

Pregnancy Outcome

in South Australia 2021



**Government
of South Australia**

Preventive Health SA

Published October 2024

Pregnancy Outcome in South Australia 2021

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ISSN 0819-3835

Suggested citation: Pregnancy Outcome in South Australia 2021. Adelaide: Pregnancy Outcome Unit, Epidemiology and Research Division, Preventive Health SA, Government of South Australia, 2024.

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

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Executive Summary

Number of births and fertility rates

The number of births notified in South Australia in 2021 was 20,181 which was 1,008 more births than in 2020. The number of women who gave birth was 19,909. The total fertility rate was 1.69 live births per woman, higher than the rate of 1.59 in 2020 and was the highest fertility rate since 2016 (1.75 live births per woman). When compared with the age-specific fertility rates for 2020, there was an increase in all age groups, with the exception of the 15-19 year age group.

Age of women

Two hundred and eighty-six teenage women gave birth in 2021; accounting for 1.4% of women who gave birth in South Australia. The proportion of women aged 35 years and over who gave birth was 24.2% in 2021. The mean age of women giving birth has been increasing over the previous decade, and this has peaked in 2021 at 30.9 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 2021, the total number of births at the three metropolitan teaching hospitals (62.8% of all births), and metropolitan private hospitals (19.0% of all births) remained stable when compared to 2020. There were 153 women (0.8%) who gave birth at home as planned, an increase from 119 (0.6%) women in 2020. All 153 home births in 2021 were planned home births.

Country of birth

Seventy-two percent of women who gave birth in 2021 were Australian-born. Of women born overseas who gave birth, the largest proportions came from India (5.4%), United Kingdom (2.1%) and China (1.9%).

Body mass index

Amongst mothers for whom body mass index could be calculated in 2021, 55.6% were of an unhealthy weight. Of the overweight women giving birth, 15.0% were classified as obese and 11.4% severely or morbidly obese.

Antenatal care and length of stay

Around 84% of women attended antenatal care within the first 14 weeks of pregnancy. Of the women for whom the number of antenatal visits was reported, 83.5% 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 (47.0%), obstetricians in private practice (22.7%) and GP, midwifery group practice at birth hospital (13.7%) and public hospital shared care (12.6%).

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 four 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 97.0% of women who gave birth in 2021. Over a third of all labours were induced (37.1%) and 14.5% of women giving birth had labour augmented. The main reasons for induction of labour were pre-existing diabetes or gestational diabetes (19.6%), maternal choice (13.4%) and other obstetric or medical conditions (11.3%). Around fifteen percent (15.5%) 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 (52.5% of women) and epidurals (44.1% of women). Of women who gave birth vaginally, 25.8% had an episiotomy.

Method of birth

In 2021, 51.8% of women had normal spontaneous vaginal births, a further 5.5% were delivered by forceps and 5.1% were delivered by ventouse. The proportion of women giving birth by caesarean section was 37.2%, which was similar to the proportion in 2020 (36.8%). The main reasons given for caesarean section were previous caesarean section (37.1%), failure to progress in labour (23.5%) and fetal distress (20.0%).

Plurality

In 2021, there were 542 multiple births comprising 536 twins and 6 triplets. Multiple births accounted for 2.7% 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-four Aboriginal women gave birth in South Australia in 2021, accounting for 4.2% of all women who gave birth in the state. In 2021, 7.5% of Aboriginal women who gave birth were teenagers (compared with 1.2% of non-Aboriginal women). The Aboriginal status of the baby was also collected independently of the mother. There were 1,180 Aboriginal babies, representing 5.9% of all babies born in South Australia in 2021.

Of the Aboriginal women for whom gestation at the first antenatal visit was reported, 64.8% attended for antenatal care within the first 14 weeks of pregnancy (compared with 84.9% 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 84.1% of non-Aboriginal women).

In 2021, 37.8% of Aboriginal women with a known smoking status reported that they smoked tobacco at any time during their pregnancy, compared with 6.1% of non-Aboriginal women. Almost three percent (2.7%) of Aboriginal women with a known status of alcohol consumption reported consuming alcohol at any time during their pregnancy, compared with 1.2% of non-Aboriginal women.

In 2021, the proportion of preterm births (<37 weeks gestation) was 18.1% 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 2021 was 83.0% of Aboriginal women compared with 92.0% among babies of non-Aboriginal women. The proportion of low birthweight babies was 15.8% among babies of Aboriginal women compared with 6.8% among babies of non-Aboriginal women.

Perinatal mortality

The perinatal mortality rate for all births of at least 400g birthweight or 20 weeks gestation in 2021 was 9.1 per 1,000 births. In 2021, the stillbirth rate was 7.1 per 1,000 births and the neonatal mortality rate was 2.0 per 1,000 live births.

In addition to the data above, 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

Termination of pregnancy data in South Australia in 2021 were collected and reported under the *Criminal Law Consolidation (Medical Termination of Pregnancy) Regulations 2011*. Termination of pregnancy data are reported on number and rate, demographics, method of termination and complications.

For data on termination of pregnancy in South Australia, please see the South Australian Abortion Reporting Committee reports, available at the [Pregnancy Outcome Statistics Webpage](#).

Background

Data Collection

The *South Australian Health Care Regulations 2008 – Part 5 Pregnancy Outcome Data and Statistics* require the notification of all births occurring in South Australia to the Minister for Health and Wellbeing. This includes births to women who normally reside interstate. 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 20,181 births in South Australia in 2021 (1,008 more births than 2020) comprised of 20,038 live births and 143 stillbirths. The number of women who gave birth was 19,909 (1,448 more women than in 2020). 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/or Torres Strait Islander mothers or babies.

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 2021 for South Australia was 11.1 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 2016), South Australia, 2021

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	2,912	14.3	2,928	315,867	9.3
Adelaide - North	6,137	31.1	6,093	461,302	13.2
Adelaide - South	4,189	19.6	4,155	378,101	11.0
Adelaide - West	2,891	14.4	2,860	247,123	11.6
Barossa	389	1.8	387	38,797	10.0
Eyre Peninsula and South West	636	3.5	632	58,872	10.7
Fleurieu - Kangaroo Island	413	1.9	409	56,611	7.2
Limestone Coast	736	3.7	730	68,542	10.7
Lower North	236	1.1	232	23,154	10.0
Mid North	283	1.4	283	27,840	10.2
Murray and Mallee	694	3.6	670	73,097	9.2
Outback - North and East	304	1.6	300	26,714	11.2
Yorke Peninsula	235	1.2	234	27,172	8.6
Interstate	126	0.6	125	-	-
Total	20,181	100.0	20,038	1,803,192	11.1

¹ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2021. Canberra: ABS, 2021.

1.2 Maternal Aboriginal status

The distribution of women who gave birth, by Aboriginal status is provided in Table 2. In 2021 there were 844 births to Aboriginal mothers which represented 4.2% of all women. The Aboriginal status of the baby was also collected independently of the mother. There were 1,180 Aboriginal babies, representing 5.9% of all babies born in South Australia in 2021. They comprised 1,124 (95.3%) Aboriginal, 18 (1.5%) Torres Strait Islander and 38 (3.2%) Aboriginal and Torres Strait Islander babies.

Table 2: Aboriginal status of women who gave birth, South Australia, 2021

Aboriginal status	Number of women	% Women
Aboriginal	844	4.2
Non-Aboriginal	19,065	95.8
Total	19,909	100.0

1.3 Maternal age

Table 3 shows the age and Aboriginal status of women who gave birth in South Australia in 2021. 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 (37.1%) has exceeded that of the 25-29 years age group (27.6%) since 2001. Teenage women accounted for 1.4% of women who gave birth, and women aged 35 years or more accounted for 24.2%. Aboriginal women were generally younger than non-Aboriginal women; 7.5% were teenagers and only 11.2% were aged 35 years or older.

Table 3: Age and Aboriginal status of women who gave birth, South Australia, 2021

Age Group	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
<20	63	7.5	223	1.2	286	1.4
20-24	240	28.4	1,692	8.9	1,932	9.7
25-29	275	32.7	5,215	27.4	5,490	27.6
30-34	171	20.2	7,219	37.9	7,390	37.1
35-39	82	9.7	3,919	20.6	4,001	20.1
40-44	13	1.5	742	3.9	755	3.8
45+	0	0.0	55	0.3	55	0.3
Total	844	100.0	19,065	100.0	19,909	100.0

The five-year age-specific fertility rate was highest in the 30-34 year age group (122.8 per 1,000 women), followed by the 25-29 year age group (92.9 per 1,000 women, Table 4). When compared with the age-specific fertility rates for 2020, the only slight decrease was in the 15-19 year age group (from 6.9 per 1,000 women in 2020 to 5.9 per 1,000 women in 2021). There were increases in all other age groups compared to the rates for 2020. The general fertility rate (see Methods and Terminology) was 59.1 per 1,000 women aged 15-44 years, which is higher than the general fertility rate in 2020 (55.6 per 1,000 women). The total fertility rate in 2021 was 1.69 live births per woman, which remains below replacement level of 2.1 children per woman² and the highest fertility rate since 2016 (1.75 live births per woman).

Table 4: Age-specific fertility rates (ASFR), South Australia, 2021

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	48,963	5.9
20-24	1,938	54,193	35.8
25-29	5,504	59,254	92.9
30-34	7,468	60,791	122.8
35-39	4,024	60,908	66.1
40-44	760	54,953	13.8
45+	57	na	na
Total	20,038	339,062	59.1

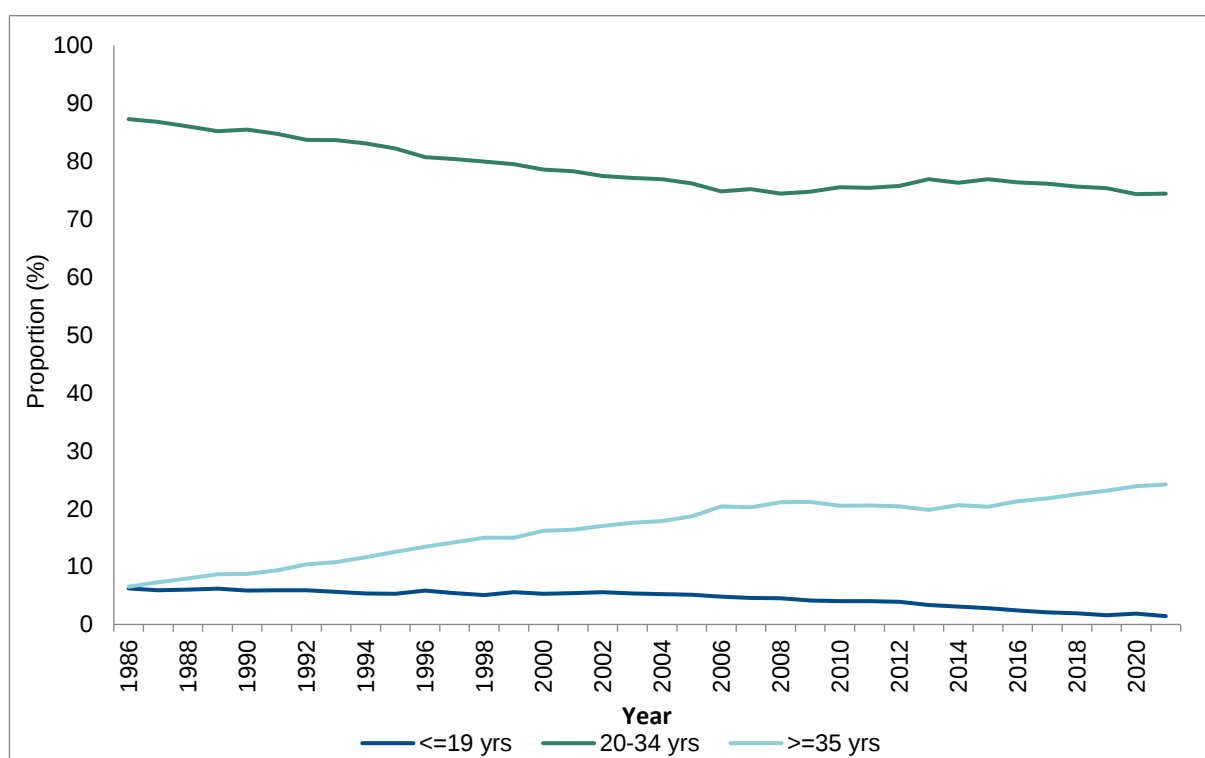
¹ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2021. Canberra: ABS, 2021

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 = 337.3 per 1,000 women. Total fertility rate = $337.3 \times 5 = 1686.4$ live births per 1,000 women = 1.69 live births per woman.

Figure 1 presents the proportion of women giving birth by age group, since 1986. The proportion of women aged 35 years or older has increased from 6.5% in 1986 to 24.2% in 2021.

Figure 1: Age groups of women who gave birth in South Australia, 1986-2021



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 27.2% of women born outside of Australia, the largest proportions were born in India (5.4%), the United Kingdom (2.1%), and China (1.9%).

