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Pregnancy Outcome

in South Australia 2020



**Government
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Wellbeing SA

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Joanna Overell	Coding Manager, Pregnancy Outcome Unit
Kyle Wilkinson	Coding Manager, Pregnancy Outcome Unit
Lisa Weatherley	Midwife, Pregnancy Outcome Unit
Tammie Paxton	Midwife, Pregnancy Outcome Unit
Kylie Bryant	Senior Midwife, Maternal and Perinatal Mortality Committee
Brigitte Drinkwater	Clinical coder, Pregnancy Outcome Unit
Karen Boneham	Clinical coder, Pregnancy Outcome Unit
Stephanie Minhoto	Clinical coder, Pregnancy Outcome Unit
Amita Kohirkar	Clinical Coder, Pregnancy Outcome Unit
Stephen Corns	Team Leader, Information Systems
Britt Catcheside	Epidemiologist, Data Analysis and Reporting
Suresh Joshi	Epidemiologist, Data Analysis and Reporting
Rebecca Nolan	Manager, Data Analysis and Reporting
Helen Thomas	Director, Epidemiology Branch
Professor Katina D'Onise	Executive Director, Prevention and Population Health

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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
IUGR	intrauterine growth restriction
PPH	post-partum haemorrhage
SACC	Standard Australian Classification of Countries
SBR	Supplementary Birth Record

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Executive Summary

Number of births and fertility rates

The number of births notified in South Australia in 2020 was 18,738 which was 435 less births than in 2019. The number of women who gave birth was 18,461. The total fertility rate was 1.59 live births per woman, lower than the rate of 1.65 in 2019. When compared with the age-specific fertility rates for 2019, the only slight increase was in the 15-19 year age group.

Aboriginal mothers and babies

Seven hundred and sixty-five Aboriginal women gave birth in South Australia in 2020, accounting for 4.1% of all women who gave birth in the state. In 2020, 10.3% of Aboriginal women who gave birth were teenagers (compared with 1.5% of non-Aboriginal women). The Aboriginal status of the baby was also collected independently of the mother. There were 1121 Aboriginal babies, representing 6.0% of all babies born in South Australia in 2020.

Of the Aboriginal women for whom week of gestation at the first antenatal visit was reported, 67.4% attended for antenatal care within the first 14 weeks of pregnancy (compared with 85.6% of non-Aboriginal women). Of the Aboriginal women for whom the number of antenatal visits was reported, 72.0% attended at least seven antenatal visits during pregnancy (compared with 83.6% of non-Aboriginal women).

In 2020, 42.9% of Aboriginal women reported that they smoked tobacco at any time during their pregnancy, compared with 6.1% of non-Aboriginal women. Over two fifths (43.4%) reported consuming alcohol at any time during their pregnancy, compared with 6.3% of non-Aboriginal women.

In 2020, the proportion of preterm births (<37 weeks gestation) was 18.4% among babies of Aboriginal women compared with 8.6% among babies of non-Aboriginal women. The proportion of low birthweight babies was 13.8% among babies of Aboriginal women compared with 6.9% among babies of non-Aboriginal women.

Age of Women

Three hundred and forty-one teenage women gave birth in 2020; accounting for 1.8% of women who gave birth in South Australia. The proportion of women aged 35 years and over who gave birth was 23.9% in 2020. The mean age of women giving birth has been increasing over the previous decade, and this has peaked in 2020 at 30.7 years. As with previous years, more women gave birth in the 30-34 year age group than in the 25-29 year age group.

Place of birth

In 2020, the total number of births at the three metropolitan teaching hospitals (62.1% of all births), and metropolitan private hospitals (19.2% of all births) remained stable when compared to 2019. There were 105 women (0.6%) who gave birth at home, comprising of 96 women who planned a home birth and nine unplanned.

Country of birth

Seventy-two percent of women who gave birth in 2020 were Australian-born. Of women born overseas who gave birth, the largest proportions came from India (5.3%), China (2.0%) and the United Kingdom (1.9%).

Body mass index

For those whom body mass index could be calculated (n=16,929) in 2020, 57.0% were an unhealthy weight. Of the overweight women giving birth, 14.6% were classified as obese and 12.0% severely or morbidly obese.

Antenatal care and length of stay

Around 85% (84.9%) of women attended antenatal care within the first 14 weeks of pregnancy. Of the women for whom the number of antenatal visits was reported, 83.1% 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 (44.1%), obstetricians in private practice (22.4%) and GP, public hospital shared care (13.7%), and midwifery group practice at birth hospital (13.5%).

The median length of stay in hospital for all women after birth 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 97.7% of women who gave birth in 2020. Over a third of all labours were induced (38.7%) and 14.4% of women giving birth had labour augmented. The main reasons for induction of labour were pre-existing diabetes or gestational diabetes (18.1%), maternal choice (14.0%), fetal distress (11.3%) and hypertension (11.1%). Around fourteen percent (14.5%) of inductions of labour were performed for other than defined indications. Epidurals, the second most common form of analgesia, was used for pain relief during labour for 34.7% of women. Of women who gave birth vaginally, 26.7% had an episiotomy.

Method of birth

In 2020, 51.5% of women had normal spontaneous vaginal births, a further 5.9% were delivered by forceps and 5.5% were delivered by ventouse. The proportion of women giving birth by caesarean section was 36.8%. The main reasons given for caesarean section were previous caesarean section (38.6%), failure to progress in labour (23.4%) and fetal distress (18.7%).

Plurality

In 2020, there were 550 multiple births comprising 538 twins and 12 triplets. Multiple births accounted for 3.0% of all births.

Perinatal mortality

The perinatal mortality rate for all births of at least 400g birthweight or 20 weeks gestation in 2020 was 7.7 per 1,000 births. In 2020, the stillbirth rate was 6.4 per 1,000 births and the neonatal mortality rate was 1.3 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 2020 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 its electronic equivalent. 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 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.

In addition to this annual report, Pregnancy and Neonatal Care Bulletins, comparing selected pregnancy characteristics and outcomes are also provided to all South Australian hospitals with at least 100 births per year and aggregate reports are provided for hospitals with smaller numbers of births. Comparisons of maternity performance indicators are also provided to hospitals with at least 550 births per year.

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](#).

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. Forty-two births of less than 400g birthweight have been included. The 18,738 births in South Australia in 2020 comprised of 18,619 live births and 119 stillbirths. The number of women who gave birth was 18,461 (418 fewer women than in 2019). 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 or Torres Strait Islander mothers or babies.



Mothers

1.1 Place of residence

This table uses the ABS Australian Statistical Geography Standard boundaries (ASGS 2016), 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 2020 for South Australia was 10.5 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, 2020

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	2,675	14.3	2,664	310,091	8.6
Adelaide - North	5,833	31.1	5,790	448,458	12.9
Adelaide - South	3,672	19.6	3,658	374,910	9.8
Adelaide - West	2,702	14.4	2,682	243,142	11.0
Barossa	346	1.8	344	37,834	9.1
Eyre Peninsula and South West	652	3.5	644	57,730	11.2
Fleurieu - Kangaroo Island	357	1.9	355	54,288	6.5
Limestone Coast	698	3.7	691	67,365	10.3
Lower North	211	1.1	209	23,033	9.1
Mid North	264	1.4	264	27,560	9.6
Murray and Mallee	681	3.6	673	73,164	9.2
Outback - North and East	309	1.6	308	26,365	11.7
Yorke Peninsula	217	1.2	217	26,435	8.2
Interstate	121	0.6	120	-	
Total	18,738	100.0	18,619	1,770,375	10.5

¹ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2020. Canberra: ABS, 2021.

1.2 Maternal Aboriginal status

The distribution of women who gave birth, by Aboriginal status is provided in Table 2. In 2020 there were 765 births to Aboriginal mothers which represented 4.1% of all women. The Aboriginal status of the baby was also collected independently of the mother. There were 1,121 Aboriginal babies, representing 6.0% of all babies born in South Australia in 2020. They comprised 1,067 (95.2%) Aboriginal, 11 (1.0%) Torres Strait Islander and 43 (3.8%) Aboriginal and/or Torres Strait Islander babies.

Table 2: Aboriginal status of women who gave birth, South Australia, 2020

Aboriginal status	Number of women	% Women
Aboriginal	765	4.1
Non-Aboriginal	17,696	95.9
Total	18,461	100.0

1.3 Maternal age

Table 3 shows the age and Aboriginal status of women who gave birth in South Australia in 2020. The largest number of women who gave birth in South Australia were in the 30-34 year age group. The proportion of women in this age group (36.7%) has exceeded that of the 25-29 years age group (27.1%) since 2001. Teenage women accounted for 1.8% of women who gave birth, and women aged 35 years or more accounted for 23.8%. Aboriginal women were generally younger than non-Aboriginal women: 10.3% were teenagers and only 11.0% were 35 years or older.

Table 3: Age and Aboriginal status of women who gave birth, South Australia, 2020

Age Group	Non-Aboriginal		Aboriginal		Total	
	Number	%	Number	%	Number	%
<20	262	1.5	79	10.3	341	1.8
20-24	1,698	9.6	227	29.7	1,925	10.4
25-29	4,785	27.0	226	29.5	5,011	27.1
30-34	6,633	37.5	149	19.5	6,782	36.7
35-39	3,570	20.2	69	9.0	3,639	19.7
40-44	680	3.8	15	2.0	695	3.8
45+	68	0.4	0	0.0	68	0.4
Total	17,696	100.0	765	100.0	18,461	100.0

The five year age-specific fertility rate was highest in the 30-34 year age group (114.3 per 1,000 women), followed by the 25-29 year age group (86.4 per 1,000 women, Table 4). When compared with the age-specific fertility rates for 2019, the only slight increase was in the 15-19 year age groups (from 6.1 per 1,000 women in 2019 to 6.9 per 1,000 women in 2020). The general fertility rate (see Methods and Terminology) was 55.6 per 1,000 women aged 15-44 years, which is lower than the general fertility rate in 2019 (57.3 per 1,000 women). The total fertility rate in 2020 was 1.59 live births per woman, which remains below replacement level of 2.1 children per woman².

Table 4: Age-specific fertility rates (ASFR), South Australia, 2020

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	342	49,755	6.9
20-24	1,922	55,433	34.7
25-29	5,050	58,479	86.4
30-34	6,863	60,028	114.3
35-39	3,674	58,563	62.7
40-44	692	52,828	13.1
45+	76	na	na
Total	18,619	335,086	55.6

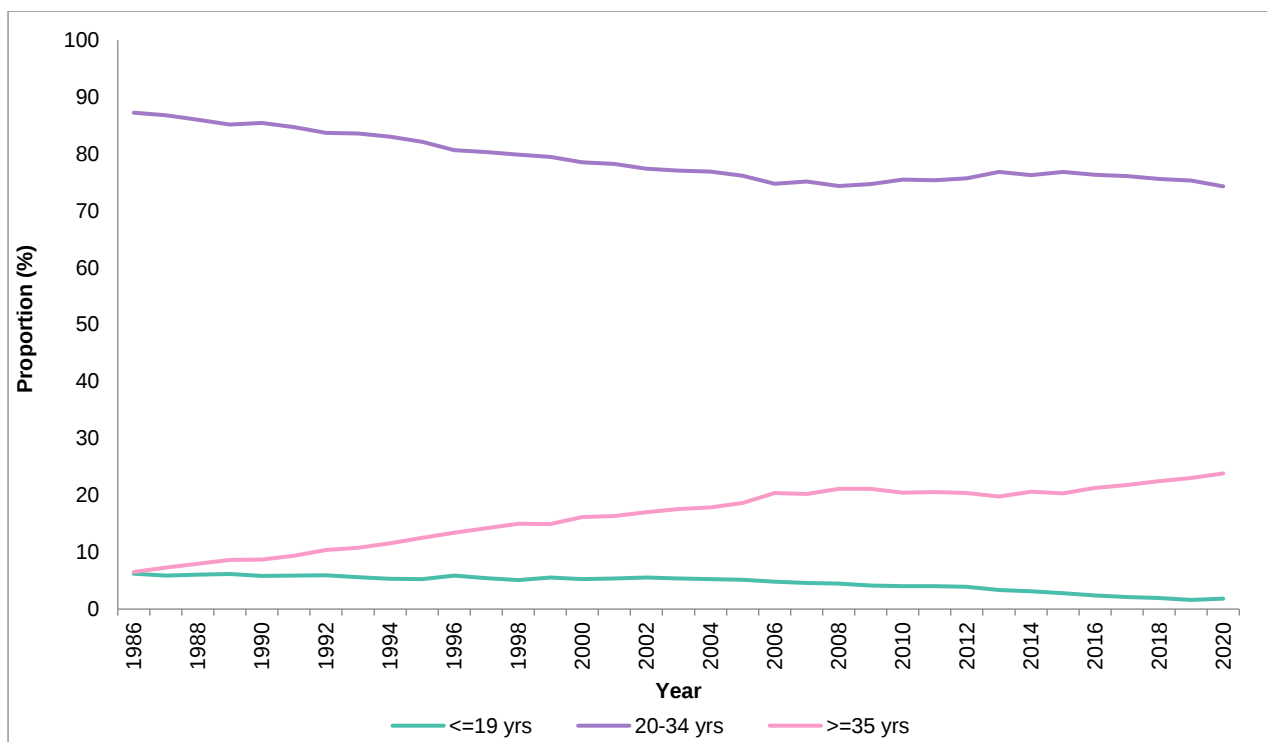
¹ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2020. Canberra: ABS, 2021

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 = 318.1 per 1,000 women. Total fertility rate = $318.1 \times 5 = 1590.3$ live births per 1,000 women = 1.59 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 23.8% in 2020.

Figure 1: Age groups of women who gave birth in South Australia, 1986-2020



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 28.3% of women born outside of Australia, the largest proportions were born in India (5.3%), China (2.0%) and the United Kingdom (1.9%).

