Supporting your state of wellbeing

Pregnancy Outcome

in South Australia 2019

Government of South Australia

Wellbeing SA

Published August 2022

Pregnancy Outcome in South Australia 2019

© Wellbeing SA

ISSN 0819-3835

Suggested citation: Pregnancy Outcome in South Australia 2019. Adelaide: Pregnancy Outcome Unit, Prevention and Population Health Directorate, Wellbeing SA, Government of South Australia, 2022.

Acknowledgements

Joanna Overell	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
Rebecca Nolan	Manager, Data Analysis and Reporting
Helen Thomas	Director, Epidemiology Branch
Professor Katina D'Onise	Executive Director, Prevention and Population Health

We would like to thank the midwives in South Australia who completed the Supplementary Birth Records on which the perinatal data collection is based, the doctors who notified births with congenital anomalies and those who notified terminations of pregnancy.

The Pregnancy Outcome Unit also acknowledges the following organisations for their contribution to the collation of perinatal data statistics in South Australia:

- Genetics and Molecular Pathology Directorate, Women's and Children's Hospital
- Births, Deaths and Marriages, Attorney-General's Department
- State Coroner's Office, Courts Administration Authority of South Australia
- Data Analysis and Reporting Team, Prevention and Population Health Directorate, Wellbeing SA

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

Contents

Tables

Figures

Executive Summary

Number of births and fertility rates
The number of births notified in South Australia in 2019 was 19,173 which was 159 less births than in 2018. The number of women who gave birth was 18,879. The total fertility rate was 1.65 live births per woman, slightly lower than the rate of 1.68 in 2018. When compared with the age-specific fertility rates for 2018, the only slight increase was in the 40-44 year age group.

Aboriginal mothers and babies
Seven hundred and forty-nine Aboriginal women gave birth in South Australia in 2019, accounting for 4.0% of all women who gave birth in the state. In 2019, 9.2% of Aboriginal women who gave birth were teenagers (compared with 1.3% of non-Aboriginal women). The Aboriginal status of the baby was also collected independently of the mother. There were 1,077 Aboriginal babies, representing 5.6% of all babies born in South Australia in 2019.

Of the Aboriginal women for whom week of gestation at the first antenatal visit was reported, 64.4% attended for antenatal care within the first 14 weeks of pregnancy (compared with 83.6% of non-Aboriginal women). Of the Aboriginal women for whom the number of antenatal visits was reported, 69.7% attended at least seven antenatal visits during pregnancy (compared with 83.7% of non-Aboriginal women).

In 2019, at the first antenatal visit, 40.5 % of Aboriginal women reported that they smoked, a decrease from 42.7% in 2018, while in non-Aboriginal women this proportion was 5.9%. In 2019, the proportion of preterm births (<37 weeks gestation) was 15.3% among babies of Aboriginal women compared with 8.8% among babies of non-Aboriginal women. The proportion of low birthweight babies was 13.6% among babies of Aboriginal women compared with 6.9% among babies of non-Aboriginal women.

Age of Women
Three hundred and four teenage women gave birth in 2019; accounting for 1.6% of women who gave birth in South Australia. The proportion of women aged 35 years and over who gave birth increased to 23.1% in 2019, compared with 22.5% in 2018. The mean age of women giving birth has been increasing over the previous decade, and this has peaked in 2019 at 30.6 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
Compared with 2018, the total number of births remained relatively stable at the three metropolitan teaching hospitals (62.8% of all births), and metropolitan private hospitals (19.1% of all births). There were 81 women (0.4%) who gave birth at home, comprising of 73 women who planned a home birth and eight unplanned.

Country of birth
Seventy-two percent of women who gave birth in 2019 were Australian-born. Of women born overseas who gave birth, the largest proportions came from India (5.2%), China (2.4%) and the United Kingdom (2.1%).

Smoking during pregnancy and body mass index
The proportion of women smoking at their first antenatal visit has declined steadily and was 7.3% in 2019. Additionally, 1.7% of women quit smoking before their first antenatal visit.

Statistics on body mass index were available for 91.7% of women who gave birth in 2019. They indicated that 56.9% of these women giving birth were an unhealthy weight. Of the overweight women giving birth, 15.0% were classified as obese and 11.9% severely or morbidly obese.

Antenatal care and length of stay
Eighty-three percent 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 (45.4%), obstetricians in private practice (22.7%) and GP and public hospital shared care (14.6%).

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 97.9% of women who gave birth in 2019. Over a third of all labours were induced (37.5%) and 14.7% of women giving birth had labour augmented. The main reasons for induction of labour were pre-existing diabetes or gestational diabetes (17.9%), maternal choice (13.7%), other obstetric or medical conditions (11.2%), and hypertension (11.2%). Around fourteen percent (14.1%) of inductions of labour were performed for other than defined indications, an increase from 10.0% in 2018. Epidurals, the second most common form of analgesia, was used for pain relief during labour for 33.0% of women. Of women who gave birth vaginally, 32.3% had an episiotomy, an increase from 25.2% in 2018.

Method of birth
In 2019, 52.9% of women had normal spontaneous vaginal births, a further 5.8% were delivered by ventouse and 5.6% were delivered by forceps. The proportion of women giving birth by caesarean section was 35.3%. The main reasons given for caesarean section were previous caesarean section (40.5%), failure to progress in labour (21.7%) and fetal distress (17.3%).

Plurality
In 2019, there were 586 multiple births comprising 580 twins and six 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 2019 was 7.2 per 1,000 births. In 2019, the stillbirth rate was 5.8 per 1,000 births and the neonatal mortality rate was 1.4 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 2019 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 Hospital[1]. 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 are 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. Thirty-five births of less than 400g birthweight have been included. The 19,173 births in South Australia in 2019 comprised of 19,062 live births and 111 stillbirths. The number of women who gave birth was 18,879 (164 fewer women than in 2018). 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. Data relating to Aboriginal mothers and babies have been italicised for easy identification in response to the request of the Aboriginal Health Council of South Australia.

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 2019 for South Australia was 10.9 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, 2019

Mother's residence	Total births		Live births	Estimated resident population+	Crude birth rate per 1,000 population
	Number	Percent	Number	Number	
Adelaide - Central and Hills	2,727	14.2	2,710	305,796	8.9
Adelaide - North	5,996	31.3	5,958	443,074	13.5
Adelaide - South	3,900	20.3	3,887	371,051	10.5
Adelaide - West	2,610	13.6	2,596	239,839	10.9
Barossa	323	1.7	321	37,473	8.6
Eyre Peninsula and South West	682	3.6	678	57,805	11.8
Fleurieu - Kangaroo Island	399	2.1	397	53,435	7.5
Limestone Coast	677	3.5	671	67,092	10.1
Lower North	205	1.1	205	23,085	8.9
Mid North	291	1.5	290	27,634	10.5
Murray and Mallee	662	3.5	657	72,768	9.1
Outback - North and East	319	1.7	316	26,602	12.0
Yorke Peninsula	209	1.1	206	26,309	7.9
Interstate	173	0.9	170		
Total	**19,173**	**100.0**	**19,062**	**1,751,963**	**10.9**

+ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2019. Canberra: ABS, 2019.

1.2 Maternal Aboriginal status

The distribution of women who gave birth, by Aboriginal status is provided in Table 2*. In 2019 there were 749 births to Aboriginal mothers which represented 4.0% of all women. The Aboriginal status of the baby was also collected independently of the mother. There were 1,077 Aboriginal babies, representing 5.6% of all babies born in South Australia in 2019. They comprised 1,026 (95.3%) Aboriginal, 18 (1.7%) Torres Strait Islander and 33 (3.1%) Aboriginal and/or Torres Strait Islander babies.*

Table 2: Aboriginal status of women who gave birth, South Australia, 2019

Aboriginal status	Number of women	% Women
Aboriginal	*749*	*4.0*
Non-Aboriginal	18,130	96.0
Total	**18,879**	**100.0**

1.3 Maternal age

Table 3 shows the age and Aboriginal status of women who gave birth in South Australia in 2019. 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 (36.4%) has exceeded that of the 25-29 years age group (27.8%) since 2001. Teenage women accounted for 1.6% of women who gave birth, and women aged 35 years or more accounted for 23.1%. *Aboriginal women were generally younger than non-Aboriginal women: 9.2% were teenagers and only 10.3% were 35 years or older.*

Table 3: Age and Aboriginal status of women who gave birth, South Australia, 2019

Age Group	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
<20	235	1.3	*69*	*9.2*	304	1.6
20-24	1,847	10.2	*234*	*31.2*	2,081	11.0
25-29	5,033	27.8	*224*	*29.9*	5,257	27.8
30-34	6,736	37.2	*145*	*19.4*	6,881	36.4
35-39	3,504	19.3	*60*	*8.0*	3,564	18.9
40-44	726	4.0	*17*	*2.3*	743	3.9
45+	49	0.3	*0*	*0.0*	49	0.3
Total	**18,130**	**100.0**	***749***	***100.0***	**18,879**	**100.0**

The five year age-specific fertility rate was highest in the 30-34 year age group (117.3 per 1,000 women), followed by the 25-29 year age group (91.7 per 1,000 women, Table 4). When compared with the age-specific fertility rates for 2018, the only slight increase was in the 40-44 year age groups (from 13.2 per 1,000 women in 2018 to 14.4 per 1,000 women in 2019). The general fertility rate (see Methods and Terminology) was 57.3 per 1,000 women aged 15-44 years, which is lower than the general fertility rate in 2018 (58.2 per 1,000 women). The total fertility rate in 2019 was 1.65 live births per woman, which remains below replacement level of 2.1 children per woman[2].

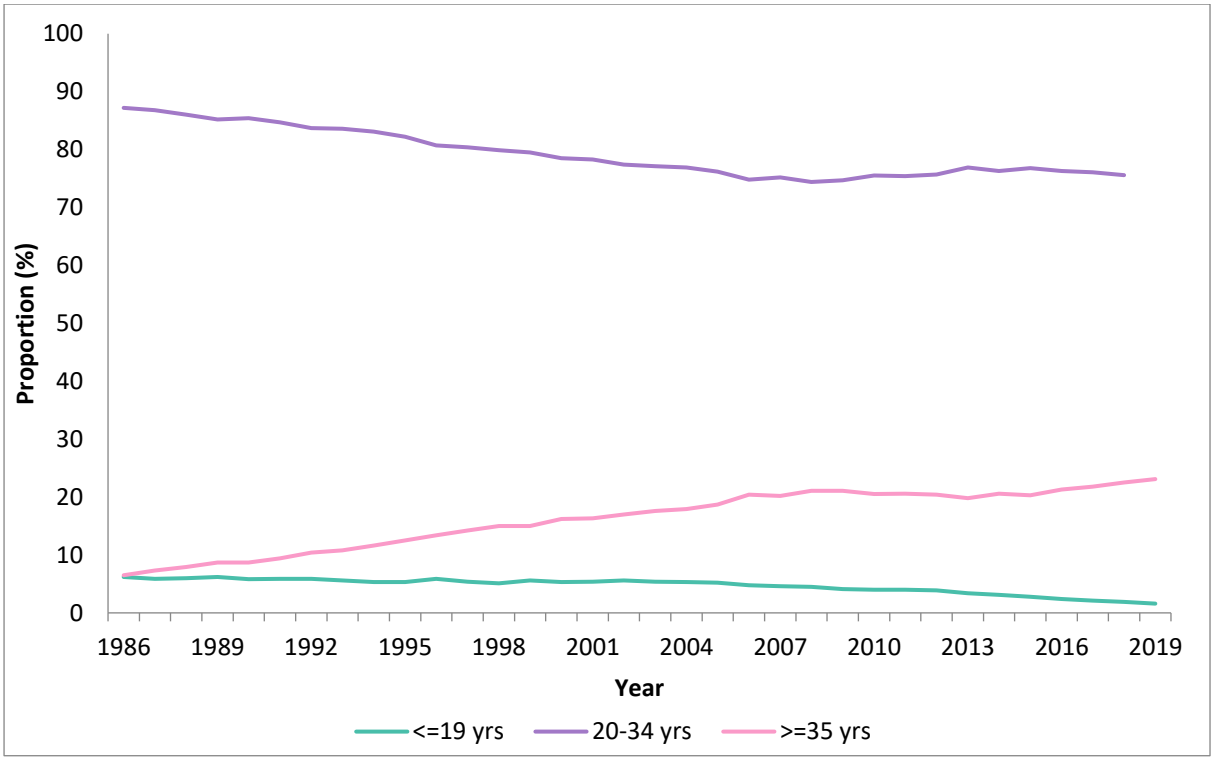
Table 4: Age-specific fertility rates (ASFR), South Australia, 2019