Table 5: Country of birth group¹ for women who gave birth, South Australia, 2021

Country of birth group	Number	%
Oceania	14,619	73.4
North-West Europe	556	2.8
Southern and Eastern Europe	244	1.2
North Africa and Middle East	418	2.1
South-East Asia	865	4.3
North-East Asia	582	2.9
Southern and Central Asia	1,926	9.7
Americas	272	1.4
Sub-Saharan Africa	398	2.0
Unknown	28	0.1
Total	19,909	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, 2021

Specified country of birth	Number	% of women	% of women born overseas who gave birth (n=5,411)
Australia (includes External Territories)	14,470	72.7	
India	1,071	5.4	19.8
United Kingdom, Channel Islands and Isle of Man	412	2.1	7.6
China (excludes SARs and Taiwan)	379	1.9	7.0
Philippines	266	1.3	4.9
Afghanistan	255	1.3	4.7
Nepal	235	1.2	4.3
Vietnam	201	1.0	3.7
Pakistan	176	0.9	3.3
New Zealand	120	0.6	2.2
Malaysia	111	0.6	2.1
Iran	99	0.5	1.8
Sudan	92	0.5	1.7
South Africa	87	0.4	1.6
Sri Lanka	82	0.4	1.5
United States of America	80	0.4	1.5
Thailand	71	0.4	1.3
Cambodia	61	0.3	1.1
Indonesia	56	0.3	1.0
Hong Kong (SAR of China)	56	0.3	1.0
Brazil	55	0.3	1.0
Myanmar	53	0.3	1.0
Korea, Republic of (South)	53	0.3	1.0
Bangladesh	52	0.3	1.0
Iraq	50	0.3	0.9
Japan	50	0.3	0.9
Kenya	50	0.3	0.9
Congo, Republic of	44	0.2	0.8
Germany	41	0.2	0.8
All other countries	1,053	5.3	19.5
Unknown	28	0.1	-
Total	19,909	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 2021, and their partners are presented in Table 7. The most common occupation type for mothers were professionals (22.8%), salespersons and personal service workers (17.1%) and home duties (14.7%). The most common occupations for partners were tradespersons (22.8%), professionals (17.9%) and managers and administrators (13.2%).

Table 7: Occupation¹ of mother and partner, South Australia, 2021

Occupation	Mother		Partner	
	Number	%	Number	%
Clerks	1,818	9.1	488	2.5
Labourers and related workers	782	3.9	2,393	12.0
Managers and administrators	1,954	9.8	2,623	13.2
Para professionals	1,950	9.8	1,484	7.5
Plant and machine operators and drivers	125	0.6	1,616	8.1
Professionals	4,548	22.8	3,556	17.9
Salespersons and personal service workers	3,404	17.1	1,297	6.5
Tradespersons	793	4.0	4,536	22.8
Home duties	2,921	14.7	83	0.4
Pensioners	9	0.0	24	0.1
Students	576	2.9	242	1.2
Unemployed	736	3.7	744	3.7
Other	73	0.4	116	0.6
Unknown	220	1.1	707	3.6
Total	19,909	100.0	19,909	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 18,784 women (94.3% of all women who gave birth), height and weight were not reported for 602 women (3.2%). Therefore, BMI was calculated for 18,182 women who gave birth in 2021 (96.8% of women who attended the first antenatal visit before 20 weeks gestation). Table 8 shows that 55.6% of these women recorded a BMI of 25 or higher, which is above the normal weight range.

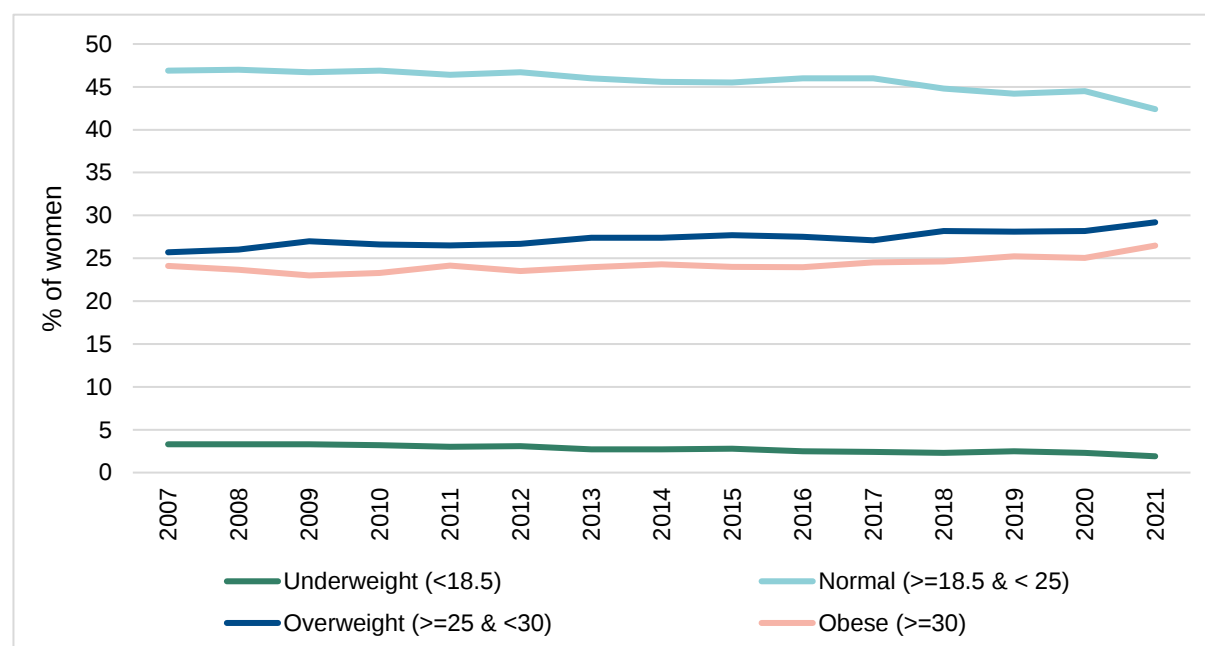
Table 8: BMI of women at the first antenatal visit, South Australia, 2021

BMI ¹		Number	%	Adjusted % (excluding unknown n=18,182)
<18.5	underweight	353	1.9	1.9
18.5 – 24.9	normal	7,707	41.0	42.4
25.0 – 29.9	overweight	5,307	28.3	29.2
30.0 – 34.9	obese	2,728	14.5	15.0
35.0 – 39.9	severely obese	1,262	6.7	6.9
≥40	morbidly obese	825	4.4	4.5
Unknown		602	3.2	-
Total		18,784	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, since 2007. The proportion of women with a recorded BMI of 30 or higher has increased from 24.0% in 2016 to 26.5% in 2021.

Figure 2: Body Mass Index of women at the first antenatal visit (excluding unknown), South Australia, 2007 - 2021



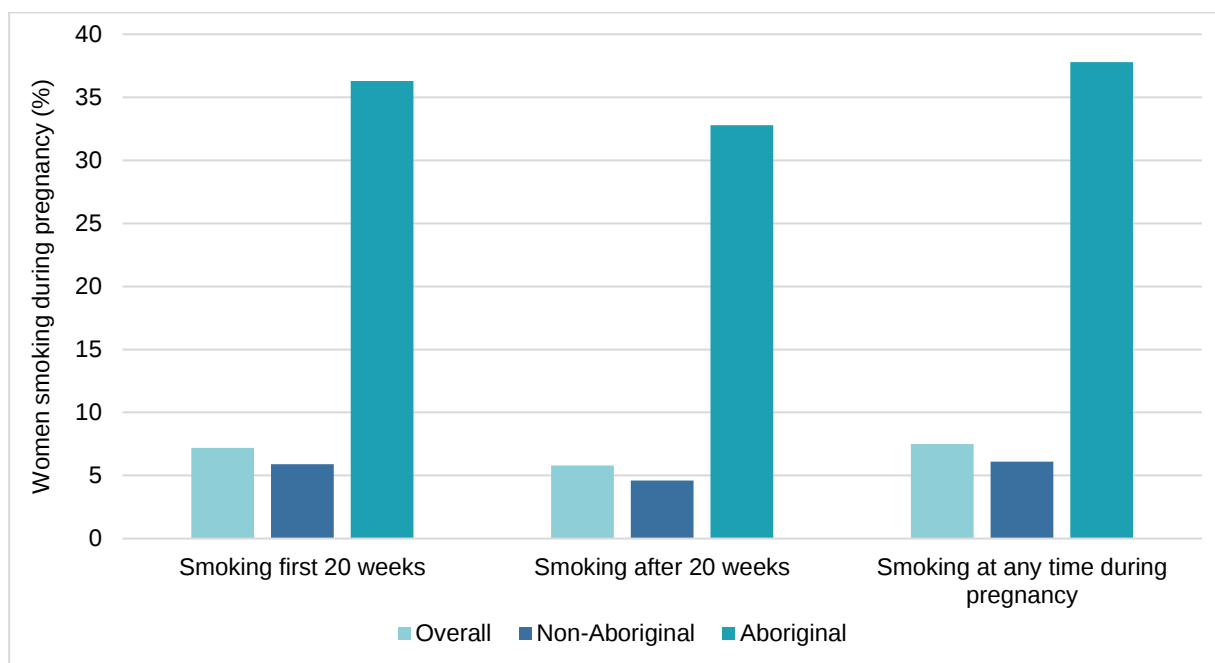
1.7 Tobacco smoking status

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 691 women during the first 20 weeks and 723 women during the second 20 weeks of pregnancy. This results in a known smoking status for 18,982 women who gave birth (93.6%) in 2021. Among these, 7.5% of women were reported to be tobacco smokers at any time during their pregnancy and this was higher among Aboriginal women (37.8%) than non-Aboriginal women (6.1%).

A higher proportion of women, reported smoking during the first 20-weeks of their pregnancy (7.2%), compared with after 20-weeks (5.8%) (Figure 3) and this has declined slightly when compared to 2020; 7.7% of women during the first 20 weeks of pregnancy and 6.8% of women after 20 weeks of pregnancy.

Figure 3: Proportion of women smoking during pregnancy by Aboriginal status, South Australia, 2021 (excludes unknown)¹



¹ Tobacco smoking status unknown for n=691 women during first 20 weeks, n=723 women after 20 weeks and n=927 women at any time during pregnancy.

In 2021, the highest proportion of smoking at any time during pregnancy were among women aged under 25 years (16.9%). The proportion 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, 2021¹

Age (years)	Non-Smoker		Smoker		Total	
	Number	%	Number	%	Number	%
Total						
<25	1,756	83.1	357	16.9	2,113	100.0
25-34	11,485	93.4	805	6.6	12,290	100.0
≥35	4,324	94.4	255	5.6	4,579	100.0
Total	17,565	92.5	1,417	7.5	18,982	100.0
Aboriginal						
<25	181	64.2	101	35.8	282	100.0
25-34	258	61.1	164	38.9	422	100.0
≥35	52	60.5	34	39.5	86	100.0
Total	491	62.2	299	37.8	790	100.0
Non-Aboriginal						
<25	1,575	86.0	256	14.0	1,831	100.0
25-34	11,227	94.6	641	5.4	11,868	100.0
≥35	4,272	95.1	221	4.9	4,493	100.0
Total	17,074	93.9	1,118	6.1	18,192	100.0

¹ Tobacco smoking status unknown for n=927 women at any time during pregnancy.

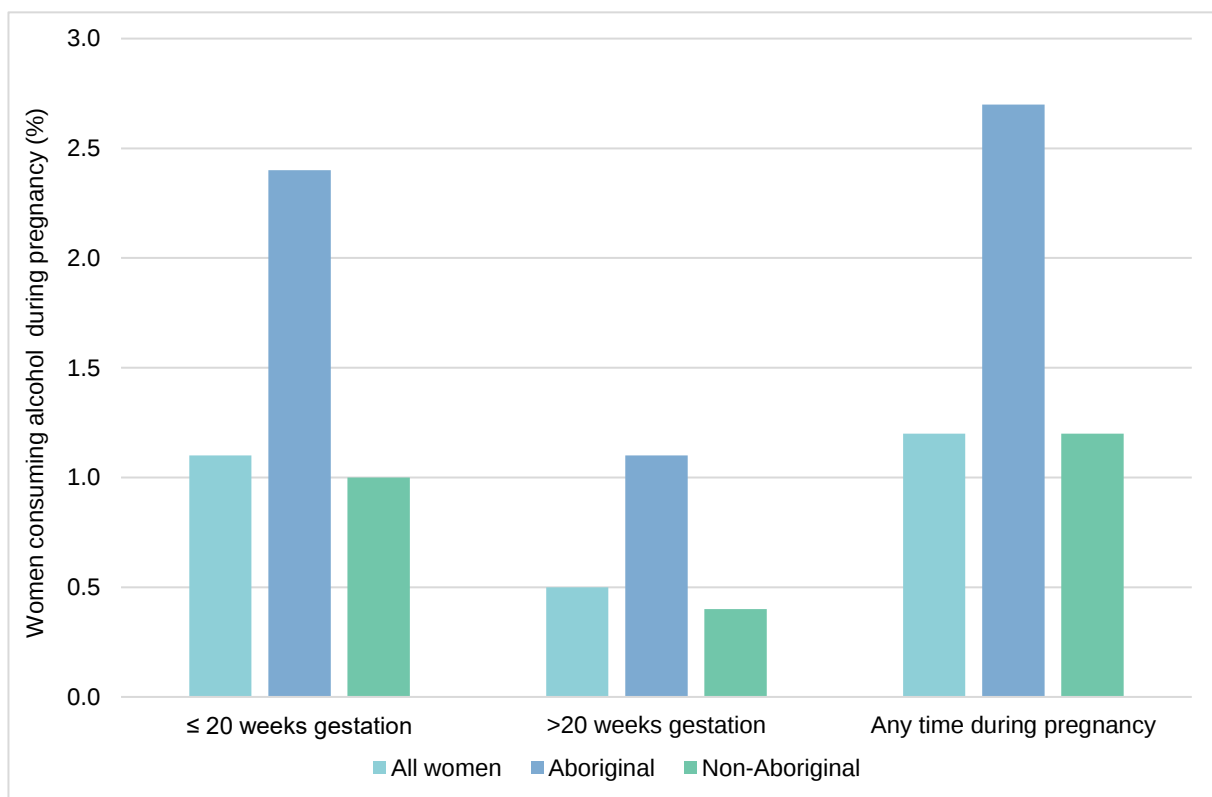
1.8 Alcohol consumption

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 2,476 women during the first 20 weeks of pregnancy and 2,492 women during the second 20 weeks of pregnancy. This results in a known alcohol consumption status for 17,145 women who gave birth in 2021 (86.1%). Among these, 1.2% consumed alcohol at any time during their pregnancy, and this was higher among Aboriginal women (2.7%) than non-Aboriginal women (1.2%)

A higher proportion of women reported consuming alcohol during the first 20 weeks of their pregnancy (1.1%) compared with after 20 weeks (0.5%) (Figure 4).

