during pregnancy by Aboriginal status, South Australia, 2022 (excludes unknown) ¹	19
Figure 5: Trend for onset of labour for women who gave birth in South Australia, 1986 - 2022	24
Figure 6: Method of birth for all live births in South Australia, 1986 - 2022.....	28
Figure 7: Reason for caesarean section, South Australia, 2022 (n=7,429)	29
Figure 8: Caesarean section by maternity service, South Australia, 1986 - 2022	30
Figure 9: Perineal status among primiparae women who gave birth vaginally, South Australia, 2002 - 2022	32
Figure 10: Proportion of healthy birthweight babies by maternal Aboriginal status, South Australia, 1986 - 2022.....	41

Executive Summary

Number of births and fertility rates

The number of births notified in South Australia in 2022 was 19,584 which was 588 fewer births than in 2021 where the number of births increased for the first time in seven years. The number of women who gave birth was 19,300. The total fertility rate was 1.62 live births per woman, compared with the rate of 1.69 in 2021. When compared with the age-specific fertility rates for 2021, there was an increase in all age groups, with the exception of the 40-44 year age group.

Age of women

Two hundred and ninety-two teenage women gave birth in 2022; accounting for 1.5% of women who gave birth in South Australia compared with 1.4% in 2021. The proportion of women aged 35 years and over who gave birth was 25.7% in 2022. The mean age of women giving birth has been increasing over the previous decade, and this peaked in 2022 at 31.0 years. As with previous years, the age-specific fertility rate in the 30-34 year age group was higher than in the 25-29 year age group.

Place of birth

In 2022, 61.7% of births occurred at the three metropolitan teaching hospitals which was stable when compared to 2021. A further 20.2% of all births occurred at metropolitan private hospitals. There were 249 women (1.3%) who gave birth at home as planned, an increase from 153 (0.8%) women in 2021. All 249 home births in 2022 were planned home births.

Country of birth

Seventy-three percent of women who gave birth in 2022 were Australian born. Of women born overseas who gave birth in South Australia, the largest proportions came from India (20.2%), China (7.8%) and United Kingdom (6.9%).

Body mass index

In 2022, amongst mothers for whom body mass index could be calculated 57.2% were of an unhealthy weight. Of the overweight women giving birth, 15.2% were classified as obese and 11.7% severely or morbidly obese.

Antenatal care and length of stay

Around 82% of women attended antenatal care within the first 14 weeks of pregnancy. Of the women for whom the number of antenatal visits was reported, 81.3% attended seven or more antenatal visits. Many women had more than one type of antenatal care. However, the most common care types were public hospital clinics (50.0%), obstetricians in private practice (23.4%), public hospital shared care (14.2%) and midwifery group practice at birth hospital (12.4%).

The median length of stay in hospital after birth for all women was three days; the median length of stay was two days for women who had a vaginal birth and three days for women who had a caesarean section. Amongst private patients, the median length of stay was two days longer for vaginal births and caesarean sections, compared with public patients.

Procedures

At least one ultrasound examination was performed for 96.2% of women who gave birth in 2022. Over a third of all labours were induced (37.0%) and 12.7% of women giving birth had labour augmented after spontaneous labour onset. The main reasons for induction of labour were pre-existing diabetes or gestational diabetes (20.2%), maternal choice (13.7%) and other obstetric or medical conditions (11.6%). Around fifteen percent (15.1%) of inductions of labour were performed for other than defined indications. The two most common forms of analgesia for pain relief during labour was nitrous oxide and oxygen (52.0% of women) and epidurals (44.7% of women). Of women who gave birth vaginally, 25.1% had an episiotomy.

Method of birth

In 2022, 50.4% of women had normal spontaneous vaginal births, a further 5.9% were delivered by ventouse and 4.9% were delivered by forceps. The proportion of women giving birth by caesarean section was 38.7%, which was similar to the proportion in 2021 (37.2%). The main reasons given for caesarean section were previous caesarean section (35.1%), failure to progress in labour (22.3%) and fetal distress (20.6%).

Plurality

In 2022, there were 565 multiple births comprising 556 twins and 9 triplets. Multiple births accounted for 2.8% of all births.

Aboriginal mothers and babies

Not all pregnancy outcomes are experienced equally across the population. Many of the data have been reported by Aboriginal status to enable Aboriginal and Torres Strait Islander people access to locally relevant data to monitor the implementation of efforts to Close the Gap.

Eight hundred and forty-three Aboriginal women gave birth in South Australia in 2022, accounting for 4.4% of all women who gave birth in the state. The Aboriginal status of babies was also collected independently of mothers. There were 1,203 Aboriginal babies, representing 6.1% of all babies born in South Australia in 2022. In 2022, 10.0% of Aboriginal women who gave birth were teenagers which was higher than 2021 (7.5%)

Of the Aboriginal women for whom gestation at the first antenatal visit was reported, 60.8% attended for antenatal care within the first 14 weeks of pregnancy (compared with 82.9% of non-Aboriginal women). Of the Aboriginal women for whom the number of antenatal visits was reported, 69.3% attended at least seven antenatal visits during pregnancy (compared with 81.8% of non-Aboriginal women).

In 2022, 40.9% of Aboriginal women with a known smoking status reported that they smoked tobacco at any time during their pregnancy, compared with 5.3% of non-Aboriginal women. Around three percent (3.2%) of Aboriginal women with a known status of alcohol consumption reported consuming alcohol at any time during their pregnancy, compared with 1.0% of non-Aboriginal women.

In 2022, the proportion of preterm births (<37 weeks gestation) was 16.5% among babies of Aboriginal women compared with 8.6% among babies of non-Aboriginal women. The proportion of babies born with a healthy birthweight in 2022 was 86.2% of Aboriginal women compared with 83.0% in 2021.

Perinatal mortality

Detailed data on maternal and perinatal mortality rates, demographics, death classifications and key learning points for South Australia are reported by the Maternal and Perinatal Mortality Committee, available at the [Pregnancy Outcome Statistics Webpage](#).

Termination of pregnancy

For a more complete picture of pregnancy outcome in South Australia please see the accompanying reports for Termination of Pregnancy and Maternal and Perinatal Mortality, available at the [Pregnancy Outcome Statistics Webpage](#).

Background

Data Collection

Notifications for all births occurring in South Australia in 2022 were collected under the *South Australian Health Care Regulations 2008 – Part 5 Pregnancy Outcome Data and Statistics*. This includes births to women who normally reside interstate however births of South Australian residents which occur in other states are not included. The perinatal data have been collected since 1981, with some changes to the data items collected over the years.

The perinatal data are compiled from notifications submitted by hospital midwives, privately practising midwives attending homebirths, and neonatal nurses using either the Supplementary Birth Record (SBR) data collection form (Appendix 1), or its electronic equivalent.

Data on congenital anomalies detected at birth or in the neonatal period (within 28 days of birth) are also provided as part of the perinatal statistics collection using the Congenital Abnormality Form (Appendix 2) or the SBR data collection form. Limited statistics on birth defects are included in this report as these are reported annually by the South Australian Birth Defects Register at the Women's and Children's Hospital¹. The Birth Defects Register complements statistics on birth defects from the perinatal and medical termination collections with statistics on birth defects detected and notified after discharge from the birth hospital, up to the child's fifth birthday.

For a more complete picture of pregnancy outcome in South Australia please see the accompanying reports for Termination of Pregnancy and Maternal and Perinatal Mortality, available at the [Pregnancy Outcome Statistics Webpage](#).

Additionally, pregnancy outcome data are available via Preventive Health SA's [Open Data Portal](#) including interactive summary visualisations.

Annual Report

The births described in this report include live births, stillbirths and terminations of pregnancy of at least 400g birthweight or 20 weeks gestation. The 19,584 births in South Australia in 2022 comprised of 19,428 live births and 156 stillbirths. The number of women who gave birth was 19,300. Definitions used in this report are provided in the Methods and Terminology section.

The term Aboriginal is used respectfully in this report as an all-encompassing term for Aboriginal and Torres Strait Islander mothers or babies.

The terms woman, women and mother are used in this report as most pregnant and birthing people identify with their birth sex. However, it is acknowledged these terms include people who do not identify as women, including those with a non-binary identity.

Mothers

1.1 Place of residence

This table uses the ABS Australian Statistical Geography Standard boundaries (ASGS 2021), with Statistical Area Level 4 boundaries for the four Adelaide metropolitan regions, and Statistical Area Level 3 boundaries to present the nine non-metropolitan regions in South Australia. The distribution of births according to the mother's place of residence by these regions is provided in Table 1 together with the estimated resident population and crude birth rate. The crude birth rate in 2022 for South Australia was 10.7 per 1,000 population. It was lowest in the Fleurieu-Kangaroo Island and highest in Adelaide - North.

Table 1: Births and crude birth rate by ABS Statistical Geographical Boundaries (ASGS 2021), South Australia, 2022

Mother's residence	Total births		Live births	Estimated resident population ¹	Crude birth rate per 1,000 population
	Number	Percent	Number	Number	
Adelaide - Central and Hills	2,788	14.2	2,773	319,372	8.7
Adelaide - North	5,888	30.1	5,831	467,361	12.5
Adelaide - South	4,038	20.6	4,015	381,357	10.5
Adelaide - West	2,813	14.4	2,794	250,140	11.2
Barossa	339	1.7	337	39,272	8.6
Lower North	224	1.1	222	23,205	9.6
Mid North	265	1.4	263	27,713	9.5
Yorke Peninsula	239	1.2	238	27,582	8.6
Eyre Peninsula and South West	680	3.5	672	58,966	11.4
Outback - North and East	294	1.5	291	26,590	10.9
Fleurieu - Kangaroo Island	400	2.0	396	57,560	6.9
Limestone Coast	723	3.7	719	68,777	10.5
Murray and Mallee	727	3.7	723	73,305	9.9
Interstate	166	0.8	154	-	-
Total	19,584	100.0	19,428	1,821,200	10.7

¹ Australian Bureau of Statistics. population estimates by age and sex, Regions of South Australia, 2022. Canberra: ABS, 2023 (Catalogue No 3235.0).

1.2 Maternal Aboriginal status

The distribution of women who gave birth, by Aboriginal status is provided in Table 2. In 2022, there were 843 births to Aboriginal mothers which represented 4.4% of all women. The Aboriginal status of the baby was also collected independently of the mother. There were 1,203 Aboriginal babies, representing 6.1% of all babies born in South Australia in 2022. They comprised 1,122 (93.3%) Aboriginal, 19 (1.6%) Torres Strait Islander and 62 (5.2%) Aboriginal and Torres Strait Islander babies.

Table 2: Aboriginal status of women who gave birth, South Australia, 2022

Aboriginal status	Number of women	% Women
Aboriginal	843	4.4
Non-Aboriginal	18,457	95.6
Total	19,300	100.0

1.3 Maternal age

Table 3 shows the age and Aboriginal status of women who gave birth in South Australia in 2022. The largest number of women who gave birth in South Australia were in the 30-34 year age group. The proportion of women in this age group (36.7%) has exceeded that of the 25-29 years age group (26.7%) since 2001. Teenage women accounted for 1.5% of women who gave birth, and 25.7% of women who gave birth were aged 35 years or more. Aboriginal women were generally younger than non-Aboriginal women; 10.0% were teenagers and 11.8% were aged 35 years or older.

Table 3: Age and Aboriginal status of women who gave birth, South Australia, 2022

Age Group	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
<20	84	10.0	208	1.1	292	1.5
20-24	260	30.8	1,558	8.4	1,818	9.4
25-29	213	25.3	4,942	26.8	5,155	26.7
30-34	186	22.1	6,896	37.4	7,082	36.7
35-39	83	9.8	3,961	21.5	4,044	21.0
40-44	15	1.8	841	4.6	856	4.4
45+	<5	0.2	51	0.3	53	0.3
Total	843	100.0	18,457	100.0	19,300	100.0

The five-year age-specific fertility rate was highest in the 30-34 year age group (116.5 per 1,000 women), followed by the 25-29 year age group (86.9 per 1,000 women, Table 4). When compared with the age-specific fertility rates for 2021, the only slight increase was in the 40-44 year age group (from 13.8 per 1,000 women in 2021 to 15.4 per 1,000 women in 2022). There were decreases in all other age groups compared to the rates for 2021. The general fertility rate (see Methods and Terminology) was 56.5 per 1,000 women aged 15-44 years, which is lower than the general fertility rate in 2021 (59.1 per 1,000 women). The total fertility rate in 2022 was 1.62 live births per woman (compared with 1.69 live births per woman in 2021), which remains below the replacement level of 2.1 children per woman².

Table 4: Age-specific fertility rates (ASFR), South Australia, 2022

Age group (years)	Number of live births	Estimated resident female population ¹	Age-specific fertility rate per 1,000 women (ASFR) ^{2,3}
15-19	287	50,393	5.7
20-24	1,817	53,834	33.8
25-29	5,176	59,564	86.9
30-34	7,151	61,405	116.5
35-39	4,074	62,104	65.6
40-44	867	56,262	15.4
45+	56	na	na
Total	19,428	343,562	56.5

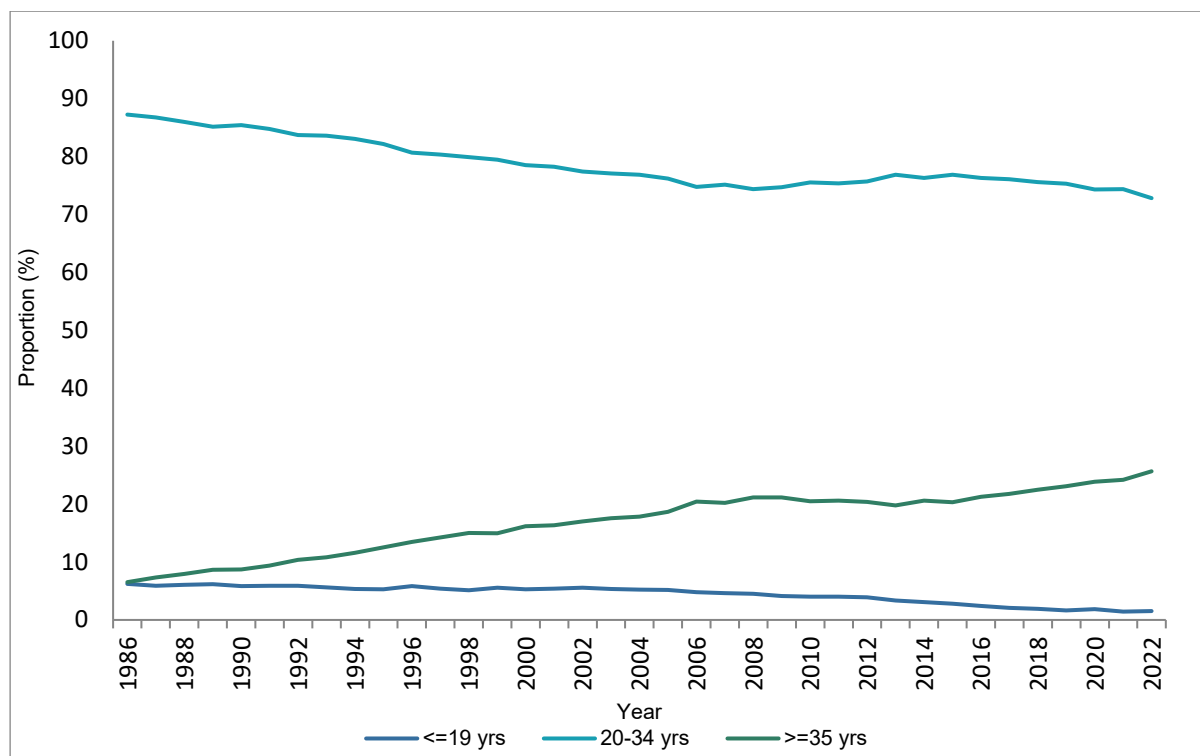
¹ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2022. Canberra: ABS, 2022

² The number of live births and fertility rate for women aged 15-19 years include live births for younger ages, and the number and rate for women aged 40-44 years include live births for older ages. The total number and rate include all live births.

³ Sum of 5-year ASFRs = 323.8 per 1,000 women. Total fertility rate = $323.8 \times 5 = 1619.0$ live births per 1,000 women = 1.62 live births per woman.

Figure 1 presents the proportion of women giving birth by broad age groups since 1986. The proportion of women aged 35 years or older has increased from 6.5% in 1986 to 25.7% in 2022.

Figure 1: Broad age groups of women who gave birth, South Australia, 1986 - 2022



1.4 Country of birth

The distribution of the mother's country of birth is provided in Table 5 by group, and in Table 6 by specified country. Of the 27.3% of women born outside of Australia who gave birth in South Australia in 2022, the largest proportions were born in India (20.2%), China (7.8%) and the United Kingdom (6.9%).

Table 5: Country of birth group¹ for women who gave birth, South Australia, 2022

Country of birth group	Number	%
Oceania	14,142	73.3
North-West Europe	494	2.6
Southern and Eastern Europe	248	1.3
North Africa and Middle East	335	1.7
South-East Asia	853	4.4
North-East Asia	574	3.0
Southern and Central Asia	1,893	9.8
Americas	279	1.4
Sub-Saharan Africa	456	2.4
Unknown	26	0.1
Total	19,300	100.0

¹ Australian Bureau of Statistics. Standard Australian Classification of Countries 2016 (SACC). Canberra: ABS

Table 6: Specified country of birth¹ for women who gave birth, South Australia, 2022

Specified country of birth	Number	% of women	% of women born overseas who gave birth (n=5,269)
Australia (includes External Territories)	14,005	72.6	-
India	1,063	5.5	20.2
China (excludes SARs and Taiwan)	411	2.1	7.8
United Kingdom, Channel Islands and Isle of Man	363	1.9	6.9
Philippines	276	1.4	5.2
Nepal	260	1.3	4.9
Afghanistan	244	1.3	4.6
Vietnam	187	1.0	3.5
Pakistan	156	0.8	3.0
Malaysia	140	0.7	2.7
New Zealand	99	0.5	1.9
South Africa	96	0.5	1.8
Sri Lanka	85	0.4	1.6
Iran	84	0.4	1.6
Sudan	79	0.4	1.5
United States of America	73	0.4	1.4
Brazil	65	0.3	1.2
Kenya	61	0.3	1.2
Cambodia	57	0.3	1.1
Thailand	54	0.3	1.0
Colombia	51	0.3	1.0
Myanmar	50	0.3	0.9
Indonesia	47	0.2	0.9
Korea, Republic of (South)	47	0.2	0.9
Congo, Republic of	44	0.2	0.8
Ireland	42	0.2	0.8
Bangladesh	42	0.2	0.8
Canada	41	0.2	0.8
Iraq	40	0.2	0.8
All other countries	1,012	5.2	19.2
Unknown	26	0.1	-
Total	19,300	100.0	-

¹ Australian Bureau of Statistics. Standard Australian Classification of Countries 2016 (SACC). Cat No. 1269.0. Canberra: ABS

1.5 Occupation of mother and partner

The distribution of occupations for mothers giving birth in 2022, and their partners are presented in Table 7. The most common occupation type for mothers were professionals (23.3%), salespersons and personal service workers (16.6%) and home duties (13.9%). The most common occupations for partners were tradespersons (23.1%), professionals (18.0%) and managers and administrators (13.8%).