Table 5: Country of birth group¹ for women who gave birth, South Australia, 2020

	Country of birth group	Number	%
1	Oceania	13,387	72.5
2	North-West Europe	480	2.6
3	Southern and Eastern Europe	237	1.3
4	North Africa and Middle East	350	1.9
5	South-East Asia	987	5.3
6	North-East Asia	524	2.8
7	Southern and Central Asia	1,798	9.7
8	Americas	229	1.2
9	Sub-Saharan Africa	460	2.5
	Unknown	9	0.0
	Total	18,461	100.0

¹ Australian Bureau of Statistics. Standard Australian Classification of Countries 2008 (SACC). Canberra: ABS

Table 6: Specified country of birth¹ for women who gave birth, South Australia, 2020

Specified country of birth	Number	% of women	% of migrant women who gave birth (n=5,217)
Australia	13,244	71.7	
India	979	5.3	18.8
China	365	2.0	7.0
United Kingdom	352	1.9	6.7
Afghanistan	307	1.7	5.9
Philippines	293	1.6	5.6
Vietnam	239	1.3	4.6
Nepal	171	0.9	3.3
Pakistan	159	0.9	3.0
Malaysia	124	0.7	2.4
New Zealand	117	0.6	2.2
South Africa	95	0.5	1.8
Sudan	92	0.5	1.8
Cambodia	85	0.5	1.6
Myanmar	79	0.4	1.5
Sri Lanka	79	0.4	1.5
Thailand	77	0.4	1.5
Iran	73	0.4	1.4
Republic of South Korea	59	0.3	1.1
Bangladesh	59	0.3	1.1
Republic of Congo	54	0.3	1.0
Burundi	49	0.3	0.9
Kenya	49	0.3	0.9
United States of America	48	0.3	0.9
All Other Countries	1,204	6.5	23.1
Unknown	9	0.0	0.2
Total	18,461	100.0	

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

1.5 Occupation of father and mother

The distribution of occupations for both mothers giving birth in 2020, and fathers is presented in Table 7. The most common occupation type for mothers were professionals (21.7%), home duties (17.3%), and salespersons and personal service workers (16.6%). The most common occupations for fathers were tradespersons (21.3%), professionals (18.5%) and managers and administrators (13.8%).

Table 7: Occupation¹ of father and mother, South Australia, 2020

Occupation	Father		Mother	
	Number	%	Number	%
Managers and administrators	2,545	13.8	1,743	9.4
Professionals	3,413	18.5	4,014	21.7
Para professionals	1,322	7.2	1,721	9.3
Tradespersons	3,924	21.3	645	3.5
Clerks	414	2.2	1,681	9.1
Salespersons and personal service workers	1,042	5.6	3,065	16.6
Plant and machine operators and drivers	1,431	7.8	88	0.5
Labourers and related workers	2,337	12.7	608	3.3
Students	265	1.4	602	3.3
Invalid pensioner	6	0.0	3	0.0
Pensioners	19	0.1	5	0.0
Home duties	101	0.5	3,194	17.3
Unemployed	862	4.7	786	4.3
Other	190	1.0	166	0.9
Unknown	590	3.2	140	0.8
Total	18,461	100.0	18,461	100.0

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

1.6 Body mass index (BMI)

Reported height and weight at the first antenatal visit were used to calculate the body mass index (BMI) for women who gave birth. This was considered valid only for women who attended the first antenatal visit before 20 weeks gestation. Among these 17,343 women (93.9% of all women who gave birth), height and weight were not reported for 414 women (2.4%). Therefore, BMI could only be calculated for 16,929 women who gave birth in 2020 (93.6% of women who attended the first antenatal visit before 20 weeks gestation). Table 8 shows that 57.0% 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, 2020

BMI ¹		Number	%	Adjusted % (excluding unknown n=16,929)
<18.5	underweight	394	2.3	2.3
18.5 – 24.9	normal	6,884	39.7	40.7
25.0 – 29.9	overweight	5,149	29.7	30.4
30.0 – 34.9	obese	2,474	14.3	14.6
35.0 – 39.9	severely obese	1,234	7.1	7.3
≥40	morbidly obese	794	4.6	4.7
Unknown		414	2.4	
Total		17,343	100.0	100.0

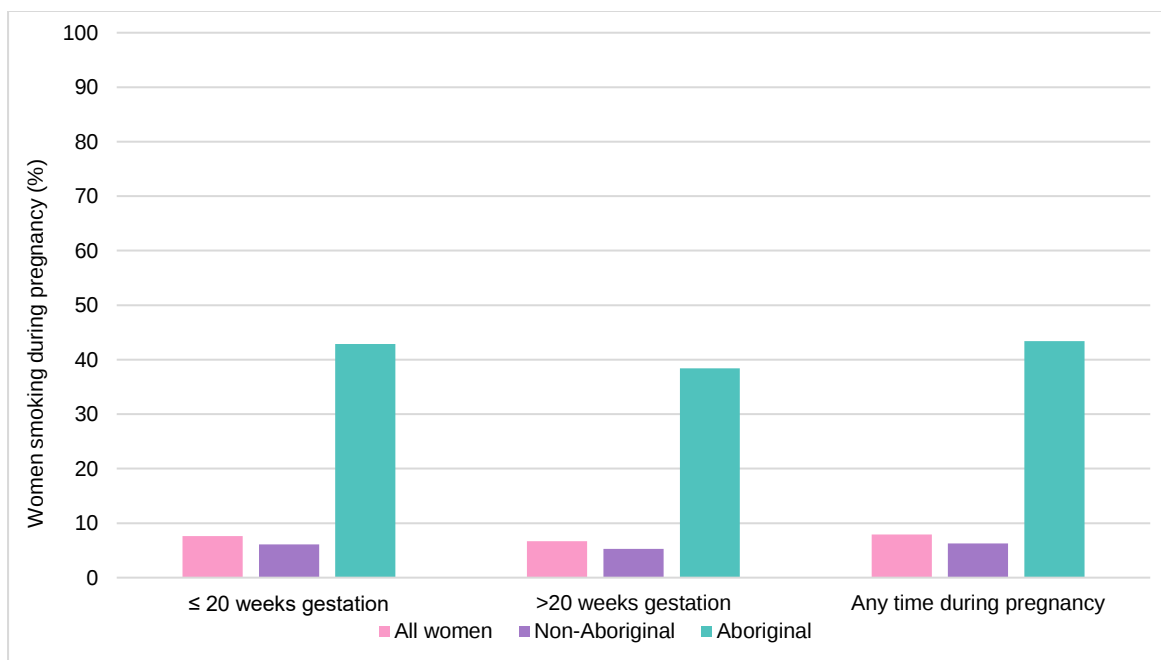
¹ based on height and weight at first antenatal visit, where gestation at first antenatal visit was <20 weeks

1.7 Tobacco smoking status

In 2020, 7.9% of all women reported to be tobacco smokers at any time during their pregnancy, and this was higher among Aboriginal women (43.4%) than non-Aboriginal women (6.3%). Smoking status was unknown for 1.5% of all women. A higher proportion of all women reported smoking during the first 20-weeks of their pregnancy (7.6%), compared with after 20-weeks (6.7%) (Figure 2).

In 2020, tobacco smoking status was collected using a new question to align with national reporting. Therefore, the data presented here are not comparable to any previous reports.

Figure 2: Proportion of women smoking during pregnancy by Aboriginal status, South Australia, 2020



The highest rates of smoking at any time during pregnancy were among teenagers (28.4%) and women aged 20-24 years (18.4%). Rates of smoking at any time during pregnancy among Aboriginal women were higher across all age groups. Rates were highest among those aged 35-39 years (60.9%) and 20-24 years (45.8%) (Table 9).

Table 9: Tobacco smoking status at any time during pregnancy by age and Aboriginal status, South Australia, 2020

Age	Non-Smoker		Smoker		Unknown smoking status		Total	
	Number	%	Number	%	Number	%	Number	%
Total								
<20	237	69.5	97	28.4	7	2.1	341	100.0
20-24	1,541	80.1	354	18.4	30	1.6	1,925	100.0
25-29	4,550	90.8	401	8.0	60	1.2	5,011	100.0
30-34	6,352	93.7	334	4.9	96	1.4	6,782	100.0
35-39	3,359	92.3	215	5.9	65	1.8	3,639	100.0
≥40	697	91.3	54	7.1	12	1.6	763	100.0
Total	16,736	90.7	1,455	7.9	270	1.5	18,461	100.0
Non-Aboriginal								
<20	193	73.7	64	24.4	5	1.9	262	100.0
20-24	1,424	83.9	250	14.7	24	1.4	1,698	100.0
25-29	4,415	92.3	314	6.6	56	1.2	4,785	100.0
30-34	6,269	94.5	273	4.1	91	1.4	6,633	100.0
35-39	3,333	93.4	173	4.8	64	1.8	3,570	100.0
≥40	689	92.1	49	6.6	10	1.3	748	100.0
Total	16,323	92.2	1,123	6.3	250	1.4	17,696	100.0
Aboriginal								
<20	44	55.7	33	41.8	2	2.5	79	100.0
20-24	117	51.5	104	45.8	6	2.6	227	100.0
25-29	135	59.7	87	38.5	4	1.8	226	100.0
30-34	83	55.7	61	40.9	5	3.4	149	100.0
35-39	26	37.7	42	60.9	1	1.4	69	100.0
≥40	8	53.3	5	33.3	2	13.3	15	100.0
Total	413	54.0	332	43.4	20	2.6	765	100.0

Of the women who reported smoking during the first 20 weeks of pregnancy (n=1,404), and after 20 weeks of pregnancy (n=1,235), the average number of cigarettes per day is presented in Table 10. On average, 73.9% of all women reporting smoking between 1-20 cigarettes per day during the first 20-weeks of pregnancy, compared with 80.2% after 20-weeks of pregnancy. A slightly higher proportion of Aboriginal women reporting smoking on average more than 21 cigarettes per day during both stages of pregnancy compared with non-Aboriginal women.

Table 10: Average number of tobacco cigarettes per day by Aboriginal status, South Australia, 2020

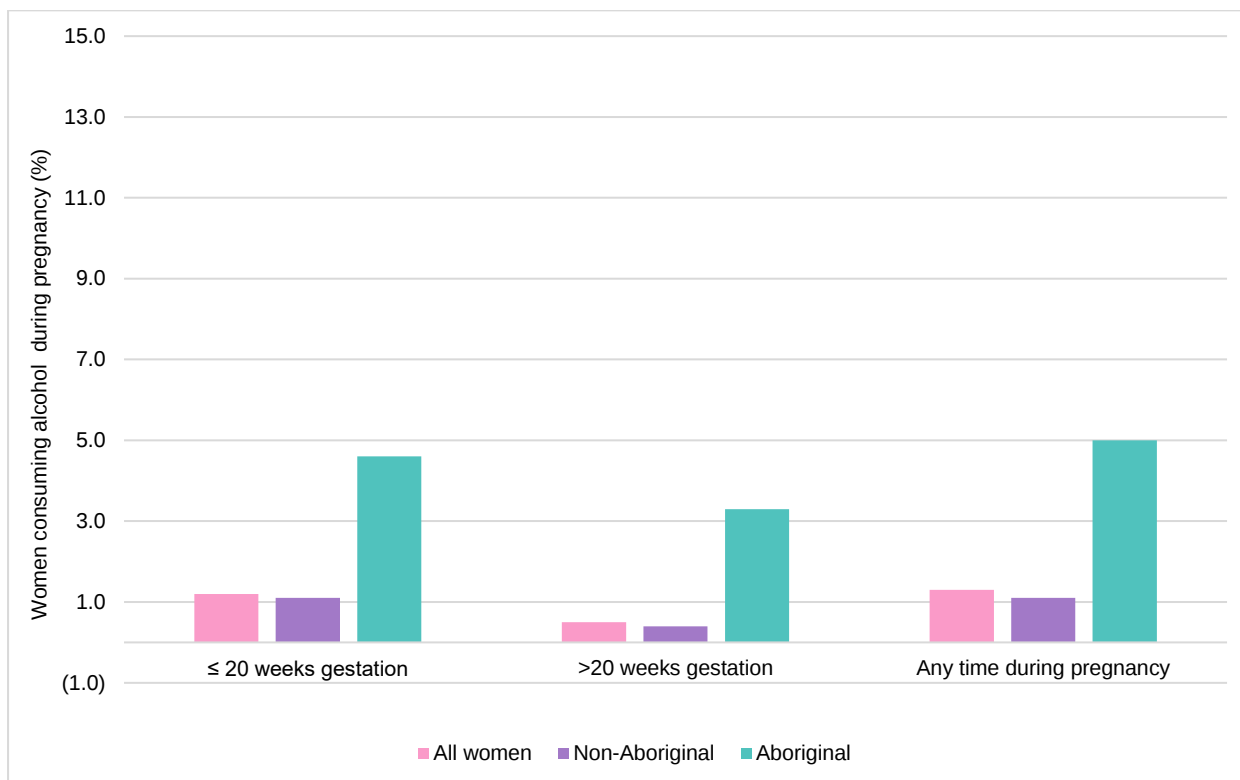
Average number of tobacco cigarettes	Non-Aboriginal		Aboriginal		Total	
	Number	%	Number	%	Number	%
First 20 weeks of pregnancy						
Occasional (<1)	0	0.0	0	0.0	0	0.0
1-20	798	74.2	239	72.9	1,037	73.9
≥21	12	1.1	6	1.8	18	1.3
Unknown number	266	24.7	83	25.3	349	24.9
Total	1,076	100.0	328	100.0	1,404	100.0
After 20 weeks of pregnancy						
Occasional (<1)	0	0.0	0	0.0	0	0.0
1-20	745	79.2	245	83.3	990	80.2
≥21	10	1.1	4	1.4	14	1.1
Unknown number	186	19.8	45	15.3	231	18.7
Total	941	100.0	294	100.0	1,235	100.0

1.8 Alcohol consumption

For the first time in 2020, data were collected about the mother's alcohol consumption at various stages of the pregnancy.

In 2020, 1.3% of all women reported to consume alcohol at any time during their pregnancy, and this was higher among Aboriginal women (5.0%) than non-Aboriginal women (1.1%). Alcohol consumption was unknown for 7.2% of all women. A higher proportion of all women reported consuming alcohol during the first 20-weeks of their pregnancy (1.2%), compared with after 20-weeks (0.5%) (Figure 3).

Figure 3: Proportion of women consuming alcohol during pregnancy by Aboriginal status, South Australia, 2020



1.9 Immunisations during pregnancy

For the first time in 2020, data were collected about the mother's immunisation status throughout pregnancy. 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=11,236), 86.0% received a flu vaccination. Of mothers for which date of influenza vaccination was known, 39.3% were vaccinated in the first 20-weeks of pregnancy, and 55.3% were vaccinated in the last 20 weeks (5.5% reported being vaccinated prior to the pregnancy).

Of mothers for which pertussis (whooping cough) vaccination status was known (n=12,272), 92.5% received a pertussis vaccination. Of mothers for which date of pertussis vaccination was known, 6.8% were vaccinated in the first 20-weeks of pregnancy, and 92.7% were vaccinated in the last 20 weeks (0.5% reported being vaccinated prior to the pregnancy).