Figure 4: Proportion of women consuming alcohol during pregnancy by Aboriginal status, South Australia, 2021 (excludes unknown)¹



¹ Alcohol consumption status unknown for n=2,476 women during first 20 weeks, n=2,492 women after 20 weeks and n=2,764 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 extrapolated to the whole population with caution.

Of mothers for which influenza vaccination status was known (n=11,150), 56.0% received a flu vaccination during pregnancy. Of mothers for which date of influenza vaccination was known and administered during pregnancy, 17.0% were vaccinated in the first 20-weeks of pregnancy, 26.4% were vaccinated in the last 20 weeks, and 12.7% were confirmed to be vaccinated during pregnancy, however the date was unknown. In 2021, 8.3% of mothers are known to have declined a influenza vaccination.

Of mothers for which pertussis (whooping cough) vaccination status was known (n=13,596), 68.3% received a pertussis vaccination during pregnancy. Of mothers for which date of pertussis vaccination was known, 1.8% were vaccinated in the first 20-weeks of pregnancy, 84.9% were vaccinated in the last 20 weeks, and 13.3% were confirmed to be vaccinated during pregnancy, however the date was unknown. In 2021, 4.4% of mothers are known to have declined a pertussis vaccination.

Pregnancy profile

2.1 Parity and previous pregnancy outcomes

In 2021, 43.0% of women who gave birth had no previous births and 31.1% 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 (10.3%) than among non-Aboriginal women (2.7%).

Table 10: Parity by Aboriginal status of women who gave birth, South Australia, 2021

Parity ¹	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
0-primigravida	195	23.1	5,989	31.4	6,184	31.1
0-multigravida	101	12.0	2,274	11.9	2,375	11.9
1	227	26.9	6,806	35.7	7,033	35.3
2	144	17.1	2,616	13.7	2,760	13.9
3	90	10.7	862	4.5	952	4.8
4	47	5.6	276	1.4	323	1.6
≥5	40	4.7	242	1.3	282	1.4
Total	844	100.0	19,065	100.0	19,909	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, 40.6% of the multigravidae women experienced a previous adverse pregnancy outcome. Over a third of the women (38.1%) had a previous miscarriage.

Table 11: Previous adverse pregnancy outcomes, multigravidae women, South Australia, 2021 (n= 13,725)

Previous adverse pregnancy outcome ¹	Number	%
Miscarriage	5,236	38.1
Stillbirth	180	1.3
Neonatal death	111	0.8
Ectopic pregnancy	353	2.6

¹ Women may have reported multiple previous adverse outcomes

2.2 Antenatal visits

In 2021, 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, 69.3% attended at least seven antenatal visits (compared with 84.1% for non-Aboriginal women). The number of antenatal visits was unknown for 3.9% of all women.

Table 12: Antenatal visits by Aboriginal status of women who gave birth, South Australia, 2021

Antenatal visits	Maternal Aboriginal status								
	Aboriginal			Non-Aboriginal			Total		
	Number	%	Adjusted % excluding unknown (n=818)	Number	%	Adjusted % excluding unknown (n=18,316)	Number	%	Adjusted % excluding unknown (n=19,134)
None	14	1.7	1.7	29	0.1	0.2	43	0.2	0.2
1-6	237	28.1	29.0	2,885	15.1	15.8	3,122	15.7	16.3
≥7	567	67.2	69.3	15,402	80.8	84.1	15,969	80.2	83.5
Unknown number of visits	26	3.1	-	749	3.9	-	775	3.9	-
Total	844	100.0	100.0	19,065	100.0	100.0	19,909	100.0	100.0

2.3 Gestation at first antenatal visit

In 2021, of the women for whom week of gestation at the first antenatal visit was reported, 84.0% 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, 64.8% attended antenatal care within the first 14 weeks of pregnancy (compared with 84.9% of non-Aboriginal women). Gestation at the first antenatal visit was reported as unknown for 1.2% of all women (Table 13).

Table 13: Gestation at first antenatal visit, women who gave birth by Aboriginal status, South Australia, 2021

Gestation at first antenatal visit	Aboriginal			Non-Aboriginal			Total		
	Number	%	Adjusted % excluding unknown (n=816)	Number	%	Adjusted % excluding unknown (n=18,863)	Number	%	Adjusted % excluding unknown (n=19,679)
<14 weeks gestation	529	62.7	64.8	16,008	84.0	84.9	16,537	83.1	84.0
14 weeks or greater	287	34.0	35.2	2,855	15.0	15.1	3,142	15.8	16.0
Unknown	28	3.3	-	202	1.1	-	230	1.2	-
Total	844	100.0	100.0	19,065	100.0	100.0	19,909	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 2021 were specialist led public hospital clinics (47.0%), obstetricians in private practice (22.7%) and midwifery group practice at the birth hospital (13.7%). There were 43 women (0.2%) who had no antenatal care.

Table 14: Type of antenatal care, women who gave birth, South Australia, 2021

Type of care ¹	Number	% of antenatal care
Public clinic (specialist led)	9,358	47.0
Obstetrician +/- midwife in private practice	4,526	22.7
Midwifery group practice at birth hospital	2,722	13.7
GP and public hospital (shared care)	2,518	12.6
GP led	1,246	6.3
Birth Unit/Centre	1,020	5.1
Aboriginal Family Birthing Program (includes metropolitan and rural locations)	316	1.6
Eligible midwife in private practice	147	0.7
Other	148	0.7
Not stated	11	0.1
No care	43	0.2

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

2.5 Medical conditions

In 2021, medical conditions were recorded in the current pregnancy for 14,406 women (72.4%). The frequencies of specified medical conditions are provided in Table 15. Multiple conditions can be reported for each pregnancy.

Table 15: Medical conditions in current pregnancy, women who gave birth, South Australia, 2021

Medical condition ¹	Number	% of women (n = 19,909)
No medical condition reported	5,503	27.6
Anaemia (Hb <100 g/L)	1,290	6.5
Urinary tract infection	649	3.3
Hypertension (pre-existing)	321	1.6
Diabetes (pre-existing)	269	1.4
Epilepsy	145	0.7
Asthma	2,126	10.7
Other	13,477	67.7

¹ Women may have multiple medical conditions reported

2.6 Obstetric complications

Obstetric complications were recorded for 11,665 women who gave birth (58.6%) in 2021. 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 (17.1%). 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, 2021

Obstetric complication ¹	Number	% of women (n= 19,909)
No complication	8,244	41.4
Threatened miscarriage	252	1.3
Ante-partum haemorrhage (APH) – abruption	111	0.6
APH – placenta praevia	126	0.6
APH – other & unknown causes	535	2.7
Pregnancy hypertension	888	4.5
Intrauterine growth restriction (suspected)	1,236	6.2
Gestational diabetes	3,400	17.1
Other complications	8,732	43.9

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 97.0% of women in 2021. Amniocentesis was performed for 1.5% of pregnancies, and chorion villus sampling for 0.5% 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, 2021

Procedure ¹	Number	% of women (n= 19,909)
Ultrasound morphology scan	17,283	86.8
First trimester anomaly screen (ultrasound & biochemical)	15,631	78.5
Ultrasound dating scan	12,602	63.3
Other ultrasound scan	12,301	61.8
Second trimester anomaly screen (biochemical only)	1,963	9.9
Non invasive prenatal testing	3,385	17.0
Amniocentesis	301	1.5
Chorion villus biopsy	106	0.5
Antenatal fetal blood sampling	53	0.3

¹ Multiple procedures may be reported for each pregnancy

Labour

3.1 Onset of labour

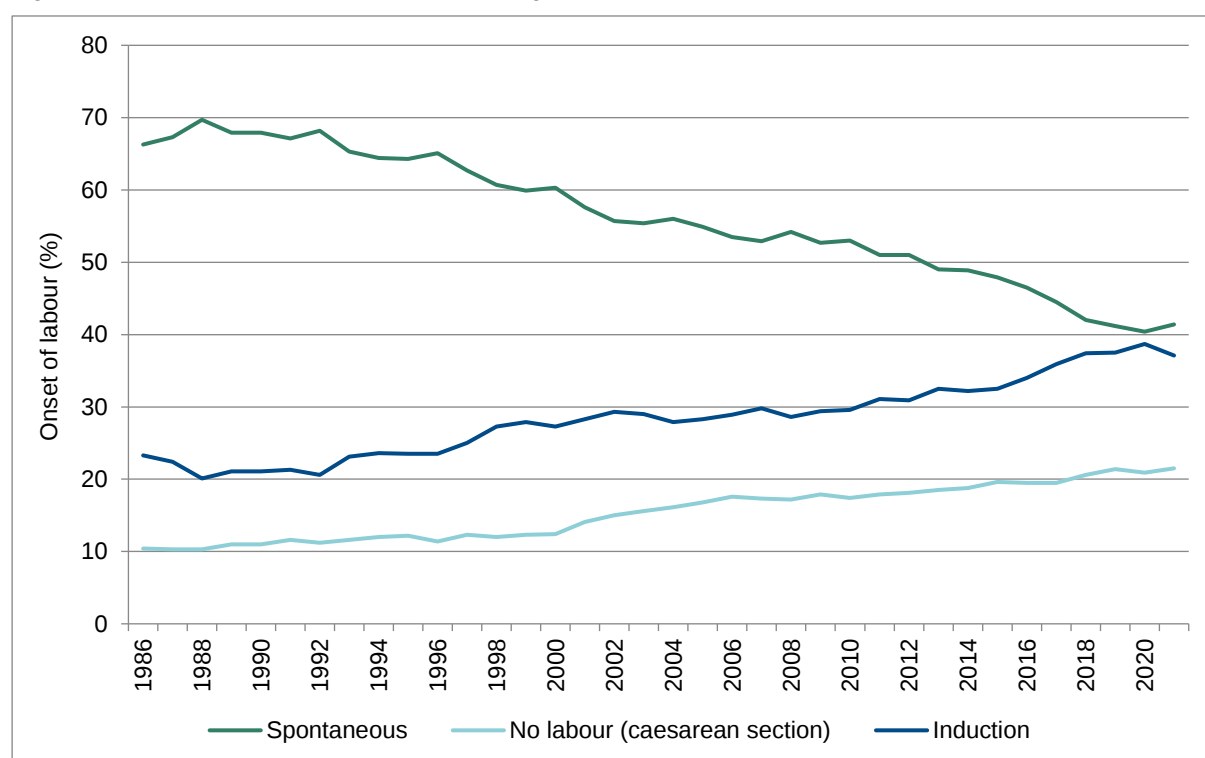
Since 1986, the proportion of spontaneous labour in women has decreased whilst simultaneously the proportion of induction of labour has increased (Figure 5). In 2021, labour occurred spontaneously in 41.4% of women who gave birth and induction of labour occurred for 37.1% of women who gave birth (Table 18). The proportion of women with no labour due to caesarean sections has increased from 10.4% to 21.5%, over the same time period.

Table 18: Onset of labour, women who gave birth, South Australia, 2021

Onset of labour	Number	%
Spontaneous ¹	8,237	41.4
Induction	7,385	37.1
No labour – caesarean section	4,287	21.5
Total	19,909	100.0

¹ Spontaneous includes spontaneous breech births

Figure 5: Trend for onset of labour for women who gave birth in South Australia, 1986-2021



3.2 Induction of labour

Labour was induced for 37.1% of women who gave birth in 2021. The most common methods of induction used were artificial rupture of membranes in 76.6% of inductions, oxytocics (62.5%), and prostaglandins (41.3%, 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, 2021

Method of induction ¹	Number	% of women (n =19,909)	% of inductions (n =7,385)
Any induction	7,385	37.1	
Artificial rupture of membranes	5,654	28.4	76.6
Oxytocics	4,619	23.2	62.5
Prostaglandins	3,047	15.3	41.3
Mechanical dilation	1,704	8.6	23.1
Antiprogesterone	102	0.5	1.4
Other	6	0.0	0.1

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 2021, 19.6% of women were induced for diabetes (including pre-existing and gestational diabetes) and 13.4% by maternal choice.

Table 20: Reasons for induction of labour, South Australia, 2021 (n=7,385)

Reason for induction ¹	Number	% of women (n=7,385)
Diabetes ²	1450	19.6
Maternal choice	986	13.4
Other obstetric or medical condition	837	11.3
Large for dates	815	11.0
Hypertension	779	10.5
Fetal distress	779	10.5
Prolonged pregnancy	774	10.5
Premature or prolonged rupture of membranes	556	7.5
FGR	552	7.5
Fetal death	55	0.7
Other ³	1,143	15.5

¹Multiple reasons for induction may be reported for each pregnancy

²Includes diabetes mellitus and gestational diabetes

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

3.3 Augmentation of labour

In 2021, the proportion of women giving birth who had labour augmented after spontaneous labour onset was 14.5% (Table 21). Of the 8,237 women who went into spontaneous labour, augmentation was used for 2,879 (35.0%). Methods used in augmentation were artificial rupture of membranes (69.3%), oxytocics (44.3%) and prostaglandins (2.7%). In some cases, more than one method was used.