Age group (years)	Number of live births	Estimated resident female population[+]	Age-specific fertility rate per 1,000 women (ASFR)[#‡]
15-19	306	50,057	6.1
20-24	2,080	56,260	37.0
25-29	5,317	57,989	91.7
30-34	6,950	59,265	117.3
35-39	3,604	56,913	63.3
40-44	751	52,088	14.4
45+	54	na	na
Total	**19,062**	**332,572**	**57.3**

+ Australian Bureau of Statistics. Population estimates by age and sex, Regions of South Australia, 2019. Canberra: ABS, 2019
[#] 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 = 329.8 per 1,000 women. Total fertility rate = 329.8 x 5 = 1648.9 live births per 1,000 women = 1.65 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 23.1% in 2019.

Figure 1: Age groups of women who gave birth in South Australia, 1986-2019



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 28.4% of women born outside of Australia, the largest proportions were born in India (5.2%), China (2.4%) and the United Kingdom (2.1%).

Table 5: Country of birth group* for women who gave birth, South Australia, 2019

	Country of birth group	Number	%
1	Oceania	13,674	72.4
2	North-West Europe	533	2.8
3	Southern and Eastern Europe	238	1.3
4	North Africa and Middle East	399	2.1
5	South-East Asia	921	4.9
6	North-East Asia	646	3.4
7	Southern and Central Asia	1,791	9.5
8	Americas	257	1.4
9	Sub-Saharan Africa	405	2.1
	Unknown	15	0.1
	Total	**18,879**	**100.0**

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

Table 6: Specified country of birth[1] for women who gave birth, South Australia, 2019

Specified country of birth	Number	% of women	% of migrant women who gave birth (n=5,366)
Australia	13,513	71.6	
India	990	5.2	18.4
China	453	2.4	8.4
United Kingdom	388	2.1	7.2
Afghanistan	295	1.6	5.5
Philippines	256	1.4	4.8
Vietnam	230	1.2	4.3
Nepal	167	0.9	3.1
Pakistan	158	0.8	2.9
Malaysia	143	0.8	2.7
Sudan	128	0.7	2.4
New Zealand	125	0.7	2.3
Thailand	75	0.4	1.4
South Africa	73	0.4	1.4
Cambodia	71	0.4	1.3
United States of America	71	0.4	1.3
Sri Lanka	66	0.3	1.2
Iran	65	0.3	1.2
Indonesia	63	0.3	1.2
Myanmar	52	0.3	1.0
Republic of South Korea	52	0.3	1.0
Bangladesh	52	0.3	1.0
Japan	50	0.3	0.9
Republic of Congo	50	0.3	0.9
Kenya	50	0.3	0.9
Hong Kong	49	0.3	0.9
Germany	45	0.2	0.8
Canada	45	0.2	0.8
Iraq	44	0.2	0.8
All Other Countries	1,034	5.5	19.5
Unknown	15	0.1	0.3
Total	**18,879**	**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 2019, and fathers is presented in Table 7. The most common occupation type for mothers were professionals (21.2%), home duties (19.0%), and salespersons and personal service workers (16.5%). The most common occupations for fathers were tradespersons (21.3%), professionals (17.0%) and managers and administrators (13.7%).

Table 7: Occupation[1] of father and mother, South Australia, 2019

Occupation	Father		Mother	
	Number	%	Number	%
Managers and administrators	2,581	13.7	1,626	8.6
Professionals	3,207	17.0	4,005	21.2
Para professionals	1,347	7.1	1,668	8.8
Tradespersons	4,012	21.3	610	3.2
Clerks	468	2.5	1,811	9.6
Salespersons and personal service workers	1,194	6.3	3,115	16.5
Plant and machine operators and drivers	1,392	7.4	97	0.5
Labourers and related workers	2,480	13.1	633	3.4
Students	249	1.3	576	3.1
Invalid pensioner	9	0.0	9	0.0
Pensioners	30	0.2	7	0.0
Home duties	86	0.5	3,584	19.0
Unemployed	835	4.4	783	4.1
Other	246	1.3	239	1.3
Unknown	743	3.9	116	0.6
Total	**18,879**	**100.0**	**18,879**	**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 17,675 women (93.6% of all women who gave birth), height and weight were not reported for 358 women (2.0%). Therefore, BMI could only be calculated for 17,317 women who gave birth in 2019 (98.0% of women who attended the first antenatal visit before 20 weeks gestation). Table 8 shows that 56.9% 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, 2019

BMI[1]		Number	%	Adjusted % (excluding unknown n=17,317)
<18.5	underweight	435	2.5	2.5
18.5 – 24.9	normal	7,014	39.7	40.5
25.0 – 29.9	overweight	5,202	29.4	30.0
30.0 – 34.9	obese	2,602	14.7	15.0
35.0 – 39.9	severely obese	1,245	7.0	7.2
>40	morbidly obese	819	4.6	4.7
Unknown		358	2.0	
Total		**17,675**	**100**	**100**

[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 2019, 7.3% of all women were reported to be tobacco smokers at their first antenatal visit, and a further 1.7% had quit smoking before their first visit (Table 9). Smoking status was unknown for 0.7% of women. The proportion of all women smoking during pregnancy has been declining in South Australia, from 25.0% in 1998 to 7.3% in 2019.

The proportion of Aboriginal women who reported that they smoked at the first antenatal visit has decreased from 42.7% in 2018 to 40.5% in 2019. This was considerably higher than the proportion of non-Aboriginal women smoking at first antenatal visit in 2019 (5.9%). Additionally, 3.5% of Aboriginal women reported that they quit smoking in pregnancy prior to their first antenatal visit, compared to 1.6% of non-Aboriginal women.

Table 9: Tobacco smoking status at first antenatal visit by Aboriginal status, South Australia, 2019

Smoking status	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
Smoker	1,072	5.9	*303*	*40.5*	1,375	7.3
Quit before 1st visit	295	1.6	*26*	*3.5*	321	1.7
Non-smoker	16,655	91.9	*405*	*54.1*	17,060	90.4
Unknown smoking status	108	0.6	*15*	*2.0*	123	0.7
Total	**18,130**	**100.0**	***749***	***100.0***	**18,879**	**100.0**

The highest rates of smoking at the first antenatal visit were among teenagers (22.4%) and women aged 20-24 years (14.9%). *Smoking rates were high among all age groups of Aboriginal women especially among women aged 35-39 years (*53.3%, Table 10).

Table 10: Tobacco smoking status at first antenatal visit by age and Aboriginal status, South Australia, 2019

	Smoker		Quit before 1st visit		Non-smoker		Unknown smoking status		Total	
Age	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Total										
≤20	68	22.4	14	4.6	216	71.1	6	2.0	304	100.0
20-24	310	14.9	68	3.3	1,683	80.9	20	1.0	2,081	100.0
25-29	411	7.8	91	1.7	4,714	89.7	41	0.8	5,257	100.0
30-34	354	5.1	88	1.3	6,409	93.1	30	0.4	6,881	100.0
35-39	176	4.9	53	1.5	3,316	93.0	19	0.5	3,564	100.0
≥40	56	7.1	7	0.9	722	91.2	7	0.9	792	100.0
Total	**1,375**	**7.3**	**321**	**1.7**	**17,060**	**90.4**	**123**	**0.7**	**18,879**	**100.0**
Non-Aboriginal										
≤20	44	18.7	10	4.3	177	75.3	4	1.7	235	100.0
20-24	212	11.5	59	3.2	1,558	84.4	18	1.0	1,847	100.0
25-29	332	6.6	86	1.7	4,580	91.0	35	0.7	5,033	100.0
30-34	293	4.3	83	1.2	6,333	94.0	27	0.4	6,736	100.0
35-39	144	4.1	51	1.5	3,291	93.9	18	0.5	3,504	100.0
≥40	47	6.1	6	0.8	716	92.4	6	0.8	775	100.0
Total	**1,072**	**5.9**	**295**	**1.6**	**16,655**	**91.9**	**108**	**0.6**	**18,130**	**100.0**
Aboriginal										
≤20	*24*	*34.8*	*<5*	*5.8*	*39*	*56.5*	*<5*	*2.9*	*69*	*100.0*
20-24	*98*	*41.9*	*9*	*3.8*	*125*	*53.4*	*<5*	*0.9*	*234*	*100.0*
25-29	*79*	*35.3*	*5*	*2.2*	*134*	*59.8*	*6*	*2.7*	*224*	*100.0*
30-34	*61*	*42.1*	*5*	*3.4*	*76*	*52.4*	*<5*	*2.1*	*145*	*100.0*
35-39	*32*	*53.3*	*<5*	*3.3*	*25*	*41.7*	*<5*	*1.7*	*60*	*100.0*
≥40	*9*	*52.9*	*<5*	*5.9*	*6*	*35.3*	*<5*	*5.9*	*17*	*100.0*
Total	***303***	***40.5***	***26***	***3.5***	***405***	***54.1***	***15***	***2.0***	***749***	***100.0***