Table 7: Occupation¹ of mother and partner, South Australia, 2022

Occupation	Mother		Partner	
	Number	%	Number	%
Clerks	1,847	9.6	475	2.5
Labourers and related workers	704	3.6	2,334	12.1
Managers and administrators	1,992	10.3	2,656	13.8
Para professionals	1,956	10.1	1,378	7.1
Plant and machine operators and drivers	113	0.6	1,592	8.2
Professionals	4,495	23.3	3,467	18.0
Salespersons and personal service workers	3,211	16.6	1,218	6.3
Tradespersons	718	3.7	4,453	23.1
Home duties	2,676	13.9	67	0.3
Pensioners	12	0.1	28	0.1
Students	479	2.5	165	0.9
Unemployed	736	3.8	694	3.6
Other	131	0.7	105	0.5
Unknown	230	1.2	668	3.5
Total	19,300	100.0	19,300	100.0

¹ Australian Bureau of Statistics. ASCO. First Edition. Occupation Definitions. Canberra: ABS, 1990. (Catalogue No. 1223.0)

1.6 Body mass index (BMI)

Reported height and weight at the first antenatal visit were used to calculate the body mass index (BMI) for women who gave birth. This was considered valid only for women who attended the first antenatal visit before 20 weeks gestation. Among these 17,946 women (93.0% of all women who gave birth), height and weight were not reported for 629 women (3.5%). Therefore, BMI was calculated for 17,317 women who gave birth in 2022 (96.5% of women who attended the first antenatal visit before 20 weeks gestation). Table 8 shows that 57.2% of these women recorded a BMI of 25 or higher, which is above the normal weight range.

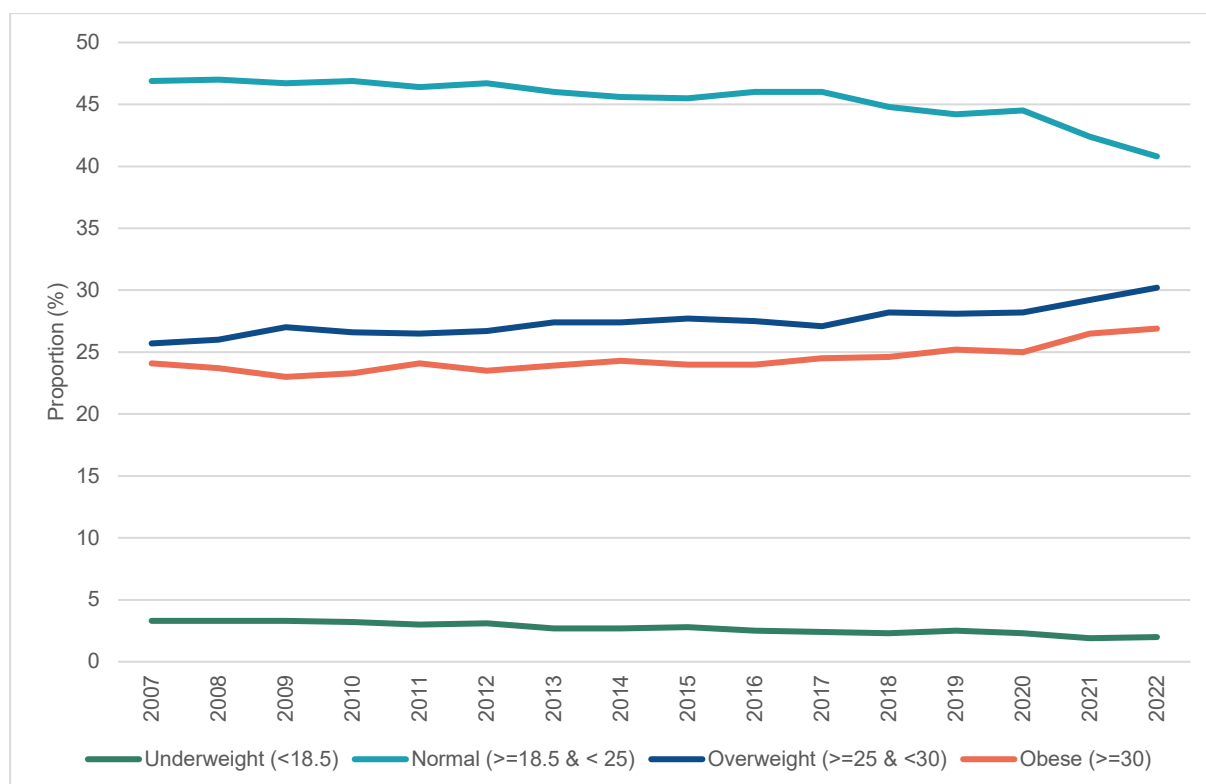
Table 8: BMI of women at the first antenatal visit, South Australia, 2022

BMI ¹		Number	%	Adjusted % (excluding unknown n=17,317)
<18.5	underweight	352	1.9	2.0
18.5 – 24.9	normal	7,068	41.0	40.8
25.0 – 29.9	overweight	5,231	28.3	30.2
30.0 – 34.9	obese	2,632	14.5	15.2
35.0 – 39.9	severely obese	1,249	6.7	7.2
≥40	morbidly obese	785	4.4	4.5
Unknown		629	3.2	-
Total		17,946	100.0	100.0

¹ based on height and weight at first antenatal visit, where gestation at first antenatal visit was <20 weeks

Figure 2 presents the proportion of women giving birth by BMI category since 2007. The proportion of women with a recorded BMI of 30 or higher (obese) has increased from 24.1% in 2007 to 26.9% in 2022.

Figure 2: Body Mass Index of women at the first antenatal visit (excluding unknown), South Australia, 2007 - 2022



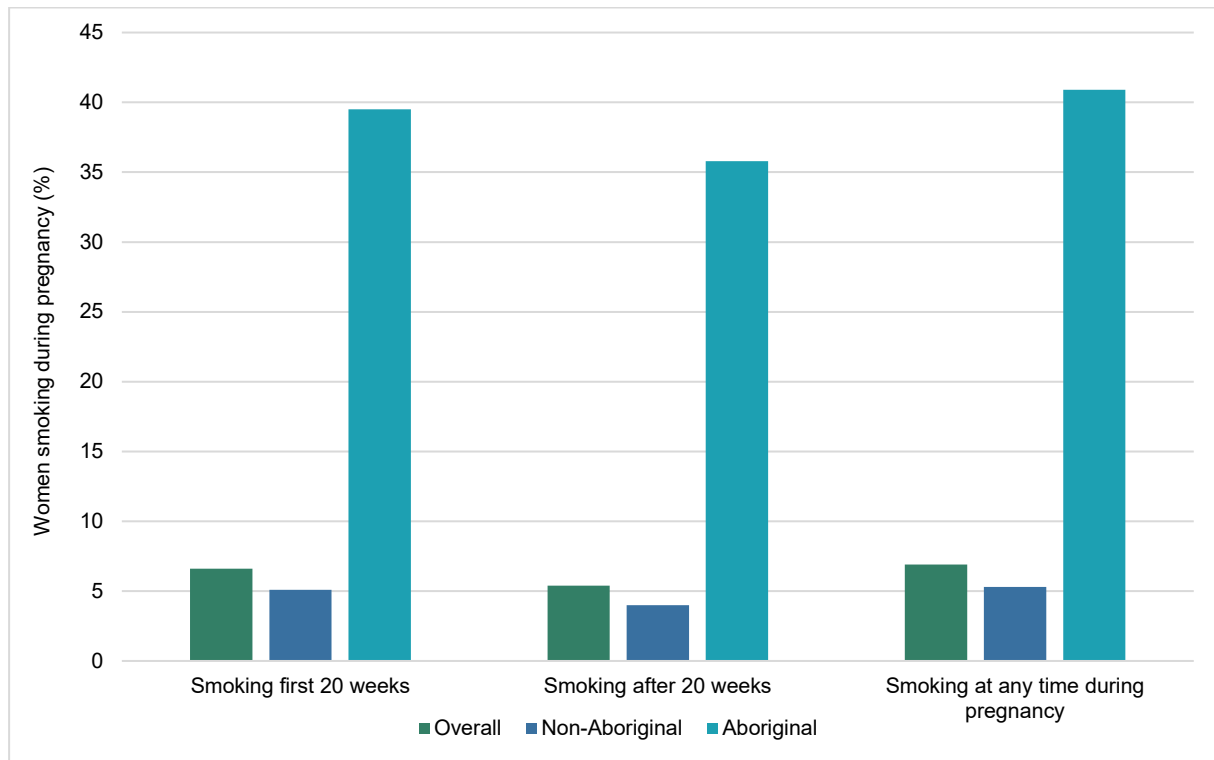
1.7 Tobacco smoking status

Data are collected for tobacco smoking status during the first 20 weeks of pregnancy and the second 20 weeks of pregnancy and are used to calculate a tobacco smoking status for women at any time during pregnancy. A new tobacco smoking data element was implemented in 2020 to align with national reporting and data are not comparable to reports prior to 2020.

Tobacco smoking status was unknown for 888 women during the first 20 weeks and 802 women during the second 20 weeks of pregnancy. This results in a known smoking status for 18,186 women who gave birth (94.2%) in 2022. Among these, 6.9% of women were reported to be tobacco smokers at any time during their pregnancy and this was higher among Aboriginal women (40.9%) than non-Aboriginal women (5.3%).

A higher proportion of women reported smoking during the first 20-weeks of their pregnancy (6.6%), compared with after 20-weeks (5.4%, Figure 3) and this has declined slightly when compared to 2021; 7.2% of women during the first 20 weeks of pregnancy and 5.8% of women after 20 weeks of pregnancy.

Figure 3: Proportion of women smoking during pregnancy by Aboriginal status, South Australia, 2022 (excludes unknown)¹



¹ Tobacco smoking status unknown for n=888 women during first 20 weeks, n=802 women after 20 weeks and n=1,114 women at any time during pregnancy.

In 2022, the highest proportion of smoking at any time during pregnancy was among women aged under 25 years (17.6%). The proportions of Aboriginal women smoking at any time during pregnancy were higher across all age groups compared to non-Aboriginal women (Table 9).

Table 9: Tobacco smoking status at any time during pregnancy by age and Aboriginal status, South Australia, 2022¹

Age (years)	Non-Smoker		Smoker		Total	
	Number	%	Number	%	Number	%
Total						
<25	1,652	82.4	353	17.6	2,005	100.0
25-34	10,879	94.3	653	5.7	11,532	100.0
≥35	4,407	94.8	242	5.2	4,649	100.0
Total	16,938	93.1	1,248	6.9	18,186	100.0
Aboriginal						
<25	195	60.9	125	39.1	320	100.0
25-34	224	59.7	151	40.3	375	100.0
≥35	47	50.5	46	49.5	93	100.0
Total	466	59.1	322	40.9	788	100.0
Non-Aboriginal						
<25	1,457	86.5	228	13.5	1,685	100.0
25-34	10,655	95.5	502	4.5	11,157	100.0
≥35	4,360	95.7	196	4.3	4,556	100.0
Total	16,472	94.7	926	5.3	17,398	100.0

¹ Tobacco smoking status unknown for n=1,114 women at any time during pregnancy.

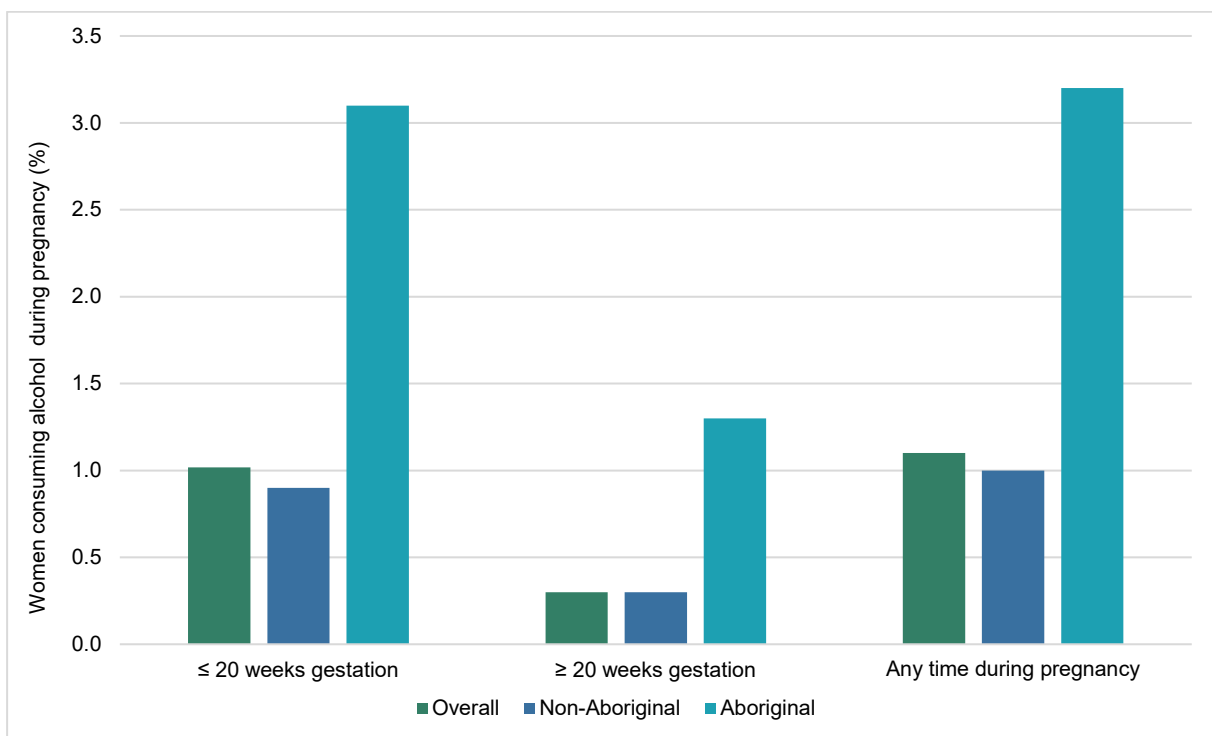
1.8 Alcohol consumption

Data collection regarding alcohol consumption during pregnancy commenced in 2020. Data are collected for alcohol consumption during the first 20 weeks of pregnancy and the second 20 weeks of pregnancy and are used to calculate an alcohol consumption status for women at any time during pregnancy.

Alcohol consumption status was unknown for 2,590 women during the first 20 weeks of pregnancy and 2,446 women during the second 20 weeks of pregnancy. This results in a known alcohol consumption status for 16,363 women who gave birth in 2022 (84.8%). Among these women, 1.1% consumed alcohol at any time during their pregnancy, and this was higher among Aboriginal women (3.2%) than non-Aboriginal women (1.0%)

A higher proportion of women reported consuming alcohol during the first 20 weeks of their pregnancy (1.0%) compared with after 20 weeks (0.3%, Figure 4).

Figure 4: Proportion of women consuming alcohol during pregnancy by Aboriginal status, South Australia, 2022 (excludes unknown)¹



¹ Alcohol consumption status unknown for n=2,590 women during first 20 weeks, n=2,446 women after 20 weeks and n=2,761 women at any time during pregnancy.

1.9 Immunisations during pregnancy

Data collection regarding immunisations during pregnancy commenced in 2020.

Due to the high number of unknown vaccination status, and unknown vaccination dates, the data below should be used with caution.

Of mothers for which influenza vaccination status was known (n=7,932), 39.8% received a flu vaccination during pregnancy. Of mothers for which date of influenza vaccination was known and administered during pregnancy, 14.2% were vaccinated in the first 20-weeks of pregnancy, 25.6% were vaccinated in the last 20 weeks, and 1.3% were confirmed to be vaccinated during pregnancy, however the date was unknown. In 2022, 11.0% of mothers were known to have declined an influenza vaccination.

Of mothers for which pertussis (whooping cough) vaccination status was known (n=10,913), 56.5% received a pertussis vaccination during pregnancy. Of mothers for which date of pertussis vaccination was known, 1.2% were vaccinated in the first 20-weeks of pregnancy, 54.4% were vaccinated in the last 20 weeks, and 0.9% were confirmed to be vaccinated during pregnancy, however the date was unknown. In 2022, 6.5% of mothers were known to have declined a pertussis vaccination.

Pregnancy profile

2.1 Parity and previous pregnancy outcomes

In 2022, 44.9% of women who gave birth had no previous births and 31.6% were pregnant for the first time. Among Aboriginal women, 35.1% who gave birth had no previous births, and 23.1% were pregnant for the first time (Table 10).

The proportion of women with a parity of 4 or greater was higher among Aboriginal women (9.4%) than among non-Aboriginal women (2.7%).

Table 10: Parity by Aboriginal status of women who gave birth, South Australia, 2022

Parity ¹	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
0-primigravida	217	25.7	5,874	31.8	6,091	31.6
0-multigravida	105	12.5	2,470	13.4	2,575	13.3
1	223	26.5	6,398	34.7	6,621	34.3
2	146	17.3	2,498	13.5	2,644	13.7
3	73	8.7	722	3.9	795	4.1
4	37	4.4	251	1.4	288	1.5
≥5	42	5.0	244	1.3	286	1.5
Total	843	100.0	18,457	100.0	19,300	100.0

¹ Number of previous pregnancies reaching 20 weeks gestational age (including live birth and stillbirth)

Among women with previous pregnancies (multigravidae women), the proportions who had previous specified adverse pregnancy outcomes are shown in Table 11. In total, 42.8% of the multigravidae women experienced a previous adverse pregnancy outcome. Over a third of the women (40.1%) had a previous miscarriage.

Table 11: Previous adverse pregnancy outcomes, multigravidae women, South Australia, 2022 (n= 13,209)

Previous adverse pregnancy outcome ¹	Number	%
Miscarriage	5,303	40.1
Stillbirth	192	1.5
Neonatal death	87	0.7
Ectopic pregnancy	366	2.8

¹ Women may have reported multiple previous adverse outcomes

2.2 Antenatal visits

In 2022, of the women for whom the number of antenatal visits was reported, 99.8% attended antenatal care during the pregnancy (Table 12). Of the Aboriginal women for whom the number of antenatal visits was reported, 65.8% attended at least seven antenatal visits (compared with 77.6% for non-Aboriginal women). The number of antenatal visits was unknown for 5.1% of all women.