Table 21: Augmentation after spontaneous labour onset, women who gave birth, South Australia, 2021

Method of augmentation ¹	Number	% of women (n=19,909)	% of augmentations (n=2,879)
Any augmentation	2,879	14.5	
Artificial rupture of membranes	1,994	10.0	69.3
Oxytocics	1,275	6.4	44.3
Prostaglandins	78	0.4	2.7
Other ²	8	0.0	0.3

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 2021, 51.8% had normal spontaneous vaginal births (Table 22). Caesarean section was performed for 37.2% of women, with 17.9% of women having elective section. Forceps and ventouse were used for 5.5% and 5.1% 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 who gave birth, South Australia, 2021

Method of birth ¹	Number	% of women
Normal spontaneous	10,316	51.8
Caesarean (emergency)	3,852	19.3
Caesarean (elective)	3,565	17.9
Forceps (vaginal)	1,093	5.5
Ventouse	1,024	5.1
Breech spontaneous	50	0.3
Assisted Breech (no forceps)	6	0.0
Breech extraction	1	0.0
Assisted Breech (with forceps for head)	2	0.0
Total	19,909	100.0

¹ Birth method is for the singleton infant or first 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 91.4% of breech presentations in 2021 (Table 24).

Table 23: Fetal presentation, all births, South Australia, 2021

Fetal presentation	Number	% of births
Vertex	19,107	94.7
Breech	931	4.6
Face	30	0.1
Brow	31	0.1
Other	73	0.4
Unknown	9	0.0
Total	20,181	100.0

Table 24: Method of birth by fetal presentation, all births, South Australia 2021

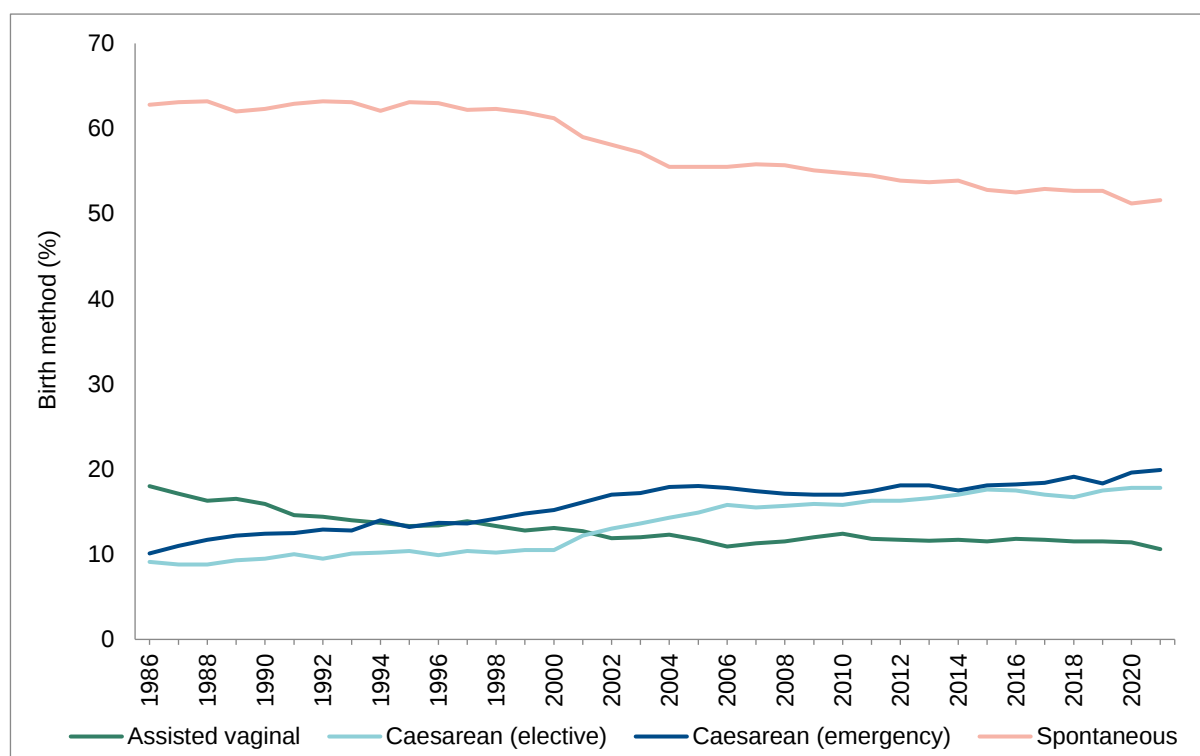
Method of Delivery	Fetal presentation									
	Vertex		Breech		Other		Unknown		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Normal spontaneous	10,334	54.1	0	0.0	17	12.7	1	11.1	10,352	51.3
Caesarean (emergency)	3,529	18.5	406	43.6	90	67.2	2	22.2	4,027	20.0
Caesarean (elective)	3,124	16.4	445	47.8	23	17.2	5	55.6	3,597	17.8
Forceps	1,096	5.7	0	0.0	2	1.5	0	0.0	1,098	5.4
Ventouse	1,024	5.4	0	0.0	2	1.5	0	0.0	1,026	5.1
Breech spontaneous	0	0.0	59	6.3	0	0.0	0	0.0	59	0.3
Assisted Breech (no forceps)	0	0.0	9	1.0	0	0.0	0	0.0	9	0.0
Breech extraction	0	0.0	8	0.9	0	0.0	0	0.0	8	0.0
Assisted Breech (forceps)	0	0.0	4	0.4	0	0.0	0	0.0	4	0.0
Unknown	0	0.0	0	0.0	0	0.0	1	11.1	1	0.0
Total	19,107	100.0	931	100.0	134	100.0	9	100.0	20,181	100.0

Table 25: Method of birth by plurality, breech births, South Australia, 2021

Method of birth	Plurality							
	Singleton		Twins		Triplets		Total	
	Number	%	Number	%	Number	%	Number	%
Caesarean (elective)	421	55.0	24	14.6	0	0.0	445	47.8
Caesarean (emergency)	289	37.7	116	70.7	1	0.6	406	43.6
Breech spontaneous	47	6.1	12	7.3	0	0.0	59	6.3
Assisted breech (no forceps)	6	0.8	3	1.8	0	0.0	9	1.0
Breech extraction	1	0.1	7	4.3	0	0.0	8	0.9
Assisted breech (forceps)	2	0.3	2	1.2	0	0.0	4	0.4
Total	766	100.0	164	100.0	1	100.0	931	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 2021, 19.9% of all births in South Australia were emergency caesareans whilst 51.6% were spontaneous (including spontaneous breech) births.

Figure 6: Method of birth for all births in South Australia, 1986-2021



3.5 Analgesia for labour and anaesthesia for birth

Analgesia for labour was used by 78.5% of women who had an induction or spontaneous onset of labour in South Australia in 2021. The most commonly used methods for analgesia were nitrous oxide and oxygen (52.5%), epidural (44.1%) and narcotics (15.0%), (Table 26). Anaesthesia for birth was recorded only for women who had a caesarean section or an instrumental birth (n=9,536). Anaesthesia was used by 96.0% of women who gave birth via caesarean section or instrumental birth in South Australia in 2021. The most common methods were spinal anaesthetic (57.8%), epidurals (32.2%), and general anaesthesia (4.0%, Table 27). Multiple methods for analgesia and anaesthesia can be reported for each birth.

Table 26: Analgesia for labour, women who laboured, South Australia, 2021

Analgesia ¹	Number	% of women who laboured (n=15,622)
None	3,360	21.5
Nitrous oxide and oxygen	8,205	52.5
Epidural (lumbar/caudal)	6,894	44.1
Narcotic (parenteral)	2,339	15.0
Combined spinal-epidural	31	0.2
Spinal	1	0.0
Other ²	1,357	8.7

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, 2021

Anaesthesia ^{1,2}	Number	% of women who gave birth via caesarean section or instrumental birth(n=9,536)
None	382	4.0
Spinal	5,514	57.8
Epidural (lumbar/caudal)	3,068	32.2
General anaesthesia	378	4.0
Local anaesthesia	229	2.4
Pudendal	121	1.3
Combined spinal-epidural	115	1.2

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

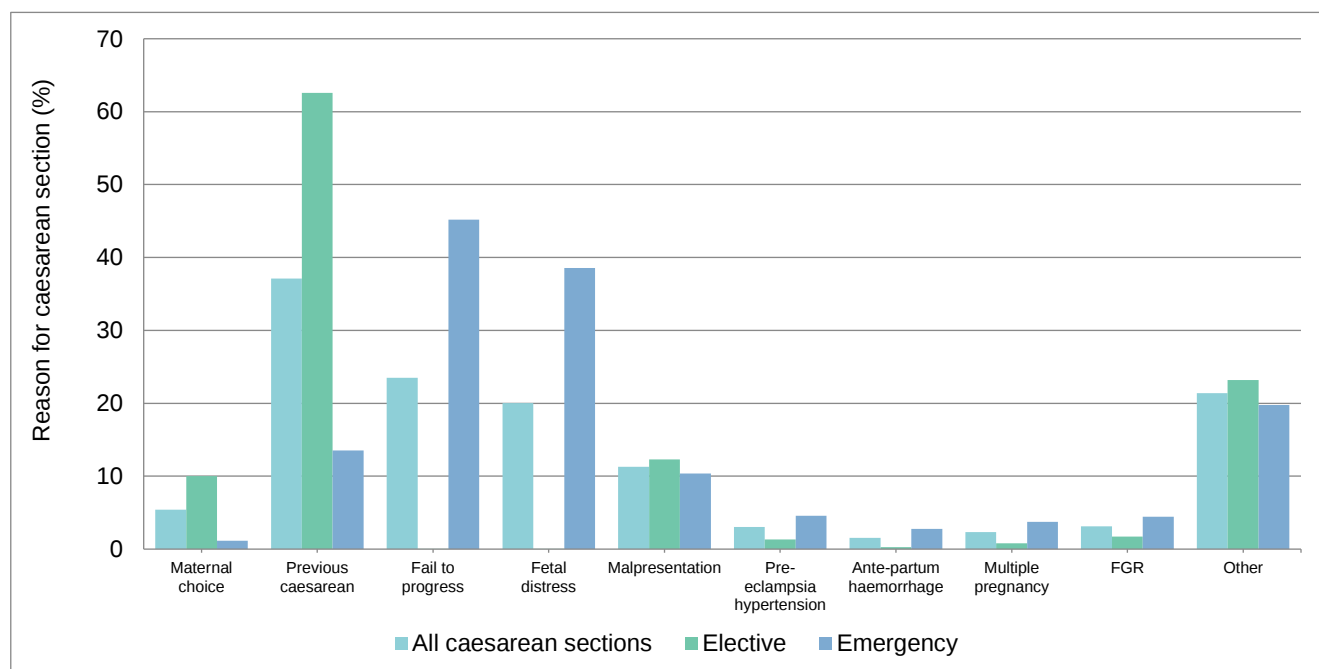
² Multiple methods for anaesthesia may be reported for each birth

3.6 Reason for caesarean section

Multiple reasons for caesarean section can be recorded on the Supplementary Birth Record. In 2021 the most common reasons for caesarean section were previous caesarean section (37.1%), failure to progress or cephalopelvic disproportion (23.5%), fetal distress (20.0%) and malpresentation (11.3%, Figure 7).

The main reasons for elective caesarean sections were previous caesarean section (62.6%), malpresentation (12.3%) and maternal choice (10.0%). The main reasons given for emergency caesarean sections were failure to progress (45.2%), fetal distress (38.6%) and previous caesarean section (13.6%).

Figure 7: Reason for caesarean section in South Australia, 2021 (n=7,417)



3.7 Caesarean section by maternity service

Over a third of all women in South Australia gave birth by caesarean section in 2021 (37.5%, Table 28). The proportion of emergency caesarean section births ranged from 16.5% to 19.7% across maternity services in 2021. The metropolitan private hospitals had a much higher proportion of elective caesarean section births (30.8%) compared to the other maternity services, leading to a higher overall proportion of caesarean births at metropolitan private hospitals (50.2%).