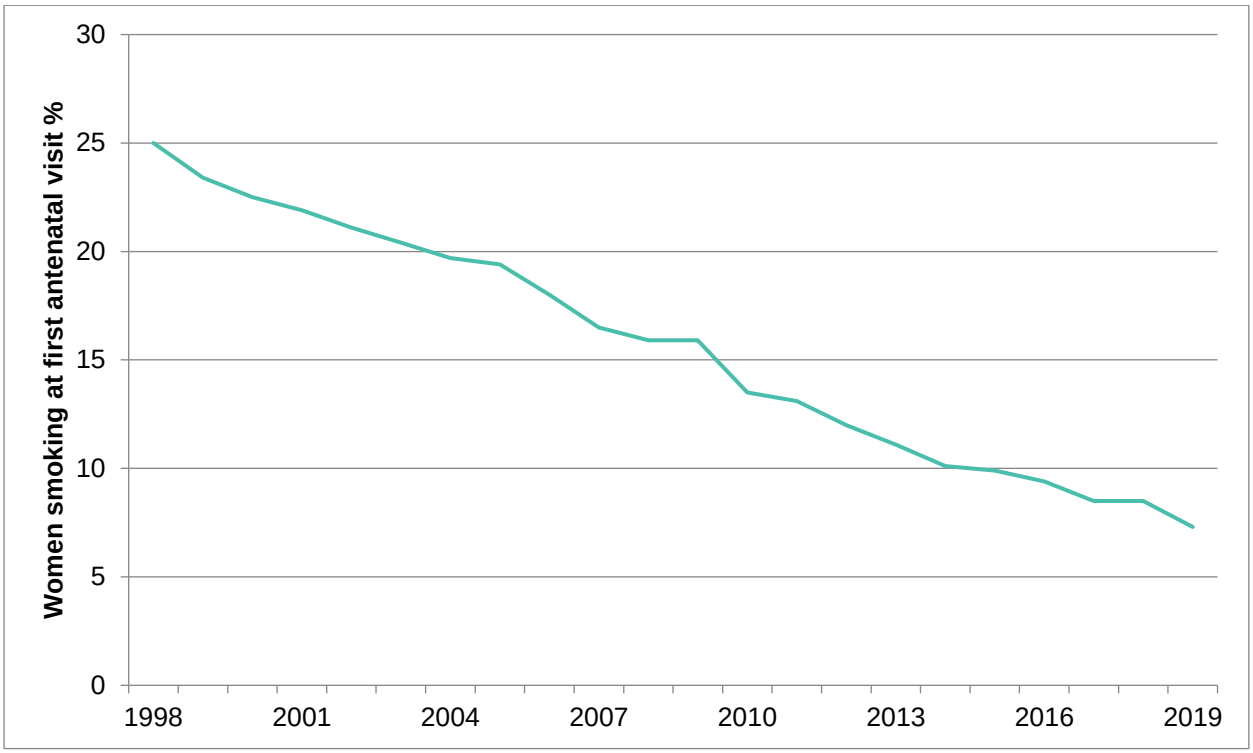
In the second half of pregnancy, 4.9% of women were reported to be smokers and 0.1% of women smoked more than 20 cigarettes per day. In the second half of pregnancy, *24.7% of Aboriginal women smoked*, compared with 4.1% of non-Aboriginal women. *A higher proportion of Aboriginal women (0.4% compared with 0.1%) smoked more than 20 cigarettes per day*, although the numbers are small (Table 11). *In 2019 the proportion of women who ceased smoking from the first to second half of their pregnancy was higher for Aboriginal women (15.8%)* than non-Aboriginal women (1.8%).

Table 11: Tobacco smoking status in second half of pregnancy by Aboriginal status, South Australia, 2019

Average number of tobacco cigarettes	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
None	16,966	93.6	*434*	*57.9*	17,400	92.2
Occasional (<1)	<5	0.0	*0*	*0.0*	<5	0.0
1-20	728	4.0	*182*	*24.3*	910	4.8
≥ 21	13	0.1	*<5*	*0.4*	16	0.1
Unknown number	421	2.3	*130*	*17.4*	551	2.9
Total	**18,130**	**100.0**	***749***	***100.0***	**18,879**	**100.0**

The proportion of women who reported smoking at the first antenatal visit has declined consistently since 1998 from 25.0% to its lowest in 2019 at 7.3% (Figure 2).

Figure 2: Proportion of women smoking at first antenatal visit, South Australia, 1998-2019



Pregnancy profile

2.1 Parity and previous pregnancy outcomes

In 2019, 41.5% of women who gave birth had no previous births and 29.8% were pregnant for the first time. *Among Aboriginal women, 33.5% who gave birth had no previous births, and 24.3% were pregnant for the first* time (Table 12).

The proportion of women with a parity of 4 or greater was higher among Aboriginal women (11.8%) than among non-Aboriginal women (3.1%).

Table 12: Parity by Aboriginal status of women who gave birth, South Australia, 2019

Parity [1]	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
0-primigravida	5,435	30.0	*182*	*24.3*	5,617	29.8
0-multigravida	2,146	11.8	*69*	*9.2*	2,215	11.7
1	6,621	36.5	*200*	*26.7*	6,821	36.1
2	2,548	14.1	*143*	*19.1*	2,691	14.3
3	814	4.5	*66*	*8.8*	880	4.7
4	333	1.8	*49*	*6.5*	382	2.0
≥5	233	1.3	*40*	*5.3*	273	1.4
Total	**18,130**	**100.0**	***749***	***100.0***	**18,879**	**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 13. In total, 39.3% of the multigravidae women had experienced a previous adverse pregnancy outcome. Over a third of the women (36.7%) had a previous miscarriage.

Table 13: Previous adverse pregnancy outcomes, multigravidae women, South Australia, 2019 (n= 13,262)

Previous adverse pregnancy outcome	Number	%
Miscarriage	4,870	36.7
Stillbirth	158	1.2
Neonatal death	78	0.6
Ectopic pregnancy	339	2.6

2.2 Antenatal visits

Women who gave birth are grouped in Table 14 according to their number of reported antenatal visits. However, for 3.2% of women *(4.4% 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, 72.9% of Aboriginal women compared with 86.4% of non-Aboriginal women attended at least seven antenatal visits during pregnancy.*

Although the exact number of antenatal visits was reported for 18,280 (96.8%) women, 18,216 (99.6% out of 18,216) women report having attended at least one antenatal visit.

Table 14: Antenatal visits by Aboriginal status of women who gave birth, South Australia, 2019

Antenatal visits	Maternal Aboriginal status					
	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
None	42	0.2	*22*	*2.9*	64	0.3
1-6	2,355	13.0	*172*	*23.0*	2,527	13.4
≥7	15,167	83.7	*522*	*69.7*	15,689	83.1
Unknown number of visits	566	3.1	*33*	*4.4*	599	3.2
Total	**18,130**	**100.0**	***749***	***100.0***	**18,879**	**100.0**

2.3 Gestation at first antenatal visit

Of the women for whom week of gestation at the first antenatal visit was reported, 82.8% attended antenatal care within the first 14 weeks of pregnancy. *Of the Aboriginal women for whom week of gestation at the first antenatal visit was reported, 64.4% attended antenatal care within the first 14 weeks of pregnancy (compared with 83.6% of non-Aboriginal women).* Gestation at the first antenatal visit was reported as unknown for 1.4% of all women (Table 15).

Table 15: Gestation at first antenatal visit, women who gave birth by Aboriginal status, South Australia, 2019

Gestation at first antenatal visit	Non-Aboriginal			*Aboriginal*			Total		
	Number	%	Adjusted % excluding unknown (n=17,918)	*Number*	*%*	*Adjusted % excluding unknown (n=705)*	Number	%	Adjusted % excluding unknown (n=18,623)
<14 weeks gestation	14,975	82.6	83.6	*454*	*60.6*	64.4	15,429	81.7	82.8
14 weeks or greater*	2,943	16.2	16.4	*251*	*33.5*	35.6	3,194	16.9	17.2
Unknown	212	1.2		*44*	*5.9*		256	1.4	
Total	**18,130**	**100.0**	**100.0**	***749***	***100.0***	***100.0***	**18,879**	**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 (45.4%), obstetricians in private practice (22.7%), general practitioners and public hospital shared care (14.6%, Table 16). There were 64 women (0.3%) who had no antenatal care.

Table 16: Type of antenatal care, women who gave birth, South Australia, 2019

Type of care[1]	Number	% of antenatal care
Public clinic (specialist led)	8,568	45.4
Obstetrician +/- midwife in private practice	4,279	22.7
GP and public hospital (shared care)	2,751	14.6
Midwifery group practice at birth hospital	2,090	11.1
GP led	1,139	6.0
Birth Unit/Centre	1,036	5.5
Aboriginal Family Birthing Program (includes metropolitan and rural locations)	311	1.6
Other	101	0.5
Eligible midwife in private practice	84	0.4
No care	64	0.3
Not stated	5	<0.1

[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 13,045 women (69.1%). Whilst this is an increase from 57.7% of women in 2018, this represents changes in coding practice and increased ascertainment of medical conditions. Therefore, the proportions of most medical conditions were similar to 2018 with the increase coming from the range of 'other' conditions captured (increased from 46.9% in 2018 to 62.5% in 2019). The frequencies of specified medical conditions are provided in Table 17. Multiple conditions can be reported for each pregnancy.

Table 17: Medical conditions in current pregnancy, women who gave birth, South Australia, 2019

Medical condition[1]	Number	% of women (n = 18,879)
None	5,834	30.9
Anaemia	1,621	8.6
Urinary tract infection	726	3.8
Hypertension (pre-existing)	316	1.7
Diabetes (pre-existing)	210	1.1
Epilepsy	121	0.6
Asthma	2,225	11.8
Other	11,803	62.5

[1] Women may have reported multiple medical conditions

2.6 Obstetric complications

Obstetric complications were recorded for 10,597 women who gave birth (56.1%). 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. 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 18: Most common obstetric complications in current pregnancy, women who gave birth, South Australia, 2019

Obstetric complication[1]	Number	% of women (n= 18,879)
No complication	8,282	43.9
Threatened miscarriage	441	2.3
Ante-partum haemorrhage (APH) – abruption	114	0.6
APH – placenta praevia	128	0.7
APH – other & unknown causes	564	3.0
Pregnancy hypertension	978	5.2
Intrauterine growth restriction (suspected)	1,330	7.0
Gestational diabetes	2,690	14.2
Other complications	7,693	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 19. At least one ultrasound examination was performed for 97.9% of women in 2019. Amniocentesis was performed for 1.6%, and chorion villus sampling for 0.5% of women who gave birth. Multiple procedures may be reported for each pregnancy.

Table 19: Procedures performed in current pregnancy, women who gave birth, South Australia, 2019

Procedure[1]	Number	% of women (n= 18,879)
Ultrasound morphology scan	16,780	88.9
First trimester anomaly screen (ultrasound & biochemical)	14,523	76.9
Ultrasound dating scan	11,582	61.3
Other ultrasound scan	11,380	60.3
Second trimester anomaly screen (biochemical only)	2,148	11.4
Non invasive prenatal testing	1,357	7.2
Amniocentesis	308	1.6
Chorion villus biopsy	96	0.5
Antenatal fetal blood sampling	69	0.4
Other surgical procedure	0	0.0