Pregnancy profile

2.1 Parity and previous pregnancy outcomes

In 2020, 43.2% of women who gave birth had no previous births and 31.1% were pregnant for the first time. Among Aboriginal women, 32.8% who gave birth had no previous births, and 25.1% were pregnant for the first time (Table 11).

The proportion of women with a parity of 4 or greater was higher among Aboriginal women (12.3%) than among non-Aboriginal women (2.8%).

Table 11: Parity by Aboriginal status of women who gave birth, South Australia, 2020

Parity ¹	Non-Aboriginal		Aboriginal		Total	
	Number	%	Number	%	Number	%
0-primigravida	5,557	31.4	192	25.1	5,749	31.1
0-multigravida	2,173	12.3	59	7.7	2,232	12.1
1	6,294	35.6	204	26.7	6,498	35.2
2	2,417	13.7	126	16.5	2,543	13.8
3	757	4.3	90	11.8	847	4.6
4	282	1.6	50	6.5	332	1.8
≥5	216	1.2	44	5.8	260	1.4
Total	17,696	100.0	765	100.0	18,461	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 12. In total, 40.6% of the multigravidae women had experienced a previous adverse pregnancy outcome. Over a third of the women (38.2%) had a previous miscarriage.

Table 12: Previous adverse pregnancy outcomes, multigravidae women, South Australia, 2020 (n= 12,712)

Previous adverse pregnancy outcome ¹	Number	%
Miscarriage	4,855	38.2
Stillbirth	168	1.3
Neonatal death	89	0.7
Ectopic pregnancy	296	2.3

¹ Women may have reported multiple previous adverse outcomes

2.2 Antenatal visits

Women who gave birth are grouped in Table 13 according to their number of reported antenatal visits. However, for 3.1% of women (4.8% of Aboriginal women), the number of antenatal visits attended was not reported. If women for whom the number of antenatal visits was not reported are excluded, 72.0% of Aboriginal women compared with 83.6% of non-Aboriginal women attended at least seven antenatal visits during pregnancy.

Although the exact number of antenatal visits was reported for 17,891 (96.9%) women, 17,850 (99.8% out of 17,850) women report having attended at least one antenatal visit.

Table 13: Antenatal visits by Aboriginal status of women who gave birth, South Australia, 2020

Antenatal visits	Maternal Aboriginal status					
	Non-Aboriginal		Aboriginal		Total	
	Number	%	Number	%	Number	%
None	28	0.2	13	1.7	41	0.2
1-6	2,790	15.8	191	25.0	2,981	16.1
≥7	14,345	81.1	524	68.5	14,869	80.5
Unknown number of visits	533	3.0	37	4.8	570	3.1
Total	17,696	100.0	765	100.0	18,461	100.0

2.3 Gestation at first antenatal visit

Of the women for whom week of gestation at the first antenatal visit was reported, 84.9% attended antenatal care within the first 14 weeks of pregnancy. Of the Aboriginal women for whom week of gestation at the first antenatal visit was reported, 67.4% attended antenatal care within the first 14 weeks of pregnancy (compared with 85.6% of non-Aboriginal women). Gestation at the first antenatal visit was reported as unknown for 1.2% of all women (Table 14).

Table 14: Gestation at first antenatal visit, women who gave birth by Aboriginal status, South Australia, 2020

Gestation at first antenatal visit	Non-Aboriginal			Aboriginal			Total		
	Number	%	Adjusted % excluding unknown (n=17,510)	Number	%	Adjusted % excluding unknown (n=730)	Number	%	Adjusted % excluding unknown (n=18,240)
<14 weeks gestation	14,997	84.7	85.6	492	64.3	67.4	15,489	83.9	84.9
14 weeks or greater	2,513	14.2	14.4	238	31.1	32.6	2,751	14.9	15.1
Unknown	186	1.1		35	4.6		221	1.2	
Total	17,696	100.0	100.0	765	100.0	100.0	18,461	100.0	100.0

2.4 Type of antenatal care

Table 16 describes the main types of antenatal care used in South Australia. The most common types of antenatal care were specialist led public hospital clinics (44.1%), obstetricians in private practice (22.4%), general practitioners and public hospital shared care (13.7%, Table 15). There were 41 women (0.2%) who had no antenatal care.

Table 15: Type of antenatal care, women who gave birth, South Australia, 2020

Type of care ¹	Number	% of antenatal care
Public clinic (specialist led)	8,148	44.1
Obstetrician +/- midwife in private practice	4,127	22.4
GP and public hospital (shared care)	2,528	13.7
Midwifery group practice at birth hospital	2,492	13.5
GP led	1,153	6.2
Birth Unit/Centre	888	4.8
Aboriginal Family Birthing Program (includes metropolitan and rural locations)	338	1.8
Eligible midwife in private practice	130	0.7
Other	103	0.6
Not stated	56	0.3
No care	41	0.2

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

2.5 Medical conditions

Medical conditions were recorded in the current pregnancy for 12,835 women (69.5%). The frequencies of specified medical conditions are provided in Table 16. Multiple conditions can be reported for each pregnancy.

Table 16: Medical conditions in current pregnancy, women who gave birth, South Australia, 2020

Medical condition ¹	Number	% of women (n = 18,461)
None	5,626	30.5
Anaemia	1,262	6.8
Urinary tract infection	704	3.8
Hypertension (pre-existing)	311	1.7
Diabetes (pre-existing)	212	1.1
Epilepsy	107	0.6
Asthma	1,977	10.7
Other	12,016	65.1

¹ Women may have reported multiple medical conditions

2.6 Obstetric complications

Obstetric complications were recorded for 10,732 women who gave birth (58.1%). The reported frequencies of the most common complications that occur during pregnancies are presented in Table 18. Multiple complications can be reported for each pregnancy. The most common complication recorded was gestational diabetes (16.5%). 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. However, the long term trend in the number of women with obstetric complications has been steadily rising since the 1990s.

Table 17: Most common obstetric complications in current pregnancy, women who gave birth, South Australia, 2020

Obstetric complication ¹	Number	% of women (n= 18,461)
No complication	7,729	41.9
Threatened miscarriage	282	1.5
Ante-partum haemorrhage (APH) – abruption	86	0.5
APH – placenta praevia	106	0.6
APH – other & unknown causes	486	2.6
Pregnancy hypertension	1,006	5.4
Intrauterine growth restriction (suspected)	1,299	7.0
Gestational diabetes	3,049	16.5
Other complications	7,522	40.7

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 18. At least one ultrasound examination was performed for 97.7% of women in 2020. Amniocentesis was performed for 1.3%, and chorion villus sampling for 0.6% of women who gave birth. Multiple procedures may be reported for each pregnancy.

Table 18: Procedures performed in current pregnancy, women who gave birth, South Australia, 2020

Procedure ¹	Number	% of women (n= 18,461)
Ultrasound morphology scan	16,172	87.6
First trimester anomaly screen (ultrasound & biochemical)	14,156	76.7
Ultrasound dating scan	11,025	59.7
Other ultrasound scan	11,425	61.9
Second trimester anomaly screen (biochemical only)	1,624	8.8
Non invasive prenatal testing	2,003	10.8
Amniocentesis	242	1.3
Chorion villus biopsy	105	0.6
Antenatal fetal blood sampling	70	0.4
Other surgical procedure	0	0.0

¹ Multiple procedures may be reported for each pregnancy

Labour

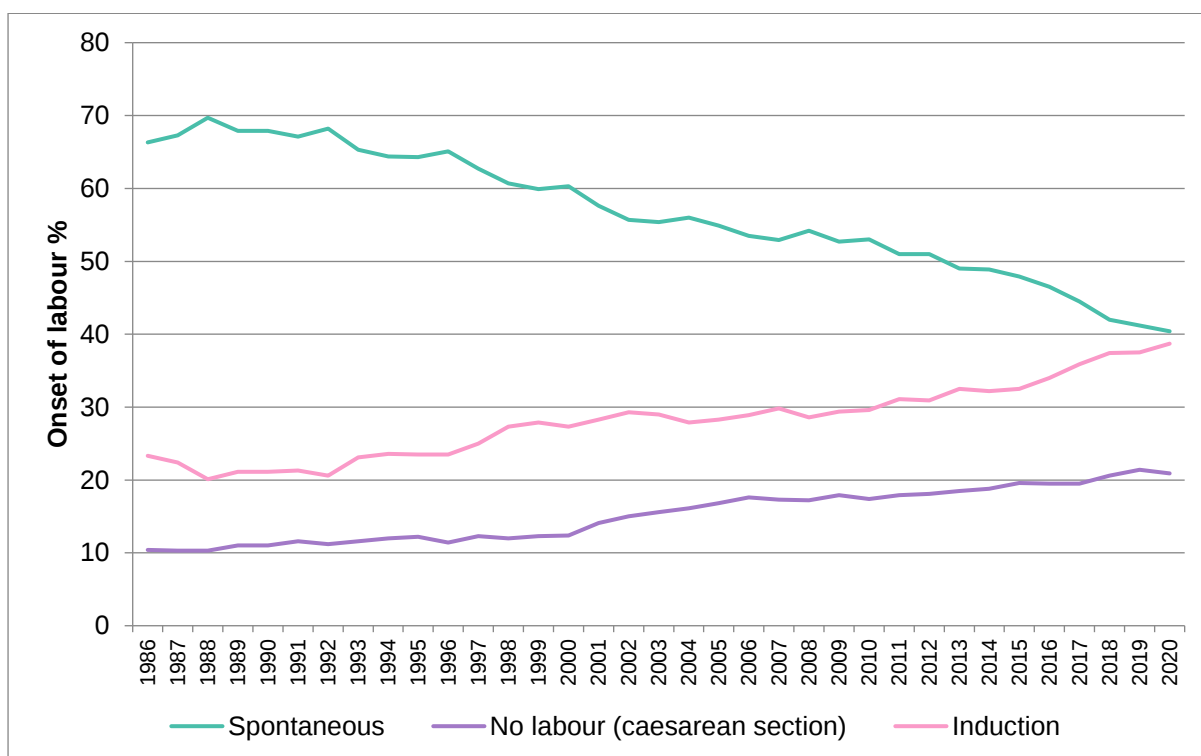
3.1 Onset of labour

Labour occurred spontaneously in 40.4% of women who gave birth in 2020 (Table 19), which has been decreasing over time since 1986 (Figure 4). Induction of labour has increased over this same time period from 23.3% in 1986 to 38.7% in 2020. The proportion of women with no labour due to caesarean sections has increased from 10.4% to 20.9%, over the same time period.

Table 19: Onset of labour, women who gave birth, South Australia, 2020

Onset of labour	Number	%
Spontaneous	7,464	40.4
Induction	7,142	38.7
No labour – caesarean section	3,855	20.9
Total	18,461	100.0

Figure 4: Trend for onset of labour for women who gave birth in South Australia, 1986-2020



3.2 Induction of labour

Labour was induced for 38.7% of women who gave birth in 2020. The most common methods of induction used were artificial rupture of membranes in 77.8% of inductions, oxytocics in 62.9%, and prostaglandins in 41.9% (Table 20). Multiple methods can be reported for each pregnancy, and in many cases more than one method was used.

Table 20: Method of induction of labour, women who gave birth, South Australia, 2020

Method of induction ¹	Number	% of women (n =18,461)	% of inductions (n =7,142)
Any induction	7,142	38.7	
Artificial rupture of membranes	5,554	30.1	77.8
Oxytocics	4,493	24.3	62.9
Prostaglandins	2,991	16.2	41.9
Mechanical dilation	1,566	8.5	21.9
Antiprogesterone	69	0.4	1.0
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 21. Multiple reasons can be reported for each pregnancy. In 2020, 18.1% of women were induced for diabetes (including pre-existing, gestational diabetes), 14.0% by maternal choice, 11.3% for fetal distress, and 11.1% for hypertension.

Table 21: Reasons for induction of labour, South Australia, 2020 (n=7,142)

Reason for induction ¹	Number	% of women (n=7,142)
Diabetes ²	1295	18.1
Maternal choice	1000	14.0
Fetal distress	804	11.3
Hypertension	791	11.1
Other obstetric or medical condition	752	10.5
Large for dates	732	10.2
Prolonged pregnancy	683	9.6
IUGR	644	9.0
Premature or prolonged rupture of membranes	566	7.9
Fetal death	50	0.7
Other ³	1036	14.5

¹ Multiple reasons for induction may be reported for each pregnancy

² Includes diabetes mellitus and gestational diabetes

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

3.3 Augmentation of labour

The proportion of women giving birth who had labour augmented after spontaneous labour onset was 14.4% (Table 22). Of the 7,464 women who went into spontaneous labour, augmentation was used for 2,656 (35.6%). Methods used in augmentation were artificial rupture of membranes (71.9%), oxytocics (41.4%) and prostaglandins (3.2%). In some cases more than one method was used.

Table 22: Augmentation after spontaneous labour onset, women who gave birth, South Australia, 2020

Method of augmentation ¹	Number	% of women (n=18,461)	% of augmentations (n=2,656)
Any augmentation	2,656	14.4	
Artificial rupture of membranes	1,909	10.3	71.9
Oxytocics	1,100	6.0	41.4
Prostaglandins	86	0.5	3.2
Other ²	4	0.0	0.2

¹Multiple methods of augmentation may be reported for each pregnancy

²Other includes antiprogesterone, mechanical dilation

3.4 Method of birth and fetal presentation

Of the women who gave birth, 51.5% had normal spontaneous vaginal births (Table 23). Caesarean section was performed for 36.8% of women, with 17.8% of women having elective section. Forceps and ventouse were used for 5.9% and 5.5% of births, respectively. The method of birth reported for women who had multiple births is that of the first birth.

Table 23: Method of birth, women who gave birth, South Australia, 2020

Method of birth ¹	Number	% of women
Normal spontaneous	9,500	51.5
Caesarean (emergency)	3,501	19.0
Caesarean (elective)	3,295	17.8
Forceps (vaginal)	1,086	5.9
Ventouse	1,014	5.5
Breech spontaneous	46	0.2
Assisted Breech (no forceps)	16	0.1
Breech extraction	2	0.0
Assisted Breech (with forceps for head)	1	0.0
Total	18,461	100.0

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

Fetal presentation is presented in Table 24, and the method of birth by presentation is provided in Table 25. Caesarean section was the method of birth for 90.7% of breech presentations (Table 26).