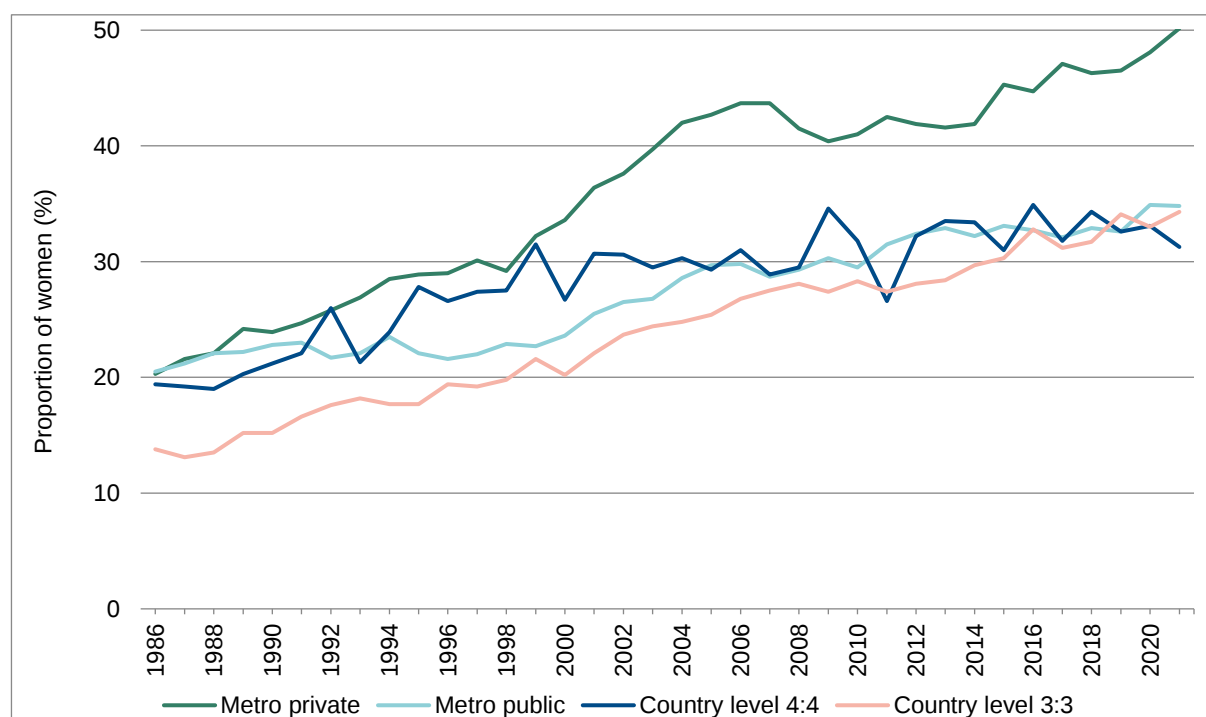
Table 28: Caesarean section by maternity service¹ in South Australia, 2021

Maternity Service	Total women	Elective caesarean		Emergency caesarean		Elective & emergency caesarean	
	Number	Number	%	Number	%	Number	%
Metro private hospitals	3,792	1,167	30.8	735	19.4	1,902	50.2
Metro teaching hospitals	12,449	1,884	15.1	2,448	19.7	4,332	34.8
Country hospitals level 3:3	758	112	14.8	125	16.5	237	31.3
Country hospitals level 4:4	2,757	402	14.6	544	19.7	946	34.3
Total	19,756	3565	18.0	3852	19.5	7417	37.5

¹Excludes home births (n=154)

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 50.2% of women in 2021, 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 in South Australia, 1986-2021



3.8 Complications of labour and birth

Multiple complications can be recorded for women who gave birth with 55.6% of women experiencing complications in 2021. Selected complications are presented in Table 29, and include primary post-partum haemorrhage (PPH $\geq 500\text{ml}$, 29.6%), fetal distress (23.0%) and failure to progress (11.6%).

Table 29: Selected complications of labour and birth, women who gave birth, South Australia, 2021

Complication ¹	Number of women	% of women (n=19,909)
None	8,839	44.4
Primary post-partum haemorrhage		
500-599ml	1844	9.3
600-999ml	2,534	12.7
1,000 ml or more	1,523	7.6
Unspecified mls	2	0.0
Fetal distress	4,590	23.0
Failure to progress	2,302	11.6
Retained placenta	365	1.8
Third degree tear or fourth degree tear	362	1.8
Prolonged labour	123	0.6
Wound infection	56	0.3
Cord prolapse	37	0.2
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 29.6% in 2021.

3.10 Perineal status after birth

Of the 19,909 women who gave birth in South Australia in 2021, episiotomy was performed for 3,227 women (16.2% of all women and 25.8% of women who gave birth vaginally, Table 30). Among the 12,492 women who gave birth vaginally 20.3% had an intact perineum after birth, 56.7% had a first or second degree tear, and 2.9% of women had a third or a fourth degree tear. In total, 5,447 women (43.6% of vaginal births and 73.2% 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 in South Australia, 2021

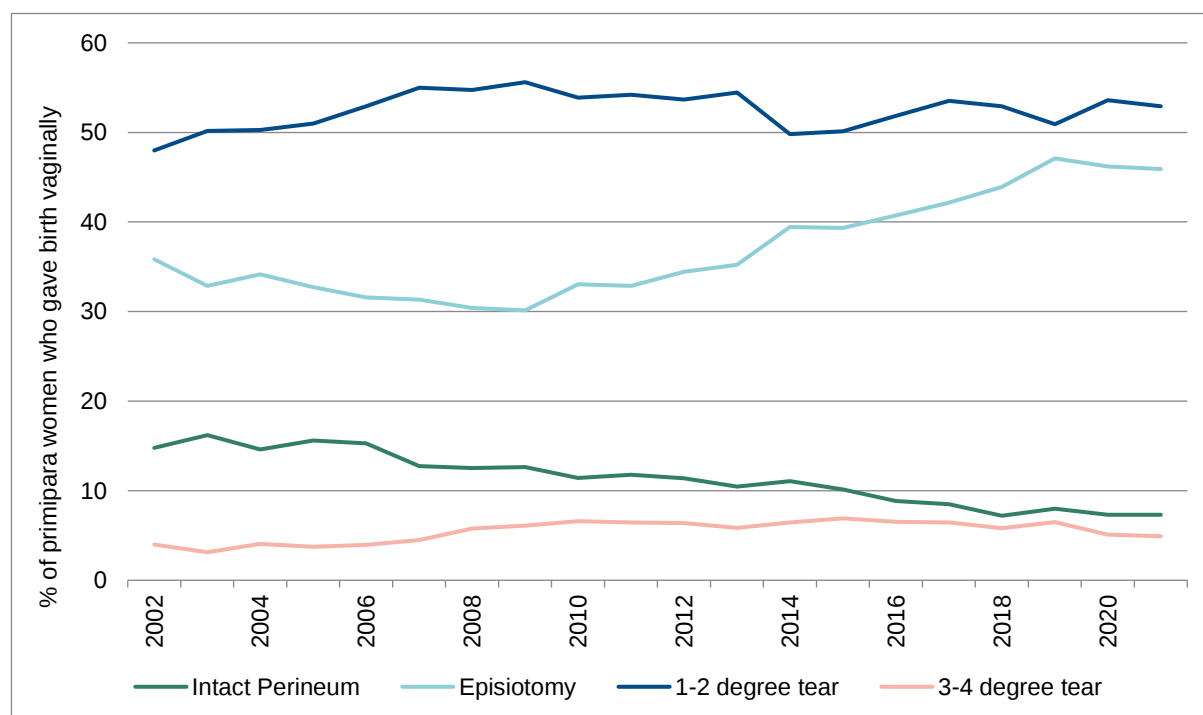
Method of birth*	Total Births	Perineal status							
		Intact		1-2 degree tear ²		3-4 degree tear ²		Episiotomy	
		Number	% of method	Number	% of method	Number	% of method	Number	% of method
Spontaneous	10,316	2,384	23.1	6,419	62.2	235	2.3	1,562	15.1
Ventouse	1,024	73	7.1	371	36.2	29	2.8	672	65.6
Forceps	1,095	32	2.9	279	25.5	98	8.9	990	90.4
Breech	57	43	75.4	11	19.3	0	0.0	3	5.3
Total	12,492	2,532	20.3	7,080	56.7	362	2.9	3,227	25.8

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=2).

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. Since 2009 this proportion has been increasing, and in 2021 was 45.9%.

Figure 9: Perineal status among primiparae women who gave birth vaginally in South Australia, 2002-2021



3.11 Fetal monitoring during labour

Cardiotocography (CTG) was performed during labour for 62.7% of women who gave birth. The majority of these were external CTGs (46.3%) while a scalp clip was used for 16.4% of women who gave birth (Table 31).

Table 31: Cardiotocography performed during labour, women who gave birth, South Australia, 2021

CTG during labour	Number of women	% of women (n=15,622)
None	3,571	22.9
External	8,776	56.2
Scalp clip	3,273	21.0
Total*	15,620	100.0

¹ excludes n=2 unknown

3.12 Postnatal 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 postnatal length of stay statistics.

Table 32: Postnatal length of stay by patient type, women who gave birth in South Australian hospitals¹, 2021

Length of stay (days)	Public		Private		Total	
	Number	%	Number	%	Number	%
<1	825	5.4	16	0.4	841	4.3
1	3,692	24.2	126	2.8	3818	19.3
2	4,492	29.5	273	6.0	4765	24.1
3	3,148	20.7	606	13.4	3754	19.0
4	1,601	10.5	1,298	28.7	2899	14.7
5	661	4.3	1,524	33.6	2185	11.1
6	293	1.9	477	10.5	770	3.9
7 or more	514	3.4	210	4.6	724	3.7
Total	15,226	100.0	4,530	100.0	19756	100.0

¹ Excludes homebirths (n=153)

The median length of stay for all hospital births was two days for vaginal births, and four 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, 2021

Length of stay (days)	Public			Private			Total		
	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total
Number of women	10,007	5,219	15,226	2,332	2,198	4,530	12,339	7,417	19,756
Mean	2.1	3.6	2.6	4.0	5.0	4.5	2.4	4.0	3.0
Standard deviation	1.7	3.3	2.5	1.8	2.2	2.0	1.9	3.1	2.5
Median	2.0	3.0	2.0	4.0	5.0	4.0	2.0	4.0	3.0
IQR	1-3	2-4	1-3	3-5	4-5	4-5	1-3	2-5	2-4

¹ Excludes homebirths (n=153)

Babies

4.1 Crude birth rate

In 2021 there were 20,181 births in South Australia, which was higher than in 2020 (18,738 births). Of the births in 2021, 99.3% were live births and 0.7% 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 2021, there was an increase to 11.2 births per 1,000 population.

Table 34: Crude birth rate for babies born in South Australia, 1986-2021

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	19,623	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	19,760	99.3	140	0.7	19,900	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	20,191	99.3	152	0.7	20,343	100.0	1,639,614	12.4
2012	20,525	99.3	138	0.7	20,663	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	20,602	99.3	145	0.7	20,747	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	19,921	99.3	136	0.7	20,057	100.0	1,708,183	11.7
2017	19,349	99.3	129	0.7	19,478	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	19,062	99.4	111	0.6	19,173	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	20,038	99.3	143	0.7	20,181	100.0	1,803,192	11.2

¹ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2021. Canberra: ABS, 2021

²Crude birth rate per 1,000 population

4.2 Place of birth

Of the 20,181 births notified in 2021, 153 (0.8%) were planned home births, which was an increase from 2020 (119 births, 0.6%). Home births are attended by Midwifery Group Practice midwives provided by the three metropolitan main teaching hospitals, or by privately practicing midwives. The remaining 20,028 births occurred in hospitals, including 108 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, 2021

Condition at birth	Home births		Hospital births			Total births
	Singleton	Twin	Singleton	Twin	Triplet	
Live birth	153	0	19,355	524	6	20,038
Stillbirth	0	0	131	12	0	143
Total births	153	0	19,486	536	6	20,181

4.3 Place of birth by Aboriginal status of mother

In 2021, 62.8% of all births occurred in metropolitan teaching hospitals, 19.0% in metropolitan private hospitals and 17.5% in country hospitals (Table 36). Aboriginal women had a higher proportion of births in country hospitals (28.6%) compared to non-Aboriginal women (17.0%).

Table 36: Total births notified by place of birth and Aboriginal status of mother, South Australia, 2021

Hospital	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Metropolitan teaching hospital	591	68.7	12,076	62.5	12,667	62.8
Metropolitan private hospital	19	2.2	3,819	19.8	3,838	19.0
Country hospital	246	28.6	3,277	17.0	3,523	17.5
Home	4	0.5	149	0.8	153	0.8
Total	860	100.0	19,321	100.0	20,181	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 19,756 hospital births in South Australia in 2021, 63.0% occurred in metropolitan teaching hospitals, 19.2% in metropolitan private hospitals and 17.8% in country hospitals. Aboriginal women had a higher percentage of births in country hospitals (28.7%), compared to non-Aboriginal women (17.1%).

Of the Country hospital births, 3.8% occurred in the Level 4:4 Country Hospitals, 12.7% occurred in country hospitals with 100 births or more in 2021, and 1.3% 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, 2021

Hospital	Aboriginal births		Non-Aboriginal births		Total births		Total women	
	Number	%	Number	%	Number	%	Number	%
Metropolitan teaching	591	69.0	12076	63.0	12667	63.2	12449	63.0
Metropolitan private	19	2.2	3819	19.9	3838	19.2	3792	19.2
Total (Country)	246	28.7	3277	17.1	3523	17.6	3515	17.8
Level 4:4 Country	105	12.3	661	3.4	766	3.8	758	3.8
Level 3:3 Country ≥100 births per annum	126	14.7	2375	12.4	2501	12.5	2501	12.7
Level 3:3 Country <100 births per annum	15	1.8	241	1.3	256	1.3	256	1.3
Total	856	100.0	19,172	100.0	20,028	100.0	19,756	100.0

4.5 Home birth

Supplementary Birth Records were received from hospital-based Midwifery Group Practice midwives and privately practicing midwives for 189 planned home births in 2021 which resulted in 153 home births.