[1] Multiple procedures may be reported for each pregnancy

Labour

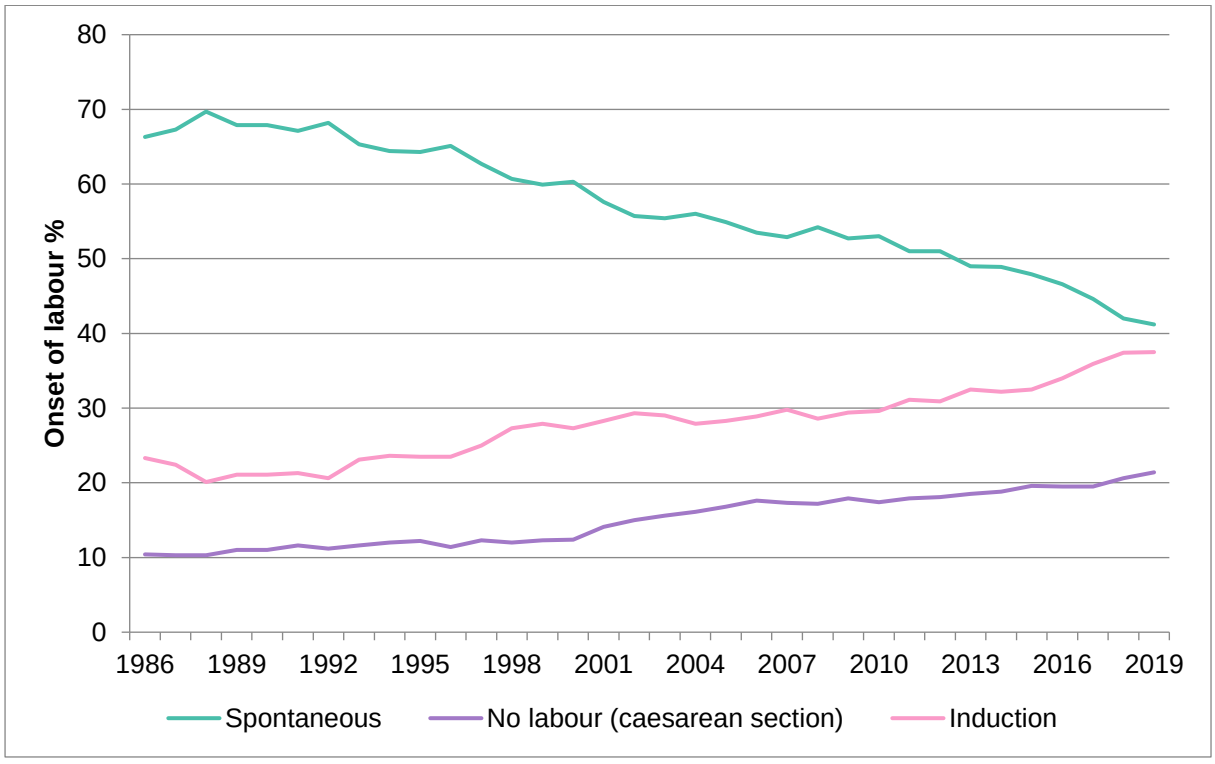
3.1 Onset of Labour

Labour occurred spontaneously in 41.2% of women who gave birth in 2019 (Table 20), which has been decreasing over time since 1986 (Figure 3). Induction of labour has increased over this same time period from 20.6% in 1982 to 37.5% in 2019. The proportion of women with no labour due to caesarean sections has increased from 9.3% to 21.4%, over the same time period.

Table 20: Onset of labour, women who gave birth, South Australia, 2019

Onset of labour	Number	%
Spontaneous	7,773	41.2
Induction	7,075	37.5
No labour – caesarean section	4,031	21.4
Total	**18,879**	**100.0**

Figure 3: Trend for onset of labour for women who gave birth in South Australia, 1986-2019



3.2 Induction of labour

Labour was induced for 37.5% of women who gave birth in 2019. The most common methods of induction used were artificial rupture of membranes in 77.0% of inductions, oxytocics in 62.1%, and prostaglandins in 39.0% (Table 21). Multiple methods can be reported for each pregnancy, and in many cases more than one method was used.

Table 21: Method of induction of labour, women who gave birth, South Australia, 2019

Method of induction[1]	Number	% of women (n =18,879)	% of inductions (n =7,075)
Any induction	7,075	37.5	
Artificial rupture of membranes	5,448	28.9	77.0
Oxytocics	4,396	23.3	62.1
Prostaglandins	2,757	14.6	39.0
Mechanical dilation	1,042	5.5	14.7
Antiprogestogen	64	0.3	0.9
Other	535	8.7	7.6

[1] Multiple methods of induction may be reported for each pregnancy

The most common reasons for induction are presented in Table 22. Multiple reasons can be reported for each pregnancy. In 2019, 17.9% of women were induced for diabetes (including pre-existing, gestational diabetes), 13.7% by maternal choice, 11.3% for other obstetric or medical condition, 11.2% for hypertension, and 10.4% for prolonged pregnancy (41 or more completed weeks).

Table 22: Reasons for induction of labour, South Australia, 2019 (n=7,075)

Reason for induction[1]	Number	% of women (n=7,075)
Diabetes[2]	1,263	17.9
Maternal choice	972	13.7
Other obstetric or medical condition	797	11.3
Hypertension	793	11.2
Prolonged pregnancy	733	10.4
Large for dates	667	9.4
IUGR	656	9.3
Fetal distress	608	8.6
Premature or prolonged rupture of membranes	562	7.9
Fetal death	37	0.5
Other[3]	997	14.1

[1]Multiple reasons for induction may be reported for each pregnancy
[2]includes diabetes mellitus and gestational diabetes
[3]includes Isoimmunisation, Chorioamnionitis, BMI (high), Mental Health, Previous adverse perinatal outcome, Fetal congenital anomaly, multiple pregnancy, Cholestasis, APH, Maternal age, Administrative or geographical indication

3.3 Augmentation of labour

The proportion of women giving birth who had labour augmented after spontaneous labour onset was 14.7% (Table 23). Of the 7,773 women who went into spontaneous labour, augmentation was used for 2,783 (35.8%). Methods used in augmentation were artificial rupture of membranes (73.8%), oxytocics (40.4%) and prostaglandins (3.0%). In some cases more than one method was used.

Table 23: Augmentation after spontaneous labour onset, women who gave birth, South Australia, 2019

Method of augmentation[1]	Number	% of women (n=18,879)	% of augmentations (n=2,783)
Any augmentation	2,783	14.7	
Artificial rupture of membranes	2,055	10.9	73.8
Oxytocics	1,123	5.9	40.4
Prostaglandins	84	0.4	3.0
Other	8	0.0	0.3

[1]Multiple methods of augmentation may be reported for each pregnancy

3.4 Method of birth and fetal presentation

Of the women who gave birth, 52.9% had normal spontaneous vaginal births (Table 24). Caesarean section was performed for 35.3% of women, with 17.6% of women having elective section. Ventouse and forceps were used for 5.8% and 5.6% of births, respectively. The method of birth reported for women who had multiple births is that of the first birth.

Table 24: Method of birth, women who gave birth, South Australia, 2019

Method of birth[1]	Number	% of women
Normal spontaneous	9,995	52.9
Caesarean (emergency)	3,350	17.7
Caesarean (elective)	3,317	17.6
Ventouse	1,092	5.8
Forceps (vaginal)	1,062	5.6
Breech spontaneous	45	0.2
Assisted Breech (no forceps)	10	0.1
Breech extraction	5	0.0
Assisted Breech (with forceps for head)	<5	0.0
Total	**18,879**	**100.0**

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

Fetal presentation is presented in Table 25, and the method of birth by presentation is provided in Table 26. Caesarean section was the method of birth for 89.1% of breech presentations (Table 27).

Table 25: Fetal presentation, all births, South Australia, 2019

Fetal presentation	Number	% of births
Vertex	18,069	94.2
Breech	857	4.5
Face	32	0.2
Brow	41	0.2
Other	158	0.8
Unknown	16	0.1
Total	**19,173**	**100.0**

Table 26: Method of birth by fetal presentation, all births, South Australia 2019

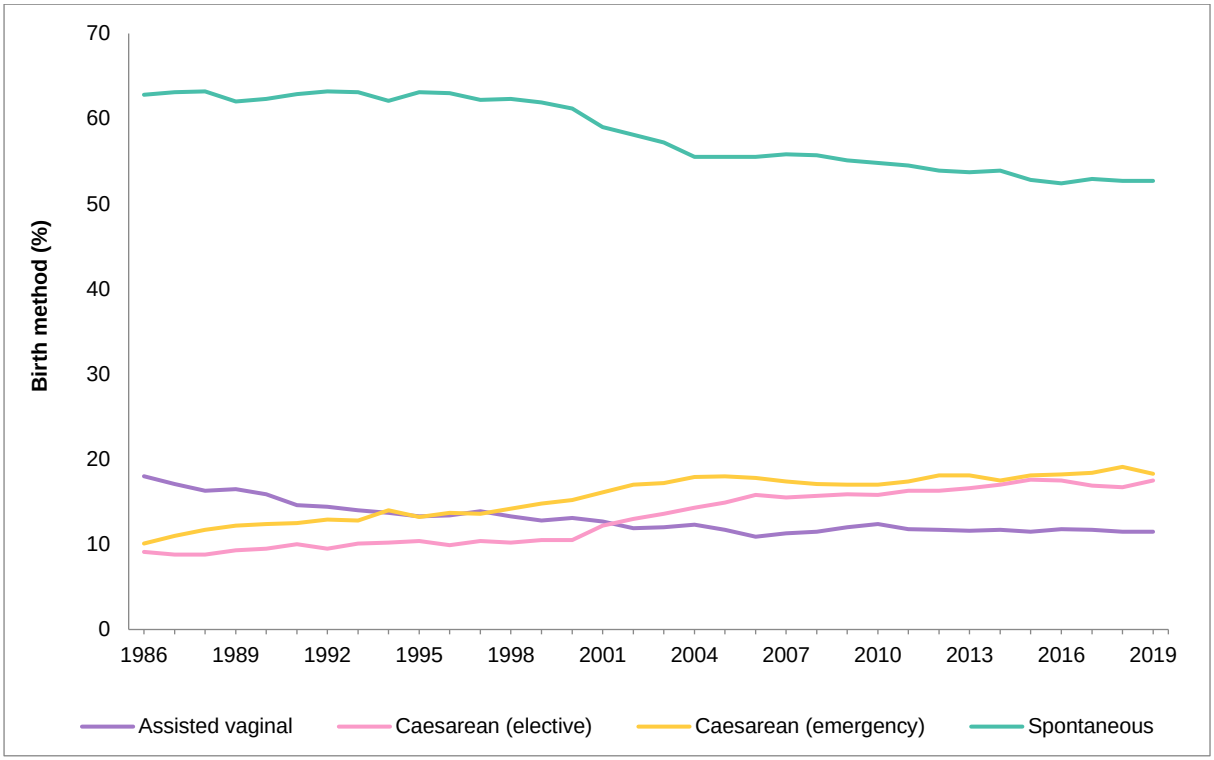
Method of Delivery	Fetal presentation									
	Vertex		Breech		Other		Unknown		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Normal spontaneous	10,008	55.4	0	0.0	34	14.7	<5	18.8	10,045	52.4
Caesarean (emergency)	3,014	16.7	363	42.4	128	55.4	10	62.5	3,515	18.3
Caesarean (elective)	2,914	16.1	400	46.7	38	16.5	<5	18.8	3,355	17.5
Ventouse	1,084	6.0	0	0.0	12	5.2	0	0.0	1,096	5.7
Forceps	1,049	5.8	0	0.0	19	8.2	0	0.0	1,068	5.6
Breech spontaneous	0	0.0	58	6.8	0	0.0	0	0.0	58	0.3
Breech extraction	0	0.0	17	2.0	0	0.0	0	0.0	17	0.1
Assisted Breech (no forceps)	0	0.0	14	1.6	0	0.0	0	0.0	14	0.1
Assisted Breech (forceps)	0	0.0	5	0.6	0	0.0	0	0.0	5	0.0
Total	**18,069**	**100.0**	**857**	**100.0**	**231**	**100.0**	**16**	**100.0**	**19,173**	**100.0**

Table 27: Method of birth by plurality, breech births, South Australia, 2019

Method of birth	Plurality							
	Singleton		Twins		Triplets		Total	
	Number	%	Number	%	Number	%	Number	%
Caesarean (elective)	378	54.1	22	14.2	0	0.0	400	46.7
Caesarean (emergency)	261	37.3	99	63.9	<5	100.0	363	42.4
Breech spontaneous	43	6.2	15	9.7	0	0.0	58	6.8
Breech extraction	5	0.7	12	7.7	0	0.0	17	2.0
Assisted breech (no forceps)	10	1.4	<5	2.6	0	0.0	14	1.6
Assisted breech (forceps)	<5	0.3	<5	1.9	0	0.0	5	0.6
Total	**699**	**100.0**	**155**	**100.0**	**<5**	**100.0**	**857**	**100.0**

Figure 4 shows the trend in methods of birth in South Australia over time. Most recently, there has been a slight increase in the proportion of elective caesareans (16.7% in 2018 compared with 17.5% in 2019), and a slight decrease in the proportion of emergency caesareans (19.1% in 2018 compared with 18.3% in 2019). The proportions of spontaneous and assist vaginal births has remained stable.