Table 24: Fetal presentation, all births, South Australia, 2020

Fetal presentation	Number	% of births
Vertex	17,633	94.1
Breech	895	4.8
Face	34	0.2
Brow	28	0.1
Other	140	0.7
Unknown	8	0.0
Total	18,738	100.0

Table 25: Method of birth by fetal presentation, all births, South Australia 2020

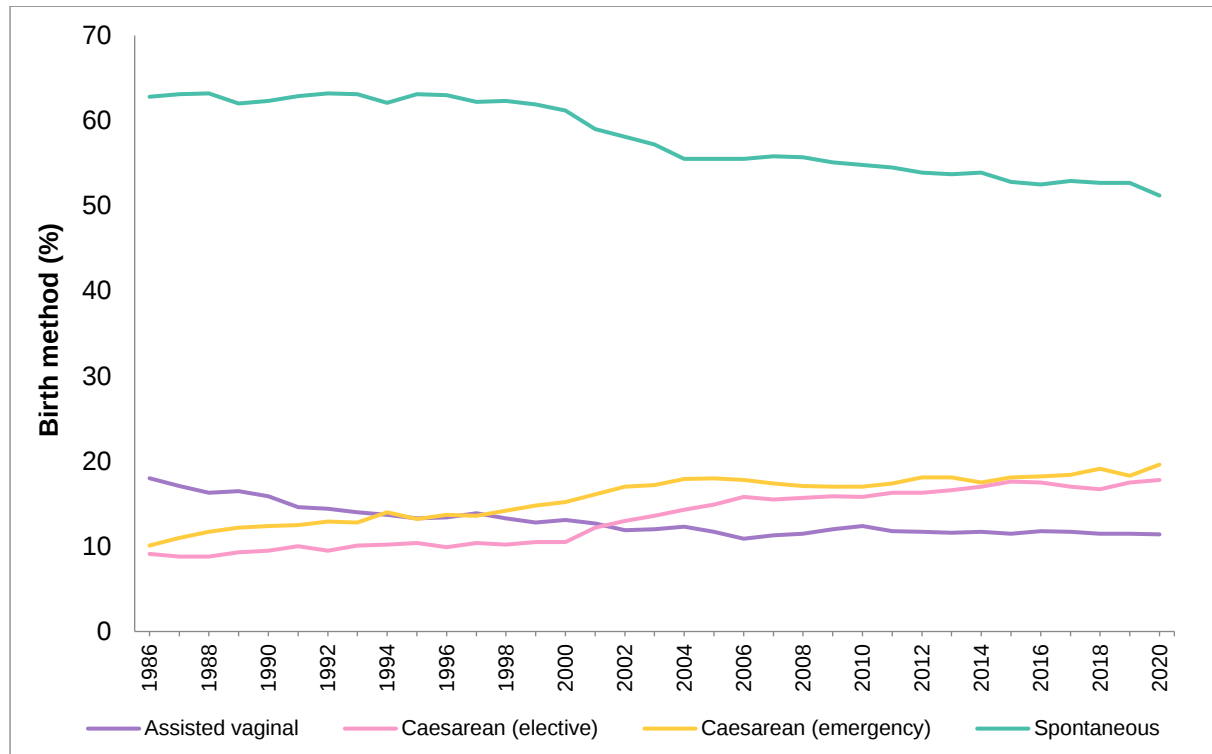
Method of Delivery	Fetal presentation								Total	
	Vertex		Breech		Other		Unknown			
	Number	%	Number	%	Number	%	Number	%	Number	%
Normal spontaneous	9,484	53.8	0	0.0	47	23.3	6	75.0	9,537	50.9
Caesarean (emergency)	3,165	17.9	393	43.9	109	54.0	2	25.0	3,669	19.6
Caesarean (elective)	2,885	16.4	419	46.8	31	15.3	0	0.0	3,335	17.8
Forceps	1,082	6.1	0	0.0	11	5.4	0	0.0	1,093	5.8
Ventouse	1,017	5.8	0	0.0	4	2.0	0	0.0	1,021	5.4
Breech spontaneous	0	0.0	54	6.0	0	0.0	0	0.0	54	0.3
Assisted Breech (no forceps)	0	0.0	22	2.5	0	0.0	0	0.0	22	0.1
Breech extraction	0	0.0	5	0.6	0	0.0	0	0.0	5	0.0
Assisted Breech (forceps)	0	0.0	2	0.2	0	0.0	0	0.0	2	0.0
Total	17,633	100.0	895	100.0	202	100.0	8	100.0	18,738	100.0

Table 26: Method of birth by plurality, breech births, South Australia, 2020

Method of birth	Plurality							
	Singleton		Twins		Triplets		Total	
	Number	%	Number	%	Number	%	Number	%
Caesarean (elective)	392	53.4	27	17.3	0	0.0	419	46.8
Caesarean (emergency)	280	38.1	108	69.2	5	100.0	393	43.9
Breech spontaneous	44	6.0	10	6.4	0	0.0	54	6.0
Assisted breech (no forceps)	16	2.2	6	3.8	0	0.0	22	2.5
Breech extraction	2	0.3	3	1.9	0	0.0	5	0.6
Assisted breech (forceps)	0	0.0	2	1.3	0	0.0	2	0.2
Total	734	100.0	156	100.0	5	100.0	895	100.0

Figure 5 shows the trend in methods of birth in South Australia over time. Most recently, there has been a slight increase in the proportion of emergency caesareans (18.3% in 2019 compared with 19.6% in 2020), and a slight decrease in the proportion of spontaneous births (52.7% in 2019 compared with 51.2% in 2020).

Figure 5: Method of birth for all births in South Australia, 1986-2020



3.5 Analgesia for labour and anaesthesia for birth

Analgesia for labour was used by 60.6% of women who gave birth in South Australia in 2020. The most commonly used methods for analgesia were nitrous oxide and oxygen (35.8%), epidurals (34.7%) and narcotics (13.5%, Table 27). Anaesthesia for birth was recorded only for women who had a caesarean section or an instrumental birth (n=8,913). Anaesthesia was used by 96.1% of women who gave birth via caesarean section or instrumental birth in South Australia in 2020. The most common methods were spinal anaesthetic (56.0%), epidurals (33.6%), and general anaesthesia (3.8%, Table 28). Multiple methods for analgesia and anaesthesia can be reported for each birth.

Table 27: Analgesia for labour, women who gave birth, South Australia, 2020

Analgesia¹	Number	% of women (n=18,461)
None	7,277	39.4
Nitrous oxide and oxygen	6,608	35.8
Epidural (lumbar/caudal)	6,415	34.7
Narcotic (parenteral)	2,485	13.5
Other	1,146	6.2
Combined spinal-epidural	40	0.2
Spinal	6	0.0

¹Multiple methods for analgesia may be reported for each birth

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 28 are not comparable to any previous reports.

Table 28: Anaesthesia for birth, women who gave birth via caesarean section or instrumental birth, South Australia, 2020

Anaesthesia²	Number	% of women (n=8,913)
None	352	3.9
Spinal	4,989	56.0
Epidural (lumbar/caudal)	2,994	33.6
General anaesthesia	336	3.8
Local anaesthesia	205	2.3
Combined spinal-epidural	147	1.6
Pudendal	124	1.4
Other	4	<0.1

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

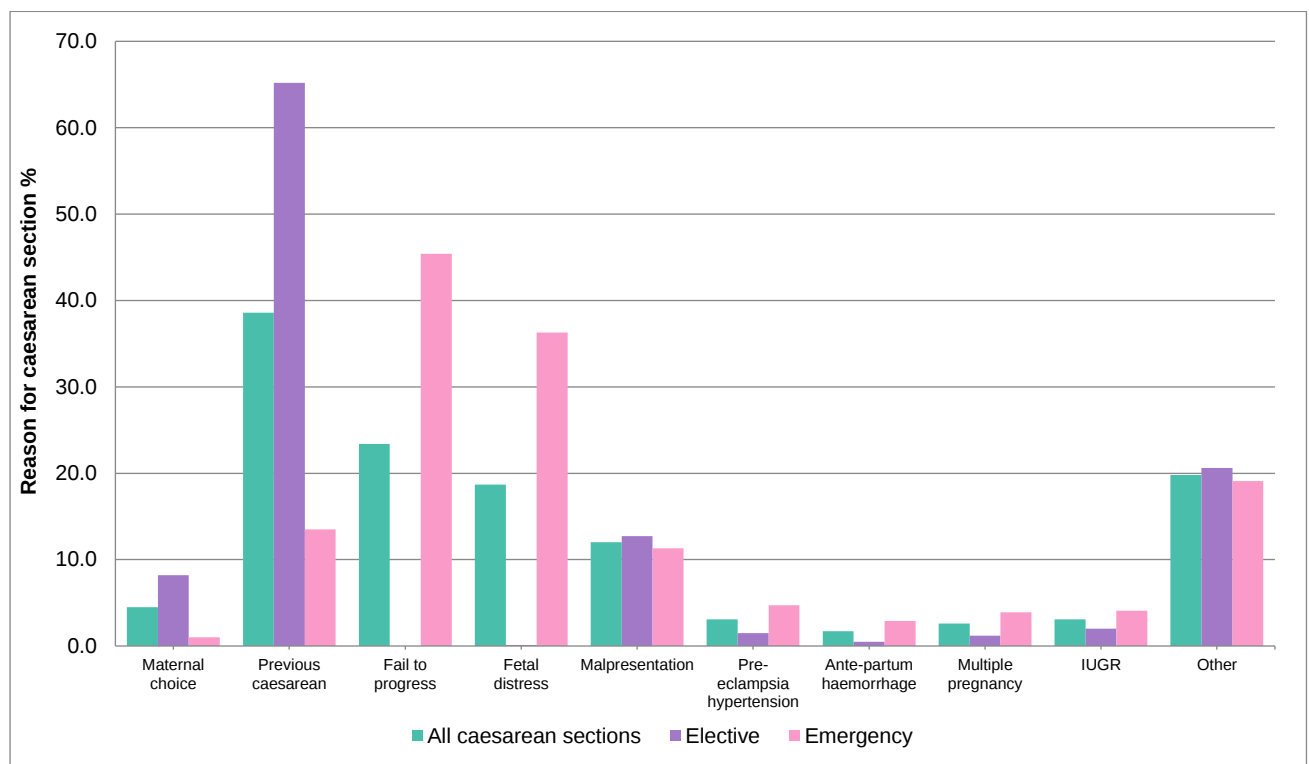
²Multiple methods for anaesthesia may be reported for each birth

3.6 Reason for caesarean section

Multiple reasons for caesarean section can be recorded on the Supplementary Birth Record. In 2020 the most common reasons for caesarean section were previous caesarean section (38.6%), failure to progress or cephalopelvic disproportion (23.4%), fetal distress (18.7%) and malpresentation (12.0%, Figure 6).

The main reasons for elective caesarean sections were previous caesarean section (65.2%), malpresentation (12.7%) and maternal choice (8.2%). The main reasons given for emergency caesarean sections were failure to progress (45.4%), fetal distress (36.3%) and previous caesarean section (13.5%).

Figure 6: Reason for caesarean section in South Australia, 2020 (n=6,796)



3.7 Caesarean section by maternity service

Over a third of all women in South Australia gave birth by caesarean section in 2020 (37.1%, Table 29). The proportion of emergency caesarean section births ranged from 13.7% to 19.6% across maternity services. The metropolitan private hospitals had much higher proportion of elective caesarean section births (29.1%) compared to the other maternity services, leading to a higher overall proportion of caesarean births at metropolitan private hospitals (48.1%).

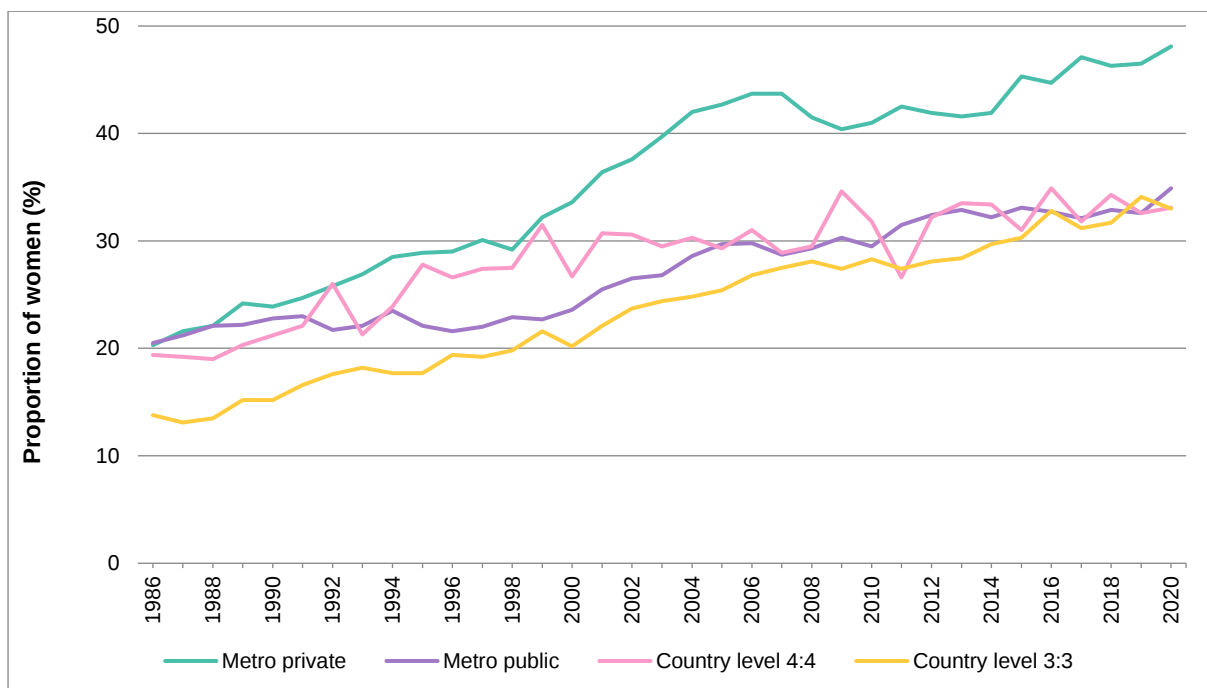
Table 29: Caesarean section by maternity service¹ in South Australia, 2020

Maternity Service	Total women	Elective caesarean		Emergency caesarean		Elective & emergency caesarean	
	Number	Number	%	Number	%	Number	%
Metro private hospitals	3537	1,030	29.1	670	18.9	1,700	48.1
Metro teaching hospitals	11403	1,739	15.3	2,235	19.6	3,974	34.9
Country hospitals level 3:3	2670	384	14.4	496	18.6	880	33.0
Country hospitals level 4:4	732	142	19.4	100	13.7	242	33.1
Total	18342	3295	18.0	3501	19.1	6796	37.1

¹Excludes home births (n=119)

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 48.1% of women in 2020, Figure 7). 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 7: Caesarean section by maternity service in South Australia, 1986-2020



3.8 Complications of labour and birth

Multiple complications can be recorded for women who gave birth with 54.2% of women experiencing complications in 2020. The most common complications are presented in Table 30. The main complications of labour and birth were primary post-partum haemorrhage (PPH $\geq 500\text{ml}$, 30.0%), fetal distress (20.3%) and failure to progress (11.7%).