In addition, 36 women who planned to birth at home were transferred to hospital care before birth. Statistics for all 189 planned home births in 2021 are provided in Table 38 through Table 41. The age profile of women who planned a home birth in 2021 was similar to all births, with most women in the 30-34 year age category. Of the 153 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, 2021

Age	Birthed at home		Birthed in hospital		Total	
	Number of women	%	Number of women	%	Number of women	%
<20	-	-	-	-	-	-
20-24	5	3.3	4	11.1	9	4.8
25-29	32	20.9	12	33.3	44	23.3
30-34	71	46.4	16	44.4	87	46.0
35-39	38	24.8	4	11.1	42	22.2
40+	7	4.6	0	0.0	7	3.7
Total	153	100.0	36	100.0	189	100.0

Table 39: Method of birth in planned home births, South Australia, 2021

Method of birth	Birthed at home		Birthed in hospital		Total	
	Number of births	%	Number of births	%	Number of births	%
Normal spontaneous vaginal	153	100.0	20	55.6	173	91.5
Caesarean (emergency)	0	0	12	33.3	12	6.3
Forceps (vaginal)	0	0	2	5.6	2	1.1
Ventouse	0	0	2	5.6	2	1.1
Total	153	100.0	36	100.0	189	100.0

Table 40: Birthweight of planned home births, South Australia, 2021

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	0	0.0	0	0.0
2,000-2,499	0	0.0	0	0.0	0	0.0
2,500-2,999	4	2.6	4	11.1	8	4.2
3,000-3,499	48	31.4	9	25.0	57	30.2
3,500-3,999	63	41.2	12	33.3	75	39.7
4,000-4,499	26	17.0	9	25.0	35	18.5
4,500+	12	7.8	2	5.6	14	7.4
Total	153	100.0	36	100.0	189	100.0

Table 41: Perinatal outcome in planned home births, South Australia, 2021

Perinatal outcome	Birthed at home		Birthed in hospital		Total	
	Number of births	%	Number of births	%	Number of births	%
Stillbirth	0	0.0	0	0.0	0	0.0
Discharged within 28 days	153	100.0	36	100.0	189	100.0
In hospital at 28 days	0	0.0	0	0.0	0	0.0
Neonatal death	0	0.0	0	0.0	0	0.0
Total	153	100.0	36	100.0	189	100.0

4.6 Sex

Of all infants born in 2021, 51.4% were male with a male-female birth ratio of 1.1, which is higher than 2020 (1.04). There were 557 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, 2021

Sex of baby	Number	%
Male	10,367	51.4
Female	9,810	48.6
Indeterminate	<5	0.0
Total	20,181	100.0

Table 43: Sex of baby by birth status, South Australia, 2021

Birth Status	Sex of baby							
	Male		Female		Indeterminate		Total	
	Number	%	Number	%	Number	%	Number	%
Live birth	10,299	99.3	9,738	99.3	<5	25.0	20,038	99.3
Stillbirth	68	0.7	72	0.7	<5	75.0	143	0.7
Total	10,367	100.0	9,810	100.0	<5	100.0	20,181	100.0

4.7 Plurality

In 2021, there were 19,639 singleton babies born in South Australia, 97.3% of the total babies born. The total number of multiple births was 542 (2.7% of total births) with 536 twin babies (2.7%) and 6 triplets (<0.1%). The proportion of multiple babies born to Aboriginal women was 3.7%, which was similar to the proportion for non-Aboriginal women (2.6%) and is shown in Table 44.

Among women who gave birth in 2021, there were 268 twin and 2 triplet pregnancies in 2021. Thus, there was one twin pregnancy in every 74 pregnancies, and one triplet pregnancy in every 9,955 pregnancies. Multiple pregnancies comprised 1.3% of all women who gave birth.

Table 44: Plurality of birth by maternal Aboriginal status for babies born in South Australia, 2021

Plurality	Maternal Aboriginal status					
	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Singleton	828	96.3	18,811	97.4	19,639	97.3
Twin	32	3.7	504	2.6	536	2.7
Triplet	0	0.0	6	0.0	6	0.0
Total	860	19,321	19,321	100.0	20,181	100.0

4.8 Gestational age

Gestational age is the duration of pregnancy in completed weeks. In 2021, 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 (18.1%).

Table 45: Gestation at birth by Aboriginal status of women, South Australia, 2021

Gestation at birth (weeks)	Maternal Aboriginal status					
	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Preterm births (20-36)	156	18.1	1,656	8.6	1,812	9.0
Term births (37-41)	700	81.4	17,624	91.2	18,324	90.8
Post-term births (42+)	3	0.3	40	0.2	43	0.2
Unknown	1	0.1	1	0.0	2	0.0
Total	860	100.0	19,321	100.0	20,181	100.0

Gestation at birth varied between singleton and multiple births. In 2021, more than three quarters of multiple births (77.5%) were preterm, while the vast majority of singleton births were term births (92.9%, Table 46).

Table 46: Gestation at birth by plurality, South Australia, 2021

Gestation at birth (weeks)	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
<24	100	0.5	12	2.2	112	0.6
24-27	49	0.2	12	2.2	61	0.3
28-31	132	0.7	56	10.3	188	0.9
32-36	1,111	5.7	340	62.7	1,451	7.2
37-41	18,202	92.7	122	22.5	18,324	90.8
42+	43	0.2	0	0.0	43	0.2
Unknown	2	0.0	0	0.0	2	0.0
Total	19,639	100.0	542	100.0	20,181	100.0

Among singleton births in 2021, the majority of stillbirths occurred before 37 weeks gestation (82.4%), with the highest proportion occurring before 24 weeks gestation (56.5%, Table 47). Among live births, 6.6% of babies were born preterm.

Table 47: Gestational age at birth for singleton babies by birth status, South Australia, 2021

Gestation at birth (weeks)	Birth status					
	Live birth		Stillbirth		Total	
	Number	%	Number	%	Number	%
<24	26	0.1	74	56.5	100	0.5
24-27	38	0.2	11	8.4	49	0.2
28-31	126	0.6	6	4.6	132	0.7
32-36	1,094	5.6	17	13.0	1,111	5.7
37-41	18,179	93.2	23	17.6	18,202	92.7
42+	43	0.2	0	0	43	0.2
Unknown	2	0.0	0	0.00	2	0.0
Total	19,508	100	131	100	19,639	100.0

4.9 Birthweight

The distribution of birthweight for all births in South Australia is presented in Table 48. In 2021, the percentage of low birthweight babies (<2,500g) was 7.2%, and very low birthweight babies (<1,500g) was 1.6%. The mean birthweight was 3,320g (SD 609g), with birthweights ranging from 80g to 5,970g. The proportion of babies born with a healthy birthweight in 2021 was 83.0% of Aboriginal women compared with 92.0% among babies on non-Aboriginal women. The proportion of low birthweight babies was 15.8% among babies of Aboriginal women compared with 6.8% among babies of non-Aboriginal women. Among liveborn babies these proportions were 15.3% and 6.3% respectively.

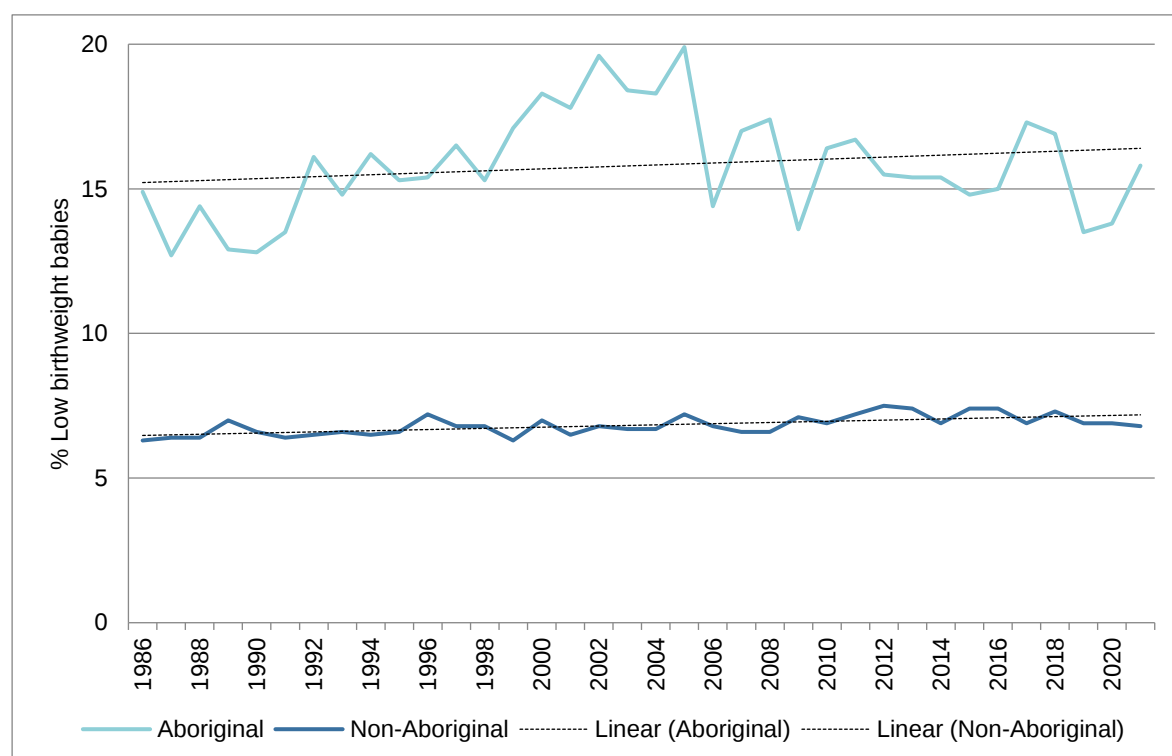
Table 48: Birthweight distribution of all births, South Australia, 2021

Birthweight (grams)	Maternal Aboriginal status					
	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
<400	3	0.3	58	0.3	61	0.3
400-499	1	0.1	31	0.2	32	0.2
500-749	5	0.6	40	0.2	45	0.2
750-999	9	1.0	39	0.2	48	0.2
1,000-1,499	16	1.9	114	0.6	130	0.6
1,500-1,999	31	3.6	255	1.3	286	1.4
2,000-2,499	71	8.2	780	4.0	851	4.2
2,500-2,999	162	18.8	2,967	15.4	3,129	15.5
3,000-3,499	269	31.4	7,270	37.6	7,539	37.4
3,500-3,999	222	25.8	5,836	30.2	6,058	30.0
4,000-4,499	61	7.1	1,707	8.8	1,768	8.8
4,500+	10	1.2	224	1.2	234	1.2
Unknown	0	0.0	0	0.0	0	0.0
Total	860	100.0	19,321	100.0	20,181	100.0

The proportion of babies of low birthweight born to non-Aboriginal women has been relative stable for the past three decades, increasing gradually from 6.3% of all non-Aboriginal babies in 1986 to 6.8% in 2021 (Figure 10).

The proportion of babies with low birthweight born to Aboriginal women has fluctuated over time, with an increasing trend from 14.9% in 1986 to a peak of 19.9% in 2005, before declining to 13.5% in 2019. In 2021, the proportion of low birthweight babies born to Aboriginal women was 15.8%.

Figure 10: Proportion of low birthweight babies by maternal Aboriginal status, all births, 1986-2021



4.10 Birthweight, plurality and gestational age

A comparison of multiple births with singletons shows that in 2021, 60.3% multiple births were of low birthweight compared with only 5.7% for singleton (Table 49). Among singleton births, only 1.9% of babies with gestational age 37 weeks or over were of low birthweight, but this proportion was 44.7% for babies with gestational age of 32-36 weeks (Table 50).

Table 49: Birthweight by plurality, all births, South Australia, 2021

Birthweight (grams)	Singleton births		Multiple births	
	Number	%	Number	%
<400	50	0.3	11	2.0
400-499	30	0.2	2	0.4
500-749	40	0.2	5	0.9
750-999	40	0.2	8	1.5
1,000-1,499	85	0.4	45	8.3
1,500-1,999	188	1.0	98	18.1
2,000-2,499	693	3.5	158	29.2
2,500-2,999	2,968	15.1	161	29.7
3,000-3,499	7,490	38.1	49	9.0
3,500-3,999	6,053	30.8	5	0.9
4,000-4,499	1,768	9.0	0	0.0
4,500+	234	1.2	0	0.0
Unknown	0	0.0	0	0
Total	19,639	100.0	542	100.0

Table 50: Birthweight by gestation for singleton babies¹ born in South Australia, 2021

Birthweight (grams)	Gestation (weeks)									
	20-27		28-31		32-36		37-43		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
<1000	139	93.3	20	15.2	1	0.1	0	0.0	160	0.8
1000-1499	10	6.7	54	40.9	21	1.9	0	0.0	85	0.4
1500-1999	0	0.0	48	36.4	126	11.3	14	0.1	188	1.0
2000-2499	0	0.0	8	6.1	349	31.4	336	1.8	693	3.5
2500-2999	0	0.0	2	1.5	378	34.0	2,588	14.0	2,968	15.1
3000-3499	0	0.0	0	0.0	176	15.8	7,312	37.4	7,488	38.1
3500-3999	0	0.0	0	0.0	45	4.1	6,008	40.1	6,053	30.8
4000-4499	0	0.0	0	0.0	13	1.2	1,755	9.6	1,768	9.0
≥4500	0	0.0	0	0.0	2	0.2	232	1.3	234	1.2
Total	149	100.0	132	100.0	1,111	100.0	18,245	100.0	19,637	100.0

¹Excludes singleton babies with unknown birthweight or gestational age (n=2)

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 2021, for all liveborn babies with an Apgar score reported one minute after birth, 90.4% 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, 98.3% had an Apgar score of 7-10 and only 0.2% had an Apgar score less than 4. In 2021, among all liveborn babies with an Apgar score reported one minute after birth, 91.2% 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, 2021

Apgar Score	1 min after birth		5 min after birth	
	Number	%	Number	%
0-3	382	1.9	48	0.2
4-6	1,513	7.5	286	1.4
7-10	18,123	90.4	19,693	98.3
Total	20,018	99.9	20,027	99.9

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 2021, 15.7% received some form of resuscitation (Table 52). In 2021, 7.9% of liveborn babies received one type of resuscitation, 5.0% received two types, 2.1% 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, 2021