Figure 4: Method of birth for all births in South Australia, 1986-2019



3.5 Analgesia for labour and anaesthesia for birth

Analgesia for labour was used by 61.4% of women who gave birth in South Australia in 2019. The most commonly used methods for analgesia were nitrous oxide and oxygen (41.8%), epidurals (33.0%) and narcotics (14.2%, Table 28). Anaesthesia for birth was used by 48.7% of women who gave birth in South Australia in 2019. The most common methods were spinal anaesthetic (26.7%), epidurals (14.9%), and local anaesthesia (4.8%, Table 29). The proportion of women who had an epidural for either analgesia or anaesthesia was 34.0% (6,415 women). General anaesthesia was used for 1.9% of births, and 5.2% of all caesarean sections. Multiple methods for analgesia and anaesthesia can be reported for each pregnancy.

Table 28: Analgesia for labour, women who gave birth, South Australia, 2019

Analgesia[1]	Number	% of women (n=18,879)
None	7,284	38.6
Nitrous oxide and oxygen	7,898	41.8
Epidural (lumbar/caudal)	6,222	33.0
Narcotic (parenteral)	2,689	14.2
Other	857	4.5
Combined spinal-epidural	27	0.1
Spinal	5	0.0

[1]Multiple methods for analgesia may be reported for each birth

Table 29: Anaesthesia for birth, women who gave birth, South Australia, 2019

Anaesthesia[1]	Number	% of women (n=18,879)
None	9,682	51.3
Spinal	5,034	26.7
Epidural (lumbar/caudal)	2,822	14.9
Local anaesthesia	912	4.8
General anaesthesia	355	1.9
Pudendal	130	0.7
Combined spinal-epidural	120	0.6
Other	29	0.2

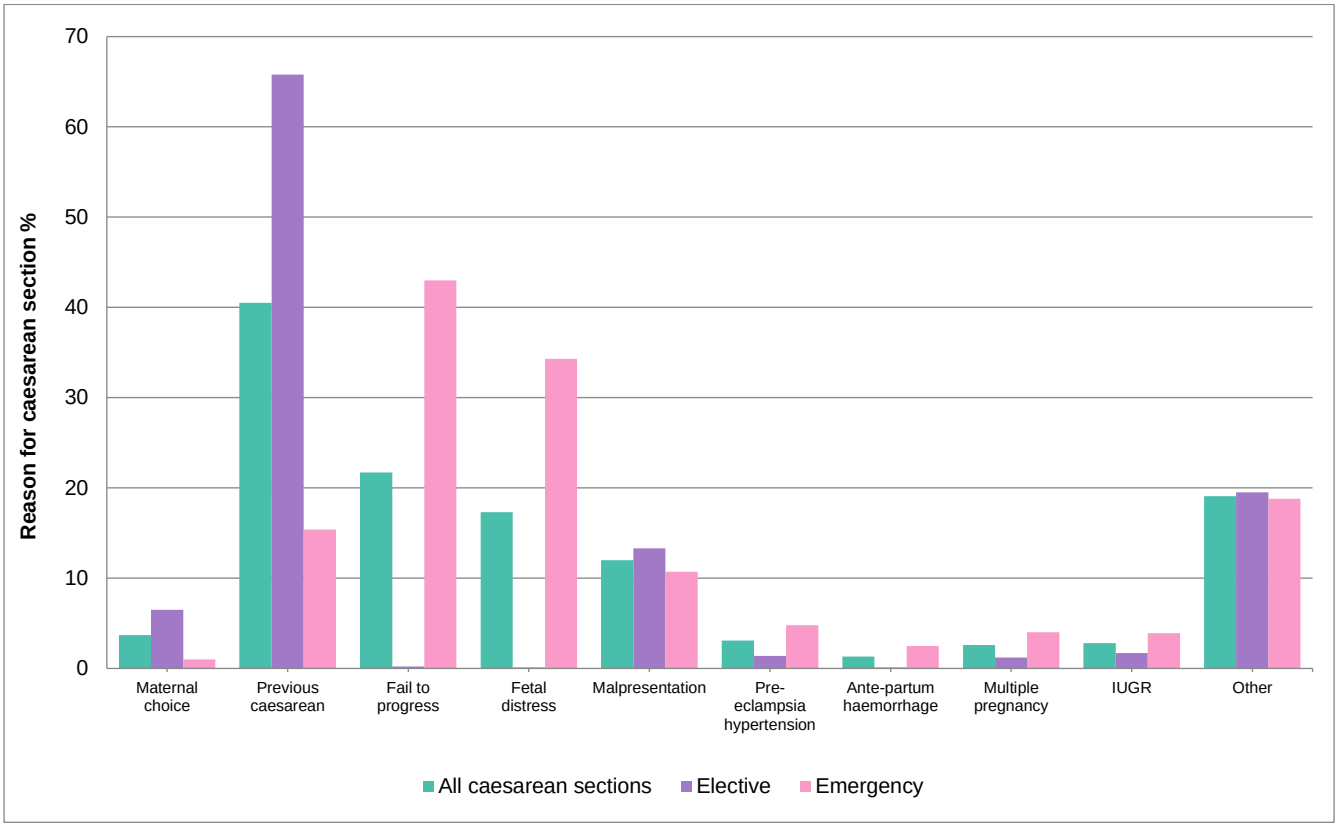
[1]Multiple methods for analgesia may be reported for each birth

3.6 Reason for caesarean section

Multiple reasons for caesarean section can be recorded on the Supplementary Birth Record. In 2019 the most common reasons for caesarean section were previous caesarean section (40.5%), failure to progress or cephalopelvic disproportion (21.7%), fetal distress (17.3%) and malpresentation (12.0%, Figure 5). Maternal choice accounted for 3.7% of all caesarean sections, which is an increase from 2017 (1.3%) and 2018 (2.3%).

The main reasons for elective caesarean sections were previous caesarean section (65.8%), malpresentation (13.3%) and maternal choice (6.5%). The main reasons given for emergency caesarean sections were failure to progress (43.0%), fetal distress (34.3%) and previous caesarean section (15.4%).

Figure 5: Reason for caesarean section in South Australia, 2019 (n=6,667)



3.7 Caesarean section by maternity service

Just over a third of all women in South Australia gave birth by caesarean section in 2019 (35.5%, Table 30). The proportion of emergency caesarean section births were similar across all levels of maternity services ranging from 16.7% to 18.6%. However, the metropolitan private hospitals had much higher proportion of elective caesarean section births (28.2%) compared to the other maternity services, leading to a higher overall proportion of caesarean births at metropolitan private hospitals (46.5%).

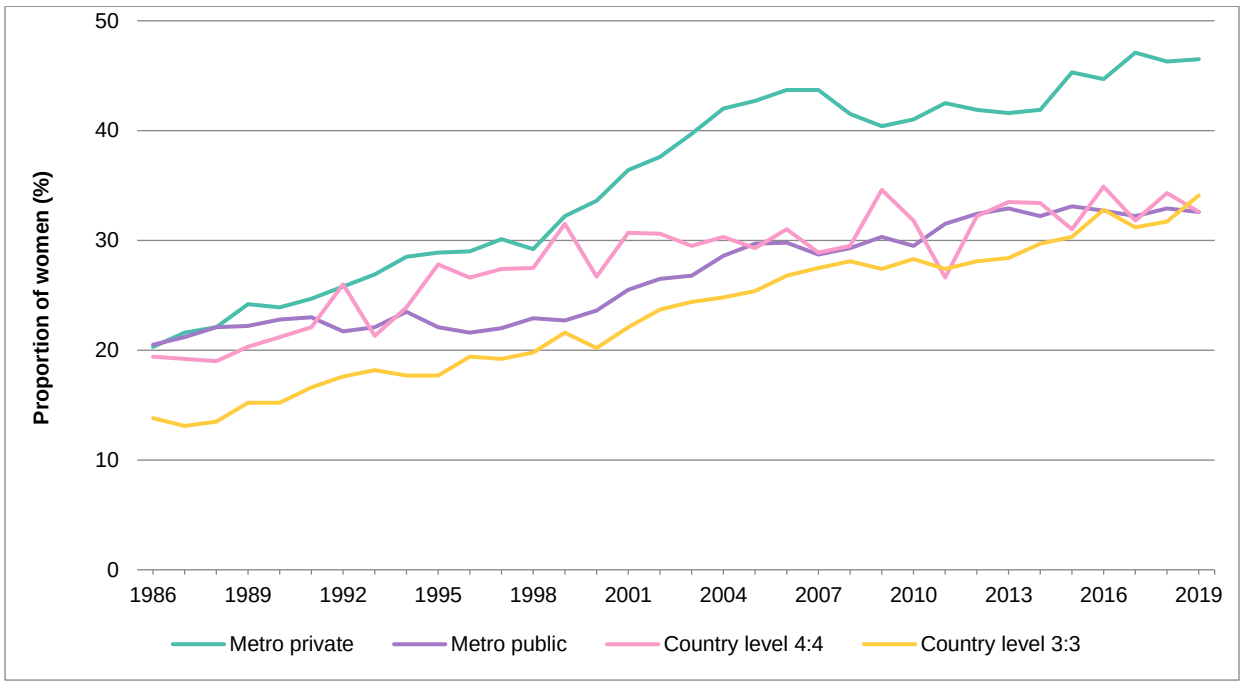
Table 30: Caesarean section by maternity service[1] in South Australia, 2019

	Total women	Elective caesarean		Emergency caesarean		Elective & emergency caesarean	
Maternity Service	**Number**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Metro private hospitals	3,608	1,016	28.2	662	18.3	1,678	46.5
Metro teaching hospitals	11,821	1,777	15.0	2,075	17.6	3,852	32.6
Country hospitals level 3:3	2,596	401	15.4	484	18.6	885	34.1
Country hospitals level 4:4	773	123	15.9	129	16.7	252	32.6
Total	**18798**	**3317**	**17.6**	**3350**	**17.8**	**6667**	**35.5**

[1]Excludes home births (n=81)

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 46.5% of women in 2019, Figure 6). The proportion of women having a caesarean section at metropolitan teaching hospitals and both country hospital service categories has also increased over time but remain lower than the proportion of women at metropolitan private hospitals.

Figure 6: Caesarean section by maternity service in South Australia, 1986-2019



3.8 Complications of labour and birth

Multiple complications can be recorded for women who gave birth with 54.1% of women experiencing complications in 2019, an increase from 46.2% in 2018. The most common complications are presented in Table 31. The main complications of labour and birth were primary post-partum haemorrhage (PPH ≥500ml, 28.3%), fetal distress (18.8%) and failure to progress (10.5%).

Table 31: Most common complications of labour and birth, women who gave birth, South Australia, 2019

Complication[1]	Number of women	% of women (n=18,879)
None	8,672	45.9
Primary post-partum haemorrhage		
500-599ml	1554	8.2
600-999ml	2,228	11.8
1,000 ml or more	1,563	8.3
Unspecified mls	1	<0.1
Fetal distress	3,541	18.8
Failure to progress	1,982	10.5
Retained placenta	411	2.2
Third degree tear or fourth degree tear	401	2.1
Prolonged labour	140	0.7
Wound infection	120	0.6
Cord prolapse	24	0.1
Other	5,952	31.5

[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%, and in 2019 it was 28.3%.