Table 30: Select complications of labour and birth, women who gave birth, South Australia, 2020

Complication ¹	Number of women	% of women (n=18,461)
None	8,446	45.8
Primary post-partum haemorrhage		
500-599ml	1747	9.5
600-999ml	2,388	12.9
1,000 ml or more	1,404	7.6
Unspecified mls	0	0.0
Fetal distress	3,751	20.3
Failure to progress	2,165	11.7
Third degree tear or fourth degree tear	329	1.8
Retained placenta	321	1.7
Prolonged labour	97	0.5
Wound infection	82	0.4
Cord prolapse	29	0.2
Other	5,873	31.8

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. In 2018 the proportion of women with a PPH of 500mls or more was 26.2%, in 2019 it was 28.3%, and in 2020 it was 30.0%.

3.10 Perineal status after birth

Of the 18,461 women who gave birth, episiotomy was performed for 3,117 women (16.9% of all women and 26.7% of women who gave birth vaginally, Table 31). Among the 11,665 women who gave birth vaginally 20.5% had an intact perineum after birth, 56.5% had a first or second degree tear, and 2.8% of women had a third or a fourth degree tear. In total, 5,101 women (43.7% of vaginal births and 75.1% of births with a tear) had a repair of a perineal tear.

Table 31: Method of birth¹ and perineal status for women who gave birth vaginally in South Australia, 2020

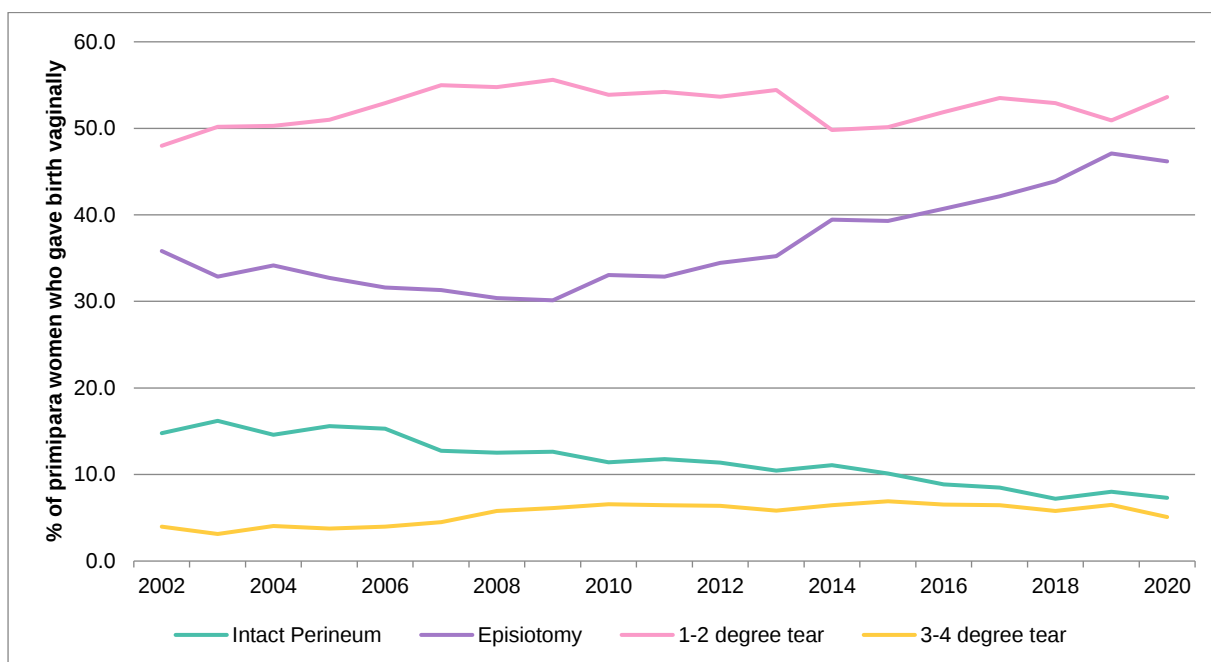
Method of birth*	Total Births	Perineal status							
		Intact		1-2 degree tear ²		3-4 degree tear ²		Episiotomy	
		Number	% of method	Number	% of method	Number	% of method	Number	% of method
Spontaneous	9,500	2,273	23.9	5,906	62.2	170	1.8	1,460	15.4
Ventouse	1,014	60	5.9	376	37.1	45	4.4	668	65.9
Forceps	1,087	19	1.7	294	27.0	114	10.5	984	90.5
Breech	64	44	68.8	15	23.4	0	0.0	5	7.8
Total	11,665	2,396	20.5	6,591	56.5	329	2.8	3,117	26.7

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=1).

²Including cases with extended tear after episiotomy

The trend in perineal status among primiparae women who gave birth vaginally are shown in Figure 8. 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 2020 was 46.2%.

Figure 8: Perineal status among primiparae women who gave birth vaginally in South Australia, 2002-2020



3.11 Fetal monitoring during labour

Cardiotocography (CTG) was performed during labour for 61.9% of women who gave birth. The majority of these were external CTGs (43.5%) while a scalp clip was used for 18.3% of women who gave birth (Table 32). A fetal scalp pH was taken during labour in 77 women who gave birth (0.4%, Table 33). The low rate of fetal scalp pH sampling in 2020 could be a result of sampling fetal lactate rather than fetal scalp pH due to changes to clinical practice.

Table 32: Cardiotocography performed during labour, women who gave birth, South Australia, 2020

CTG during labour	Number of women	% of women (n=18,461)
None	7,040	38.1
External	8,038	43.5
Scalp clip	3,383	18.3
Total	18,461	100.0

Table 33: Fetal scalp pH taken during labour, women who gave birth, South Australia, 2020

Fetal scalp pH taken	Number of women	% of women (n=18,461)
No	18,384	99.6
Yes	77	0.4
Total	18,461	100.0

3.12 Postnatal length of stay

The distribution of length of stay for women who gave birth in hospitals is presented in Table 34 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 35).

Table 34: Postnatal length of stay by patient type, women who gave birth in South Australian hospitals¹, 2020

Length of stay (days)	Public		Private		Total	
	Number	%	Number	%	Number	%
<1	779	5.5	13	0.3	792	4.3
1	3,411	24.2	112	2.7	3523	19.2
2	4,234	30.0	231	5.5	4465	24.3
3	2,822	20.0	593	14.0	3415	18.6
4	1,476	10.5	1,166	27.6	2642	14.4
5	651	4.6	1,377	32.6	2028	11.1
6	295	2.1	490	11.6	785	4.3
7 or more	453	3.2	239	5.7	692	3.8
Total	14,121	100.0	4,221	100.0	18342	100.0

¹ Excludes homebirths (n=119)

The median length of stay for all hospital births was two days for vaginal births, and four days for caesarean section (Table 35). Among private patients, the median length of stay was two days longer for vaginal births and caesarean births.

Table 35: Postnatal length of stay by patient and birth type, women who gave birth in South Australian hospitals¹, 2020

Length of stay (days)	Public			Private			Total		
	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total
Number of women	9,316	4,805	14,121	2,230	1,991	4,221	11,546	6,796	18,342
Mean	2.1	3.6	2.6	4.0	5.1	4.5	2.5	4.0	3.0
Standard deviation	2.0	3.9	2.9	1.6	2.3	2.0	2.1	3.6	2.8
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	4-6	4-5	1-3	2-5	2-4

¹ Excludes homebirths (n=119)

Babies

4.1 Crude birth rate

In 2020 there were 18,738 births in South Australia, which is the lowest number of births since 2005 (18,196). Of the births in 2020, 99.4% were live births and 0.6% were stillbirths (Table 36). The crude birth rate has generally been declining since the early 1980s to a low of 11.5 per 1,000 population in 2004. Despite a small increase between 2005 to 2008, the rate continues to decline to its lowest rate of 10.6 per 1,000 population in 2020.

Table 36: Crude birth rate for infants born in South Australia, 1986-2020

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

¹ABS Estimated Resident Populations (ERP) for South Australia

²Crude birth rate per 1,000 population

4.2 Place of birth

Of the 18,738 births notified in 2020, 119 (0.6%) were home births and of those, 118 were planned homebirths. The remaining 18,619 births occurred in hospitals, including 103 births born before arrival at hospitals into which the women had been booked. The 'Born Before Arrival' births have been included in the statistics for the booked birthing hospital. The distribution of all births by place of birth (home or hospital) and plurality is provided in Table 37.

Table 37: Total births notified by place of birth and plurality, South Australia, 2020

Condition at birth	Home births		Hospital births			Total births
	Singleton	Twin	Singleton	Twin	Triplet	
Live birth	119	0	17,952	536	12	18,619
Stillbirth	0	0	117	<5	0	119
Total births	119	0	18,069	538	12	18,738

4.3 Place of birth by Aboriginal status of mother

Of all births, 62.0% occurred in metropolitan teaching hospitals, 19.2% in metropolitan private hospitals and 18.2% in country hospitals (Table 38). Aboriginal women had a higher proportion of births in country hospitals (31.8%) compared to non-Aboriginal women (17.6%).

Table 38: Total births notified by place of birth and Aboriginal status of mother, South Australia, 2020

Hospital	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Metropolitan teaching hospital	511	65.9	11,103	61.8	11,614	62.0
Metropolitan private hospital	18	2.3	3,575	19.9	3,593	19.2
Country hospital	247	31.8	3,165	17.6	3,412	18.2
Home	0	0.0	119	0.7	119	0.6
Total	776	100.0	17,962	100.0	18,738	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 39, by Aboriginal status of the mother. Among the 18,619 hospital births in South Australia in 2020, 62.4% occurred in metropolitan teaching hospitals, 19.3% in metropolitan private hospitals and 18.3% in country hospitals. Aboriginal women had a higher percentage of births in country hospitals (31.8%), compared to non-Aboriginal women (17.7%).

Of the Country hospital births, 4.0% occurred in the Level 4:4 Country Hospitals, 12.5% occurred in country hospitals with 100 births or more in 2020, and 2.0% in country hospitals with less than 100 births per annum.

Table 39: Hospital births by perinatal service delineation and Aboriginal status of mother, South Australia, 2020

Hospital	Aboriginal		Non-Aboriginal		Total births		Total women	
	Number	%	Number	%	Number	%	Number	%
Metropolitan teaching	511	65.9	11103	62.2	11614	62.4	11403	62.2
Metropolitan private	18	2.3	3575	20.0	3593	19.3	3537	19.3
Total (Country)	247	31.8	3165	17.7	3412	18.3	3402	18.5
Level 4:4 Country	111	14.3	630	3.5	741	4.0	732	4.0
Level 3:3 Country ≥100 births per annum	120	15.5	2175	12.2	2295	12.3	2294	12.5
Level 3:3 Country <100 births per annum	16	2.1	360	2.0	376	2.0	376	2.0
Grand total	776	100.0	17843	100.0	18619	100.0	18342	100.0

4.5 Home birth

Supplementary Birth Records were received from home birth midwives regarding planned home births for 118 women which occurred at home in 2020. There was one unplanned home birth. The unplanned home birth has been excluded from the planned home birth statistics below.

Ascertainment of planned home births occurring at home in South Australia for the year 2020 is estimated to be 99% (118 out of an estimated 119 home births). This estimate has been derived from a comparison of information supplied via the Supplementary Birth Record, with data from the Births, Deaths and Marriages Registration Division on births registered. This compares home births that did not occur in hospital (and were not babies born before arrival at the hospital into which the woman had been booked).

In addition, 27 women who planned to birth at home were transferred to hospital care before birth. Statistics for all 118 planned home births (118 women) in 2020 are provided in Table 40 through Table 43. The age profile of women who planned a home birth in 2020 was similar to all births, with most women in the 30-34 year age category. Of the 118 babies that were birthed at home, all (100.0%) were normal spontaneous vaginal deliveries.

Table 40: Age of women in planned home births, South Australia, 2020

Age	Birthed at home		Birthed in hospital		Total	
	Number of women	%	Number of women	%	Number of women	%
<20	-	-	-	-	-	-
20-24	6	5.1	0	0.0	6	4.1
25-29	27	22.9	8	29.6	35	24.1
30-34	50	42.4	14	51.9	64	44.1
35-39	30	25.4	3	11.1	33	22.8
40-44	5	4.2	2	7.4	7	4.8
Total	118	100.0	27	100.0	145	100.0

Table 41: Method of birth in planned home births, South Australia, 2020

Method of birth	Birthed at home		Birthed in hospital		Total	
	Number of births	%	Number of births	%	Number of births	%
Normal spontaneous vaginal	118	100.0	20	74.1	138	95.2
Forceps (vaginal)	0	0	3	11.1	3	2.1
Caesarean (emergency)	0	0	4	14.8	4	2.8
Ventouse	0	0	0	0.0	0	0.0
Total	118	100.0	27	100.0	145	100.0

Table 42: Birthweight of planned home births, South Australia, 2020

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	6	5.1	1	3.7	7	4.8
3,000-3,499	28	23.7	11	40.7	39	26.9
3,500-3,999	53	44.9	10	37.0	63	43.4
4,000-4,499	24	20.3	4	14.8	28	19.3
4,500+	7	5.9	1	3.7	8	5.5
Total	118	100.0	27	100.0	145	100.0

Table 43: Perinatal outcome in planned home births, South Australia, 2020

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	118	100.0	27	100.0	145	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	118	100.0	27	100.0	145	100.0

4.6 Sex

Of all infants born, 51.0% were male with a male-female birth ratio of 1.04, which is the slightly lower than 2019 (1.06). There were 384 more male infants born than female (Table 44). The outcomes of male and female babies were similar as shown in Table 45.

Table 44: Sex of baby, all births, South Australia, 2020

Sex of baby	Number	%
Male	9,560	51.0
Female	9,176	49.0
Indeterminate	<5	<0.1
Total	18,738	100.0

Table 45: Sex of baby by birth status, South Australia, 2020

Birth Status	Sex of baby							
	Male		Female		Indeterminate		Total	
	Number	%	Number	%	Number	%	Number	%
Live birth	9,500	99.4	9,118	99.4	<5	50.0	18,619	99.4
Stillbirth	60	0.6	58	0.6	<5	50.0	119	0.6
Total	9,560	100.0	9,176	100.0	<5	100.0	18,738	100.0

4.7 Plurality

In 2020, there were 18,188 singleton infants born in South Australia, 97.1% of the total infants born. The total number of multiple births was 550 (3.0% of total births) with 538 twin infants (2.9%) and 12 triplets (0.1%). The proportion of multiple infants born to Aboriginal women was 2.7%, which was similar to the proportion for non-Aboriginal women (3.0%) and is shown in Table 46.