Method of resuscitation ¹	Liveborn babies (n=20,038)	
	Number	%
None	16,887	84.3
IPPV - bag and mask	1,755	8.8
Oxygen therapy	1,430	7.1
CPAP	1,250	6.2
Aspiration	785	3.9
IPPV - intubation	129	0.6
External cardiac massage	27	0.1
Narcotic antagonist	4	0.0
Sodium bicarbonate	1	0.0
Other	49	0.2

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 1.0% of liveborn babies in 2021 (n=207). The most common injury reported was injury to scalp (0.6%, 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, 2021

Birth injury ¹	Liveborn babies (n=20,038)	
	Number	%
None	19,831	99.0
Injury to scalp	115	0.6
Severe birth asphyxia and unspecified birth asphyxia	53	0.3
Nerve injury	26	0.1
Fracture	20	0.1
Subdural and cerebral haemorrhage	5	0.0
Dislocation	0	0.0
Other	10	0.0

¹ multiple birth injuries may be reported per baby

4.14 Congenital anomalies

Among the 20,181 births in 2021 there were 479 births (2.4%) notified with congenital anomalies either at birth or in the neonatal period, a similar proportion to 2020 (2.6%). 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, 2012-2021

Congenital Anomaly	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of births	20,663	20,262	20,747	20,154	20,067	19,486	19,332	19,173	18,738	20,181
Selected Congenital Anomalies										
Anencephalus	2	2	1	1	0	1	1	0	2	2
Anomalies of abdominal wall	13	8	17	12	10	12	8	16	7	14
Anomalies of diaphragm	1	8	8	4	13	11	7	7	10	10
Atresia and stenosis of large intestine, rectum and anal canal	3	8	5	2	10	7	8	12	3	6
Cleft lip and palate	12	14	16	14	20	17	19	11	13	14
Cleft palate	13	12	13	17	10	9	17	11	13	13
Encephalocele	1	2	2	0	1	1	2	0	1	0
Hydrocephalus	10	13	12	10	9	2	3	5	8	3
Hypospadias and epispadias	32	44	42	32	28	45	56	35	39	38
Limb reduction defects	13	17	10	10	17	10	10	6	8	6
Renal agenesis and dysgenesis	8	7	5	12	16	12	12	15	9	8
Spina bifida	4	7	6	9	5	7	8	6	8	5
Tracheo-oesophageal fistula, oesophageal atresia and stenosis	5	7	8	10	4	1	2	6	6	3
Trisomy 21	16	17	15	13	18	14	26	13	14	11
Total All Congenital Anomalies¹	539	564	606	547	568	561	516	523	516	540
Percentage All Congenital Anomalies	2.7	2.8	3.0	2.6	2.8	2.7	2.6	2.6	2.6	2.8

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 2021 were intravenous therapies (11.5%) and gavage feeding (7.4%).

Table 55: Neonatal treatment given, all live births, South Australia, 2021

Neonatal treatment ¹	Number	% of live births (n=20,038)
None	16,652	83.1
Any intravenous therapy	2,313	11.5
Gavage feeding more than once	1,485	7.4
Phototherapy for jaundice	1,428	7.1
Oxygen therapy for more than 4 hours	1,065	5.3

¹ Multiple neonatal treatments may be reported

4.16 Level of neonatal care utilised

Table 56 outlines the neonatal levels of care utilised in 2021, as defined in the Standards for Maternal and Neonatal Services policy document³. In 2021, 79.3% of neonates utilised Level 1-3 care only. Level 4-5 care was used by 20.3% 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 3.4% 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, 2021

Level of care utilised	Birthweight (grams)							
	<1,500		1,500-2,499		2,500+		Total	
	Number (n=212)	% of care	Number (n=1,127)	% of care	Number (n=18,699)	% of care	Number (n=20,038)	% of care
Well baby care (level 1-3)	0	0.0	226	20.1	15,659	83.7	15,885	79.3
Nursery/special care (level 4-5)	183	86.3	896	79.5	2,983	16.0	4,062	20.3
Neonatal intensive care/Paediatric intensive care unit FMC/WCH (level 6)	180	84.9	205	18.2	288	1.5	673	3.4

¹A baby can be under more than one type of care after birth

4.17 Perinatal outcome

In 2021, the proportion of live births in hospital at 28 days was 24.0% for multiple births compared with 1.6% for singletons (Table 57). The proportion of combined stillbirth and neonatal deaths were 0.9% for singletons, and 3.0% for multiple births. The proportion of live births in hospital at 28 days in 2021 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, 2021

Perinatal outcome	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
Stillbirth	131	0.7	12	2.2	143	0.7
Discharged within 28 days	19,167	97.6	396	73.1	19,563	96.9
In hospital at 28 days	305	1.6	130	24.0	435	2.2
Neonatal death	36	0.2	4	0.7	40	0.2
Total	19,639	100.0	542	100.0	20,181	100.0

Table 58: Perinatal outcome by Aboriginal status of mother, all births, South Australia, 2021

Perinatal Outcome	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Stillbirth	8	0.9	135	0.7	143	0.7
Discharged within 28 days	801	93.1	18,762	97.1	19,563	96.9
In hospital at 28 days	45	5.2	390	2.0	435	2.2
Neonatal death	6	0.7	34	0.2	40	0.2
Total	860	100.0	19,321	100.0	20,181	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 4.3 days (SD 10.9) and the median duration was 2 days. The mean duration was 2.7 days (SD 4.6) for term births, 21.3 days (SD 29.0) for preterm births, while the median durations were 2 and 12 days respectively.

Table 59: Length of stay of liveborn babies in hospital¹, South Australia, 2021

Length of stay (days)	Preterm births		Term births		Total	
	Number	%	Number	%	Number	%
<1	26	1.5	1,446	7.9	1,472	7.4
1	43	2.5	4,904	27.1	4,947	25.0
2	96	5.7	4,374	24.2	4,470	22.6
3	120	7.1	2,823	15.6	2,943	14.9
4	113	6.7	2,229	12.3	2,342	11.8
5	122	7.2	1,506	8.3	1,628	8.2
6	90	5.3	285	1.6	375	1.9
7-13	282	16.7	352	1.9	634	3.2
14-20	260	15.4	94	0.5	354	1.8
21-27	144	8.5	42	0.2	186	0.9
28 or more	391	23.2	35	0.2	426	2.1
Total	1,687	100.0	18,090	100.0	19,777	100.0

¹ excludes n=2 unknown gestational age

Perinatal Mortality

The perinatal mortality rate for all births of at least 400g birthweight or 20 weeks gestation in 2021 was 9.1 per 1,000 births. The stillbirth rate was 7.1 per 1,000 births and the neonatal mortality rate was 2.0 per 1,000 live births.

For more detailed data regarding perinatal mortality, refer to the Maternal and Perinatal Mortality Reports located here: <https://www.preventivehealth.sa.gov.au/evidence-data/about-our-data-collections/pregnancy-outcome-statistics>

Terminations of Pregnancy

In 2021, there were a total of 4,604 terminations of pregnancy recorded, compared with 4,681 terminations in 2020. In 2021, the termination rate was 13.6 per 1,000 women aged 15-44 years, a decrease from 2020 (13.8 per 1,000 women).

For more detailed data regarding terminations of pregnancy, refer to the South Australian Abortion Reporting Committee Reports located here: <https://www.preventivehealth.sa.gov.au/evidence-data/about-our-data-collections/pregnancy-outcome-statistics>

Obstetric Profiles by Hospital Category

Obstetric profiles for 2021 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, 2021

Factors	All state hospitals ¹	Metropolitan hospitals ³		Country hospitals ³	
	Mean	SA Public Teaching	Private	Level 4:4	Other
Maternal factors					
Women (n=19,749)	940	12448	3,792	758	2,751
% Aboriginal women	4.3	4.6	0.5	13.7	5.1
% Antenatal visits <7 ²	16.0	23.7	1.1	6.5	4.3
% Teenage women	1.4	1.6	0.0	3.4	2.0
% Women ≥ 35 years	24.1	23.0	35.5	14.8	16.2
% 4+ prior live births	2.8	3.5	0.2	3.3	3.2
% 1+ prior perinatal deaths	1.4	1.7	0.4	2.5	1.6
% Obstetric complications	58.9	64.6	43.6	60.8	53.5
% Labour complications	55.9	63.2	34.2	53.2	53.2
% Induction	37.4	38.8	37.3	36.9	31.3
% Emergency caesarean	19.5	19.7	19.4	16.5	19.8
% Elective caesarean	18.1	15.1	30.8	14.8	14.6
% Any caesarean	37.6	34.8	50.2	31.3	34.4
% Ultrasound examination ²	97.0	97.5	94.0	98.5	98.7
% Amniocentesis ²	1.5	2.0	0.9	0.8	0.5
% Episiotomy	16.4	19.3	13.4	10.2	9.0
% Repair of perineal tear	27.5	28.2	26.9	25.1	25.6
% Epidural analgesia	34.9	36.7	38.0	24.9	25.4
% Private patients	22.9	4.5	100.0	8.6	4.0
% Primiparous women	43.2	42.9	47.7	38.7	39.3
% Previous caesarean	18.9	18.0	22.6	17.7	18.4
% PPH ⁴	29.8	33.4	18.0	29.4	29.6
Baby factors					
Births (n=20,021)		12,666	3,838	766	2,751
% Birthweight <2,500g	7.2	9.4	4.5	5.5	1.7
% Gestational age <37 weeks at birth	9.0	11.0	7.5	8.5	2.0
% Prolonged hospitalisation (>27 days)	2.2	3.0	1.1	0.3	0.3
% Neonatal intensive care (Level 6 or W&CH paediatric intensive care)	3.4	4.4	0.9	2.6	1.2
% Birth defect	2.4	3.1	0.9	2.9	1.1

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 2021. 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=1,375)
Denominator:	The total number of women who gave birth (n=19,065)
Indicator A1a	7.2% (95% CI 6.9% - 7.6%)
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= 1,067)
Denominator:	The number of women who gave birth who reported smoking tobacco at any time in the pregnancy (n= 1,375)
Indicator A1b	77.6% (95% CI 75.3% – 79.7%)

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=16,410)

Denominator: The number of all women who gave birth (n=19,564)

Indicator A2 83.9% (95% CI 83.4% - 84.4%)

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=4,051)

Denominator: The number of all women who gave birth (n=19,564)

Indicator A2 20.7% (95% CI 20.1% - 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=2,483)

Denominator: All selected primiparae (n=5,306)

Indicator B1 46.8% (95% CI 45.5% - 48.1%)

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=2,391)
Denominator:	All selected primiparae (n=5,306)
Indicator B2	45.1% (95% CI 43.7% - 46.4%)

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=1,164)
Denominator:	All selected primiparae (n=5,306)
Indicator B3	21.9% (95% CI 20.8% - 23.1%)

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=968)
Denominator:	The number of women having their first baby who gave birth vaginally without instruments (n=3,485)
Indicator B4a	27.8% (95% CI 26.3% - 29.3%)

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=1,397)
Denominator:	The number of women having their first baby who gave birth vaginally with instruments (n=1,680)
Indicator B4b	83.2% (95% CI 81.3% - 84.9%)

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=1,751)
Denominator:	All selected primiparae (n=5,306)
Indicator B5	33.0% (95% CI 31.7% - 34.3%)

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=305)
Denominator:	The number of women having their second birth whose first birth was by caesarean section (n=2,298)
Indicator B6	13.3% (95% CI 11.9% - 14.7%)

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=375)

Denominator: The total number of women who gave birth by caesarean section (n=7,417)

Indicator B7 5.1% (95% CI 4.6% - 5.6%)

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=251)

Denominator: The number of women who gave birth for the first time and had a vaginal birth (n=5,165)

Indicator C1a 4.9% (95% CI 4.3% - 5.5%)

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=357)

Denominator: The number of women who gave birth vaginally (n=12,332)

Indicator C1b 2.9% (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=225)

Denominator: The number of live babies born at term (n=18,187)

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=54)

Denominator: The total number of babies born at or after 40 weeks (n=5,258)

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

Key Statistics and Trends 2012 - 2021

Perinatal statistics are presented in Table 61 and Table 62 for both socio-demographic and obstetric aspects for each year from 2012-2021, and for 1986, when the perinatal data collection was commenced. The trends noted are as follows:

1. The total fertility rate was 1.69 live births per woman in 2021, lower than the level in 1986. The highest rate was observed in 2012 (1.91 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 4.2% in 2021.
3. The proportion of teenage women giving birth decreased from 6.2% in 1986 to 1.4% in 2021. 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 24.2% in 2021. Amongst primiparous women, the proportion aged 35 years or older in 1986 was 2.9%, and in 2021 was 15.0%. The mean age among women giving birth increased from 26.9 years in 1986 to a peak of 30.9 in 2021. The mean age among primiparous women increased from 25.0 years in 1986 to 29.3 in 2021.
5. The proportion of multiple births has been relatively stable since 2012 and in 2021 this proportion was 2.7% of all births.
6. The induction of labour rate increased from 30.9% in 2012 to 37.1% in 2021.
7. The proportion of normal spontaneous vaginal births decreased from 54.2% in 2012 to 51.8% in 2021. The proportion of caesarean section births has increased gradually but steadily in the past decade and reached 37.3% in 2021. The proportion of breech and ventouse births were stable in the past decade and were 0.3% and 5.1% respectively in 2021.
8. There have been minor fluctuations in the proportion of low birthweight births (<2,500 grams) over the past decade, and the proportion in 2021 was 7.2%. The proportion of preterm births was 9.0% in 2021.
9. The proportion of births with congenital anomalies identified before discharge from hospital after birth has been relatively stable in the last decade and was 2.4% in 2021.
10. In the past decade, the proportion of babies utilising Nursery or special care (level 4-5) increased from 15.4% in 2012 to 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 2021 it was 3.4%. 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 2012 – 2021