3.10 Perineal status after birth

Of the 18,879 women who gave birth, episiotomy was performed for 3,225 women (17.1% of all women and 32.3% of women who gave birth vaginally, Table 32). Among the 12,212 women who gave birth vaginally 23.7% had an intact perineum after birth, 52.7% had a first or second degree tear, and 3.3% of women had a third or a fourth degree tear. Among women who had an episiotomy, 23.4% (n=756) had a tear that extended the episiotomy. In total, 5,428 women (44.4% of vaginal births and 79.3% of births with a tear) had a repair of a perineal tear.

Table 32: Method of birth[1] and perineal status for women who gave birth vaginally in South Australia, 2019

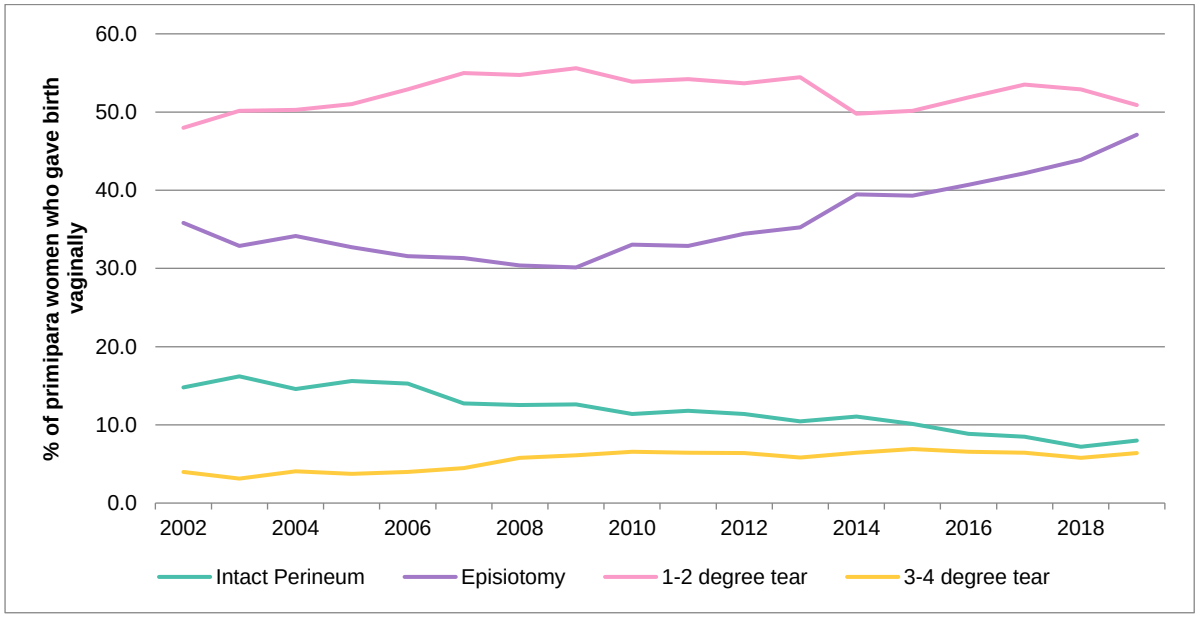
		Perineal status							
		Intact		1-2 degree tear[2]		3-4 degree tear[2]		Episiotomy	
Method of birth*	Total Births	Number	% of method	Number	% of method	Number	% of method	Number	% of method
Spontaneous	9,995	2,780	27.8	5,754	57.6	220	2.2	1,521	15.2
Ventouse	1,092	61	5.6	389	35.6	56	5.1	738	7.4
Forceps	1,065	16	1.5	284	26.7	124	11.6	956	9.6
Breech	60	36	60.0	14	23.3	<1	1.7	10	0.1
Total	12,212	2,893	**23.7**	6,441	**52.7**	401	**3.3**	3,225	32.3

[1]Birth method is for the singleton infant or first infant of a multiple birth. Forceps includes cases of assisted breech with forceps for head (n=5).
[2]Including cases with extended tear after episiotomy

The trend in perineal status among primiparae women who gave birth vaginally are shown in Figure 7.

Figure 7 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 2019 was 47.1%.

Figure 7: Perineal status among primiparae women who gave birth vaginally in South Australia, 2002-2019



3.11 Fetal monitoring during labour

Cardiotocography (CTG) was performed during labour for 62.9% of women who gave birth. The majority of these were external CTGs (43.5%) while a scalp clip was used for 19.4% of women who gave birth (Table 33). A fetal scalp pH was taken during labour in 77 women who gave birth (0.4%, Table 34).

Table 33: Cardiotocography performed during labour, women who gave birth, South Australia, 2019

CTG during labour	Number of women	% of women (n=18,879)
None	7,005	37.1
External	8,216	43.5
Scalp clip	3,658	19.4
Total	**18,879**	**100.0**

Table 34: Fetal scalp pH taken during labour, women who gave birth, South Australia, 2019

Fetal scalp pH taken	Number of women	% of women (n=18,879)
No	18,802	99.6
Yes	77	0.4
Total	**18,879**	**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 35 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 36).

Table 35: Postnatal length of stay by patient type, women who gave birth in South Australian hospitals[1], 2019

Length of stay (days)	Public		Private		Total	
	Number	%	Number	%	Number	%
<1	590	4.1	13	0.3	603	3.2
1	3,020	20.9	89	2.0	3,109	16.5
2	4,196	29.1	205	4.7	4,401	23.4
3	3,224	22.4	450	10.3	3,674	19.5
4	1,684	11.7	1,273	29.1	2,957	15.7
5	801	5.6	1,482	33.9	2,283	12.1
6	354	2.5	562	12.9	916	4.9
7 or more	556	3.9	299	6.8	855	4.5
Total	**14,425**	**100.0**	**4,373**	100.0	**18,798**	**100.0**

[1] Excludes homebirths (n=81)

The median length of stay for all hospital births was two days for vaginal births, and four days for caesarean section (Table 36). Among private patients, the median length of stay was two days longer for vaginal births and one day longer for caesarean births.

Table 36: Postnatal length of stay by patient and birth type, women who gave birth in South Australian hospitals[1], 2019

Length of stay (days)	Public			Private			Total		
	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total	Vaginal	Caesarean	Total
Number of women	9,738	4,687	14,425	2,393	1,980	4,373	12,131	6,667	18,798
Mean	2.3	3.8	2.8	4.2	5.2	4.7	2.7	4.3	3.2
Standard deviation	2.1	5.2	3.5	1.5	2.2	1.9	2.1	4.6	3.3
Median	2.0	3.0	2.0	4.0	5.0	5.0	2.0	4.0	3.0
IQR	1-3	2-4	1-3	4-5	4-6	4-5	1-4	3-5	2-4

[1] Excludes homebirths (n=81)

Babies

4.1 Crude birth rate

In 2019 there were 19,173 births in South Australia, which is the lowest number of births since 2006 (18,800). Of the births in 2019, 99.4% were live births and 0.6% were stillbirths (Table 37). 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 10.9 per 1,000 population in 2019.

Table 37: Crude birth rate for infants born in South Australia, 1986-2019

	Live Birth		Stillbirth		Total		Total Population[1]	Crude Birth Rate[2]
Year	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	19,931	99.3	136	0.7	20,067	100.0	1,708,183	11.7
2017	19,356	99.3	129	0.7	19,485	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

[1]ABS Estimated Resident Populations (ERP) for South Australia
[2]Crude birth rate per 1,000 population

4.2 Place of birth

Of the 19,173 births notified in 2019, 81 (0.4%) were home births and of those, 73 were planned homebirths. The remaining 19,092 births occurred in hospitals, including 108 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 38.

Table 38: Total births notified by place of birth and plurality, South Australia, 2019

Condition at birth	Home births		Hospital births			Total births
	Singleton	Twin	Singleton	Twin	Triplet	
Live birth	81	0	18,409	566	6	**19,062**
Stillbirth	0	0	97	14	0	**111**
Total births	**81**	**0**	**18,506**	**580**	**6**	**19,173**

4.3 Place of birth by Aboriginal status of mother

Of all births, 62.8% occurred in metropolitan teaching hospitals, 19.1% in metropolitan private hospitals and 17.6% in country hospitals (Table 39). *Aboriginal women had the highest percentage of births in country hospitals (32.0%).*

Table 39: Total births notified by place of birth and Aboriginal status of mother, South Australia, 2019

Hospital	*Aboriginal*		Non-Aboriginal		Total	
	Number	*%*	Number	%	Number	%
Metropolitan teaching hospital	*507*	*66.2*	11,536	62.7	12,043	62.8
Metropolitan private hospital	*13*	*1.7*	3,658	19.9	3,671	19.1
Country hospital	*245*	*32.0*	3,133	17.0	3,378	17.6
Home	*<1*	*0.1*	80	0.4	81	0.4
Total	***766***	***100.0***	**18,407**	**100**	**19,173**	**100**

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 document[3]. In 2019, the Women's and Children's Hospital was defined as providing Level 5 maternity services and Level 6 neonatal services, as it provided a high risk pregnancy service and neonatal intensive care, but had no maternity intensive care facility on site. In 2019, the Lyell McEwin Hospital provided Level 6 maternity services and Level 5 neonatal services with maternity intensive care services and special care neonatal services. In 2019 the Flinders Medical Centre provided Level 6 maternity and neonatal services with both maternity and neonatal intensive care services. All the metropolitan private maternity hospitals had special care nurseries, as did Mount Gambier and Port Augusta hospitals.

The numbers of births in the six levels of hospital categories (levels 5 & 6 combined) are presented in Table 40, by Aboriginal status of the mother. Among the 19,092 hospital births in South Australia in 2019, 63.1% occurred in metropolitan teaching hospitals, 19.2% in metropolitan private hospitals and 17.7% in country hospitals. *Aboriginal women had a higher percentage of births in country hospitals (32.0%), compared to non-Aboriginal women (17.1%).*

Of the Country hospital births, 4.1% occurred in the Level 4:4 Country Hospitals, 10.6% occurred in country hospitals with 100 births or more in 2019, and 3.0 in country hospitals with less than 100 births per annum.

Table 40: Hospital births by perinatal service delineation and Aboriginal status of mother, South Australia, 2019

Hospital	*Aboriginal*		Non-Aboriginal		Total births		Total women	
	Number	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*
Metropolitan teaching	*507*	*66.3*	11,536	62.9	12,043	63.1	11,821	62.9
Metropolitan private	*13*	*1.7*	3,658	20.0	3,671	19.2	3,608	19.2
Total (Country)	*245*	*32.0*	3,133	17.1	3,378	17.7	3,369	17.9
Level 4:4 Country	*103*	*13.5*	677	3.7	780	4.1	773	4.1
Level 3:3 Country ≥100 births per annum	*111*	*14.5*	1,909	10.4	2,020	10.6	2,018	10.7
Level 3:3 Country<100 births per annum	*31*	*4.1*	547	3.0	578	3.0	578	3.1
Grand total	*765*	*100.0*	18,327	100.0	19,092	100.0	18,798	100.0

.

4.5 Home birth

Supplementary Birth Records were received from home birth midwives regarding planned home births for 73 women which occurred at home in 2019. There were 8 unplanned home births. The unplanned home births have been excluded from the planned home birth statistics below.