Among women who gave birth there were 269 twin and 4 triplet pregnancies in 2020. Thus, there was one twin pregnancy in every 68 pregnancies, and one triplet pregnancy in every 4,615 pregnancies. Women who gave birth to twins and triplets comprised 1.5% of all women who gave birth.

Table 46: Plurality of birth by maternal Aboriginal status for infants born in South Australia, 2020

Plurality	Maternal Aboriginal status					
	Non-Aboriginal		Aboriginal		Total	
	Number	%	Number	%	Number	%
Singleton	17,433	97.1	755	97.3	18,188	97.1
Twin	520	2.9	18	2.3	538	2.9
Triplet	9	0.1	<5	0.4	12	0.1
Total	17,962	100.0	776	100.0	18,738	100.0

4.8 Gestational age

Gestational age is the duration of pregnancy in completed weeks. In 2020, the average gestational age for all babies was 38.4 weeks (SD 2.2 weeks), with the majority of infants (90.9%) born at term (37-41 weeks, Table 47). Preterm birth occurred for 9.0% of all infants born, and this proportion was higher for infants of Aboriginal women (18.4%).

Table 47: Gestation at birth by Aboriginal status of women, South Australia, 2020

Gestation at birth (weeks)	Maternal Aboriginal status					
	Non-Aboriginal		Aboriginal		Total	
	Number	%	Number	%	Number	%
Preterm births (20-36)	1,536	8.6	143	18.4	1,679	9.0
Term births (37-41)	16,396	91.3	633	81.6	17,029	90.9
Post-term births (42+)	27	0.2	0	0.0	27	0.1
Unknown	<5	<0.1	0	0.0	<5	<0.1
Total	17,962	100.0	776	100.0	18,738	100.0

Gestation at birth varied between singleton and multiple births. Nearly three quarters of multiple births (73.5%) were preterm, while the vast majority of singleton births were term births (92.8%, Table 48).

Table 48: Gestation at birth by plurality, South Australia, 2020

Gestation at birth (weeks)	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
<24	91	0.5	0	0.0	91	0.5
24-27	58	0.3	6	1.1	64	0.3
28-31	103	0.6	38	6.9	141	0.8
32-36	1,023	5.6	360	65.5	1,383	7.4
37-41	16,883	92.8	146	26.5	17,029	90.9
42+	27	0.1	0	0.0	27	0.1
Unknown	<5	<0.1	0	0.0	<5	<0.1
Total	18,188	100.0	550	100.0	18,738	100.0

Among singleton births, the majority of stillbirths occurred before 37 weeks gestation (89.7%), with the highest proportion occurring before 24 weeks gestation (62.4%, Table 49). Among live births, only 6.5% of babies were born preterm.

Table 49: Gestational age at birth for singleton infants by birth status, South Australia, 2020

Gestation at birth (weeks)	Birth status					
	Live birth		Stillbirth		Total	
	Number	%	Number	%	Number	%
<24	18	0.1	73	62.4	91	0.5
24-27	48	0.3	10	8.5	58	0.3
28-31	94	0.5	9	7.7	103	0.6
32-36	1,010	5.6	13	11.1	1,023	5.6
37-41	16,871	93.4	12	10.3	16,883	92.8
42+	27	0.1	0	0	27	0.1
Unknown	<5	<0.1	0	0.00	<5	<0.1
Total	18,071	100	117	100	18,188	100.0

4.9 Birthweight

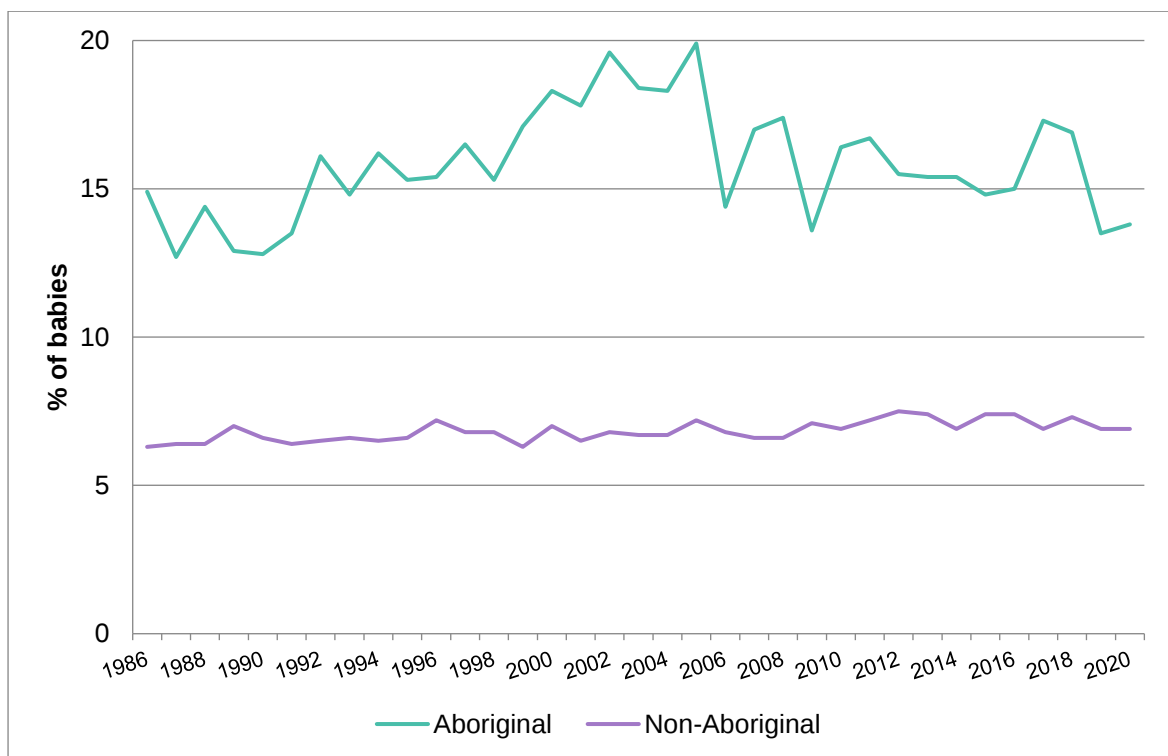
The distribution of birthweight for all births in South Australia is presented in Table 50. The percentage of low birthweight babies (<2,500g) was 7.2%, and that of very low birthweight babies (<1,500g) was 1.4%. The mean birthweight was 3,315g (SD 597g), with birthweights ranging from 190g to 5,850g. The proportion of low birthweight babies was 13.8% among babies of Aboriginal women compared with 6.9% among babies of non-Aboriginal women. Among liveborn babies and excluding terminations of pregnancy, these proportions were 12.6% and 6.4% respectively.

Table 50: Birthweight distribution of all births, South Australia, 2020

Birthweight (grams)	Maternal Aboriginal status					
	Non-Aboriginal		Aboriginal		Total	
	Number	%	Number	%	Number	%
<400	35	0.2	7	0.9	42	0.2
400-499	35	0.2	<5	0.1	36	0.2
500-749	35	0.2	5	0.6	40	0.2
750-999	29	0.2	<5	0.5	33	0.2
1,000-1,499	109	0.6	12	1.5	121	0.6
1,500-1,999	225	1.3	31	4.0	256	1.4
2,000-2,499	772	4.3	47	6.1	819	4.4
2,500-2,999	2,821	15.7	169	21.8	2,990	16.0
3,000-3,499	6,819	38.0	233	30.0	7,052	37.6
3,500-3,999	5,429	30.2	194	25.0	5,623	30.0
4,000-4,499	1,474	8.2	58	7.5	1,532	8.2
4,500+	178	1.0	15	1.9	193	1.0
Unknown	<5	<0.1	0	0.0	<5	<0.1
Total	17,962	100.0	776	100.0	18,738	100.0

The proportion of infants 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 6.9% in 2020 (Figure 9). The proportion of infants with low birthweight born to Aboriginal women has fluctuated over time, with an increasing trend from 12.7% in 1987 to a peak of 19.9% in 2005, before declining to 13.5% in 2019. In 2020 this proportion was 13.8%.

Figure 9: Proportion of low birthweight babies by maternal Aboriginal status, all births, 1986-2020



4.10 Birthweight, plurality and gestational age

A comparison of multiple births with singletons shows that 56.5% multiple births were of low birthweight compared with only 5.7% for singleton (Table 51). Among singleton births, only 2.1% of infants with gestational age 37 weeks or over were lower birthweight, but this proportion was 42.7% for infants with gestational age of 32-36 weeks (Table 52).

Table 51: Birthweight by plurality, all births, South Australia, 2020

Birthweight (grams)	Singleton births		Multiple births	
	Number	%	Number	%
<400	42	0.2	0	0.0
400-499	35	0.2	<5	0.2
500-749	37	0.2	<5	0.5
750-999	30	0.2	<5	0.5
1,000-1,499	88	0.5	33	6.0
1,500-1,999	171	0.9	85	15.5
2,000-2,499	633	3.5	186	33.8
2,500-2,999	2,812	15.5	178	32.4
3,000-3,499	6,993	38.4	59	10.7
3,500-3,999	5,621	30.9	<5	0.4
4,000-4,499	1,532	8.4	0	0.0
4,500+	193	1.1	0	0.0
Unknown	<5	<0.1	0	0.0
Total	18,188	100.0	550	100.0

Table 52: Birthweight by gestation for singleton infants¹ born in South Australia, 2020

Birthweight (grams)	Gestation (weeks)									
	20-27		28-31		32-36		37-43		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
<1000	132	89.2	12	11.7	0	0.0	0	0.0	144	0.8
1000-1499	15	10.1	55	53.4	18	1.8	0	0.0	88	0.5
1500-1999	<5	0.7	34	33.0	115	11.2	21	0.1	171	0.9
2000-2499	0	0.0	<5	1.9	304	29.7	326	1.9	632	3.5
2500-2999	0	0.0	0	0.0	363	35.5	2,448	14.5	2,811	15.5
3000-3499	0	0.0	0	0.0	177	17.3	6,815	40.3	6,992	38.5
3500-3999	0	0.0	0	0.0	37	3.6	5,584	33.0	5,621	30.9
4000-4499	0	0.0	0	0.0	8	0.8	1,524	9.0	1,532	8.4
≥4500	0	0.0	0	0.0	<5	0.1	192	1.1	193	1.1
Total	148	100.0	103	100.0	1,023	100.0	16,910	100.0	18,184	100.0

¹Excludes singleton infants with unknown birthweight or gestational age (n=4)

4.11 Apgar scores

The Apgar score is a method to summarise the health of a newborn infant. It is determined by evaluating the infant'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. For all liveborn infants with an Apgar score reported one minute after birth, 90.1% had a score of 7-10 and 1.8% had a score less than 4 (Table 53). For liveborn infants with an Apgar score reported at five minutes, 97.6% had an Apgar score of 7-10 and only 0.2% had an Apgar score less than 4. Among all liveborn infants with an Apgar score reported one minute after birth, 91.9% established spontaneous respirations within the first minute of life.

Table 53: Apgar scores¹ at one and five minutes after birth for infants born alive, South Australia, 2020

Apgar Score	1 min after birth		5 min after birth	
	Number	%	Number	%
0-3	328	1.8	46	0.2
4-6	1,391	7.4	260	1.4
7-10	16,881	90.1	18,296	97.6
Total	18,600	99.3	18,602	99.3

¹ Excludes infants with missing Apgar score reported one minute (n=19) or five minutes (n=17) after birth

4.12 Infant resuscitation

Multiple methods of infant resuscitation can be reported for each infant on the SBR. Among all liveborn infants, 15.3% received some form of resuscitation (Table 54). In 2020, 8.4% of liveborn infants received one type of resuscitation, 4.7% received two types, 1.8% received three types and 0.3% received four types of resuscitation methods. Other resuscitation methods may include medications such as adrenaline or intravenous therapy.

Table 54: Resuscitation received by infants born alive in South Australia, 2020

Method of resuscitation ¹	Liveborn infants (n=18,619)	
	Number	%
None	15,764	84.7
IPPV - bag and mask	1,606	8.6
Oxygen therapy	1,118	6.0
CPAP	950	5.1
Aspiration	757	4.1
IPPV - intubation	125	0.7
Other	71	0.4
External cardiac massage	24	0.1
Narcotic antagonist	7	0.0
Sodium bicarbonate	2	0.0

¹ Multiple methods of resuscitation may be reported.

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

4.13 Birth injuries

Birth injuries were reported in 2.3% of liveborn infants in 2020 (n=295). The most common injury reported was injury to scalp (0.6%) (Table 55). More than one birth injury can be reported per infant.

Table 55: Birth injuries among liveborn infants, South Australia, 2020

Birth injury ¹	Liveborn infants (n=18,619)	
	Number	%
None	18,185	97.7
Injury to scalp	120	0.6
Subdural and cerebral haemorrhage	66	0.4
Severe birth asphyxia and unspecified birth asphyxia	53	0.3
Nerve injury	45	0.2
Fracture	17	0.1
Dislocation	<5	<0.1
Other	189	1.0

¹ multiple birth injuries may be reported per infant

4.14 Congenital anomalies

Among the 18,738 births in 2020 there were 488 births (2.6%) notified with congenital anomalies either at birth or in the neonatal period, a similar proportion to 2019 (2.9%). 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 56 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 56: Selected congenital anomalies, South Australia, 2010-2020

Congenital Anomaly	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	20,343	20,663	20,262	20,747	20,154	20,067	19,486	19,332	19,173	18,738
Anencephalus	2	2	2	1	1	0	1	1	0	2
Spina bifida	3	4	7	6	9	5	7	8	6	8
Encephalocele	0	1	2	2	0	1	1	2	0	1
Hydrocephalus	4	10	13	12	10	9	2	3	5	8
Cleft palate	8	13	12	13	17	10	9	17	11	13
Cleft lip and palate	11	12	14	16	14	20	17	19	11	13
Tracheo-oesophageal fistula, oesophageal atresia and stenosis	4	5	7	8	10	4	1	2	6	6
Atresia and stenosis of large intestine, rectum and anal canal	7	3	8	5	2	10	7	8	12	3
Hypospadias and epispadias	36	32	44	42	32	28	45	56	35	39
Renal agenesis and dysgenesis	11	8	7	5	12	16	12	12	15	9
Limb reduction defects	7	13	17	10	10	17	10	10	6	8
Anomalies of diaphragm	4	1	8	8	4	13	11	7	7	10
Anomalies of abdominal wall	12	13	8	17	12	10	12	8	16	7
Trisomy 21	6	16	17	15	13	18	14	26	13	14

4.15 Treatment given in neonatal period

The proportions of live births that received specified treatments in the neonatal period are provided in Table 57. In some cases more than one treatment was given. The most common treatments in the neonatal period were intravenous therapies (11.0%) and gavage feeding (7.7%).