Table 12: Antenatal visits by Aboriginal status of women who gave birth, South Australia, 2022

Antenatal visits	Maternal Aboriginal status								
	Aboriginal			Non-Aboriginal			Total		
	Number	%	Adjusted % excluding unknown (n=801)	Number	%	Adjusted % excluding unknown (n=17,510)	Number	%	Adjusted % excluding unknown (n=18,311)
None	14	1.7	1.7	36	0.2	0.2	50	0.3	0.3
1-6	232	27.5	29.0	3,150	17.1	18.0	3,382	17.5	18.5
≥7	555	65.8	69.3	14,324	77.6	81.8	14,879	77.1	81.3
Unknown number of visits	42	5.0	-	947	5.1	-	989	5.1	-
Total	843	100.0	100.0	18,457	100.0	100.0	19,300	100.0	100.0

2.3 Gestation at first antenatal visit

In 2022, of the women for whom week of gestation at the first antenatal visit was reported, 81.9% attended antenatal care within the first 14 weeks of pregnancy. Of the Aboriginal women for whom week of gestation at the first antenatal visit was reported, 60.8% attended antenatal care within the first 14 weeks of pregnancy (compared with 82.9% of non-Aboriginal women). Gestation at the first antenatal visit was reported as unknown for 1.9% of all women (Table 13).

Table 13: Gestation at first antenatal visit, women who gave birth by Aboriginal status, South Australia, 2022

Gestation at first antenatal visit	Aboriginal			Non-Aboriginal			Total		
	Number	%	Adjusted % excluding unknown (n=807)	Number	%	Adjusted % excluding unknown (n=18,135)	Number	%	Adjusted % excluding unknown (n=18,942)
<14 weeks gestation	491	58.2	60.8	15,027	81.4	82.9	15,518	80.4	81.9
14 weeks or greater	316	37.5	39.2	3,108	16.8	17.1	3,424	17.7	18.1
Unknown	36	4.3	-	322	1.7	-	358	1.9	-
Total	843	100.0	100.0	18,457	100.0	100.0	19,300	100.0	100.0

2.4 Type of antenatal care

Table 14 describes the main types of antenatal care used in South Australia. The most common types of antenatal care in 2022 were specialist led public hospital clinics (50.0%), obstetricians in private practice (23.4%) and GP and public hospital (shared care, 14.2%). There were 50 women (0.3%) who had no antenatal care.

Table 14: Type of antenatal care, women who gave birth, South Australia, 2022

Type of care ¹	Number	% of antenatal care
Public clinic (specialist led)	9,643	50.0
Obstetrician +/- midwife in private practice	4,511	23.4
GP and public hospital (shared care)	2,748	14.2
Midwifery group practice at birth hospital	2,384	12.4
GP led	1,212	6.3
Birth Unit/Centre	844	4.4
Aboriginal Family Birthing Program (includes metropolitan and rural locations)	285	1.5
Eligible midwife in private practice	168	0.9
Other	127	0.7
Not stated	64	0.3
No care	50	0.3

¹ Individual women may have used more than one type of antenatal care

2.5 Medical conditions

In 2022, medical conditions were recorded in the current pregnancy for 15,167 women (78.6%). The frequencies of specified medical conditions are provided in Table 15. Multiple conditions can be reported for each pregnancy.

Table 15: Specified medical conditions in current pregnancy, women who gave birth, South Australia, 2022

Medical condition ¹	Number	% of women (n = 19,300)
No medical condition reported	4,133	21.4
Anaemia (Hb <100 g/L)	1,370	7.1
Urinary tract infection	846	4.4
Hypertension (pre-existing)	270	1.4
Diabetes (pre-existing)	250	1.3
Epilepsy	100	0.5
Asthma	2,040	10.6
Other ²	14,497	75.1

¹ Women may have multiple medical conditions reported

² Other includes vitamin deficiency, iron deficiency, mental health and thyroid conditions

2.6 Obstetric complications

Obstetric complications were recorded for 11,381 women who gave birth (59.0%) in 2022. The reported frequencies of specified complications that occurred in the current pregnancy are presented in Table 16. Multiple complications can be reported for each pregnancy. The most frequently specified complication was gestational diabetes (18.0%). For births from 2018 onwards refinements were made to the process in which obstetric complications data were collected, and therefore the data presented here are not comparable to pre-2018 data. However, the long-term trend in the number of women with obstetric complications has been steadily rising since the 1990s.

Table 16: Obstetric complications specified in current pregnancy, women who gave birth, South Australia, 2022

Obstetric complication ¹	Number	% of women (n= 19,300)
No complication	7,919	41.0
Threatened miscarriage	326	1.7
Ante-partum haemorrhage (APH) – abruption	94	0.5
APH – placenta praevia	120	0.6
APH – other & unknown causes	512	2.7
Pregnancy hypertension	851	4.4
Intrauterine growth restriction (suspected)	1,139	5.9
Gestational diabetes	3,482	18.0
Other complications	8,371	43.4

¹ Women may have reported multiple obstetric conditions

2.7 Procedures performed in current pregnancy

Procedures performed in the current pregnancy that are collected on the Supplementary Birth Record are presented in Table 17. At least one ultrasound examination was performed for 96.2% of women in 2022. Amniocentesis was performed for 1.7% of pregnancies, and chorion villus sampling for 0.6% of women who gave birth. Multiple procedures may be reported for each pregnancy.

Table 17: Procedures performed in current pregnancy, women who gave birth, South Australia, 2022

Procedure ¹	Number	% of women (n= 19,300)
Ultrasound morphology scan	16,752	86.8
First trimester anomaly screen (ultrasound & biochemical)	14,764	76.5
Ultrasound dating scan	12,605	65.3
Other ultrasound scan	12,002	62.2
Second trimester anomaly screen (biochemical only)	2,297	11.9
Non invasive prenatal testing	4,045	21.0
Amniocentesis	323	1.7
Chorion villus biopsy	110	0.6
Antenatal fetal blood sampling	53	0.3

¹ Multiple procedures may be reported for each pregnancy

Labour

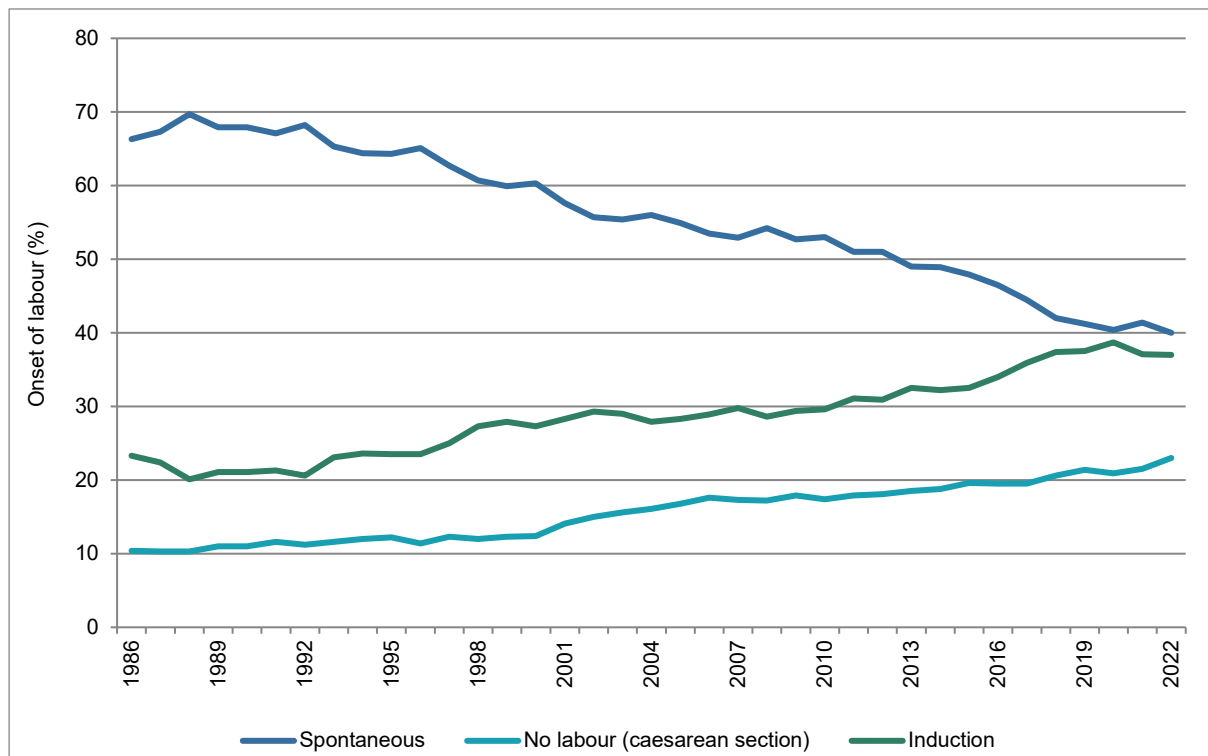
3.1 Onset of labour

Since 1986, the proportion of spontaneous labour in women has decreased whilst simultaneously the proportion of induction of labour has increased (Figure 5). In 2022, labour occurred spontaneously in 40.0% of women who gave birth and induction of labour occurred for 37.0% of women who gave birth (Table 18). The proportion of women with no labour due to caesarean sections has increased from 10.4% to 23.0%, over the same time period.

Table 18: Onset of labour, women who gave birth, South Australia, 2022

Onset of labour	Number	%
Spontaneous	7,729	40.0
Induction	7,139	37.0
No labour – caesarean section	4,432	23.0
Total	19,300	100.0

Figure 5: Trend for onset of labour for women who gave birth in South Australia, 1986 - 2022



3.2 Induction of labour

Labour was induced for 37.0% of women who gave birth in 2022. The most common methods of induction used were artificial rupture of membranes in 76.1% of inductions, oxytocics (63.2%), and prostaglandins (39.4%, Table 19). Multiple methods can be reported for each pregnancy, and in many cases more than one method was used.

Table 19: Method of induction of labour, women who gave birth, South Australia, 2022

Method of induction ¹	Number	% of women (n =19,300)	% of inductions (n =7,139)
Any induction	7,139	37.0	
Artificial rupture of membranes	5,432	28.1	76.1
Oxytocics	4,515	23.4	63.2
Prostaglandins	2,813	14.6	39.4
Mechanical dilation	1,662	8.6	23.3
Antiprogesterone	80	0.4	1.1

¹ Multiple methods of induction may be reported for each pregnancy

The most common reasons for induction are presented in Table 20. Multiple reasons can be reported for each pregnancy. In 2022, 20.2% of women were induced for diabetes (including pre-existing and gestational diabetes) and 13.7% by maternal choice.

Table 20: Reasons for induction of labour, South Australia, 2022 (n=7,139)

Reason for induction ¹	Number	% of women (n=7,139)
Diabetes ²	1,442	20.2
Maternal choice	977	13.7
Other obstetric or medical condition	830	11.6
Large for dates	766	10.7
Fetal distress	755	10.6
Prolonged pregnancy	744	10.4
Hypertension	743	10.4
Premature or prolonged rupture of membranes	559	7.8
FGR	533	7.5
Fetal death	37	0.5
Other ³	1,080	15.1

¹ Multiple reasons for induction may be reported for each pregnancy

² Includes diabetes mellitus and gestational diabetes

³ includes Isoimmunisation, Chorioamnionitis, BMI (high), Mental Health, Previous adverse perinatal outcome, Fetal congenital anomaly, Multiple pregnancy, Cholestasis, APH, Maternal age, Administrative or geographical indication, Previous poor obstetric history

3.3 Augmentation of labour

In 2022, the proportion of women giving birth who had labour augmented after spontaneous labour onset was 12.7% (Table 21). Of the 7,729 women who went into spontaneous labour, augmentation was used for 2,446 (31.6%). Methods used in augmentation were artificial rupture of membranes (66.1%), oxytocics (50.0%) and prostaglandins (3.5%). In some cases, more than one method was used.

Table 21: Augmentation after spontaneous labour onset, women who gave birth, South Australia, 2022

Method of augmentation ¹	Number	% of women (n=19,300)	% of augmentations (n=2,446)
Any augmentation	2,446	12.7	
Artificial rupture of membranes	1,617	8.4	66.1
Oxytocics	1,224	6.3	50.0
Prostaglandins	85	0.4	3.5
Other ²	5	0.0	0.2

¹Multiple methods of augmentation may be reported for each pregnancy

²Other includes antiprogesterone, mechanical dilation

3.4 Method of birth and fetal presentation

Of the women who gave birth in 2022, 50.4% had normal spontaneous vaginal births (Table 22). Caesarean section was performed for 38.7% of women, with 19.3% of women having elective section. Ventouse and forceps were used for 5.9% and 4.9% of births, respectively. The method of birth reported for women who had multiple births is that of the first birth.

Table 22: Method of birth, women with live babies, South Australia, 2022

Method of birth ¹	Number	% of women
Normal spontaneous	9,643	50.4
Caesarean (emergency)	3,714	19.4
Caesarean (elective)	3,704	19.3
Ventouse	1,134	5.9
Forceps (vaginal)	940	4.9
Breech spontaneous	11	0.1
Assisted Breech (no forceps)	<5	0.0
Breech extraction	<5	0.0
Total	19,150	100.0

¹ Birth method is for the live singleton infant or first live infant of a multiple birth

Fetal presentation is presented in Table 23, and the method of birth by presentation is provided in Table 24. Caesarean section was the method of birth for 97.1% of breech presentations in 2022 (Table 24).

Table 23: Fetal presentation, live births, South Australia, 2022

Fetal presentation	Number	% of births
Vertex	18,314	94.3
Breech	856	4.4
Face	27	0.1
Brow	35	0.2
Other ¹	190	1.0
Unknown	6	0.0
Total	19,428	100.0

¹ Other includes compound presentation and all other malpresentations (eg. cord, shoulder, hand)

Table 24: Method of birth by fetal presentation, live births, South Australia 2022

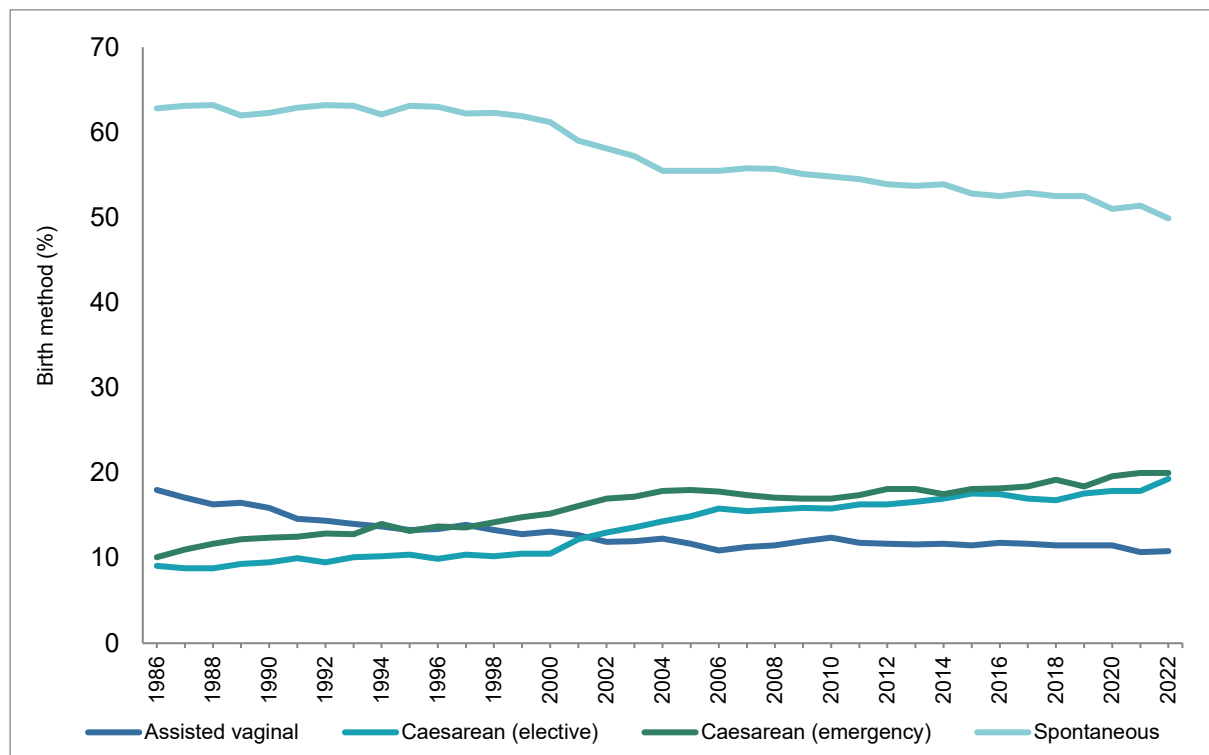
Method of Birth	Fetal presentation									
	Vertex		Breech		Other		Unknown		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Normal spontaneous	9,589	52.4	0	0.0	89	35.3	0	0.0	9,678	49.8
Caesarean (emergency)	3,396	18.5	394	46.0	94	37.3	<5	100.0	3,887	20.0
Caesarean (elective)	3,274	17.9	437	51.1	46	18.3	0	0.0	3,757	19.3
Ventouse	1,117	6.1	0	0.0	19	7.5	0	0.0	1,136	5.8
Forceps	941	5.1	0	0.0	<5	1.6	0	0.0	945	4.9
Breech spontaneous	0	0.0	13	1.5	0	0.0	0	0.0	13	0.1
Assisted Breech (no forceps)	0	0.0	7	0.8	0	0.0	0	0.0	7	0.0
Breech extraction	0	0.0	<5	0.5	0	0.0	0	0.0	<5	0.0
Assisted Breech (forceps)	0	0.0	<5	0.1	0	0.0	0	0.0	<5	0.0
Total	18,317	100.0	856	100.0	252	100.0	<5	100.0	19,428	100.0

Table 25: Method of birth by plurality, live breech births, South Australia, 2022

Method of birth	Plurality							
	Singleton		Twins		Triplets		Total	
	Number	%	Number	%	Number	%	Number	%
Caesarean (elective)	396	56.3	41	27.2	0	0.0	437	51.1
Caesarean (emergency)	293	41.7	99	65.6	<5	100.0	394	46.0
Breech spontaneous	10	1.4	<5	2.0	0	0.0	13	1.5
Assisted breech (no forceps)	<5	0.4	<5	2.6	0	0.0	7	0.8
Breech extraction	<5	0.1	<5	2.0	0	0.0	<5	0.5
Assisted breech (forceps)	0	0.0	<5	0.7	0	0.0	<5	0.1
Total	703	100.0	151	100.0	<5	100.0	856	100.0

Figure 6 shows the trend in methods of birth in South Australia over time. Since 1986, the proportion of emergency caesarean for women has increased whilst simultaneously the proportion of spontaneous (including spontaneous breech) births has decreased. In 2022, 20.0% of all births in South Australia were emergency caesareans whilst 49.9% were spontaneous (including spontaneous breech) births.

Figure 6: Method of birth for all live births in South Australia, 1986 - 2022



3.5 Analgesia for labour and anaesthesia for birth

Analgesia for labour was used by 79.2% of women who had an induction or spontaneous onset of labour in South Australia in 2022. The most commonly used methods for analgesia were nitrous oxide and oxygen (52.0%), epidural (44.7%) and narcotics (14.1%), (Table 26). Anaesthesia for birth was recorded only for women who had a caesarean section or an instrumental birth (n=9,544). Anaesthesia was used by 95.9% of women who gave birth via caesarean section or instrumental birth in South Australia in 2022. The most common methods were spinal anaesthetic (57.7%), epidurals (32.4%), and general anaesthesia (3.7%, Table 27). Multiple methods for analgesia and anaesthesia can be reported for each birth.