Ascertainment of planned home births occurring at home in South Australia for the year 2019 is estimated to be 90.1% (73 out of an estimated 81 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). This proportion is similar to last year.

In addition, 36 women who planned to birth at home were transferred to hospital care before birth. Statistics for all 73 planned home births (73 women) in 2019 are provided in Table 41 – Table 44. The age profile of women who planned a home birth in 2019 was similar to all births, with most women in the 30-34 year age category. Of the 73 babies that were birthed at home, all (100.0%) were normal spontaneous vaginal deliveries.

Table 41: Age of women in planned home births, South Australia, 2019

Age	Birthed at home		Birthed in hospital		Total	
	Number of women	%	Number of women	%	Number of women	%
<20	-	-	-	-	-	-
20-24	5	6.8	0	0.0	5	4.6
25-29	13	17.8	12	33.3	25	22.9
30-34	36	49.3	16	44.4	52	47.7
35-39	15	20.5	7	19.4	22	20.2
40-44	<5	5.5	<5	2.8	5	4.6
Total	**73**	**100.0**	**36**	**100.0**	**109**	**100.0**

Table 42: Method of birth in planned home births, South Australia, 2019

Method of birth	Birthed at home		Birthed in hospital		Total	
	Number of births	%	Number of births	%	Number of births	%
Normal spontaneous vaginal	73	100.0	30	83.3	103	94.5
Forceps (vaginal)	0	0	<5	2.8	<5	0.9
Caesarean (emergency)	0	0	<5	5.6	<5	1.8
Ventouse	0	0	<5	8.3	<5	2.8
Total	**73**	**100.0**	**36**	**100.0**	**109**	**100.0**

Table 43: Birthweight of planned home births, South Australia, 2019

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	<5	2.8	<5	0.9
2,500-2,999	<5	5.5	<5	11.1	8	7.3
3,000-3,499	29	39.7	8	22.2	37	33.9
3,500-3,999	29	39.7	12	33.3	41	37.6
4,000-4,499	9	12.3	9	25.0	18	16.5
4,500+	<5	2.7	<5	5.6	<5	3.7
Total	**73**	**100.0**	**36**	**100.0**	**109**	**100.0**

Table 44: Perinatal outcome in planned home births, South Australia, 2019

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	73	100.0	36	100.0	109	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	**73**	**100.0**	**36**	**100.0**	**109**	**100.0**

4.6 Sex

Of all infants born, 51.6% were male with a male-female birth ratio of 1.1, which is the slightly higher than 2018 (1.04). There were 622 more male infants born than female (Table 45). The outcomes of male and female babies were similar as shown in Table 46.

Table 45: Sex of baby, all births, South Australia, 2019

Sex of baby	Number	%
Male	9,897	51.6
Female	9,275	48.4
Indeterminate	<5	<0.01
Total	**19,173**	**100.0**

Table 46: Sex of baby by birth status, South Australia, 2019

	Sex of baby							
	Male		Female		Indeterminate		Total	
Birth Status	Number	%	Number	%	Number	%	Number	%
Live birth	9,835	99.4	9,227	99.5	0	0.0	19,062	99.4
Stillbirth	62	0.6	48	0.5	<5	100.0	111	0.6
Total	**9,897**	**100.0**	**9,275**	**100.0**	**<5**	**100.0**	**19,173**	**100.0**

4.7 Plurality

In 2019, there were 18,587 singleton infants born in South Australia, 96.9% of the total infants born. The total number of multiple births was 586 (3.0% of total births) with 580 twin infants (3.0%) and 6 triplets (<0.1%). *The proportion of multiple infants born to Aboriginal women was 4.4%, slightly higher than the proportion for non-Aboriginal women (3.0%)* and is shown in Table 47.

Among women who gave birth there were 290 twin and 2 triplet pregnancies in 2019. Thus, there was one twin pregnancy in every 65 pregnancies, and one triplet pregnancy in every 9,440 pregnancies. Women who gave birth to twins and triplets comprised 1.5% of all women who gave birth.

Table 47: Plurality of birth by maternal Aboriginal status for infants born in South Australia, 2019

Plurality	Maternal Aboriginal status					
	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
Singleton	17,855	97.0	*732*	*95.6*	18,587	96.9
Twin	546	3.0	*34*	*4.4*	580	3.0
Triplet	6	<0.1	0	0.0	6	<0.1
Total	**18,407**	**100.0**	***766***	***100.0***	**19,173**	**100.0**

4.8 Gestational age

Gestational age is the duration of pregnancy in completed weeks. In 2019, the average gestational age for all babies was 38.4 weeks (SD 2.2 weeks), with the majority of infants (90.8%) born at term (37-41 weeks, Table 48). Preterm birth occurred for 9.0% of all infants born*, and this proportion was higher for infants of Aboriginal women (15.3%).*

Table 48: Gestation at birth by Aboriginal status of women, South Australia, 2019

Gestation at birth (weeks)	Maternal Aboriginal status					
	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
Preterm births (20-36)	1,612	8.8	*117*	*15.3*	1729	9.0
Term births (37-41)	16,757	91.0	*648*	*84.6*	17405	90.8
Post-term births (42+)	36	0.2	*0*	*0.0*	36	0.2
Unknown	<5	<0.1	<5	0.1	<5	<0.1
Total	**18,407**	**100.0**	***766***	***100.0***	**19,173**	**100.0**

Gestation at birth varied between singleton and multiple births. Three quarters of multiple births (76.8%) were preterm, while the vast majority of singleton births were term births (92.9%, Table 49).

Table 49: Gestation at birth by plurality, South Australia, 2019

Gestation at birth (weeks)	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
<24	65	0.3	12	2.0	77	0.4
24-27	56	0.3	18	3.1	74	0.4
28-31	111	0.6	38	6.5	149	0.8
32-36	1,047	5.6	382	65.2	1,429	7.5
37-41	17,269	92.9	136	23.2	17,405	90.8
42+	36	0.2	0	0.0	36	0.2
Unknown	<5	<0.1	0	0.0	<5	<0.1
Total	**18,587**	**100.0**	**586**	**100.0**	**19,173**	**100.0**

Among singleton births, the majority of stillbirths occurred before 37 weeks gestation (87.7%), with the highest proportion occurring before 24 weeks gestation (56.7%, Table 50). Among live births, only 6.6% of babies were born preterm.

Table 50: Gestational age at birth for singleton infants by birth status, South Australia, 2019

Gestation at birth (weeks)	Birth status					
	Live birth		Stillbirth		Total	
	Number	%	Number	%	Number	%
<24	10	0.1	55	56.7	65	0.3
24-27	50	0.3	6	6.2	56	0.3
28-31	105	0.6	6	6.2	111	0.6
32-36	1,029	5.6	18	18.6	1,047	5.6
37-41	17,257	93.3	12	12.4	17,269	92.9
42+	36	0.2	0	0.0	36	0.2
Unknown	<5	<0.1	0	0.0	<5	<0.1
Total	**18,490**	**100**	**97**	**100**	**18,587**	**100.0**

4.9 Birthweight

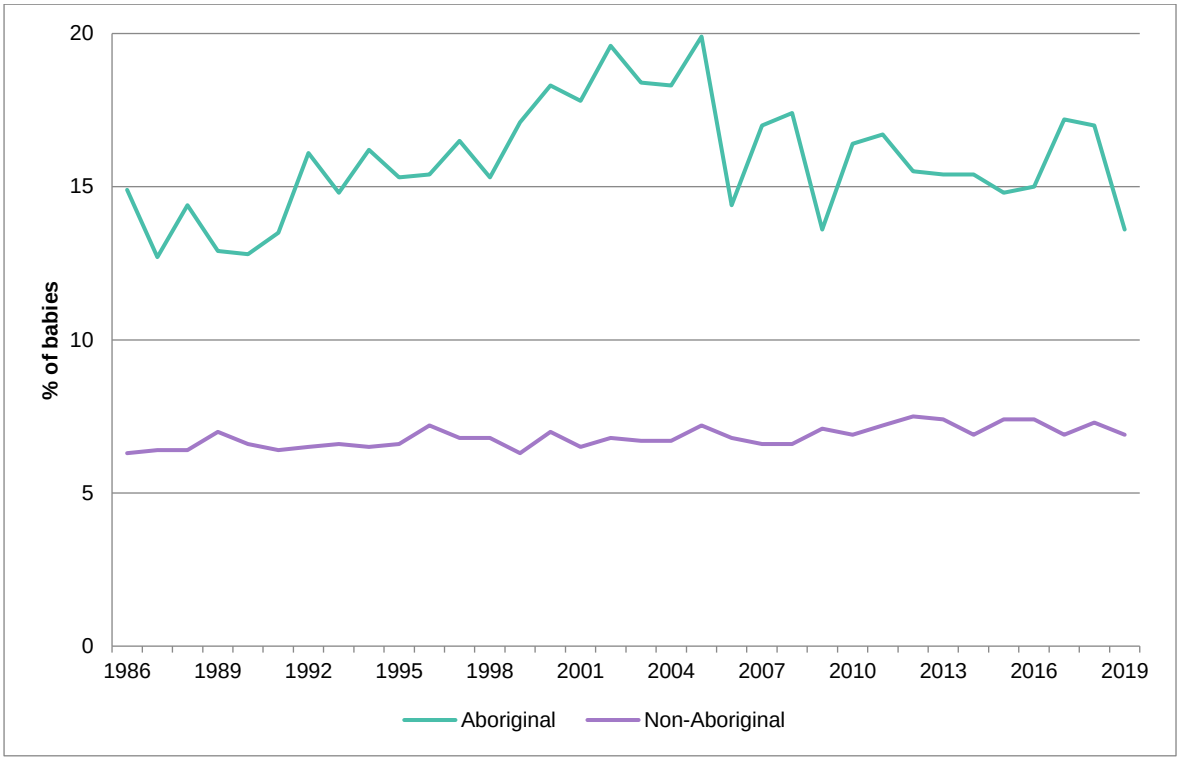
The distribution of birthweight for all births in South Australia is presented in Table 51. The percentage of low birthweight babies (<2,500g) was 7.2%, and that of very low birthweight babies (<1,500g) was 1.4%. The mean birthweight was 3,304g (SD 591g), with birthweights ranging from 110g to 5,440g. *The proportion of low birthweight babies was 13.6% 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 12.8% and 6.5% respectively.*

Table 51: Birthweight distribution of all births, South Australia, 2019

Birthweight (grams)	Maternal Aboriginal status					
	Non-Aboriginal		*Aboriginal*		Total	
	Number	%	*Number*	*%*	Number	%
<400	32	0.2	*<5*	*0.4*	35	0.2
400-499	17	0.1	*<5*	0.1	18	0.1
500-749	49	0.3	*5*	*0.7*	54	0.3
750-999	41	0.2	*<5*	*0.4*	44	0.2
1,000-1,499	103	0.6	*13*	*1.7*	116	0.6
1,500-1,999	257	1.4	*21*	*2.7*	278	1.4
2,000-2,499	769	4.2	*58*	*7.6*	827	4.3
2,500-2,999	3,056	16.6	*142*	*18.5*	3,198	16.7
3,000-3,499	7,056	38.3	*250*	*32.6*	7,306	38.1
3,500-3,999	5,390	29.3	*203*	*26.5*	5,593	29.2
4,000-4,499	1,451	7.9	*58*	*7.6*	1,509	7.9
4,500+	183	1.0	*8*	*1.0*	191	1.0
Unknown	<5	<0.1	*<5*	0.1	<5	0.0
Total	**18,407**	**100.0**	***766***	***100.0***	**19,173**	**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 2019 (Figure 8). 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 13.6% in 2009. In 2019 this proportion was 13.6%.*

Figure 8: Proportion of low birthweight babies by maternal Aboriginal status, all births, 1986-2019



4.10 Birthweight, plurality and gestational age

A comparison of multiple births with singletons shows that 57.8% multiple births were of low birthweight compared with only 5.6% for singleton (Table 52). Among singleton births, only 2.0% of infants with gestational age 37 weeks or over were lower birthweight, but this proportion was 43.8% for infants with gestational age of 32-36 weeks (Table 53).