Table 57: Neonatal treatment given, all live births, South Australia, 2020

Neonatal treatment ¹	Number	% of live births (n=18,619)
None	15,495	83.2
Any intravenous therapy	2,045	11.0
Gavage feeding more than once	1,440	7.7
Phototherapy for jaundice	1,351	7.3
Oxygen therapy for more than 4 hours	1,113	6.0

¹ Multiple neonatal treatments may be reported

4.16 Level of neonatal care utilised

Table 58 outlines the neonatal levels of care utilised in 2020, as defined in the Standards for Maternal and Neonatal Services policy document³. In 2020, 80.6% of neonates utilised Level 1-3 care only. Level 4-5 care was used by 18.9% 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 2.9% of neonates. As would be expected, with decreasing birthweight, an increasing percentage of babies required higher level care.

Table 58: Level of nursery care by birthweight, all live births¹, South Australia, 2020

Level of care utilised	Birthweight (grams)							
	<1,500		1,500-2,499		2,500+		Total	
	Number (n=181)	% of care	Number (n=1,064)	% of care	Number (n=17,374)	% of care	Number (n=18,619)	% of care
Well baby care (level 1-3)	0	0.0	249	23.4	14,760	85.0	15,009	80.6
Nursery/special care (level 4-5)	164	90.6	808	75.9	2,548	14.7	3,520	18.9
Neonatal intensive care/Paediatric intensive care unit FMC/WCH (level 6)	152	84.0	148	13.9	233	1.3	533	2.9

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

4.17 Perinatal outcome

The proportion of live births in hospital at 28 days was 17.8% for multiple births compared with 1.7% for singletons (Table 59). The proportion of combined stillbirth and neonatal deaths were 0.8% for singletons, and 0.7% for multiple births. The proportion of live births in hospital at 28 days was also higher in babies born to Aboriginal women (5.8%) compared to non-Aboriginal women (2.0%, Table 60). This may be due to the higher proportion of low birthweight babies born to Aboriginal women.

Table 59: Perinatal outcome by plurality, all births, South Australia, 2020

Perinatal outcome	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
Stillbirth	117	0.6	2	0.4	119	0.6
Discharged within 28 days	17,745	97.6	448	81.5	18,193	97.1
In hospital at 28 days	303	1.7	98	17.8	401	2.1
Neonatal death	23	0.1	2	0.4	25	0.1
Total	18,188	100.0	550	100.0	18,738	100.0

Table 60: Perinatal outcome by Aboriginal status of mother, all births, South Australia, 2020

Perinatal Outcome	Aboriginal		Non-Aboriginal		Total	
	Number	%	Number	%	Number	%
Stillbirth	13	1.7	106	0.6	119	0.6
Discharged within 28 days	714	92.0	17,479	97.3	18,193	97.1
In hospital at 28 days	45	5.8	356	2.0	401	2.1
Neonatal death	4	0.5	21	0.1	25	0.1
Total	776	100.0	17,962	100.0	18,738	100.0

4.18 Length of stay of live born babies

Table 61 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 4.1 days (SD 9.3) and the median duration was 2 days. The mean duration was 2.7 days (SD 3.4) for term births, 19.8 days (SD 25.1) for preterm births, while the median durations were 2 and 11 days respectively.

Table 61: Length of stay of liveborn babies in hospital¹, South Australia, 2020

Length of stay (days)	Preterm births		Term births		Total	
	Number	%	Number	%	Number	%
<1	17	1.1	1,300	7.7	1,319	7.2
1	59	3.8	4,671	27.7	4,726	25.7
2	80	5.1	3,994	23.7	4,071	22.1
3	95	6.1	2,607	15.5	2,702	14.7
4	102	6.5	2,083	12.4	2,185	11.9
5	133	8.5	1,401	8.3	1,534	8.3
6	95	6.1	306	1.8	401	2.2
7-13	297	19.1	315	1.9	612	3.3
14-20	210	13.5	91	0.5	301	1.6
21-27	133	8.5	28	0.2	161	0.9
28 or more	337	21.6	44	0.3	381	2.1
Total	1,558	100.0	16,840	100.0	18,398	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 2020 was 7.7 per 1,000 births. The stillbirth rate was 6.4 per 1,000 births and the neonatal mortality rate was 1.3 per 1,000 live births.

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

Terminations of Pregnancy

In 2020, there were 4,662 terminations of pregnancy recorded, compared with 4,462 terminations in 2019. In 2020, the termination rate was 13.9 per 1,000 women aged 15-44 years, an increase from 2019 (13.4 per 1,000 women). In 2020, 95.8% of terminations were performed in metropolitan public hospitals, including the Pregnancy Advisory Centre, and 16.3% were performed by medical practitioners in family advisory clinics.

The majority (93.5%) of terminations were performed within the first 14 weeks of pregnancy and 1.8% were performed at or after 20 weeks gestation. Of the terminations performed at or after 20 weeks gestation; 60.2% were for congenital anomalies and 32.5% were for the mental health of the woman.

For more detailed data regarding terminations of pregnancy, refer to the 2020 South Australian Abortion Committee report here: <https://www.wellbeingsa.sa.gov.au/evidence-data/pregnancy-outcome-statistics>

Obstetric Profiles by Hospital Category

Obstetric profiles for 2020 for the three major metropolitan public hospitals and an additional three hospital categories are provided in Table 62. 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 and Port Augusta)
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 62 the mean (number of women who gave birth or births) relates to the 19 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 Healthcare Adelaide
7. North Eastern Community Hospital
8. Mount Gambier & District Health Service
9. Port Augusta Hospital & Regional Health Service
10. Gawler Health Service
11. Mount Barker District Soldiers' Memorial Hospital
12. Port Lincoln Health Service
13. Murray Bridge Soldiers' Memorial Hospital
14. Whyalla Hospital & Health Services
15. Riverland General Hospital (Berri)
16. Port Pirie Regional Health Service
17. Naracoorte Health Service
18. South Coast District Health Service
19. Wallaroo Hospital and Health Service
20. Country hospitals with <100 births per year

Table 62: Obstetric profiles by hospital category, South Australia, 2020

Factors	All state hospitals ¹	Metropolitan hospitals ³		Country hospitals ³	
	Mean	SA Public Teaching	Private	Level 4:4	Other
Maternal factors					
Women (n=18,340)		11,403	3,537	732	2,668
% Aboriginal women	4.2	4.4	0.5	15.0	5.1
% Antenatal visits <7 ²	16.4	24.1	1.2	10.1	5.2
% Teenage women	1.9	2.0	0.1	3.8	3.1
% Women ≥ 35 years	23.8	22.7	35.9	13.4	15.4
% 4+ prior live births	2.9	3.4	0.3	6.1	3.2
% 1+ prior perinatal deaths	1.4	1.7	0.5	3.0	0.9
% Obstetric complications	58.4	65.5	44.7	57.0	46.9
% Labour complications	54.5	62.7	32.0	48.6	50.9
% Induction	38.9	41.2	38.2	33.7	31.6
% Emergency caesarean	19.1	19.6	18.9	13.7	18.6
% Elective caesarean	18.0	15.3	29.1	19.4	14.4
% Any caesarean	37.1	34.9	48.1	33.1	33.0
% Ultrasound examination ²	97.8	98.1	96.3	98.2	98.3
% Amniocentesis ²	1.3	1.6	1.3	0.3	0.6
% Episiotomy	17.0	20.4	13.7	11.9	8.5
% Repair of perineal tear	28.4	29.5	27.9	18.0	27.1
% Epidural analgesia	35.0	36.6	38.2	27.6	26.0
% Private patients	23.0	4.4	100.0	10.9	3.8
% Primiparous women	43.4	43.8	47.6	36.7	38.2
% Previous caesarean	19.0	18.2	22.4	22.1	17.3
% PPH ⁴	30.1	34.0	18.0	29.2	29.8
Baby factors					
Births (n=18,617)	931	11,614	3,593	741	2,669
% Birthweight <2,500g	7.2	9.1	5.4	6.1	1.8
% Gestational age <37 weeks at birth	9.0	11.0	7.8	8.9	1.9
% Prolonged hospitalisation (>27 days)	2.2	2.9	1.1	1.1	0.5
% Neonatal intensive care (Level 6 or W&CH paediatric intensive care)	2.9	4.4	0.9	1.2	1.0
% Birth defect	2.6	3.5	0.8	1.3	1.7

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 2020. The core maternity indicators are also reported for individual hospitals in the Pregnancy and Neonatal Care Bulletins for 2020. 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=1,403)

Denominator: The total number of women who gave birth (n=18,340)

Indicator A1a 7.6% (95% CI 7.3% - 8.0%)

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= 1184)

Denominator: The number of women who gave birth who reported smoking tobacco at any time in the pregnancy (n= 1,403)

Indicator A1b 84.4% (95% CI 82.4% – 86.2%)

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 A2: Antenatal care in the first trimester for all women giving birth

Numerator: The number of women who had their first antenatal visit before 14 weeks gestation and went on to give birth (n=15,406)

Denominator: The number of all women who gave birth (n=18,340)

Indicator A2 84.0% (95% CI 83.5% - 84.5%)

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=2,433)

Denominator: All selected primiparae (n=4,981)

Indicator B1 48.8% (95% CI 47.5% - 50.2%)

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=2,271)

Denominator: All selected primiparae (n=4,981)

Indicator B2 45.6% (95% CI 44.2% - 47.0%)

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=1,194)

Denominator: All selected primiparae (n=4,981)

Indicator B3 24.0% (95% CI 22.8% - 25.2%)

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=892)

Denominator: The number of women having their first baby who gave birth vaginally without instruments (n=3,280)

Indicator B4a 27.2% (95% CI 25.7% - 28.7%)

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=1,404)

Denominator: The number of women having their first baby who gave birth vaginally with instruments (n=1,691)

Indicator B4b 83.0% (95% CI 81.2% - 84.8%)

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=1,516)

Denominator: All selected primiparae (n=4,995)

Indicator B5 30.4% (95% CI 29.1% - 31.6%)

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=276)

Denominator: The number of women having their second birth whose first birth was by caesarean section (n=2,189)

Indicator B6 12.6% (95% CI 11.3% - 14.0%)

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=335)

Denominator: The total number of women who gave birth by caesarean section (n=6,796)

Indicator B7 4.9% (95% CI 4.4% - 5.5%)

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=250)

Denominator: The number of women who gave birth for the first time and had a vaginal birth (n=4,990)

Indicator C1a 5.0% (95% CI 4.4% - 5.6%)

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=329)

Denominator: The number of women who gave birth vaginally (n=11,665)

Indicator C1b 2.8% (95% CI 2.5% - 3.1%)

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

Description: The proportion of liveborn term infants 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=228)

Denominator: The number of live babies born at term (n=17,044)

Indicator C2 1.3% (95% CI 1.2% - 1.5%)

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=57)

Denominator: The total number of babies born at or after 40 weeks (n=4,781)

Indicator C3 1.2% (95% CI 0.9% - 1.5%)

Key Statistics and Trends 2011 - 2020

Perinatal statistics are presented in Table 63 and Table 64 for both socio-demographic and obstetric aspects for each year from 2011-2020, and for 1986, when the perinatal data collection was commenced. The trends noted are as follows:

- 1 The total fertility rate was 1.59 live births per woman in 2020, 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 4.1% in 2020.
- 3 The proportion of teenage women giving birth decreased from 6.2% in 1986 to 1.8% in 2020. 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 23.8% in 2020. Amongst primiparous women, the proportion aged 35 years or older in 1986 was 2.9%, and in 2020 was 15.4%. The mean age among women giving birth increased from 26.9 years in 1986 to a peak of 30.7 in 2020. The mean age among primiparous women increased from 25.0 years in 1986 to 29.3 in 2020.
- 5 The proportion of multiple births has been relatively stable since 2011 and in 2020 this proportion was 2.9% of all births.
- 6 The induction of labour rate increased from 31.1% in 2011 to 38.7% in 2020.
- 7 The proportion of normal spontaneous vaginal births decreased from 54.7% in 2011 to 51.5% in 2020. The proportion of caesarean section births has increased gradually but steadily in the past decade and reached 36.8% in 2020. The proportion of breech and ventouse births were stable in the past decade and were 0.2% and 5.5% respectively in 2020.
- 8 There have been minor fluctuations in the proportion of low birthweight births (<2,500 grams) over the past decade, and the proportion in 2010 was 7.2%. The proportion of preterm births was 9.0% in 2020.
- 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 2.6% in 2020.
- 10 In the past decade, the proportion of babies utilising Nursery or special care (level 4-5) increased from 16.1% in 2011 to a peak of 19.7% in 2019. In 2020 the proportion was 18.9%. There have been minor fluctuations over the past decade in the proportion of births using neonatal or paediatric intensive care (level 6) and in 2020 it was 2.9%. The proportion of infants in hospital at 28 days after birth has been relatively stable over the past decade.