Table 26: Analgesia for labour, women who laboured, South Australia, 2022

Analgesia ¹	Number	% of women who laboured (n=14,867)
None	3,097	20.8
Nitrous oxide and oxygen	7,730	52.0
Epidural (lumbar/caudal)	6,647	44.7
Narcotic (parenteral)	2,102	14.1
Combined spinal-epidural	29	0.2
Spinal	15	0.1
Other ²	1,809	12.2

¹Multiple methods for analgesia may be reported for each birth

²Other includes TENS machine and sterile water injections

A change in reporting to only present women who gave birth by caesarean or instrumental birth, rather than all births, mean the data presented in Table 27 are not comparable to reports prior to 2020.

Table 27: Anaesthesia for birth, women who gave birth via caesarean section or instrumental birth, South Australia, 2022

Anaesthesia ^{1,2}	Number	% of women who gave birth via caesarean section or instrumental birth(n=9,543)
None	393	4.1
Spinal	5,506	57.7
Epidural (lumbar/caudal)	3,095	32.4
General anaesthesia	350	3.7
Local anaesthesia	204	2.1
Combined spinal-epidural	120	1.3
Pudendal	99	1.0

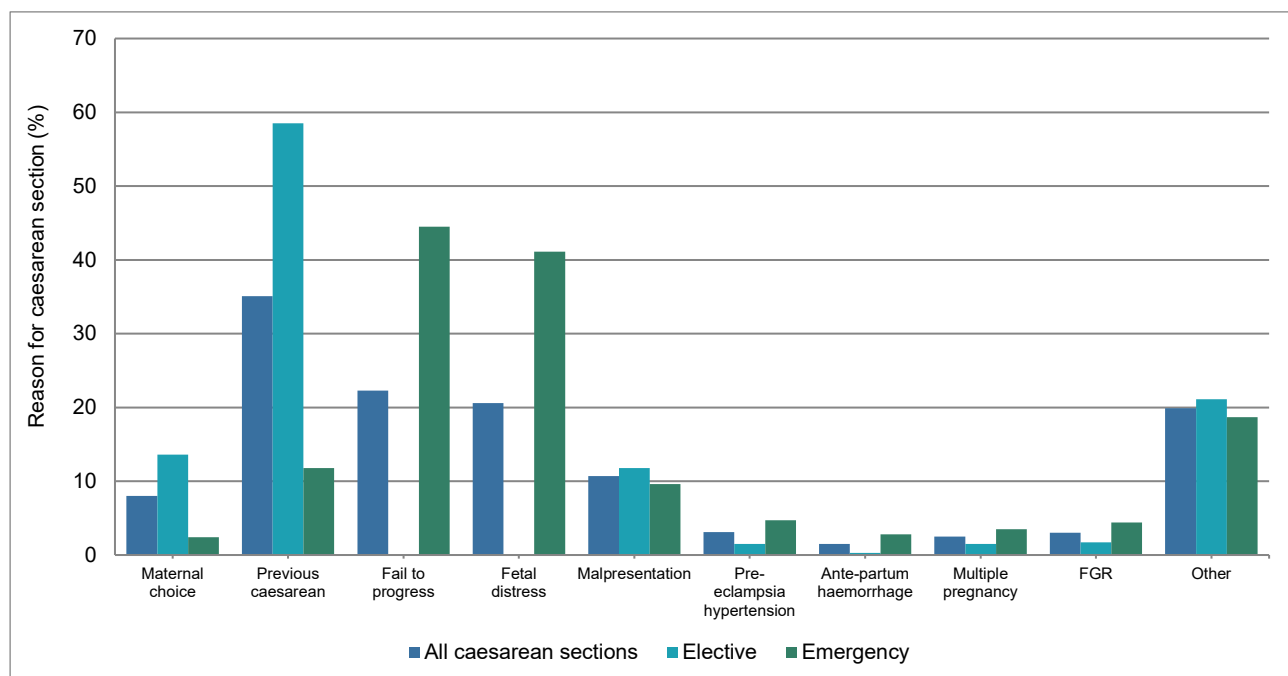
¹ Anaesthesia only recorded for women that have a caesarean section or instrumental birth

² Multiple methods for anaesthesia may be reported for each birth

3.6 Reason for caesarean section

Multiple reasons for caesarean section can be recorded on the Supplementary Birth Record. In 2022 the most common reasons for caesarean section were previous caesarean section (35.1%), failure to progress or cephalopelvic disproportion (22.3%), fetal distress (20.6%) and malpresentation (10.7%, Figure 7).

The main reasons for elective caesarean sections were previous caesarean section (58.5%), maternal choice (13.6%) and malpresentation (11.8%). The main reasons given for emergency caesarean sections were failure to progress (44.5%), fetal distress (41.4%) and previous caesarean section (11.8%).

Figure 7: Reason for caesarean section, South Australia, 2022 (n=7,429)

3.7 Caesarean section by maternity service

Over a third of all women in South Australia gave birth by caesarean section in 2022 (39.0%, Table 28). The proportion of emergency caesarean section births ranged from 17.5% to 20.4% across maternity services in 2022. The metropolitan private hospitals had a much higher proportion of elective caesarean section births (35.5%) compared to the other maternity services, leading to a higher overall proportion of caesarean births at metropolitan private hospitals (54.0%).

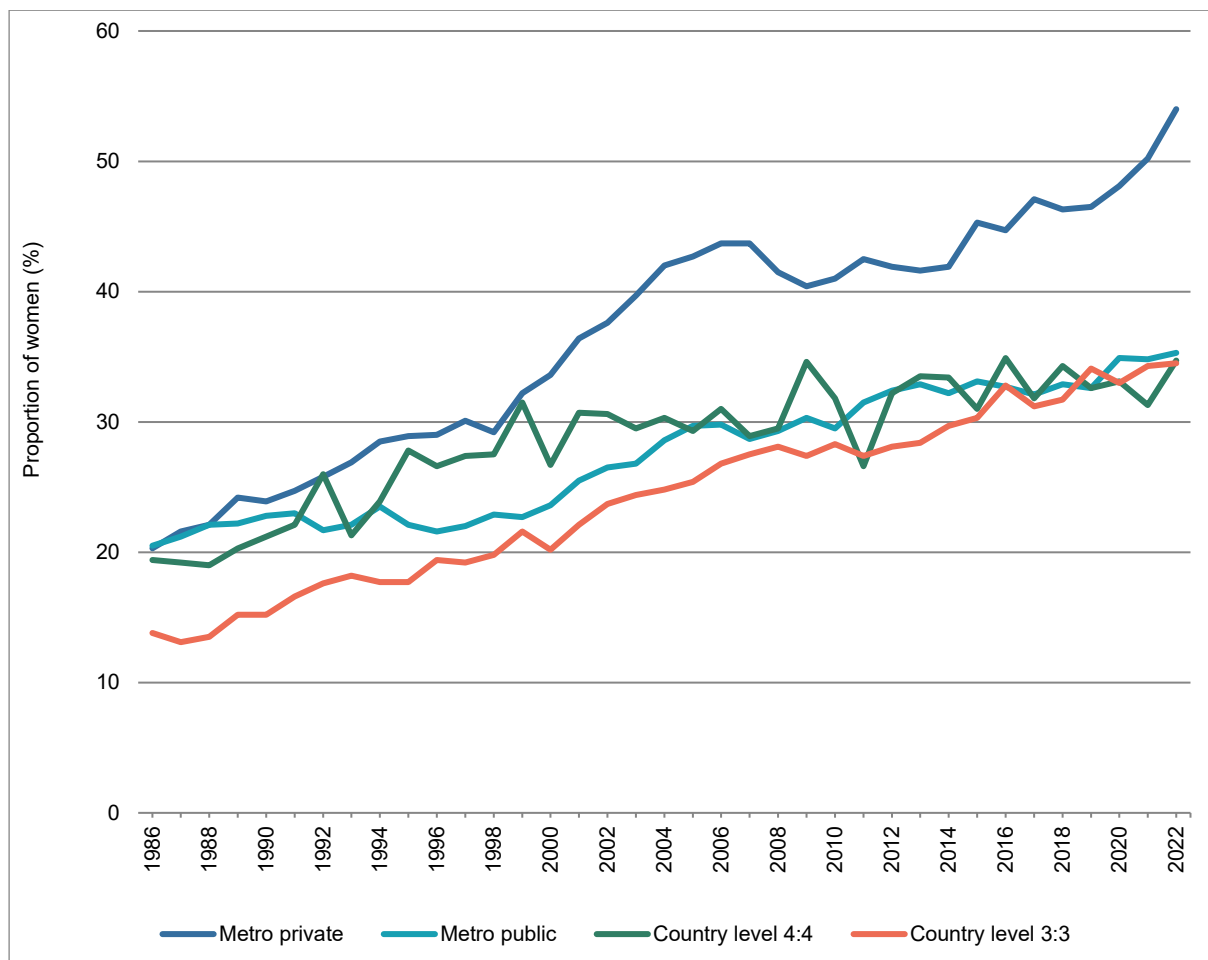
Table 28: Caesarean section by maternity service, South Australia, 2022

Maternity Service	Total women	Elective caesarean		Emergency caesarean		Elective & emergency caesarean	
	Number	Number	%	Number	%	Number	%
Metro teaching hospitals	11,703	1,751	15.0	2,382	20.4	4,133	35.3
Metro private hospitals	3,885	1,380	35.5	719	18.5	2,099	54.0
Country hospitals level 4:4	694	103	14.8	138	19.9	241	34.7
Country hospitals level 3:3	2,769	471	17.0	485	17.5	956	34.5
Total	19,051	3,705	19.4	3,724	19.5	7,429	39.0

¹Excludes home births (n=249)

The proportion of women having a caesarean section has been increasing since the mid-1980s, across all maternity services. The largest increase is within metropolitan private hospitals (20.3% in 1986 to 54.0% of women in 2022, Figure 8). The proportion of women having a caesarean section at metropolitan teaching hospitals and both country hospital service categories has also increased over time but remains lower than the proportion of women at metropolitan private hospitals.

Figure 8: Caesarean section by maternity service, South Australia, 1986 - 2022



3.8 Complications of labour and birth

Multiple complications can be recorded for women who gave birth with 55.9% of women experiencing complications in 2022. Selected complications are presented in Table 29, and include primary post-partum haemorrhage (PPH $\geq 500\text{ml}$, 30.0%), fetal distress (22.7%) and failure to progress (10.5%).

Table 29: Selected complications of labour and birth, women who gave birth, South Australia, 2022

Complication ¹	Number of women	% of women (n=19,300)
None	8,516	44.1
Primary post-partum haemorrhage		
500-599ml	1,711	8.9
600-999ml	2,577	13.4
1,000 ml or more	1,478	7.7
Unspecified mls	<5	0.0
Fetal distress	4,382	22.7
Failure to progress	2,034	10.5
Third degree tear or fourth degree tear	335	1.7
Retained placenta	307	1.6
Wound infection	172	0.9
Prolonged labour	123	0.6
Cord prolapse	25	0.1
Other	6,293	31.6

¹ multiple complications may be recorded for each birth

3.9 Primary post-partum haemorrhage (PPH)

Previously, primary PPH was reported if the blood loss within 24 hours of birth was at least 600mls and reported as such on the SBR form. In 2017, the definition of PPH was amended to a blood loss of at least 500mls within 24 hours of birth to better align with national coding guidelines. In 2018, changes to coding practice led to more rigorous investigations into PPH and due to these changes data prior to 2018 are not reported as the trend has been broken. Since 2018, the proportion of women with a PPH of 500mls or more has increased each year from 26.2% to 30.0% in 2022.

3.10 Perineal status after birth

Of the 19,300 women who gave birth to live babies in South Australia in 2022, episiotomy was performed for 2,974 women (15.4% of all women and 25.1% of women who gave birth vaginally, Table 30). Among the 11,732 women who gave birth vaginally 19.1% had an intact perineum after birth, 58.1% had a first or second degree tear, and 2.8% of women had a third or a fourth degree tear. In total, 5,150 women (43.9% of vaginal births and 72.1% of births with a tear) had a repair of a perineal tear.

Table 30: Method of birth¹ and perineal status for women who gave birth vaginally to live babies, South Australia, 2022

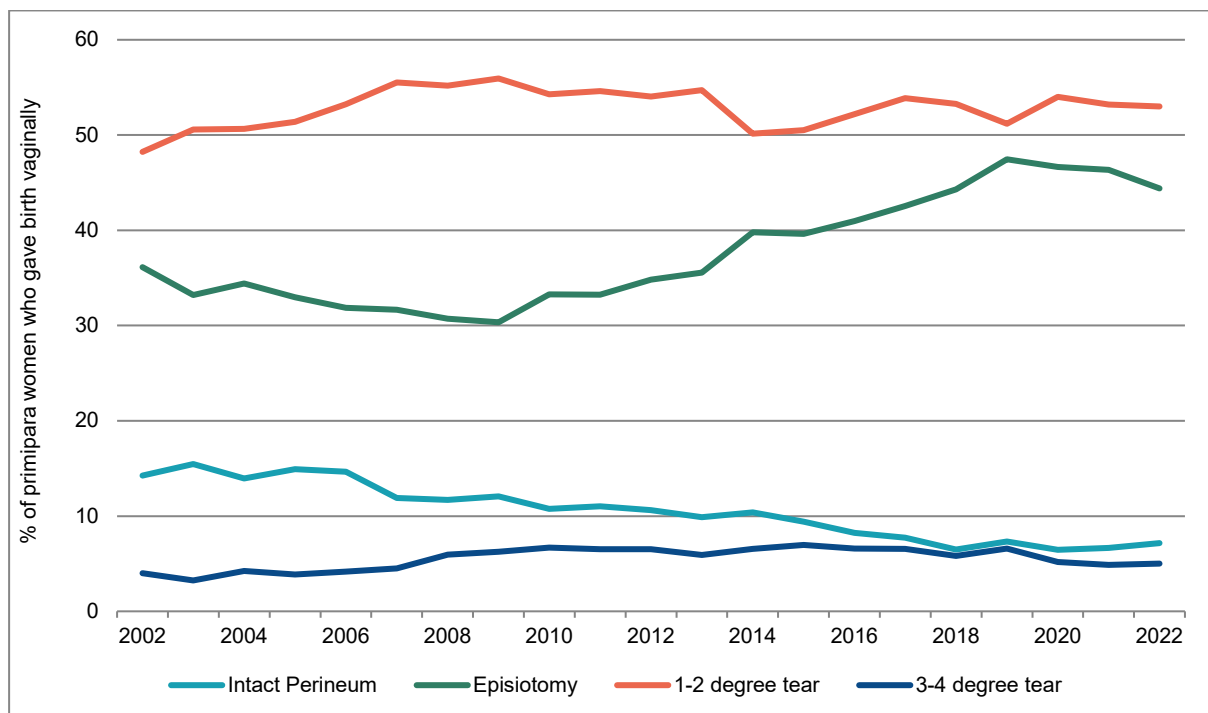
Method of birth*	Total Births	Perineal status							
		Intact		1-2 degree tear ²		3-4 degree tear ²		Episiotomy	
		Number	% of method	Number	% of method	Number	% of method	Number	% of method
Spontaneous	9,643	2,109	21.9	6,200	64.3	204	2.1	1,392	14.3
Ventouse	1,134	93	8.2	396	34.9	36	3.2	735	64.8
Forceps	940	26	2.8	214	22.8	93	9.9	846	89.9
Breech	15	10	66.7	<5	20.0	<5	6.7	<5	1.9
Total	11,732	2,238	19.1	6,813	58.1	334	2.8	2,974	25.1

¹Birth method is for the singleton infant or first infant of a multiple birth. Forceps includes cases of assisted breech with forceps for head (n=0).

²Including cases with extended tear after episiotomy

The trend in perineal status among primiparae women who gave birth vaginally is shown in Figure 9. The proportion of primiparae women who gave birth vaginally and had an episiotomy had been decreasing over time, to a low of 30.1% in 2009. Between 2009 and 2019 this proportion increased to 47.1%, and in 2022 was 43.9%.

Figure 9: Perineal status among primiparae women who gave birth vaginally, South Australia, 2002 - 2022



3.11 Fetal monitoring during labour

Cardiotocography (CTG) was performed during labour for 74.7% of women who gave birth. The majority of these were external CTGs (53.9%) while a scalp clip was used for 20.8% of women who gave birth (Table 31).

Table 31: Cardiotocography performed during labour, women who gave birth, South Australia, 2022

CTG during labour	Number of women	% of women (n=14,868)
None	3,760	25.3
External	8,012	53.9
Scalp clip	3,096	20.8
Total	14,868	100.0

3.12 Length of stay

The distribution of length of stay for women who gave birth in hospitals is presented in Table 32 for public and private patients. The median duration for all women was three days (interquartile range (IQR), 2-4 days). Homebirths have been excluded from length of stay statistics.

Table 32: Length of stay by patient type, women who gave birth in South Australian hospitals¹, 2022

Length of stay (days)	Public		Private		Total	
	Number	%	Number	%	Number	%
<1	928	6.4	22	0.5	950	5.0
1	3,622	24.9	107	2.4	3729	19.6
2	4,332	29.8	309	6.8	4641	24.4
3	2,902	20.0	734	16.2	3636	19.1
4	1,409	9.7	1,338	29.6	2747	14.4
5	597	4.1	1,458	32.2	2055	10.8
6	262	1.8	357	7.9	619	3.2
7 or more	476	3.3	198	4.4	674	3.5
Total	14,528	100.0	4,523	100.0	19051	100.0

¹ Excludes homebirths (n=249)

The median length of stay for all hospital births was two days for vaginal births, and three days for caesarean section (Table 33). Among private patients, the median length of stay was two days longer for vaginal births and caesarean births.

Table 33: Postnatal length of stay by patient and birth type, women who gave birth in South Australian hospitals¹, 2022

Length of stay (days)	Public			Private			Total		
	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total
Number of women	9,434	5,094	14,528	2,188	2,335	4,523	11,622	7,429	19,051
Mean	2.0	3.5	2.5	3.9	4.8	4.4	2.4	4.0	3.0
Standard deviation	1.6	3.8	2.7	1.9	2.9	2.5	1.9	3.6	2.8
Median	2.0	3.0	2.0	4.0	5.0	4.0	2.0	3.0	3.0
IQR	1-3	2-4	1-3	3-5	4-5	3-5	1-3	2-5	2-4

¹ Excludes homebirths (n=249)

Babies

4.1 Crude birth rate

In 2022 there were 19,584 births in South Australia, which was lower than in 2021 (20,168 births). Of the births in 2022, 99.2% were live births and 0.8% were stillbirths (Table 34). The crude birth rate has generally been declining since the early 1980s to its lowest rate of 10.6 births per 1,000 population in 2020, however for 2022, there was an increase to 10.8 births per 1,000 population.