Characteristic	Year										
	1986	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total births	19,799	20,663	20,262	20,747	20,154	20,067	19,485	19,332	19,173	18,738	20,181
Live births	19,650	20,525	20,124	20,602	20,001	19,931	19,356	19,198	19,062	18,619	20,038
Women who gave birth	19,562	20,335	19,924	20,446	19,818	19,763	19,195	19,043	18,879	18,461	19,909
Total fertility rate per woman	1.75	1.91	1.85	1.87	1.79	1.77	1.71	1.68	1.65	1.59	1.69
Place of birth (%)											
Teaching hospital	45.4	57.1	57.3	58	59.7	60.4	61.4	61.8	62.8	62.0	62.8
Private hospital	15.1	23.3	22.8	22.5	21.5	20.7	19.9	19.2	19.1	19.2	19.0
Country hospital	39.1	19.2	19.3	19.1	18.3	18.4	18.3	18.5	17.6	18.2	17.5
Domiciliary	0.4	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.6	0.8
Aboriginal status											
<i>Aboriginal, %</i>	1.7	3.2	3.6	3.5	3.6	3.8	3.8	3.9	4.0	4.1	4.2
<i>N of women who gave birth</i>	334	653	715	711	716	751	736	735	749	765	844
<i>N of births to Aboriginal women</i>	335	660	727	719	730	760	748	748	766	776	860
<i>N of babies identified as Aboriginal</i>		901	960	954	1,003	1,032	962	1023	1077	1,121	1,180
Age											
Mean age (yrs)	26.9	29.7	29.8	30.0	30.1	30.3	30.4	30.4	30.6	30.7	30.9
Teenage (%)	6.2	3.9	3.4	3.1	2.8	2.4	2.1	1.9	1.6	1.8	1.4
≥35 years (%)	6.5	20.4	19.8	20.6	20.3	21.3	21.8	22.5	23.1	23.8	24.2
Primiparae											
Mean age (yrs)	25	27.9	28.2	28.4	28.5	28.7	28.8	28.9	29.1	29.3	29.3
Teenage (%)	12.6	7.8	6.7	6.3	5.6	4.6	4.2	3.9	3.3	3.8	3.0
≥35 years (%)	2.9	11.7	12.4	12.9	12.5	12.5	13.7	14.3	14.9	15.4	15.0

Table 62: Obstetric aspects of perinatal statistics, South Australia, 1986 and 2012 – 2021

Characteristic	Year										
	1986	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Plurality											
Multiple births, %	2.4	3.2	3.3	2.9	3.3	3.0	3.0	3.0	3.1	2.9	2.7
Twins, number	450	636	640	574	648	592	568	574	580	538	536
Triplets, number	18	15	27	21	18	12	9	3.0	6	12	6
Quadruplets, number											
Induction of labour (%)	23.3	30.9	32.5	32.2	32.5	34	35.9	37.4	37.5	38.7	37.1
Method of birth, %											
Normal spontaneous	63.3	54.2	53.9	54.1	53.1	52.7	53.2	53.1	52.9	51.5	51.8
Elective caesarean	9	15.9	16.2	16.6	17.2	17.3	16.8	16.7	17.6	17.8	17.9
Emergency caesarean	9.9	17.9	17.8	17.3	17.8	17.8	18.1	18.5	17.7	19.0	19.3
Forceps	14.9	5.5	5.6	5.3	5.6	5.7	5.9	5.6	5.6	5.9	5.5
Breech	0.1	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3
Ventouse	1.9	6	5.9	6.3	5.9	6.1	5.7	5.7	5.8	5.5	5.1
Total caesarean	19	33.8	34	33.9	35.1	35.1	34.8	35.2	35.3	36.8	37.3
Birthweight <2,500 g, %	6.5	7.7	7.7	7.1	7.6	7.7	7.3	7.7	7.2	7.2	7.2
Singletons	5.4	6.1	5.8	5.7	5.9	6	5.7	6.1	5.6	5.7	5.7
Multiples	52.1	56.8	63	57.3	59.8	63.1	58.9	58.2	57.8	56.5	60.3
Gestational age <37 wks, %	6.4	9.4	9.8	9.2	9.6	9.5	9.6	9.7	9.0	9.0	9.0
Singletons	5.5	7.6	7.7	7.5	7.6	7.5	7.6	7.7	6.9	7.0	7.0
Multiples	44.4	64.7	70.9	69.1	69.4	74.5	75	76.4	76.8	73.5	73.5
Congenital abnormalities, %	2.8	2.3	2.8	2.7	2.6	2.6	2.7	2.8	2.9	2.6	2.4
Level of perinatal care utilised, %											
Nursery/special care (L4-5)	9.5	15.4	16.4	15.8	16.8	17.2	17.6	17.9	19.7	18.9	20.3
Neonatal intensive care/ Paediatric intensive care unit	3.1	2.7	2.9	2.7	3	3.3	3.3	3.0	3.5	2.9	3.4
FMCH/WCH (L6)											
Hospitalisation for 28 days or more, %	1.8	2.4	2.4	2.1	2.1	2.1	2	2.0	2.2	2.1	2.2
Neonatal deaths, number	85	46	45	39	35	39	47	43	27	25	40
Stillbirths, number	149	138	138	145	153	136	129	134	111	119	143
Perinatal deaths, number	234	184	183	184	188	175	176	177	138	144	183
Perinatal mortality rate per 1,000 births											
≥400g / 20 wks	11.8	8.9	9	8.9	9.3	8.7	9	9.2	7.2	7.7	9.1
≥500g / 22 wks	11.4	6	6.4	6	6.4	6.2	5.9	7.4	5.3	4.8	6.3
≥1000g / 28 wks	7.4	2.7	3.4	2.8	3.4	3.3	2.9	3.9	2.9	2.7	3.4

Summary Statistics for 2021

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: 20,181

Notified women who gave birth on SBRs: 19,909

Crude birth rate: 11.1 live births per 1,000 population

Total fertility rate: 1.69 live births per woman

2. Place of birth

Home births: 153 home births in all (0.8%), of which 153 were planned home births

Metropolitan teaching hospitals: 12,667 (62.8%)

Metropolitan private hospitals: 3,838 (19.0%)

Country hospitals: 3,523 (17.5%)

3. Sex of babies

Males 10,367 (51.4%)

Females 9,810 (48.6%)

Male: Female sex ratio 1.06:1

4. Plurality

Singleton 19,639 (97.3%)

Twin 536 (2.7%)

Triplet 6 (0.0%)

5. Aboriginal status of women

Non-Aboriginal 19,065 (95.8%)

Aboriginal 844 (4.2%)

6. Obstetric interventions

Induction of labour: 7,385 (37.1% of women)

Augmentation of labour: 2,879 (14.5% of women)

Forceps: 1,093 (5.5%)

Ventouse: 1,024 (5.1%)

Episiotomy: 3,227 (25.8% of women who gave birth vaginally)

Caesarean section: 7,417 (37.3%)

Elective caesarean section: 3,565 (17.9%)

Emergency caesarean section: 3,852 (19.3%)

7. Low birthweight (<2,500 g)

Number of all births of low birthweight =1,453 (7.2% of all births)

Number of singleton births of low birthweight =1,126 (5.7% of singleton births)

Number of multiple births of low birthweight =327 (60.3% of multiple births)

8. Congenital anomalies

Births notified with congenital anomalies: 479 (2.4%)

9. Perinatal mortality rates

The perinatal mortality rate for all births (live births of any gestation and stillbirths of at least 400g birthweight or 20 weeks gestation) in 2021 was 9.1 per 1,000 births

Methods and Terminology

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.

Pregnancy termination rate

All rates of populations were calculated using the reproductive age range 15 to 44 years. Terminations occurred in women that were younger or older than this age group. These events were added to the numerator for the 15 to 19 years group or the 40 to 44 years group respectively.

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.

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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

2021 SUPPLEMENTARY BIRTH RECORD 22110001

FOR COMPLETION BY MIDWIVES AND NEONATAL NURSES

Wellbeing SA

MOTHER'S DETAILS

1 Mother's date of birth: day month year

2 Aboriginal status: ☐ Not Aboriginal nor TSI ☐ Aboriginal and TSI ☐ Aboriginal ☐ Not stated ☐ TSI

3 Country of birth: _____

4 Type of patient: ☐ Public/Hospital ☐ Private

5 Marital status: ☐ Never married ☐ Married/De facto ☐ Widowed ☐ Divorced ☐ Separated

6 Partner's occupation: _____

Mother's occupation: _____

PREVIOUS PREGNANCY OUTCOMES

7 Number of previous pregnancies: _____

8 Number of previous pregnancies resulting in births >20 weeks: _____

9 Number of previous outcomes: _____

Livebirths, not neonatal death: _____

Neonatal deaths <28 days: _____

Stillbirths: _____

Miscarriages: _____

Ectopic pregnancies: _____

Termination of pregnancies: _____

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

11 Date of delivery/termination of last pregnancy: month year

12 Method of last birth: ☐ No previous birth ☐ Vaginal ☐ Caesarean ☐ Not known

13 Number of previous caesareans: _____

THIS PREGNANCY

14 Date of last menstrual period: day month year

15 Intended place of birth: ☐ Hospital, excluding birth centre ☐ Birth centre ☐ Home ☐ Other (specify): _____ ☐ Not stated

16a Number of antenatal visits: _____

16b First antenatal visit: Gestation (weeks): _____ Height (cm): _____ Weight (kg): _____

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: ☐ Never ☐ 2-3 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: ☐ Never ☐ 2-3 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 ☐ Abruptio (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: ☐ 1st trimester screen (US & biochem) ☐ 2nd trimester screen (biochem only) ☐ Ultrasound dating scan ☐ Ultrasound morphology scan ☐ Other ultrasound scan ☐ Amniocentesis ☐ Chorionvillus biopsy ☐ Antenatal fetal blood sampling ☐ Other surgical procedures (specify): _____

LABOUR & BIRTH

28 Onset of labour: ☐ Spontaneous ☐ No labour (CS) ☐ Induction (excluding augmentation)

Give reasons 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 ☐ Chorioamnionitis ☐ Previous poor obst history (specify): _____ ☐ Maternal choice ☐ Other (specify): _____

29 Methods of induction / augmentation: ☐ ARM ☐ Oxytocin ☐ Prostaglandins eg misoprostol/cervical ☐ Mechanical dilation eg Balloon/Cooks ☐ Antiprostaglandin eg Mifepistone ☐ 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 ml: _____ ☐ Transfusion required ☐ Fetal distress ☐ 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/vaginal/labial graze ☐ 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 (lumbars/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 (lumbars/caudal) ☐ Spinal ☐ General anaesthesia ☐ Other (specify): _____ ☐ Combined spinal-epidural ☐ Not stated

38 Outcome of Mother: ☐ Discharged home ☐ Transferred to: _____ ☐ Died

39 Mother final discharge date/death: day month year

ABORIGINAL DETAILS

1 Case record number: _____

2 Aboriginal status: ☐ Not Aboriginal nor TSI ☐ Aboriginal and TSI ☐ Aboriginal ☐ Not stated ☐ TSI

3 Actual place of birth: ☐ Hospital, excluding birth centre ☐ Birth centre ☐ Home ☐ Other (inc BBA)

4 Date of birth: day month year

5 Hour of birth (24 hour clock): _____

6 Sex: ☐ Male ☐ Female ☐ Indeterminate

7 Birth weight (grams): _____

8 Gestation at birth in completed weeks: _____

CONDITION AT BIRTH

9 Apgar score: 1 minute: _____ 5 minute: _____

10 Time to establish regular breathing to nearest minute: _____

11 Resuscitation at birth: ☐ None ☐ Suction/Aspiration ☐ Oxygen therapy ☐ IPPV eg bag & mask, T-piece ☐ CPAP ☐ Intubation ☐ Adrenaline ☐ Narcotic antagonist ☐ Sodium bicarbonate ☐ External cardiac massage ☐ Other (specify): _____

12 Condition occurring during birth: ☐ None ☐ Cerebral haemorrhage ☐ Fracture ☐ Scalp injury ☐ Dislocation ☐ Severe birth asphyxia ☐ Nerve injury ☐ Unspecified birth asphyxia ☐ Other (eg Cephalhaematoma/Subgaleal Haemorrhage)

13 Congenital anomaly: ☐ Nil apparent ☐ Yes (specify): _____

14 Treatment given: ☐ None of the treatments below ☐ Oxygen therapy > 4 hours ☐ Phototherapy for jaundice ☐ Gavage feeding more than once ☐ Any intravenous therapy

15 Baby admission details: ☐ Well baby care (level 1-3) ☐ Special Care Nursery (level 4-5) ☐ Neonatal ICU (level 6) ☐ Paediatric ICU (level 6) ☐ Number of days: _____ ☐ Number of days: _____

16 Was transfer to NICU / PICU for a congenital anomaly? ☐ Yes ☐ No

17 Outcome of Baby: ☐ Discharged ☐ In hospital at 28 days ☐ Fetal death (stillbirth) ☐ Neonatal death

18 Baby transferred to: _____ on _____ day month year

19 Baby final discharge date/death: day month year

22110001

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.....

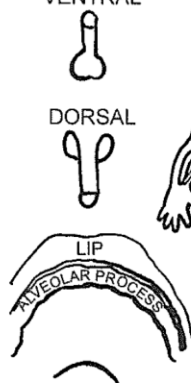
DATE OF BIRTH...../...../..... UR NO.

HOSPITAL.....

ADDRESS OF MOTHER.....

.....

VENTRAL



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)

.....

.....

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

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

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

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 pregnancy

Please tick if abnormal result

1. ☐ 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

.....