Table 63: Socio-demographic aspects of perinatal statistics, South Australia, 1986 and 2011 – 2020

Characteristic	Year										
	1986	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total births	19,799	20,343	20,663	20,262	20,747	20,154	20,067	19,485	19,332	19,173	18,738
Live births	19,650	20,191	20,525	20,124	20,602	20,001	19,931	19,356	19,198	19,062	18,619
Women who gave birth	19,562	20,042	20,335	19,924	20,446	19,818	19,763	19,195	19,043	18,879	18,461
Total fertility rate per woman	1.75	1.89	1.91	1.85	1.87	1.79	1.77	1.71	1.68	1.65	1.59
Place of birth (%)											
Teaching hospital	45.4	55.7	57.1	57.3	58	59.7	60.4	61.4	61.8	62.8	62.0
Private hospital	15.1	24.2	23.3	22.8	22.5	21.5	20.7	19.9	19.2	19.1	19.2
Country hospital	39.1	19.7	19.2	19.3	19.1	18.3	18.4	18.3	18.5	17.6	18.2
Domiciliary	0.4	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.6
Aboriginal status											
<i>Aboriginal, %</i>	1.7	3.1	3.2	3.6	3.5	3.6	3.8	3.8	3.9	4.0	4.1
<i>N of women who gave birth</i>	334	630	653	715	711	716	751	736	735	749	765
<i>N of births to Aboriginal women</i>	335	640	660	727	719	730	760	748	748	766	776
<i>N of babies identified as Aboriginal</i>			901	960	954	1,003	1,032	962	1023	1077	1,121
Age											
Mean age (yrs)	26.9	29.7	29.7	29.8	30.0	30.1	30.3	30.4	30.4	30.6	30.7
Teenage (%)	6.2	4	3.9	3.4	3.1	2.8	2.4	2.1	1.9	1.6	1.8
≥35 years (%)	6.5	20.6	20.4	19.8	20.6	20.3	21.3	21.8	22.5	23.1	23.8
Primiparae											
Mean age (yrs)	25	27.9	27.9	28.2	28.4	28.5	28.7	28.8	28.9	29.1	29.3
Teenage (%)	12.6	7.8	7.8	6.7	6.3	5.6	4.6	4.2	3.9	3.3	3.8
≥35 years (%)	2.9	12	11.7	12.4	12.9	12.5	12.5	13.7	14.3	14.9	15.4

Table 64: Obstetric aspects of perinatal statistics, South Australia, 1986 and 2011 – 2020

Characteristic	Year										
	1986	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Plurality											
Multiple births, %	2.4	2.9	3.2	3.3	2.9	3.3	3.0	3.0	3.0	3.1	2.9
Twins, number	450	586	636	640	574	648	592	568	574	580	538
Triplets, number	18	12	15	27	21	18	12	9	3.0	6	12
Quadruplets, number											
Induction of labour (%)	23.3	31.1	30.9	32.5	32.2	32.5	34	35.9	37.4	37.5	38.7
Method of birth, %											
Normal spontaneous	63.3	54.7	54.2	53.9	54.1	53.1	52.7	53.2	53.1	52.9	51.5
Elective caesarean	9	16	15.9	16.2	16.6	17.2	17.3	16.8	16.7	17.6	17.8
Emergency caesarean	9.9	17.2	17.9	17.8	17.3	17.8	17.8	18.1	18.5	17.7	19
Forceps	14.9	5.7	5.5	5.6	5.3	5.6	5.7	5.9	5.6	5.6	5.9
Breech	0.1	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Ventouse	1.9	5.9	6	5.9	6.3	5.9	6.1	5.7	5.7	5.8	5.5
Total caesarean	19	33.2	33.8	34	33.9	35.1	35.1	34.8	35.2	35.3	36.8
Birthweight <2,500 g, %	6.5	7.5	7.7	7.7	7.1	7.6	7.7	7.3	7.7	7.2	7.2
Singletons	5.4	6.2	6.1	5.8	5.7	5.9	6	5.7	6.1	5.6	5.7
Multiples	52.1	52	56.8	63	57.3	59.8	63.1	58.9	58.2	57.8	56.5
Gestational age <37 wks, %	6.4	9.2	9.4	9.8	9.2	9.6	9.5	9.6	9.7	9.0	9.0
Singletons	5.5	7.6	7.6	7.7	7.5	7.6	7.5	7.6	7.7	6.9	7.0
Multiples	44.4	61.7	64.7	70.9	69.1	69.4	74.5	75	76.4	76.8	73.5
Congenital abnormalities, %	2.8	2.3	2.3	2.8	2.7	2.6	2.6	2.7	2.8	2.9	2.6
Level of perinatal care utilised, %											
Nursery/special care (L4-5)	9.5	16.1	15.4	16.4	15.8	16.8	17.2	17.6	17.9	19.7	18.9
Neonatal intensive care/ Paediatric intensive care unit FMCH/WCH (L6)	3.1	2.8	2.7	2.9	2.7	3	3.3	3.3	3.0	3.5	2.9
Hospitalisation for 28 days or more, %	1.8	2.1	2.4	2.4	2.1	2.1	2.1	2	2.0	2.2	2.1
Neonatal deaths, number	85	41	46	45	39	35	39	47	43	27	25
Stillbirths, number	149	152	138	138	145	153	136	129	134	111	119
Perinatal deaths, number	234	193	184	183	184	188	175	176	177	138	144
Perinatal mortality rate per 1,000 births											
≥400g / 20 wks	11.8	9.5	8.9	9	8.9	9.3	8.7	9	9.2	7.2	7.7
≥500g / 22 wks	11.4	7.1	6	6.4	6	6.4	6.2	5.9	7.4	5.3	4.8
≥1000g / 28 wks	7.4	3.8	2.7	3.4	2.8	3.4	3.3	2.9	3.9	2.9	2.7

Summary Statistics for 2020

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

1. Number of births

Notified births with Supplementary Birth Records: 18,738

Notified women who gave birth on SBRs: 18,461

Crude birth rate: 10.6 live births per 1,000 population

Total fertility rate: 1.59 live births per woman

2. Place of birth

Home births: 119 home births in all (0.6%), of which 118 were planned home births

Metropolitan teaching hospitals: 11,614 (62.0%)

Metropolitan private hospitals: 3,593 (19.2%)

Country hospitals: 3,412 (18.2%)

3. Sex of babies

Males 9,560 (51.0%)

Females 9,176 (49.0%)

Male: Female sex ratio 1.04:1

4. Plurality

Singleton 18,188 (97.1%)

Twin 538 (2.9%)

Triplet 12 (0.1%)

5. Aboriginal status of women

Non-Aboriginal 17,696 (95.9%)

Aboriginal 765 (4.1%)

6. Obstetric interventions

Induction of labour: 7,142 (38.7% of women)

Augmentation of labour: 2,656 (14.4% of women)

Forceps: 1,086 (5.9%)

Ventouse: 1,014 (5.5%)

Episiotomy: 3,117 (26.7% of women who gave birth vaginally)

Caesarean section: 6,796 (36.8%)

Elective caesarean section: 3,295 (17.8%)

Emergency caesarean section: 3,501 (19.0%)

7. Low birthweight (<2,500 g)

Number of all births of low birthweight =1,347 (7.2% of all births)

Number of singleton births of low birthweight =1,036 (5.7% of singleton births)

Number of multiple births of low birthweight =311 (56.5% of multiple births)

8. Congenital anomalies

Births notified with congenital anomalies: 488 (2.6%)

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 2020 was 7.7 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 infant. It is determined by evaluating the infant'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 56 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 infant 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.



References

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

Appendix 1

Government of South Australia
SA Health

2020 SUPPLEMENTARY BIRTH RECORD
FOR COMPLETION BY MIDWIVES AND NEONATAL NURSES

22000001

Mother's name (Surname) (Given names) Hospital/Place of birth
 Child's surname (if different) (Given name - if known) Mother's Case Record Number
 Mother's address Plurality ☐ single ☐ twin ☐ triplet ☐ quad
 Postcode Please return top copy to:
 Pregnancy Outcome Unit, PO Box 8
 Rundle Mall, Adelaide SA 5000
 For multiple births, complete a separate baby form for each baby.

PERSONAL INFORMATION ABOVE THIS LINE IS CONFIDENTIAL

MOTHER DETAILS

1 Mother's date of birth
 day month year
 2 Ethnicity of Mother
☐ Caucasian ☐ TSI
☐ Asian ☐ Aboriginal and TSI
☐ Aboriginal ☐ Other
 3 Country of birth
 4 Type of patient
☐ Public/Hospital ☐ Private
 5 Marital status
☐ Never married ☐ Married/De facto
☐ Widowed ☐ Divorced
☐ Separated
 6 Baby's father occupation
 Baby's mother occupation

PREVIOUS PREGNANCY OUTCOMES

7 Number of previous pregnancies
 8 Number of previous pregnancies resulting in births ≥20 weeks
 9 Number of previous outcomes
 Single Multiple
 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
 day 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, including 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 ☐ Declined
 19 Date whooping cough (pertussis) vaccination administered
 day month year ☐ Declined
 20 Tobacco smoking during first 20 weeks of pregnancy
☐ Y ☐ N ☐ Not stated
 If yes, average number of tobacco cigarettes per day
☐ ≤1 (occasional) ☐ Not stated
 21 Tobacco smoking after 20 weeks of pregnancy
☐ Y ☐ N ☐ Not stated
 If yes, average number of tobacco cigarettes per day
☐ ≤1 (occasional) ☐ Not stated
 22 Alcohol consumption during first 20 weeks of pregnancy
☐ Never ☐ 2-3 times per week
☐ Monthly or less ☐ ≥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 ☐ ≥4 times per week
☐ 2-4 times per month ☐ Not stated
 If yes, average number of standard drinks consumed when drinking
 24 Medical conditions present in this pregnancy
☐ None ☐ Type 1 diabetes
☐ Anaemia ☐ Type 2 diabetes
☐ Urinary tract infection ☐ Epilepsy
☐ Essential hypertension ☐ Asthma
☐ GBS+
☐ Other (specify)
 25 Obstetric complications
☐ None
☐ Threatened miscarriage
☐ Abruption (with haemorrhage)
☐ Placenta praevia (with haemorrhage)
☐ Antepartum haemorrhage (other)
☐ Gestational hypertension
☐ Pre-eclampsia
☐ IUGR (inc suspected)
☐ Gestational diabetes
☐ Other (specify)
 26 Date of admission prior to birth
 day month year
 27 Procedures performed in this pregnancy
☐ NIFT (Hemion)
☐ 1st trimester screen (IUS & biochem)
☐ 2nd trimester screen (biochem only)
☐ Ultrasound dating scan
☐ Ultrasound morphology scan
☐ Other ultrasound scan
☐ Amniocentesis
☐ Chorion villus biopsy
☐ Antenatal fetal blood sampling
☐ Other surgical procedures (specify)

LABOUR & BIRTH

28 Onset of labour
☐ Spontaneous
☐ No labour (CS)
☐ Induction (including 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)
☐ Other (specify)
 29 Methods of Induction/Augmentation
☐ ARM
☐ Oxytocin
☐ Prostaglandins eg. misoprostol/cervidil
☐ Mechanical dilation eg. Balloon/Cook
☐ Antiprostaglandin eg. Mifepristone
☐ 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:
☐ Ventouse
☐ Breech extraction
☐ Breech spontaneous
☐ Assisted breech (with forceps to head)
☐ Unknown
 32 Complications of labour and delivery
☐ None
☐ PPV primary ≥ 500 ml specify ml
☐ Thrombocytopenia
☐ Fetal distress
☐ Retained placenta
☐ Prolonged labour (> 18 hrs)
☐ Cord prolapse
☐ Wound infection
☐ Failure to progress (specify)
☐ Other (specify)
 33 Perineal status after birth
 Tuck firm, repair & episiotomy if all
☐ Intact
☐ 1st Degree tearing/anal fissure
☐ 2nd Degree tear
☐ 3rd Degree tear
☐ 4th Degree tear
☐ Repair of tear
☐ Episiotomy
☐ Not stated
 34 CTG performed during labour
☐ None ☐ External ☐ Scalp clip
 35 Fetal scalp pH taken during labour
☐ No ☐ Yes
 36 Analgesia to relieve labour pain
☐ None
☐ Nitrous oxide and oxygen
☐ Narcotic (parenteral)
☐ Epidural (lumbar/caudal)
☐ Spinal
☐ Other (ie TEN6) specify
☐ Combined spinal-epidural
☐ Not stated
 37 Anaesthesia for operative or instrumental delivery
☐ None
☐ Local anaesthesia to perineum
☐ Pudendal
☐ Epidural (lumbar/caudal)
☐ Spinal
☐ General anaesthesia
☐ Other (specify)
☐ Combined spinal-epidural
☐ Not stated
 38 Outcome of Mother
☐ Discharged home
☐ Transferred to
☐ Died
 39 Mother final discharge date/death
 day month year

BABY 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, including birth centre
☐ Birth centre
☐ Home
☐ Other (inc BSA)
 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
 9 Apgar Score 1 minute
 5 minute
 10 Time to establish regular breathing to nearest minute
 11 Resuscitation at birth
☐ None
☐ Suction/exsufflation
☐ 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 ☐ Central haemorrhage
☐ Fracture ☐ Scalp injury
☐ Dislocation ☐ Severe birth asphyxia
☐ Nerve injury ☐ Unspecified birth asphyxia
☐ Other (specify)
 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)
 Number of days
☐ Neonatal ICU (level 6)
 Number of days
☐ Paediatric ICU (level 6)
 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
 day month year
 19 Baby final discharge date/death
 day month year

Appendix 2



Government of South Australia
Department of Health

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

CONGENITAL ABNORMALITY FORM

SBR No.

ACC NO. 2 1

BABY'S SURNAME.....

BABY'S FIRST NAME.....

SEX IF MULTIPLE BIRTH, BIRTH ORDER.....

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

HOSPITAL.....

ADDRESS OF MOTHER.....

FAMILY HISTORY OF CONGENITAL ABNORMALITY Yes No Not known

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

(specify)

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

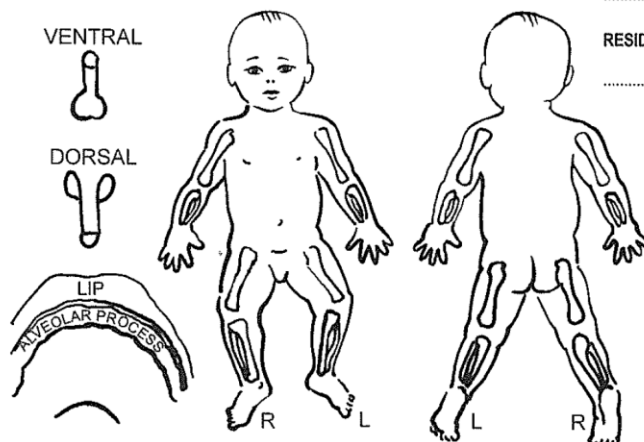
RESIDENCE OF MOTHER DURING THE FIRST 16 WEEKS OF PREGNANCY

EXPOSURE TO TERATOGENS

DURING THE FIRST 16 WEEKS OF PREGNANCY

This information can be provided by the doctor undertaking antenatal care
Yes If yes, details1. 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



GEST =

CONGENITAL ABNORMALITIES / BIRTH DEFECTS PRESENT

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

Office use only

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

(specify)

ADDITIONAL INFORMATION (eg drinking water supply/local epidemics)

PRENATAL DIAGNOSIS

Please tick all tests performed during this 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

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

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