Table 34: Crude birth rate for babies born, South Australia, 1986 - 2022

Year	Live Birth		Stillbirth		Total		Total Population ¹	Crude Birth Rate ²
	Number	%	Number	%	Number	%		
1986	19,650	99.2	149	0.8	19,799	100.0	1,382,550	14.3
1987	19,272	99.4	123	0.6	19,395	100.0	1,392,764	13.9
1988	19,400	99.3	131	0.7	19,531	100.0	1,404,909	13.9
1989	19,653	99.1	170	0.9	19,823	100.0	1,419,029	14.0
1990	19,855	99.3	133	0.7	19,988	100.0	1,432,056	14.0
1991	19,612	99.4	127	0.6	19,739	100.0	1,446,299	13.6
1992	20,003	99.3	148	0.7	20,151	100.0	1,455,442	13.8
1993	19,841	99.4	123	0.6	19,964	100.0	1,458,632	13.7
1994	19,670	99.4	128	0.6	19,798	100.0	1,463,089	13.5
1995	19,470	99.2	148	0.8	19,618	100.0	1,465,340	13.4
1996	18,979	99.3	132	0.7	19,111	100.0	1,469,079	13.0
1997	18,533	99.3	139	0.7	18,672	100.0	1,475,658	12.7
1998	18,612	99.4	121	0.6	18,733	100.0	1,483,270	12.6
1999	18,403	99.4	115	0.6	18,518	100.0	1,490,934	12.4
2000	17,766	99.4	106	0.6	17,872	100.0	1,497,503	11.9
2001	17,584	99.3	120	0.7	17,704	100.0	1,503,461	11.8
2002	17,623	99.3	122	0.7	17,745	100.0	1,511,567	11.7
2003	17,707	99.2	134	0.8	17,841	100.0	1,520,399	11.7
2004	17,408	99.4	113	0.6	17,521	100.0	1,528,189	11.5
2005	18,067	99.3	129	0.7	18,196	100.0	1,538,804	11.8
2006	18,660	99.3	140	0.7	18,800	100.0	1,552,529	12.1
2007	19,624	99.3	132	0.7	19,756	100.0	1,570,619	12.6
2008	19,819	99.2	151	0.8	19,970	100.0	1,588,665	12.6
2009	19,761	99.3	140	0.7	19,901	100.0	1,608,902	12.4
2010	19,883	99.4	119	0.6	20,002	100.0	1,627,322	12.3
2011	20,194	99.3	150	0.7	20,344	100.0	1,639,614	12.4
2012	20,527	99.3	138	0.7	20,665	100.0	1,656,035	12.5
2013	20,124	99.3	138	0.7	20,262	100.0	1,670,689	12.1
2014	20,604	99.3	145	0.7	20,749	100.0	1,685,550	12.3
2015	20,001	99.2	153	0.8	20,154	100.0	1,698,921	11.9
2016	19,934	99.3	136	0.7	20,070	100.0	1,708,183	11.7
2017	19,347	99.3	132	0.7	19,479	100.0	1,723,671	11.3
2018	19,198	99.3	134	0.7	19,332	100.0	1,736,422	11.1
2019	19,063	99.4	111	0.6	19,174	100.0	1,751,963	10.9
2020	18,619	99.4	119	0.6	18,738	100.0	1,770,375	10.6
2021	20,025	99.3	143	0.7	20,168	100.0	1,803,192	11.2
2022	19,428	99.2	156	0.8	19,584	100.0	1,821,200	10.8

¹ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2022. Canberra: ABS, 2022

² Crude birth rate per 1,000 population

4.2 Place of birth

Of the 19,584 births notified in 2022, 249 (1.3%) were planned home births, which was an increase from 2021 (153 births, 0.8%). Home births are attended by Midwifery Group Practice midwives provided by the three metropolitan main teaching hospitals, or by privately practicing midwives. The remaining 19,335 births occurred in hospitals, including 96 births born before arrival at hospitals into which the women had been booked. Born before arrival births have been included in the planned birthing hospital. The distribution of all births by place of birth (home or hospital) and plurality is provided in Table 35.

Table 35: Total births notified by place of birth and plurality, South Australia, 2022

Condition at birth	Home births		Hospital births			Total births
	Singleton	Twin	Singleton	Twin	Triplet	
Live birth	249	0	18,621	549	9	19,428
Stillbirth	0	0	149	7	0	156
Total births	249	0	18,770	556	9	19,584

4.3 Place of birth by Aboriginal status of mother

In 2022, 60.9% of all births occurred in metropolitan teaching hospitals, 20.1% in metropolitan private hospitals and 17.7% in country hospitals (Table 36). Aboriginal women had a higher proportion of births in country hospitals (29.0%) compared to non-Aboriginal women (17.2%).

Table 36: Total births notified by place of birth and Aboriginal status of mother, South Australia, 2022

Hospital	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Metropolitan teaching hospital	574	67.2	11359	60.6	11,933	60.9
Metropolitan private hospital	29	3.4	3905	20.8	3,934	20.1
Country hospital	248	29.0	3220	17.2	3,468	17.7
Home	<5	0.4	246	1.3	249	1.3
Total	854	100.0	18730	100.0	19,584	100.0

4.4 Hospital birth by perinatal service

Maternity and neonatal services at SA hospitals are delineated according to six levels of service, as defined in the Standards for Maternal and Neonatal Services in South Australia policy document³.

The numbers of births in the six levels of hospital categories (levels 5 & 6 combined) are presented in Table 37, by Aboriginal status of the mother. Among the 19,478 hospital births in South Australia in 2022, 62.0% occurred in metropolitan teaching hospitals, 20.2% in metropolitan private hospitals and 17.8% in country hospitals. Aboriginal women had a higher percentage of births in country hospitals (29.1%), compared to non-Aboriginal women (17.3%).

Of the Country hospital births, 3.6% occurred in the Level 4:4 Country Hospitals, 12.6% occurred in country hospitals with 100 births or more in 2022, and 1.9% in country hospitals with less than 100 births per annum.

Table 37: Hospital births by perinatal service delineation and Aboriginal status of mother, South Australia, 2022

Hospital	Aboriginal births		Non-Aboriginal births		Total births		Total women	
	Number	%	Number	%	Number	%	Number	%
Metropolitan teaching	574	67.5	11,359	61.5	11,933	61.7	11,703	61.4
Metropolitan private	29	3.4	3,905	21.1	3,934	20.3	3,885	20.4
Total (Country)	248	29.1	3,220	17.4	3,468	17.9	3,463	18.2
Level 4:4 Country	88	10.3	609	3.3	697	3.6	694	3.6
Level 3:3 Country ≥100 births per annum	134	15.7	2,277	12.3	2,411	12.5	2,409	12.6
Level 3:3 Country <100 births per annum	26	3.1	334	1.8	360	1.9	360	1.9
Total	851	100.0	18,484	100.0	19,335	100.0	19,051	100.0

4.5 Home birth

Supplementary Birth Records were received from hospital-based Midwifery Group Practice midwives and privately practicing midwives for 335 planned home births in 2022 which resulted in 249 home births.

In addition, 86 women who planned to birth at home were transferred to hospital care before birth. Statistics for all 339 planned home births in 2022 are provided in Table 38 through Table 41. The age profile of women who planned a home birth in 2022 was similar to all births, with most women in the 30-34 year age category. Of the 249 babies that were birthed at home, all (100.0%) were normal spontaneous vaginal deliveries.

Table 38: Age of women in planned home births, South Australia, 2022

Age	Birthed at home		Birthed in hospital		Total	
	Number of women	%	Number of women	%	Number of women	%
<20	-	-	-	-	-	-
20-24	<5	1.6	<5	4.7	8	2.4
25-29	70	28.1	25	29.1	95	28.4
30-34	109	43.8	34	39.5	143	42.7
35-39	61	24.5	22	25.6	83	24.8
40+	5	2.0	<5	1.2	6	1.8
Total	249	100.0	86	100.0	335	100.0

Table 39: Method of birth in planned home births, South Australia, 2022

Method of birth	Birthed at home		Birthed in hospital		Total	
	Number of births	%	Number of births	%	Number of births	%
Normal spontaneous	249	100.0	47	54.7	296	88.4
Caesarean (emergency)	0	0	26	30.2	26	7.8
Forceps (vaginal)	0	0	8	9.3	8	2.4
Caesarean (elective)	0	0	<5	3.5	<5	0.9
Ventouse	0	0	<5	2.3	<5	0.6
Total	249	100.0	86	100.0	335	100.0

Table 40: Birthweight of planned home births, South Australia, 2022

Birthweight (g)	Birthed at home		Birthed in hospital		Total	
	Number of births	%	Number of births	%	Number of births	%
1,500-1,999	0	0.0	<5	2.3	<5	0.6
2,000-2,499	<5	0.4	<5	1.2	<5	0.6
2,500-2,999	8	3.2	7	8.1	15	4.5
3,000-3,499	72	28.9	25	29.1	97	29.0
3,500-3,999	105	42.2	38	44.2	143	42.7
4,000-4,499	51	20.5	10	11.6	61	18.2
4,500+	12	4.8	<5	3.5	15	4.5
Total	249	100.0	86	100.0	335	100.0

Table 41: Perinatal outcome in planned home births, South Australia, 2022

Perinatal outcome	Birthed at home		Birthed in hospital		Total	
	Number of births	%	Number of births	%	Number of births	%
Stillbirth	0	0.0	<5	2.3	<5	0.6
Discharged within 28 days	249	100.0	82	95.3	331	98.8
In hospital at 28 days	0	0.0	<5	2.3	<5	0.6
Neonatal death	0	0.0	0	0.0	0	0.0
Total	249	100.0	86	100.0	335	100.0

4.6 Sex

Of all infants born in 2022, 51.9% were male with a male-female birth ratio of 1.08:1, which is higher than 2021 (1.04). There were 769 more male infants born than female (Table 42). The outcomes of male and female babies were similar as shown in Table 43.

Table 42: Sex of baby, all births, South Australia, 2022

Sex of baby	Number	%
Male	10,167	51.9
Female	9,398	48.0
Indeterminate	14	0.1
Unknown	5	0.0
Total	20,181	100.0

Table 43: Sex of baby by birth status, South Australia, 2022

Birth Status	Sex of baby									
	Male		Female		Indeterminate		Unknown		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Live birth	10,099	99.3	9,329	99.3	0	0.0	0.0	0.0	19,428	99.2
Stillbirth	68	0.7	69	0.7	14	100.0	5	100.0	156	0.8
Total	10,167	100.0	9,398	100.0	14	100.0	5	100.0	19,584	100.0

4.7 Plurality

In 2022, there were 19,019 singleton babies born in South Australia, 97.1% of the total babies born. The total number of multiple births was 565 (2.8% of total births) with 556 twin babies (2.8%) and 9 triplets (<0.1%). The proportion of multiple babies born to Aboriginal women was 2.6%, which was similar to the proportion for non-Aboriginal women (2.9%) and is shown in Table 44.

Among women who gave birth in 2022, there were 278 twin and 3 triplet pregnancies. Thus, there was one twin pregnancy in every 69 pregnancies, and one triplet pregnancy in every 6,433 pregnancies. Multiple pregnancies comprised 1.4% of all women who gave birth.

Table 44: Plurality of birth by maternal Aboriginal status for babies born, South Australia, 2022

Plurality	Maternal Aboriginal status					
	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Singleton	832	97.4	18,187	97.1	19,019	97.1
Twin	22	2.6	534	2.9	556	2.8
Triplet	0	0.0	9	0.0	9	0.0
Total	854	100.0	18,730	100.0	19,584	100.0

4.8 Gestational age

Gestational age is the duration of pregnancy in completed weeks. In 2022, the average gestational age for all babies was 38.4 weeks (SD 2.3 weeks), with the majority of babies (90.8%) born at term (37-41 weeks, Table 45). Preterm birth occurred for 9.0% of all babies born, and this proportion was higher for babies of Aboriginal women (16.5%).

Table 45: Gestation at birth by Aboriginal status of women, South Australia, 2022

Gestation at birth (weeks)	Maternal Aboriginal status					
	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Preterm births (20-36)	141	16.5	1,617	8.6	1,758	9.0
Term births (37-41)	712	83.4	17,067	91.1	17,779	90.8
Post-term births (42+)	0	0.0	44	0.2	44	0.2
Unknown	<5	0.1	<5	0.0	<5	0.0
Total	854	100.0	18,730	100.0	19,584	100.0

Gestation at birth varied between singleton and multiple births. In 2022, nearly three quarters of multiple births (70.2%) were preterm, while the vast majority of singleton births were term births (92.6%, Table 46).

Table 46: Gestation at birth by plurality, South Australia, 2022

Gestation at birth (weeks)	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
<24	115	0.6	6	1.1	121	0.6
24-27	53	0.3	11	1.9	64	0.3
28-31	96	0.5	47	8.3	143	0.7
32-36	1,097	5.8	333	58.9	1,430	7.3
37-41	17,611	92.6	168	29.7	17,779	90.8
42+	44	0.2	0	0.0	44	0.2
Unknown	<5	0.0	0	0.0	<5	0.0
Total	19,019	100.0	565	100.0	19,584	100.0

Among singleton births in 2022, the majority of stillbirths occurred before 37 weeks gestation (90.6%), with the highest proportion occurring before 24 weeks gestation (66.4%, Table 47). Among live births, 6.5% of babies were born preterm.

Table 47: Gestational age at birth for singleton babies by birth status, South Australia, 2022

Gestation at birth (weeks)	Birth status					
	Live birth		Stillbirth		Total	
	Number	%	Number	%	Number	%
<24	16	0.1	99	66.4	115	0.6
24-27	39	0.2	14	9.4	53	0.3
28-31	92	0.5	<5	2.7	96	0.5
32-36	1,079	5.7	18	12.1	1,097	5.8
37-41	17,597	93.3	14	9.4	17,611	92.6
42+	44	0.2	0	0	44	0.2
Unknown	<5	0.0	0	0.00	<5	0.0
Total	18,870	100	149	100	19,019	100.0

4.9 Birthweight

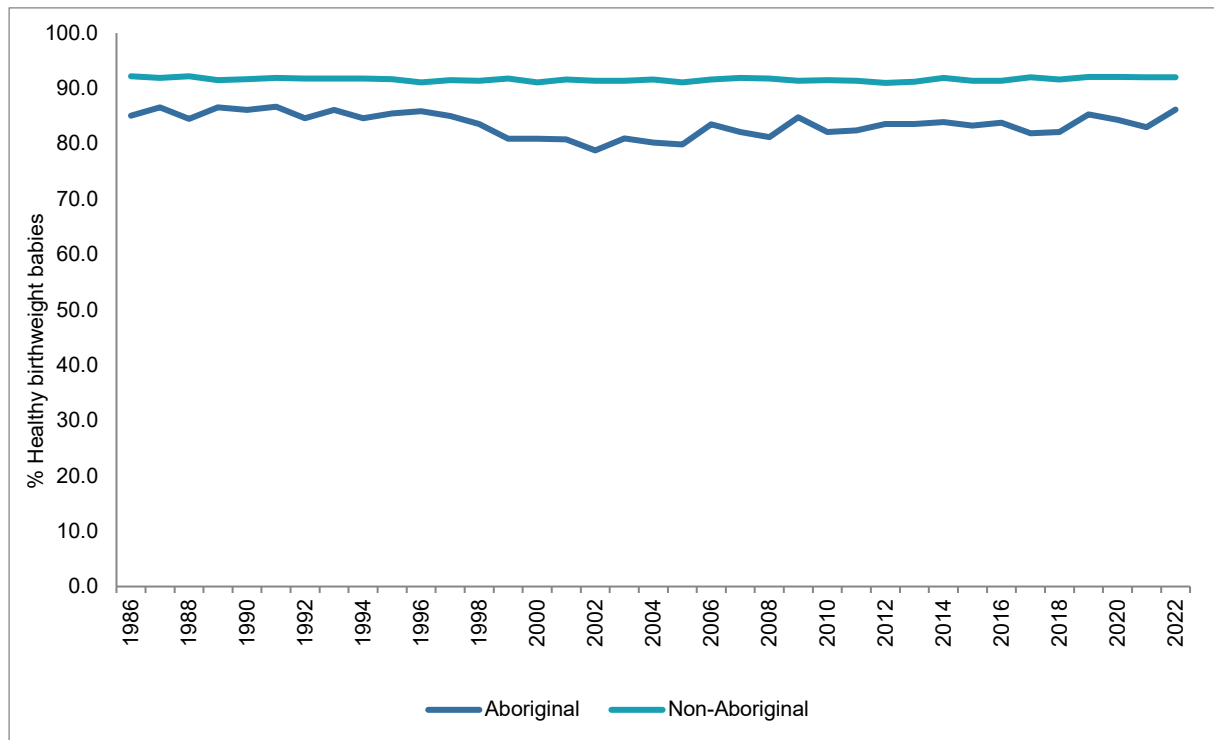
The distribution of birthweight for all births in South Australia is presented in Table 48. In 2022, the percentage of low birthweight babies (<2,500g) was 7.1%, and very low birthweight babies (<1,500g) was 1.3%. The mean birthweight was 3,312g (SD 593g), with birthweights ranging from 125g to 5,610g. The proportion of babies born with a healthy birthweight in 2022 was 87.1% of Aboriginal women compared with 93.0% among babies on non-Aboriginal women.

Table 48: Birthweight distribution of all births, South Australia, 2022

Birthweight (grams)	Maternal Aboriginal status					
	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
<400	<5	0.1	39	0.2	40	0.2
400-499	<5	0.1	31	0.2	32	0.2
500-749	5	0.6	47	0.3	52	0.3
750-999	<5	0.5	33	0.2	37	0.2
1,000-1,499	13	1.5	85	0.5	98	0.5
1,500-1,999	21	2.5	238	1.3	259	1.3
2,000-2,499	61	7.1	813	4.3	874	4.5
2,500-2,999	150	17.6	3,065	16.4	3,215	16.4
3,000-3,499	304	35.6	6,992	37.3	7,296	37.3
3,500-3,999	216	25.3	5,653	30.2	5,869	30.0
4,000-4,499	66	7.7	1,514	8.1	1,580	8.1
4,500+	8	0.9	192	1.0	200	1.0
Unknown	<5	0.5	28	0.1	32	0.2
Total	854	100.0	18,730	100.0	19,584	100.0

A healthy birthweight is defined as 2,500-4,499g. The proportion of babies with a healthy birthweight born to non-Aboriginal women has been relatively stable for the past three decades, decreasing gradually from 93.7% of all non-Aboriginal babies in 1986 to 93.1% in 2022 (Figure 10).

The proportion of babies with a healthy birthweight born to Aboriginal women has fluctuated over time, with a decreasing trend from 85.1% in 1986 to a low of 78.8% in 2002, before increasing to 85.3% in 2019. In 2022, the proportion of healthy birthweight babies born to Aboriginal women was 86.2%.

Figure 10: Proportion of healthy birthweight babies by maternal Aboriginal status, South Australia, 1986 - 2022

4.10 Birthweight, plurality and gestational age

A comparison of multiple births with singletons shows that in 2022, 56.8% multiple births were of low birthweight compared with only 5.6% for singleton (Table 49). Among singleton births, only 2.1% of babies with gestational age 37 weeks or over were of low birthweight, but this proportion was 42.9% for babies with gestational age of 32-36 weeks (Table 50).

Table 49: Birthweight by plurality, all births, South Australia, 2022

Birthweight (grams)	Singleton births		Multiple births	
	Number	%	Number	%
<400	36	0.2	<5	0.7
400-499	30	0.2	<5	0.4
500-749	42	0.2	10	1.8
750-999	31	0.2	6	1.1
1,000-1,499	65	0.3	33	5.8
1,500-1,999	164	0.9	95	16.8
2,000-2,499	703	3.7	171	30.3
2,500-2,999	3,038	16.0	177	31.3
3,000-3,499	7,239	38.1	57	10.1
3,500-3,999	5,861	30.8	8	1.4
4,000-4,499	1,580	8.3	0	0.0
4,500+	200	1.1	0	0.0
Unknown	30	0.2	<5	0.4
Total	19,019	100.0	565	100.0

Table 50: Birthweight by gestation for singleton babies¹ born in South Australia, 2022

Birthweight (grams)	Gestation (weeks)									
	20-27		28-31		32-36		37-43		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
<1000	127	92.0	10	10.4	<5	0.2	0	0.0	139	0.7
1000-1499	11	8.0	35	36.5	19	1.7	0	0.0	65	0.3
1500-1999	0	0.0	42	43.8	105	9.6	17	0.1	164	0.9
2000-2499	0	0.0	8	8.3	345	31.4	350	2.0	703	3.7
2500-2999	0	0.0	<5	1.0	376	34.3	2,660	15.1	3,037	16.0
3000-3499	0	0.0	0	0.0	180	16.4	7,057	40.0	7,237	38.1
3500-3999	0	0.0	0	0.0	58	5.3	5,803	32.9	5,861	30.9
4000-4499	0	0.0	0	0.0	9	0.8	1,571	8.9	1,580	8.3
≥4500	0	0.0	0	0.0	<5	0.3	197	1.1	200	1.1
Total	138	100.0	96	100.0	1,097	100.0	17,655	100.0	18,986	100.0

¹Excludes singleton babies with unknown birthweight or gestational age (n=33)

4.11 Apgar scores

The Apgar score is a method to summarise the health of a newborn baby. It is determined by evaluating the baby's heart rate, respiratory effort, muscle tone, skin colour and reflexes. Each criterion is scored from 0 to 2, then summing the five values to obtain the Apgar score. In 2022, for all liveborn babies with an Apgar score reported one minute after birth, 91.0% had a score of 7-10 and 1.9% had a score less than 4 (Table 51). For liveborn babies with an Apgar score reported at five minutes, 98.4% had an Apgar score of 7-10 and only 0.2% had an Apgar score less than 4. In 2022, among all liveborn babies with an Apgar score reported one minute after birth, 91.1% established spontaneous respirations within the first minute of life.

Table 51: Apgar scores¹ at one and five minutes after birth for babies born alive, South Australia, 2022

Apgar Score	1 min after birth		5 min after birth	
	Number	%	Number	%
0-3	369	1.9	41	0.2
4-6	1,379	7.1	272	1.4
7-10	17,637	91.0	19,083	98.4
Total	19,385	100.0	19,396	100.0

¹ Excludes babies with missing Apgar score reported one minute (n=20) or five minutes (n=11) after birth

4.12 Baby resuscitation

Multiple methods of baby resuscitation can be reported for each baby on the SBR. Among all liveborn babies in 2022, 15.0% received some form of resuscitation (Table 52). In 2022, 7.1% of liveborn babies received one type of resuscitation, 4.7% received two types, 2.5% received three types and 0.7% received four types of resuscitation methods. Other resuscitation methods may include medications such as adrenaline or intravenous therapy.

Table 52: Resuscitation received by babies born alive in South Australia, 2022

Method of resuscitation ¹	Liveborn babies (n=19,428)	
	Number	%
None	16,509	85.0
IPPV - bag and mask	1,629	8.4
Oxygen therapy	1,384	7.1
CPAP	1,162	6.0
Aspiration	835	4.3
IPPV - intubation	116	0.6
External cardiac massage	83	0.4
Narcotic antagonist	39	0.2
Sodium bicarbonate	5	0.0
Other	0	0.0

¹ Multiple methods of resuscitation may be reported.

IPPV: intermittent positive pressure ventilation. CPAP: continuous positive airway pressure

4.13 Birth injuries

Birth injuries were reported in 1.1% of liveborn babies in 2022 (n=221). The most common injury reported was injury to scalp (0.7%, Table 53). Injuries to scalp include subgaleal haemorrhage and cephalhaematomas. More than one birth injury can be reported per baby.

Table 53: Birth injuries among liveborn babies, South Australia, 2022

Birth injury ¹	Liveborn babies (n=19,428)	
	Number	%
None	19,207	98.9
Injury to scalp	137	0.7
Severe birth asphyxia and unspecified birth asphyxia	42	0.2
Nerve injury	26	0.1
Fracture	12	0.1
Other	10	0.1
Subdural and cerebral haemorrhage	9	0.0
Dislocation	0	0.0

¹ multiple birth injuries may be reported per baby

4.14 Congenital anomalies

Among the 19,584 births in 2022 there were 606 births (3.1%) notified with congenital anomalies either at birth or in the neonatal period, a higher proportion than in 2021 (2.4%). In South Australia, births notified on the SBR with a congenital anomaly are coded according to the British Paediatric Association (BPA) Classification of Diseases. This is a 5-digit extension of the 4-digit classification of the International Classification of Diseases (ICD9). Table 54 presents the most common congenital anomalies used for international monitoring (sentinel defects) that were notified to the perinatal statistics collection over the past ten years. For coding ranges see Methods and Terminology.

Terminations of pregnancy are not included in this table unless they meet the criteria for inclusion in the perinatal data collection of at least 400g birthweight or 20 weeks gestation. Notifications of congenital anomalies identified after discharge from the hospital of birth, but within the first five years of life are made directly to the South Australian Birth Defects Register at the Women's and Children's Hospital. More complete statistics on congenital anomalies in South Australia are available from the Birth Defect Register Annual Report¹.

Table 54: Selected congenital anomalies, South Australia, 2012 - 2022

Congenital Anomaly	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Number of births	20,665	20,262	20,749	20,154	20,070	19,479	19,332	19,174	18,738	20,168	19,584
Selected Congenital Anomalies											
Anencephalus	<5	<5	<5	<5	0	<5	<5	0	<5	<5	<5
Anomalies of abdominal wall	14	8	17	12	10	12	8	16	7	14	14
Anomalies of diaphragm	<5	8	8	<5	13	11	7	7	10	10	12
Atresia and stenosis of large intestine, rectum and anal canal	5	8	5	<5	10	7	8	12	<5	6	<5
Cleft lip and palate	14	14	16	14	20	17	19	11	13	14	14
Cleft palate	14	12	13	17	10	9	17	11	13	13	12
Encephalocele	<5	<5	<5	0	<5	<5	<5	0	<5	0	<5
Hydrocephalus	11	13	12	10	9	<5	<5	5	8	<5	<5
Hypospadias and epispadias	38	44	42	32	28	45	56	35	39	38	32
Limb reduction defects	15	17	10	10	17	10	10	6	8	6	14
Renal agenesis and dysgenesis	10	7	5	12	16	13	12	15	9	8	8
Spina bifida	<5	7	6	9	5	7	8	6	8	5	10
Tracheo-oesophageal fistula, oesophageal atresia and stenosis	5	7	8	10	<5	<5	<5	6	6	<5	11
Trisomy 21	19	17	15	13	18	14	26	13	14	11	12
Total All Congenital Anomalies¹	547	568	561	516	523	517	540	562	484	479	608
Percentage All Congenital Anomalies	2.6	2.8	2.7	2.6	2.6	2.7	2.8	2.9	2.6	2.4	3.1

¹ multiple congenital anomalies may be reported per baby

4.15 Treatment given in neonatal period

The proportions of live births that received specified treatments in the neonatal period are provided in Table 55. In some cases, more than one treatment was given. The most common treatments in the neonatal period in 2022 were intravenous therapies (10.9%) and gavage feeding (6.6%).

Table 55: Neonatal treatment given, all live births, South Australia, 2022

Neonatal treatment ¹	Number	% of live births (n=19,428)
None	16,080	82.8
Any intravenous therapy	2,115	10.9
Gavage feeding more than once	1,282	6.6
Phototherapy for jaundice	1,107	5.7
Oxygen therapy for more than 4 hours	1,055	5.4

¹ Multiple neonatal treatments may be reported

4.16 Level of neonatal care utilised

Table 56 outlines the neonatal levels of care utilised in 2022, as defined in the Standards for Maternal and Neonatal Services policy document³. In 2022, 81.4% of neonates utilised Level 1-3 care only. Level 4-5 care was used by 18.3% of neonates, and Level 6 neonatal intensive care at the Women's and Children's Hospital or Flinders Medical Centre, and paediatric intensive care at the Women's and Children's Hospital by 3.0% of neonates. As would be expected, with decreasing birthweight, an increasing percentage of babies required higher level care.

Table 56: Level of nursery care by birthweight, all live births¹, South Australia, 2022

Level of care utilised	Birthweight (grams)							
	<1,500		1,500-2,499		2,500+		Total	
	Number (n=166)	% of care	Number (n=1,121)	% of care	Number (n=18,140)	% of care	Number (n=19,427)	% of care
Well baby care (level 1-3)	0	0.0	271	24.2	15,536	85.6	15,807	81.4
Nursery/special care (level 4-5)	144	86.7	834	74.4	2,587	14.3	3,565	18.3
Neonatal intensive care/Paediatric intensive care unit FMC/WCH (level 6)	138	83.1	181	16.1	263	1.4	583	3.0

¹A baby can be under more than one type of care after birth. Excludes babies with unknown birthweight (n=1)

4.17 Perinatal outcome

In 2022, the proportion of live births in hospital at 28 days was 18.4% for multiple births compared with 1.4% for singletons (Table 57). The proportion of combined stillbirth and neonatal deaths were 1.0% for singletons, and 2.9% for multiple births. The proportion of live births in hospital at 28 days in 2022 was also higher in babies born to Aboriginal women (5.2%) compared to non-Aboriginal women (2.0%, Table 58). This may be due to the higher proportion of low birthweight babies born to Aboriginal women.

Table 57: Perinatal outcome by plurality, all births, South Australia, 2022

Perinatal outcome	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
Stillbirth	149	0.8	7	1.2	156	0.8
Discharged within 28 days	18,578	97.7	443	78.4	19,021	97.1
In hospital at 28 days	259	1.4	104	18.4	363	1.9
Neonatal death	33	0.2	11	1.9	44	0.2
Total	19,019	100.0	565	100.0	19,584	100.0

Table 58: Perinatal outcome by Aboriginal status of mother, all births, South Australia, 2022

Perinatal Outcome	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Stillbirth	9	1.1	147	0.8	156	0.8
Discharged within 28 days	803	94.0	18,218	97.3	19,021	97.1
In hospital at 28 days	37	4.3	326	1.7	363	1.9
Neonatal death	5	0.6	39	0.2	44	0.2
Total	854	100.0	18,730	100.0	19,584	100.0

4.18 Length of stay of live born babies

Table 59 shows the distribution of length of stay of liveborn babies in hospital for preterm (<37 weeks gestation) and term births (≥37 weeks gestation). The mean duration of stay for all liveborn babies was 4.0 days (SD 9.9) and the median duration was 2 days. The mean duration was 2.6 days (SD 3.4) for term births, 19.4 days (SD 28.1) for preterm births, while the median durations were 2 and 11 days respectively.

Table 59: Length of stay of liveborn babies in hospital¹, South Australia, 2022

Length of stay (days)	Preterm births		Term births		Total	
	Number	%	Number	%	Number	%
<1	24	1.5	1,547	8.9	1,571	8.2
1	60	3.7	4,884	28.0	4,944	25.9
2	89	5.5	4,288	24.5	4,377	22.9
3	120	7.5	2,701	15.5	2,821	14.8
4	93	5.8	2,059	11.8	2,152	11.3
5	141	8.8	1,302	7.5	1,443	7.6
6	71	4.4	214	1.2	285	1.5
7-13	305	19.0	316	1.8	621	3.3
14-20	229	14.2	90	0.5	319	1.7
21-27	164	10.2	39	0.2	203	1.1
28 or more	313	19.5	31	0.2	344	1.8
Total	1,609	100.0	17,471	100.0	19,080	100.0

¹ excludes n=3 unknown gestational age

Perinatal Mortality

Detailed data on maternal and perinatal mortality rates, demographics, death classifications and key learning points for South Australia are reported by the Maternal and Perinatal Mortality Committee, available at the [Pregnancy Outcome Statistics Webpage](#).

Terminations of Pregnancy

For a more complete picture of pregnancy outcome in South Australia please see the accompanying reports for Termination of Pregnancy and Maternal and Perinatal Mortality, available at the [Pregnancy Outcome Statistics Webpage](#).

Obstetric Profiles by Hospital Category

Obstetric profiles for 2022 for the three major metropolitan public hospitals and an additional three hospital categories are provided in Table 60. Obstetric profiles are also reported to birthing hospitals in South Australia via the Pregnancy and Neonatal Care Bulletins.

The hospital categories, as determined by their perinatal service delineation are:

1. SA Public Metropolitan hospitals (Women's and Children's, Flinders Medical Centre and Lyell McEwin hospitals)
2. Metropolitan private hospitals
3. Two Level 4:4 country hospitals (Mount Gambier & Districts Health Service and Port Augusta Hospital & Regional Health Service)
4. Other country hospitals (perinatal service delineation of 3:3)

A list of maternal and baby characteristics identified either as risk factors for poor perinatal outcome in earlier analyses⁴, or of general interest, is provided with mean values for all state hospitals and the six hospital categories outlined above.

Where indicated (+) in Table 60 the mean (number of women who gave birth or births) relates to the 21 hospitals or groups of hospitals for which obstetric profiles have been provided. These are as follows:

1. Women's & Children's Hospital
2. Flinders Medical Centre
3. Lyell McEwin Hospital
4. Ashford Hospital
5. Burnside War Memorial Hospital
6. Calvary Adelaide Hospital
7. North Eastern Community Hospital
8. Mount Gambier & Districts Health Service
9. Port Augusta Hospital & Regional Health Service
10. Whyalla Hospital & Health Services
11. Gawler Health Service
12. Mount Barker District Soldiers' Memorial Hospital
13. Murray Bridge Soldiers' Memorial Hospital
14. Naracoorte Health Service
15. Port Lincoln Health Service
16. Port Pirie Regional Health Service
17. Riverland General Hospital (Berri)
18. South Coast District Health Service
19. Wallaroo Hospital and Health Service
20. Loxton Hospital Complex
21. Country hospitals with <100 births per year: Clare Hospital, Crystal Brook and District Hospital, Jamestown Hospital and Health Service, Kapunda Hospital, Kangaroo Island Health Service, Ceduna District Health Services

Table 60: Obstetric profiles by hospital category, South Australia, 2022

Factors	All state hospitals ¹	Metropolitan hospitals ³		Country hospitals ³	
	Mean	SA Public Teaching	Private	Level 4:4	Other
Maternal factors					
Women (n=19,160)	958	11817	3,885	694	2,764
% Aboriginal women	4.3	4.7	0.7	12.7	5.7
% Antenatal visits <7 ²	17.9	26.6	1.4	7.3	6.4
% Teenage women	1.5	1.7	0.0	4.5	2.2
% Women ≥ 35 years	25.7	24.9	36.5	13.5	17.0
% 4+ prior live births	2.8	3.4	0.5	4.5	2.9
% 1+ prior perinatal deaths	1.4	1.8	0.7	1.6	0.8
% Obstetric complications	59.2	65.8	46.8	60.4	48.2
% Labour complications	56.2	64.9	30.0	60.1	54.7
% Induction	37.1	38.7	36.7	32.6	32.0
% Emergency caesarean	19.4	20.2	18.5	19.9	17.5
% Elective caesarean	19.3	14.8	35.5	14.8	17.0
% Any caesarean	38.8	35.0	54.0	34.7	34.6
% Ultrasound examination ²	96.2	97.4	91.6	97.6	97.5
% Amniocentesis ²	1.7	2.1	1.3	0.4	0.5
% Episiotomy	15.5	18.4	12.0	10.5	9.6
% Repair of perineal tear	26.9	28.2	22.8	28.5	26.3
% Epidural analgesia	42.3	42.2	63.2	28.5	25.9
% Private patients	23.6	5.0	97.1	9.4	3.6
% Primiparous women	45.0	44.4	50.3	40.9	41.2
% Previous caesarean	18.7	17.1	23.2	18.7	18.7
% PPH ⁴	30.0	34.7	15.4	32.9	29.8
Baby factors					
Births (n=19,160)	972	12047	3,934	697	2,766
% Birthweight <2,500g	7.1	9.2	5.1	4.3	1.8
% Gestational age <37 weeks at birth	8.9	11.2	7.2	6.3	1.8
% Prolonged hospitalisation (>27 days)	1.9	2.8	0.6	0.6	0.1
% Neonatal intensive care (Level 6 or W&CH paediatric intensive care)	3.0	4.4	0.8	2.0	1.1
% Birth defect	3.1	4.1	1.1	2.9	1.4

¹ mean values are calculated based on data from all state hospitals² adjusted for missing values (missing values are included in the "no" group)³ excludes births from hospitals that do not provide maternity services⁴ includes all blood loss 500ml or more

National Core Maternity Indicators

The National Core Maternity Indicators assist in improving the quality of maternity services in Australia by establishing baseline data for monitoring and evaluating practice change⁴. This annual report presents the indicators with 95% Confidence Intervals (CI) for South Australian births in 2022. Indicator specifications are in accordance with the National Core Maternity Indicators report.

For the purpose of indicators 5, 6 and 8 'selected primiparae' was defined as:

- woman who was 20-34 years of age at the time of giving birth
- giving birth for the first time at ≥ 20 weeks of gestation
- singleton pregnancy
- cephalic presentation
- 37 to 40 weeks gestation.

Antenatal Period: A1a A1b Smoking in pregnancy

Description: This indicator has two parts: (a) among all women who gave birth, the proportion who reported smoking tobacco at any time within the first 20 weeks of pregnancy; and (b) among women who reported smoking, the proportion who reported smoking after 20 weeks of pregnancy.

Purpose: This indicator is used to monitor public health and assess the effectiveness of smoking cessation advice in the antenatal period.

Indicator A1a: Smoking in the first 20 weeks of pregnancy for all women giving birth

Numerator: The number of women who gave birth and reported smoking tobacco in the first 20 weeks of pregnancy (n=1,202)

Denominator: The total number of women who gave birth (n=18,282)

Indicator A1a 6.6% (95% CI 6.2% - 6.9%)

Indicator A1b: Smoking after the first 20 weeks of pregnancy for all women who gave birth and reported smoking during pregnancy

Numerator: The number of women who gave birth and reported smoking tobacco in the second 20 weeks of pregnancy (n= 946)

Denominator: The number of women who gave birth who reported smoking tobacco at any time in the pregnancy (n= 1,202)

Indicator A1b 78.7% (95% CI 76.3% –80.9%)

Antenatal Period: A2 Antenatal care in the first trimester

Description: Among all women who gave birth, the proportion who commenced antenatal care in the first trimester (before 14 weeks gestation).

Purpose: This indicator is used to assess the accessibility of antenatal services.

Indicator A2a: Antenatal care in the first trimester for all women giving birth

Numerator: The number of women who had their first antenatal visit before 14 weeks gestation and went on to give birth (n=15,420)

Denominator: The number of all women who gave birth (n=18,876)

Indicator A2 81.7% (95% CI 81.1% - 82.2%)

Indicator A2b: Antenatal care in the first 9 weeks of pregnancy for all women giving birth

Numerator: The number of women who had their first antenatal visit before 10 weeks gestation and went on to give birth (n=3,912)

Denominator: The number of all women who gave birth (n=18,876)

Indicator A2 20.7% (95% CI 20.2% - 21.3%)

Labour and Birth: Induction of labour for selected primiparae

Description: The proportion of all selected primiparae, whose labour was induced.

Purpose: This indicator is used to benchmark practice.

Indicator B1: Induction of labour for selected women giving birth for the first time

Numerator: The number of selected primiparae who had labour induced (n=2,441)

Denominator: All selected primiparae (n=5,261)

Indicator B1 46.4% (95% CI 45.1% - 47.7%)

Labour and Birth: Unassisted vaginal birth for selected primiparae

Description: The proportion of all selected primiparae, who had a normal (non-instrumental) vaginal birth.

Purpose: This indicator is used to benchmark practice.

Indicator B2:	Unassisted (non-instrumental) vaginal birth for selected women giving birth for the first time
Numerator:	The number of selected primiparae who had a normal (non-instrumental) vaginal birth (n=2,302)
Denominator:	All selected primiparae (n=5,261)
Indicator B2	43.8% (95% CI 42.4% - 45.1%)

Labour and Birth: Assisted vaginal birth for selected primiparae

Description: The proportion of all selected primiparae, who had a vaginal birth with the assistance of instruments.

Purpose: This indicator is used to benchmark practice.

Indicator B3:	Assisted (instrumental) vaginal birth for selected women giving birth for the first time
Numerator:	The number of selected primiparae who had a vaginal birth with the assistance of instruments (n=1,142)
Denominator:	All selected primiparae (n=5,261)
Indicator B3	21.7% (95% CI 20.6% - 22.8%)

Labour and Birth: Episiotomy for women having their first baby and giving birth vaginally

Description: This indicator has two parts among women who had their first baby: (a) the proportion who received an episiotomy while giving birth vaginally without instruments; and (b) the proportion who received an episiotomy during an instrumental vaginal birth.

Purpose: This indicator is used to benchmark practice.

Indicator B4a:	Episiotomy for women having their first baby and giving birth vaginally unassisted (non-instrumental)
Numerator:	The number of women having their first baby who had an episiotomy while giving birth vaginally without instruments (n=868)
Denominator:	The number of women having their first baby who gave birth vaginally without instruments (n=3,429)
Indicator B4a	25.3% (95% CI 23.9% - 26.8%)

Indicator B4b: Episiotomy for women having their first baby and giving birth vaginally assisted (instrumental)

Numerator: The number of women having their first baby who had an episiotomy during a vaginal birth with instruments (n=1,345)

Denominator: The number of women having their first baby who gave birth vaginally with instruments (n=1,669)

Indicator B4b 80.6% (95% CI 78.6% - 82.4%)

Labour and birth: Caesarean section for selected primiparae

Description: The proportion of all selected primiparae who gave birth by caesarean section.

Purpose: This indicator is used to benchmark practice.

Indicator B5: Caesarean section for selected women giving birth for the first time

Numerator: The number of selected primiparae who gave birth by caesarean section (n=1,817)

Denominator: All selected primiparae (n=5,261)

Indicator B5 34.5% (95% CI 33.3% - 35.8%)

Labour and birth: Women having their second birth vaginally whose first birth was by caesarean section

Description: The proportion of women having their second birth vaginally whose first birth was by caesarean section.

Purpose: This indicator is used to benchmark practice for vaginal birth following.

Indicator B6: Women having their second birth vaginally whose first birth was by caesarean section

Numerator: The number of women having their second birth vaginally whose first birth was by caesarean section (n=289)

Denominator: The number of women having their second birth whose first birth was by caesarean section (n=2,219)

Indicator B6 13.0% (95% CI 11.7% - 14.5%)

Labour and Birth: General anaesthetic for women giving birth by caesarean section

Description: The proportion of women who gave birth by caesarean section who received a general anaesthetic.

Purpose: This indicator is used to benchmark anaesthetic care in association with caesarean section.

Indicator B7: General anaesthetic for women giving birth by caesarean section

Numerator: The number of women who gave birth by caesarean section and had a general anaesthetic (n=321)

Denominator: The total number of women who gave birth by caesarean section (n=7,429)

Indicator B7 4.3% (95% CI 3.9% - 4.8%)

Birth Outcomes: Third and fourth degree tears for vaginal births

Description: The proportion of women who have a third or fourth degree perineal laceration after giving birth vaginally. This indicator has two parts: (a) for all vaginal first births (b) for all vaginal births.

Purpose: Third and fourth degree perineal lacerations cause significant ongoing maternal morbidity. This is an outcome indicator that measures their occurrence.

Indicator C1a: Third and fourth degree tears for all vaginal first births

Numerator: The number of women who had a third or fourth degree perineal laceration after giving birth for the first time and had a vaginal birth (n=240)

Denominator: The number of women who gave birth for the first time and had a vaginal birth (n=5,098)

Indicator C1a 4.7% (95% CI 4.2% - 5.3%)

Indicator C1b: Third and fourth degree tears for all vaginal births

Numerator: The number of women who had a third or fourth degree perineal laceration after giving birth vaginally (n=334)

Denominator: The number of women who gave birth vaginally (n=11,731)

Indicator C1b 2.8% (95% CI 2.6% - 3.2%)

Birth Outcomes: Apgar score of less than 7 at 5 minutes for births at or after term

Description: The proportion of liveborn term babies with an Apgar score of less than 7 at 5 minutes.

Purpose: This indicator of the condition of the baby after birth provides an outcome measure of intrapartum care and resuscitation of the newborn.

Indicator C2: Apgar score of less than 7 at 5 minutes for births at or after term

Numerator: The number of babies born alive at term with an Apgar score less than 7 at 5 minutes (n=219)

Denominator: The number of live babies born at term (n=17,697)

Indicator C2 1.2% (95% CI 1.1% - 1.4%)

Birth Outcomes: Small babies among births at or after 40 weeks gestation

Description: The proportion of babies born at or after 40 weeks gestation who weighed less than 2,750 grams at birth.

Purpose: This indicator aims to identify intrauterine growth restriction for babies born at or after 40 weeks gestation. This indicator is used to benchmark practice.

Indicator C3: Small babies among births at or after 40 weeks gestation

Numerator: The number of babies born at or after 40 weeks gestation who weighed less than 2,750 grams at birth (n=50)

Denominator: The total number of babies born at or after 40 weeks (n=4,961)

Indicator C3 1.0% (95% CI 0.8% - 1.3%)

Key Statistics and Trends 2013 - 2022

Perinatal statistics are presented in Table 61 and Table 62 for both socio-demographic and obstetric aspects for each year from 2013-2022, and for 1986, when the perinatal data collection was commenced. The trends noted are as follows:

1. The total fertility rate was 1.62 live births per woman in 2022, lower than the level in 1986. The highest rate was observed in 2014 (1.87 live births per woman).
2. There was a steady increase in the proportion of Aboriginal women reporting giving birth from 1.7% in 1986 to 4.4% in 2022.
3. The proportion of teenage women giving birth decreased from 6.2% in 1986 to 1.5% in 2022. Over the past decade, there has been a general decline in teenage birth.
4. The mean age of women giving birth has increased each year. The proportion of women who gave birth who were 35 years or older increased from 6.5% in 1986 to a peak of 25.7% in 2022. Amongst primiparous women, the proportion aged 35 years or older in 1986 was 2.9%, and in 2021 was 17.0%. The mean age among women giving birth increased from 26.9 years in 1986 to a peak of 31.0 in 2022. The mean age among primiparous women increased from 25.0 years in 1986 to 29.6 in 2022.
5. The proportion of multiple births has been relatively stable since 2013 and in 2022 this proportion was 2.9% of all births.
6. The induction of labour rate increased from 30.9% in 2013 to 37.0% in 2022.
7. The proportion of normal spontaneous vaginal births decreased from 53.9% in 2013 to 50.4% in 2022. The proportion of caesarean section births has increased gradually but steadily in the past decade and reached 38.7% in 2022. The proportion of breech and ventouse births were stable in the past decade and were 0.1% and 4.9% respectively in 2022.
8. There have been minor fluctuations in the proportion of low birthweight births (<2,500 grams) over the past decade, and the proportion in 2022 was 7.1%. The proportion of preterm births was 9.0% in 2022.
9. The proportion of births with congenital anomalies identified before discharge from hospital after birth has been relatively stable in the last decade however in 2022 this proportion was 3.1%.
10. In the past decade, the proportion of babies utilising Nursery or special care (level 4-5) increased from 16.4% in 2013 to 18.3% in 2022, with a peak of 20.3% in 2021. There have been minor fluctuations over the past decade in the proportion of births using neonatal or paediatric intensive care (level 6) and in 2022 it was 3.0%. The proportion of babies in hospital at 28 days after birth has been relatively stable over the past decade.

Table 61: Socio-demographic aspects of perinatal statistics, South Australia, 1986 and 2013 – 2022

Characteristic	Year										
	1986	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total births	19,799	20,262	20,749	20,154	20,070	19,479	19,332	19,174	18,738	20,168	19,584
Live births	19,650	20,124	20,604	20,001	19,934	19,347	19,198	19,063	18,619	20,025	19,428
Women who gave birth	19,562	19,924	20,448	19,818	19,766	19,190	19,043	18,880	18,461	19,896	19,300
Total fertility rate per woman	1.75	1.85	1.87	1.79	1.77	1.71	1.68	1.65	1.59	1.69	1.62
Place of birth (%)											
Teaching hospital	45.4	57.3	58	59.7	60.4	61.4	61.8	62.8	62.0	62.8	61.7
Private hospital	15.1	22.8	22.5	21.5	20.7	19.9	19.2	19.1	19.2	19.0	20.1
Country hospital	39.1	19.3	19.1	18.3	18.4	18.3	18.5	17.6	18.2	17.4	17.7
Domiciliary	0.4	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.6	0.8	0.5
Aboriginal status											
<i>Aboriginal, %</i>	1.7	3.6	3.5	3.6	3.8	3.8	3.9	4.0	4.1	4.2	4.4
<i>N of women who gave birth</i>	334	714	711	718	752	721	746	756	766	844	843
<i>N of births to Aboriginal women</i>	335	726	719	732	761	733	759	773	777	860	854
<i>N of babies identified as Aboriginal</i>		957	950	1,001	1,032	936	1,026	1,077	1,120	1,180	1,203
Age											
Mean age (yrs)	26.9	29.8	30.0	30.1	30.3	30.4	30.4	30.6	30.8	30.9	31.0
Teenage (%)	6.2	3.4	3.1	2.8	2.4	2.1	1.9	1.6	1.8	1.4	1.5
≥35 years (%)	6.5	19.8	20.6	20.3	21.3	21.8	22.5	23.1	23.8	24.2	25.7
Primiparae											
Mean age (yrs)	25	28.2	28.4	28.5	28.7	28.8	28.9	29.1	29.3	29.3	29.6
Teenage (%)	12.6	6.7	6.3	5.6	4.6	4.2	3.9	3.3	3.8	3.0	3.0
≥35 years (%)	2.9	12.4	12.9	12.5	12.5	13.6	14.3	14.9	15.4	15.0	17.0

Table 62: Obstetric aspects of perinatal statistics, South Australia, 1986 and 2013 – 2022

Characteristic	Year										
	1986	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Plurality											
Multiple births, %	2.4	3.3	2.9	3.3	3.0	3.0	3.0	3.1	2.9	2.7	2.9
Twins, number	450	640	574	648	592	568	574	580	538	536	556
Triplets, number	18	27	21	18	12	9	<5	6	12	6	9
Quadruplets, number											
Induction of labour (%)	23.3	32.5	32.2	32.5	34.0	35.9	37.4	37.5	38.7	37.1	37.0
Method of birth, %											
Normal spontaneous	63.3	53.9	54.1	53.1	52.7	53.2	53.1	52.9	51.5	51.8	50.4
Elective caesarean	9.0	16.2	16.6	17.2	17.3	16.8	16.7	17.6	17.8	17.9	19.3
Emergency caesarean	9.9	17.8	17.3	17.8	17.8	18.1	18.5	17.7	19.0	19.3	19.4
Forceps	14.9	5.6	5.3	5.6	5.7	5.9	5.6	5.6	5.9	5.5	5.9
Breech	0.1	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.1
Ventouse	1.9	5.9	6.3	5.9	6.1	5.7	5.7	5.8	5.5	5.1	4.9
Total caesarean	19.0	34.0	33.9	35.1	35.1	34.8	35.2	35.3	36.8	37.3	38.7
Birthweight <2,500 g, %	6.5	7.7	7.1	7.6	7.7	7.3	7.7	7.2	7.2	7.2	7.1
Singletons	5.4	5.8	5.7	5.9	6.0	5.7	6.1	5.6	5.7	5.7	5.6
Multiples	52.1	63.0	57.3	59.8	63.1	58.9	58.2	57.8	56.5	60.3	56.8
Gestational age <37 wks, %	6.4	9.8	9.2	9.6	9.5	9.6	9.7	9.0	9.0	9.0	9.0
Singletons	5.5	7.7	7.5	7.6	7.5	7.6	7.7	6.9	7.0	7.0	7.2
Multiples	44.4	70.9	69.1	69.4	74.5	75.0	76.4	76.8	73.5	73.5	70.3
Congenital abnormalities, %	2.8	2.8	2.7	2.6	2.6	2.7	2.8	2.9	2.6	2.4	3.1
Level of perinatal care utilised, %											
Nursery/special care (L4-5)	9.5	16.4	15.8	16.8	17.2	17.6	17.9	19.7	18.9	20.3	18.3
Neonatal intensive care/ Paediatric intensive care unit FMCH/WCH (L6)	3.1	2.9	2.7	3.0	3.3	3.3	3.0	3.5	2.9	3.4	3.0
Hospitalisation for 28 days or more, %	1.8	2.4	2.1	2.1	2.1	2.0	2.0	2.2	2.1	2.2	1.9
Adjusted Neonatal deaths, number	85	45	39	35	39	47	43	27	25	40	44
Adjusted Stillbirths, number	149	138	145	153	136	129	134	111	119	143	156
Adjusted Perinatal deaths, number	234	183	184	188	175	176	177	138	144	183	200
Adjusted Perinatal mortality rate per 1,000 births											
≥400g / 20 wks	11.8	9.0	8.9	9.3	8.7	9.0	9.2	7.2	7.7	9.1	10.2
≥500g / 22 wks	11.4	6.4	6.0	6.4	6.2	5.9	7.4	5.3	4.8	6.3	8.2
≥1000g / 28 wks	7.4	3.4	2.8	3.4	3.3	2.9	3.9	2.9	2.7	3.4	5.0

Summary Statistics for 2022

These statistics refer to all live births as well as stillbirths of at least 400g birthweight or 20 weeks gestation. Sixty-one babies of less than 400g birthweight have been included.

1. Number of births

Notified births with Supplementary Birth Records: 19,584

Notified women who gave birth on SBRs: 19,300

Crude birth rate: 10.7 live births per 1,000 population

Total fertility rate: 1.62 live births per woman

2. Place of birth

Home births: 249 home births in all (1.3%), of which 249 were planned home births

Metropolitan teaching hospitals: 12,076 (61.7%)

Metropolitan private hospitals: 3,838 (19.0%)

Country hospitals: 3,468 (17.7%)

3. Sex of babies

Males: 10,167 (51.9%)

Females: 9,398 (48.0%)

Male: Female sex ratio 1.08:1

4. Plurality

Singleton: 19,019 (97.1%)

Twin: 556 (2.8%)

Triplet: 9 (0.0%)

5. Aboriginal status of women

Non-Aboriginal: 18,457 (95.6%)

Aboriginal: 843 (4.4%)

6. Obstetric interventions

Induction of labour: 7,139 (37.0% of women)

Augmentation of labour: 2,446 (12.7% of women)

Forceps: 940 (4.9%)

Ventouse: 1,134 (5.9%)

Episiotomy: 2,975 (25.1% of women who gave birth vaginally)

Caesarean section: 7,418 (38.7%)

Elective caesarean section: 3,704 (19.3%)

Emergency caesarean section: 3,714 (19.4%)

7. Low birthweight (<2,500 g)

Number of all births of low birthweight =1,392 (7.1% of all births)

Number of singleton births of low birthweight =1,071 (5.6% of singleton births)

Number of multiple births of low birthweight =327 (56.8% of multiple births)

8. Congenital anomalies

Births notified with congenital anomalies: 606 (3.1%)

9. Adjusted perinatal mortality rates

The adjusted perinatal mortality rate for all births (live births of any gestation and stillbirths of at least 400g birthweight or 20 weeks gestation excluding those resulting from a termination of pregnancy performed for psychosocial or unknown reasons) in 2022 was 8.7 per 1,000 births.

Methods and Terminology

Adjusted perinatal mortality rate

The number of stillbirths and neonatal deaths in a defined time period (excluding those resulting from a termination of pregnancy performed for psychosocial or unknown reasons, divided by the total number of stillbirths and live births in the same time period, multiplied by 1,000.

Age specific fertility rate

The number of live births to women in an age group in a year, divided by the estimated resident population of women of that age group in the same year, expressed per 1,000 population.

Apgar score

The Apgar score is a method used to summarise the health of a newborn baby. It is determined by evaluating the baby's heart rate, respiratory effort, muscle tone, reflexes and skin colour. Each criterion is scored from 0 to 2, then summing the five values to obtain the Apgar score.

Indicator	Score		
	0	1	2
Heart rate	Absent	Slow (below 100)	Over 100
Respiratory effort	Absent	Slow, irregular	Good, crying
Muscle tone	Flaccid	Some flexion of extremities	Active motion
Reflex irritability	No response	Grimace	Vigorous cry
Colour	Blue, pale	Body pink, extremities blue	Completely pink

Birthweight

The first weight, in grams, of a live born or still born baby after birth. For live births, this is preferably measured within the first hour of life before significant post-natal weight loss has occurred. Low birthweight is defined as a birthweight of less than 2,500 grams. Very low birthweight is defined as a birthweight of less than 1,500 grams.

Body mass index

A person's weight in kilograms divided by their height in meters squared. A person's BMI can then be used as a guide to determine whether they are underweight, normal weight or overweight for their height, according to the following categories.

BMI range	Category
<18.5	Underweight
18.5 to 24.9	Normal
25.0 to 29.9	Overweight
30.0 to 34.9	Obese
35.0 to 39.9	Severely obese
>40	Morbidly obese

Caesarean section

Birth of a child by an abdominal operation. Elective caesarean section is defined as a caesarean section that takes place after 37 weeks gestation as a planned procedure before the spontaneous onset of labour. Emergency caesarean section is defined as a caesarean section that is undertaken for a complication before the onset of labour, or during labour (whether that labour is of spontaneous onset or following induction).

Congenital Anomalies

Congenital anomalies are coded according to the British Paediatric Association (BPA) Classification of Diseases. Anomalies presented in Table 54 are from the following code ranges:

BPA Code	Category
74000-74029	Anencephalus
74100-74199	Spina bifida
74200-74209	Encephalocele
74230-74239	Hydrocephalus
74900-74909	Cleft palate
74910-74929	Cleft lip and palate
75030-75038	Tracheo-oesophageal fistula, oesophageal atresia and stenosis
75120-75124	Atresia and stenosis of large intestine, rectum and anal canal
75260-75261	Hypospadias and epispadias
75300-75301	Renal agenesis and dysgenesis
75520-75549	Limb reduction defects
75660-75669	Anomalies of diaphragm
75670-75679	Anomalies of abdominal wall
75800-75809	Trisomy 21

Crude birth rate

The number of live births occurring among the ABS Estimated Resident Populations (ERP) for South Australia, per 1,000 population during the same year.

Fetal death

Death prior to the complete expulsion or extraction from a woman of a product of conception, irrespective of the duration of pregnancy; 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.

General fertility rate

The total number of live births in a year, divided by the estimated resident population of women aged 15 to 44 years in the same year, expressed per 1,000 population.

Gestational age

The duration of pregnancy in completed weeks determined by the best obstetric estimate, using ultrasonography and the first day of the last normal menstrual period.

Induction of labour

An intervention undertaken to stimulate the onset of labour by pharmacological or other means.

Live birth

The complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of 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.

This report does not include live births less than 20 weeks gestation and less than 400g birthweight.

Multigravida

A woman who has been pregnant more than once.

Neonatal death

Death of a live born baby within 28 days of birth.

Parity

The total number of previous pregnancies resulting in live births or stillbirths.

Perinatal deaths

Stillbirths and neonatal deaths combined.

Perinatal mortality rate

The number of stillbirths and neonatal deaths in a defined time period, divided by the total number of stillbirths and live births in the same time period, multiplied by 1,000.

For South Australian statistics, the rate refers to live births and stillbirths of at least 400g birthweight or 20 weeks gestation.

For national statistics, the rate refers to all births of at least 20 weeks gestation or 400g birthweight, and neonatal deaths occurring within 28 days of birth.

For international comparison, the rate refers to all births of at least 1,000g birthweight or, when birthweight is unavailable, of at least 28 weeks gestation and neonatal deaths occurring within seven days of birth (as recommended by WHO).

Preterm

Less than 37⁺⁰ completed weeks gestation.

Primigravida

A woman pregnant for the first time.

Primipara

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

Stillbirth

Birth of a fetus at or after 20 weeks gestation or with a birthweight of 400g or more, with no signs of life at birth.

Stillbirth rate

The number of stillbirths in a defined time period, divided by the total number of stillbirths and live births in the same time period, multiplied by 1,000.

Termination of pregnancy

The intentional expulsion of a product of conception from the uterus either by medication or instrumentation, with the intention being the death of the embryo or fetus.

Total fertility rate

The sum of age-specific fertility rates at a given time. It represents the number of children a woman would bear during her lifetime if she experienced current age-specific fertility rates at each age of her reproductive life.

Women who gave birth

Women who gave birth after a pregnancy ending with the birth of one or more live births or stillbirths.

References

1. South Australian Birth Defect Register. *Annual Report*. Available from: <http://www.wch.sa.gov.au/services/az/other/phru/birthdefect.html>
2. United Nations, Population Division. *Total fertility rate*. Available from: http://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets/demographics/total_fertility_rate.pdf.
3. Statewide Service Strategy Division, *Standards for Maternal and Neonatal Services in South Australia 2015*. 2015, Department of Health and Wellbeing: Adelaide.
4. AIHW National Perinatal Epidemiology and Statistics Unit, *National Core Maternity Indicators*. 2017, AIHW: Canberra.

Appendix 1

2022 SUPPLEMENTARY BIRTH RECORD				22210001	
FOR COMPLETION BY MIDWIVES AND NEONATAL NURSES					
Mother's name (Surname) _____ (Given names) _____			Hospital/Place of birth _____		
Child's surname (If different) _____ (Given name – If known) _____			Mother's Case Record Number _____		
Mother's address _____ _____ _____			Plurality ☐ single ☐ twin ☐ triplet ☐ quad ☐ other (specify) _____ For multiple births, complete a separate baby form for each baby.		
Postcode _____			Please return top copy to: Pregnancy Outcome Unit, PO Box 388 Rundle Mall, Adelaide SA 5000		
PERSONAL INFORMATION ABOVE THIS LINE IS CONFIDENTIAL					
MOTHER DETAILS			BABY DETAILS		
1 Mother's date of birth day month year _____			1 Case record number _____		
2 Aboriginal status ☐ Not Aboriginal nor TSI ☐ Aboriginal and TSI ☐ Aboriginal ☐ Not stated ☐ TSI			2 Aboriginal status ☐ Not Aboriginal nor TSI ☐ Aboriginal and TSI ☐ Aboriginal ☐ Not stated ☐ TSI		
3 Country of birth _____			3 Actual place of birth ☐ Hospital, excluding birth centre ☐ Birth centre ☐ Home ☐ Other (inc SGA)		
4 Type of patient ☐ Public hospital ☐ Private			4 Date of birth day month year _____		
5 Marital status ☐ Never married ☐ Married/De facto ☐ Widowed ☐ Divorced			5 Hour of birth (24 hour clock) _____		
6 Partner's occupation _____			6 Sex ☐ Male ☐ Female ☐ Indeterminate		
Mother's occupation _____			7 Birth weight (grams) _____		
PREVIOUS PREGNANCY OUTCOMES			8 Gestation at birth in completed weeks _____		
7 Number of previous pregnancies _____			9 Apgar score 1 minute _____ 5 minute _____		
8 Number of previous pregnancies resulting in births ≥20 weeks _____			10 Time to establish regular breathing to nearest minute _____		
9 Number of previous outcomes Single Multiple Livebirths, not neonatal death _____ Neonatal death ≤28 days _____ Stillbirths _____ Miscarriages _____ Ectopic pregnancies _____ Termination of pregnancies _____			11 Resuscitation at birth ☐ None ☐ Suction/ventilation ☐ Oxygen therapy ☐ IPPV w/ bag & mask, T-piece ☐ CPAP ☐ Intubation ☐ Adrenaline ☐ Narcotic antagonist ☐ Sodium bicarbonate ☐ External cardiac massage ☐ Other (specify) _____		
10 Outcome of last pregnancy ☐ No previous ☐ Single liveborn ☐ Single neonatal death ≤28 days ☐ Single stillbirth ☐ Miscarriage ☐ Termination of pregnancy ☐ Ectopic pregnancy ☐ Multiple, all survived ≥28 days ☐ Multiple, 1 or more neonatal death or stillborn ☐ Unknown			12 Condition occurring during birth ☐ None ☐ Central haemorrhage ☐ Fracture ☐ Scalp injury ☐ Dislocation ☐ Severe birth asphyxia ☐ Nerve injury ☐ Unspecified birth asphyxia ☐ Other (eg. Cephalohematoma/Subgaleal Hemorrhage)		
11 Date of delivery/termination of last pregnancy month day year _____			13 Congenital anomaly ☐ Nil apparent ☐ Yes (specify) _____		
12 Method of last birth ☐ No previous birth ☐ Vaginal ☐ Caesarean ☐ Not known			14 Treatment given ☐ None of the treatments below ☐ Oxygen therapy > 4 hours ☐ Phototherapy for jaundice ☐ Gavage feeding more than once ☐ Any intravenous therapy		
13 Number of previous caesareans _____			15 Baby admission details ☐ Well baby care (level 1-3) ☐ Special Care Nursery (level 4-5) Number of days ☐ Neonatal ICU (level 6) ☐ Paediatric ICU (level 6) Number of days		
THIS PREGNANCY			16 Was transfer to NICU / PICU for a congenital anomaly? ☐ Yes ☐ No		
14 Date of last menstrual period day month year _____			17 Outcome of Baby ☐ Discharged ☐ In hospital at 28 days ☐ Fetal death (stillbirth) ☐ Neonatal death		
15 Intended place of birth ☐ Hospital, excluding birth centre ☐ Birth centre ☐ Home ☐ Other (specify) _____			18 Baby transferred to _____ on day month year		
16a Number of antenatal visits _____			18 Baby final discharge date/death day month year _____		
16b First antenatal visit Gestation (weeks) _____ Height (cm) _____ Weight (kg) _____			22210001		
17 Type of antenatal care ☐ No antenatal care ☐ MGP at birthing hospital ☐ Birth unit/centre ☐ Public clinic (specialist led) ☐ Shared care (GP and public hospital) ☐ GP led ☐ Private obstetrician +/- midwife ☐ Private midwife ☐ Aboriginal birthing clinic ☐ Other (specify) _____					
18 Date influenza vaccination administered day month year _____ If administered, date of second influenza vaccination day month year _____					
19 Date whooping cough (pertussis) vaccination administered day month year _____					
20 Tobacco smoking during first 20 weeks of pregnancy ☐ Y ☐ N ☐ Not stated If yes, average number of tobacco cigarettes per day _____					
21 Tobacco smoking after 20 weeks of pregnancy ☐ Y ☐ N ☐ Not stated If yes, average number of tobacco cigarettes per day _____					
22 Alcohol consumption during first 20 weeks of pregnancy ☐ None ☐ 1-3 times per week ☐ Monthly or less ☐ 2-4 times per week ☐ 2-4 times per month ☐ Not stated If yes, average number of standard drinks consumed when drinking _____					
23 Alcohol consumption after 20 weeks of pregnancy ☐ None ☐ 1-3 times per week ☐ Monthly or less ☐ 2-4 times per week ☐ 2-4 times per month ☐ Not stated If yes, average number of standard drinks consumed when drinking _____					
24 Medical conditions present in this pregnancy ☐ None ☐ Type 1 diabetes ☐ Anaemia ☐ Type 2 diabetes ☐ Urinary tract infection ☐ Epilepsy ☐ Essential hypertension ☐ Asthma ☐ GBS+ ☐ Other (specify) _____					
25 Obstetric complications ☐ None ☐ Threatened miscarriage ☐ Abruption (with haemorrhage) ☐ Placenta praevia (with haemorrhage) ☐ Antepartum haemorrhage (other) ☐ Gestational hypertension ☐ Pre-eclampsia ☐ IUGR (inc suspected) ☐ Gestational diabetes ☐ Other (specify) _____					
26 Date of admission prior to birth day month year _____					
27 Procedures performed in this pregnancy ☐ NIPT (Harmony) ☐ 1st trimester screen (US & biochem) ☐ 2nd trimester screen (biochem only) ☐ Ultrasound dating scan ☐ Ultrasound morphology scan ☐ Other ultrasound scan ☐ Amniocentesis ☐ Chorion villus biopsy ☐ Antenatal fetal blood sampling ☐ Other surgical procedures (specify) _____					
LABOUR & BIRTH					
28 Onset of labour ☐ Spontaneous ☐ No labour (CS) ☐ Induction (excluding augmentation) Give reason(s) for induction: ☐ Diabetes ☐ BMI ☐ Hypertensive disorder ☐ APH ☐ Gestation ≥41 weeks ☐ Multiple pregnancy ☐ Pre labour ROM ☐ Maternal age ☐ IUGR ☐ Mental health ☐ Large for dates ☐ Fetal death ☐ Fetal compromise ☐ Administrative ☐ Cholestasis ☐ Chromosomal ☐ Previous poor obst history (specify) _____ ☐ Other (specify) _____			29 Methods of induction / augmentation ☐ APH ☐ Oxytocin ☐ Prostaglandins eg. misoprostol/cervical ☐ Mechanical dilation eg. Balloon/Cook's ☐ Antiprostaglandin eg. Mifeprestone ☐ Other (specify) _____		
30 Presentation prior to birth ☐ Vertex ☐ Breech ☐ Face ☐ Other ☐ Unknown			31 Method of birth ☐ Normal spontaneous ☐ Forceps (vaginal) ☐ Assisted breech (no forceps) ☐ Caesarean section (elective) ☐ Caesarean section (emergency) Reason(s) for caesarean: _____		
32 Complications of labour, delivery and puerperium ☐ None ☐ PPV primary ≥ 500 ml specify at _____ ☐ Transfusion required ☐ Retained placenta ☐ Prolonged labour (>18 hrs) ☐ Cord prolapse ☐ Wound infection ☐ Failure to progress (specify) _____ ☐ Other (specify) _____			33 Perineal status after birth Tick tear, repair & episiotomy if all ☐ Intact ☐ 1st Degree tear/haemorrhoidal grade ☐ 2nd Degree tear ☐ 3rd Degree tear ☐ 4th Degree tear ☐ Repair of tear ☐ Episiotomy ☐ Not stated		
34 CTG performed during labour ☐ None ☐ External ☐ Scalp clip			35a Fetal scalp pH taken during labour ☐ No ☐ Yes		
35b Fetal scalp lactate taken during labour ☐ No ☐ Yes			36 Analgesia for labour ☐ None ☐ Nitrous oxide and oxygen ☐ Narcotic (parenteral) ☐ Epidural (lumbar/caudal) ☐ Spinal ☐ Other (ie TENs) specify _____ ☐ Combined spinal-epidural ☐ Not stated		
37 Anaesthesia for operative or instrumental delivery ☐ None ☐ Local anaesthesia to perineum ☐ Pudendal ☐ Epidural (lumbar/caudal) ☐ Spinal ☐ General anaesthesia ☐ Other (specify) _____ ☐ Combined spinal-epidural ☐ Not stated			38 Outcome of Mother ☐ Discharged home ☐ Transferred to _____ ☐ Died		
38 Mother final discharge date/death day month year _____			38 Mother final discharge date/death day month year _____		

Appendix 2



Government of South Australia
Department of Health

S.A. PREGNANCY OUTCOME STATISTICS UNIT,
PO Box 6, Rundle Mall, Adelaide SA 5000

CONGENITAL ABNORMALITY FORM

SBR No.

ACC NO. 2 1

BABY'S SURNAME.....

BABY'S FIRST NAME.....

SEXIF MULTIPLE BIRTH, BIRTH ORDER.....

DATE OF BIRTH...../...../..... UR NO.

HOSPITAL.....

ADDRESS OF MOTHER.....

FAMILY HISTORY OF CONGENITAL ABNORMALITY Yes No Not known

1. Parents (specify)..... ☐ ☐ ☐2. Siblings of this baby (including known stillbirths
and 2nd trimester terminations of pregnancy) ☐ ☐ ☐

(specify)

3. Other relatives (specify)..... ☐ ☐ ☐

.....

RESIDENCE OF MOTHER DURING THE FIRST 16 WEEKS OF PREGNANCY

EXPOSURE TO TERATOGENS

DURING THE FIRST 16 WEEKS OF PREGNANCY

This information can be provided by the doctor undertaking antenatal care

Yes If yes, details

1. Infection (including viral) ☐2. Xrays ☐3. Environmental chemicals ☐4. Prescribed drugs ☐5. Over-the-counter drugs ☐6. Alcohol ☐7. Other addictive substances ☐8. Any other substances ☐

Comments

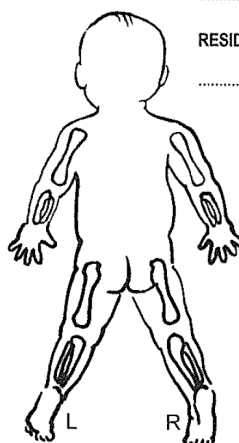
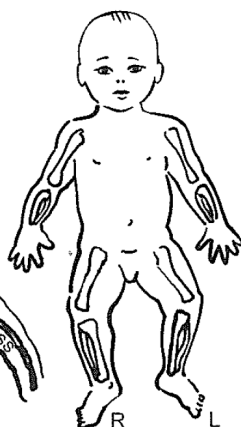
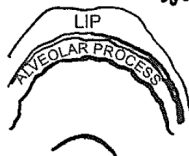
VENTRAL



DORSAL



LIP



GEST =

CONGENITAL ABNORMALITIES / BIRTH DEFECTS PRESENT

(Please list all defects & specify where relevant right/left, anterior/posterior)

Office use only

1..... ☐ ☐ ☐ ☐2..... ☐ ☐ ☐ ☐3..... ☐ ☐ ☐ ☐4..... ☐ ☐ ☐ ☐5..... ☐ ☐ ☐ ☐6..... ☐ ☐ ☐ ☐7..... ☐ ☐ ☐ ☐8..... ☐ ☐ ☐ ☐9..... ☐ ☐ ☐ ☐10..... ☐ ☐ ☐ ☐SPECIFIC SYNDROME/S (if known)..... ☐ ☐ ☐ ☐..... ☐ ☐ ☐ ☐HAS THE FATHER OF THIS CHILD A HISTORY OF EXPOSURE TO ANY
POTENTIAL TERATOGENS? ☐ Yes ☐ No ☐ Not known

(specify)

ADDITIONAL INFORMATION (eg drinking water supply/local epidemics)

.....

PRENATAL DIAGNOSIS

Please tick all tests performed
during this pregnancyPlease tick if
abnormal result1. ☐ MSAFP (NTD etc) ☐2. ☐ Triple/Quadruple screen (Down's, etc) ☐3. ☐ Ultrasound (morphology) ☐4. ☐ Chorion villus sampling ☐5. ☐ Amniocentesis ☐6. ☐ Cordocentesis ☐7. ☐ Other (specify)..... ☐8. ☐ Not known ☐

Comments

.....

NAME OF NOTIFYING DOCTOR..... Signed..... Date.....

NAME & ADDRESS OF OBSTETRICIAN / MIDWIFE (if not the same)

For more information

Pregnancy Outcome Unit

PO Box 287, Rundle Mall SA 5000

Call (08) 71179210 or Email

PreventiveHealthSAPregnancyStats@sa.gov.au

Website: <https://www.preventivehealth.sa.gov.au/>