Table 52: Birthweight by plurality, all births, South Australia, 2019

Birthweight (grams)	Singleton births		Multiple births	
	Number	%	Number	%
<400	30	0.2	5	0.9
400-499	14	0.1	<5	0.7
500-749	42	0.2	12	2.0
750-999	30	0.2	14	2.4
1,000-1,499	80	0.4	36	6.1
1,500-1,999	192	1.0	86	14.7
2,000-2,499	645	3.5	182	31.1
2,500-2,999	2,998	16.1	200	34.1
3,000-3,499	7,262	39.1	44	7.5
3,500-3,999	5,592	30.1	<5	0.2
4,000-4,499	1,509	8.1	0	0.0
4,500+	191	1.0	0	0.0
Unknown	<5	<0.1	<5	0.3
Total	**18,587**	**100.0**	**586**	**100.0**

Table 53: Birthweight by gestation for singleton infants[1] born in South Australia, 2019

Birthweight (grams)	Gestation (weeks)									
	20-27		28-31		32-36		37-43		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
<1000	104	87.4	12	10.8	0	0.0	0	0.0	116	0.6
1000-1499	15	12.6	50	45.0	14	1.3	<5	<0.1	80	0.4
1500-1999	0	0.0	46	41.4	126	12.0	20	0.1	192	1.0
2000-2499	0	0.0	<5	1.8	319	30.5	323	1.9	644	3.5
2500-2999	0	0.0	<5	0.9	363	34.7	2,634	15.2	2,998	16.1
3000-3499	0	0.0	0	0.0	161	15.4	7,099	41.0	7,260	39.1
3500-3999	0	0.0	0	0.0	45	4.3	5,547	32.1	5,592	30.1
4000-4499	0	0.0	0	0.0	15	1.4	1,494	8.6	1,509	8.1
≥4500	0	0.0	0	0.0	<5	0.4	187	1.1	191	1.0
Total	**119**	**100.0**	**111**	**100.0**	**1,047**	**100.0**	**17,305**	**100.0**	**18,582**	**100.0**

[1]Excludes singleton infants with unknown birthweight or gestational age (n=5)

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, 90.5% had a score of 7-10 and 1.7% had a score less than 4 (Table 54). For liveborn infants with an Apgar score reported at five minutes, 98.2% 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, 91.0% established spontaneous respirations within the first minute of life.

Table 54: Apgar scores[1] at one and five minutes after birth for infants born alive, South Australia, 2019

Apgar Score	1 min after birth		5 min after birth	
	Number	%	Number	%
0-3	332	1.7	47	0.2
4-6	1,469	7.7	288	1.5
7-10	17,243	90.5	18,712	98.2
Total	**19,044**	**100.0**	**19,047**	**100.0**

[1] Excludes infants with missing Apgar score reported one minute (n=18) or five minutes (n=15) after birth

4.12 Infant resuscitation

Multiple methods of infant resuscitation can be reported for each infant on the SBR. Among all liveborn infants, 14.8% received some form of resuscitation (Table 55). In 2019, 8.1% of liveborn infants received one type of resuscitation, 4.7% received two types, 1.6% received three types and 0.4% received four types of resuscitation methods. Other resuscitation methods may include medications such as adrenaline or intravenous therapy.

Table 55: Resuscitation received by infants born alive in South Australia, 2019

Method of resuscitation[1]	Liveborn infants (n=19,062)	
	Number	%
None	16,242	85.2
IPPV - bag and mask	1,525	8.0
Oxygen therapy	1,040	5.5
CPAP	958	5.0
Aspiration	833	4.4
IPPV - intubation	101	0.5
Other	61	0.3
External cardiac massage	29	0.2
Narcotic antagonist	10	0.1
Sodium bicarbonate	<5	<0.1

[1] Multiple methods of resuscitation may be reported.
IPPV: intermittent positive pressure ventilation. CPAP: continuous positive airway pressure

4.13 Birth injuries

Birth injuries were reported in 1.5% of liveborn infants in 2019 (n=295). The most common injury reported was injury to scalp (0.6%). Nerve injury and fracture occurred less frequently (Table 56). More than one birth injury can be reported per infant.

Table 56: Birth injuries among liveborn infants, South Australia, 2019

	Liveborn infants (n=19,062)	
Birth injury[1]	**Number**	**%**
None	18,767	98.5
Injury to scalp	118	0.6
Subdural and cerebral haemorrhage	17	0.1
Nerve injury	23	0.1
Fracture	22	0.1
Severe birth asphyxia	20	0.1
Dislocation	16	0.1
Other	75	0.4

[1] multiple birth injuries may be reported per infant

4.14 Congenital anomalies

Among the 19,173 births in 2019 there were 560 births (2.9%) notified with congenital anomalies either at birth or in the neonatal period, a similar proportion to 2018 (2.8%). 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 57 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 Report[1].

Table 57: Selected congenital anomalies, South Australia, 2010-2019

Congenital Anomaly	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of births	**20,002**	**20,343**	**20,663**	**20,262**	**20,747**	**20,154**	**20,067**	**19,486**	**19,332**	**19,173**
Anencephalus	1	2	2	2	1	1	0	1	1	0
Spina bifida	10	3	4	7	6	9	5	7	8	6
Encephalocele	1	0	1	2	2	0	1	1	2	0
Hydrocephalus	5	4	10	13	12	10	9	2	3	5
Cleft palate	13	8	13	12	13	17	10	9	17	11
Cleft lip and palate	18	11	12	14	16	14	20	17	19	11
Tracheo-oesophageal fistula, oesophageal atresia and stenosis	3	4	5	7	8	10	4	1	2	6
Atresia and stenosis of large intestine, rectum and anal canal	9	7	3	8	5	2	10	7	8	12
Hypospadias and epispadias	44	36	32	44	42	32	28	45	56	35
Renal agenesis and dysgenesis	8	11	8	7	5	12	16	12	12	15
Limb reduction defects	13	7	13	17	10	10	17	10	10	6
Anomalies of diaphragm	6	4	1	8	8	4	13	11	7	7
Anomalies of abdominal wall	7	12	13	8	17	12	10	12	8	16
Trisomy 21	14	6	16	17	15	13	18	14	26	13

4.15 Treatment given in neonatal period

The proportions of live births that received specified treatments in the neonatal period are provided in Table 58. In some cases more than one treatment was given. The most common treatments in the neonatal period were intravenous therapies (12.0%) and gavage feeding (7.7%).

Table 58: Neonatal treatment given, all live births, South Australia, 2019

Neonatal treatment[1]	Number	% of live births (n=19,062)
None	15,754	82.6
Any intravenous therapy	2,278	12.0
Gavage feeding more than once	1,466	7.7
Phototherapy for jaundice	1,414	7.4
Oxygen therapy for more than 4 hours	1,059	5.6

[1] Multiple neonatal treatments may be reported

4.16 Level of neonatal care utilised

Table 59 outlines the neonatal levels of care utilised in 2019, as defined in the Standards for Maternal and Neonatal Services policy document[3]. In 2019, 80.2% of neonates utilised Level 1-3 care only. Level 4-5 care was used by 19.7% of neonates, and Level 6 neonatal intensive care at the Women's and Children's Hospital or Flinders Medical Centre, and paediatric intensive care at the Women's and Children's Hospital by 3.5% of neonates. As would be expected, with decreasing birthweight, an increasing percentage of babies required higher level care.

Table 59: Level of nursery care by birthweight, all live births[1], South Australia, 2019

Level of care utilised	Birthweight (grams)							
	<1,500		1,500-2,499		2,500+		Total	
	Number (n=190)	% of care	Number (n=1,093)	% of care	Number (n=17,779)	% of care	Number (n=19,062)	% of care
Well baby care (level 1-3)	0	0.0	234	21.4	15,011	84.4	15,245	80.2
Nursery/special care (level 4-5)	171	90.0	856	78.3	2,720	15.3	3,747	19.7
Neonatal intensive care/Paediatric intensive care unit FMC/WCH (level 6)	167	87.9	189	17.3	309	1.7	665	3.5

[1]A 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 20.3% for multiple births compared with 1.6% for singletons (Table 60). The proportion of combined stillbirth and neonatal deaths were 0.6% for singletons, and 3.4% for multiple births. *The proportion of live births in hospital at 28 days was also higher in babies born to Aboriginal women (3.8%) compared to non-Aboriginal women (2.1%, Table 61). This may be due to the higher proportion of low birthweight babies born to Aboriginal women.*

Table 60: Perinatal outcome by plurality, all births, South Australia, 2019

Perinatal outcome	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
Stillbirth	97	0.5	14	2.4	111	0.6
Discharged within 28 days	18,168	97.7	447	76.3	18,615	97.1
In hospital at 28 days	301	1.6	119	20.3	420	2.2
Neonatal death	21	0.1	6	1.0	27	0.1
Total	**18,587**	**100.0**	**586**	**100.0**	**19,173**	**100.0**

Table 61: Perinatal outcome by Aboriginal status of mother, all births, South Australia, 2019

Perinatal Outcome	*Aboriginal*		Non-Aboriginal		Total	
	Number	*%*	Number	%	Number	%
Stillbirth	*9*	*1.2*	102	0.6	111	0.6
Discharged within 28 days	*727*	*94.9*	17,888	97.2	18,615	97.1
In hospital at 28 days	*29*	*3.8*	391	2.1	420	2.2
Neonatal death	*1*	*0.1*	26	0.1	27	0.1
Total	***766***	***100.0***	**18,407**	**100.0**	**19,173**	**100.0**

4.18 Length of stay of live born babies

Table 62 shows the distribution of length of stay of liveborn babies in hospital for preterm (<37 weeks gestation) and term births (≥37 weeks gestation). The mean duration of stay for all liveborn babies was 4.3 days (SD 9.7) and the median duration was 2 days. The mean duration was 2.8 days (SD 3.0) for term births, 20.5 days (SD 26.6) for preterm births, while the median durations were 2 and 11 days respectively.

Table 62: Length of stay of liveborn babies in hospital[1], South Australia, 2019

Length of stay (days)	Preterm births		Term births		Total	
	Number	%	Number	%	Number	%
<1	12	0.7	1,003	5.8	1,015	5.4
1	41	2.5	4,235	24.5	4,276	22.7
2	86	5.3	4,243	24.6	4,329	22.9
3	105	6.5	2,867	16.6	2,972	15.7
4	113	7.0	2,409	14.0	2,522	13.4
5	122	7.5	1,607	9.3	1,729	9.2
6	75	4.6	407	2.4	482	2.6
7-13	344	21.3	333	1.9	677	3.6
14-20	207	12.8	72	0.4	279	1.5
21-27	140	8.7	44	0.3	184	1.0
28 or more	372	23.0	34	0.2	406	2.2
Total	**1,617**	**100.0**	**17,254**	**100.0**	**18,871**	**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 2019 was 7.2 per 1,000 births. The stillbirth rate was 5.8 per 1,000 births and the neonatal mortality rate was 1.4 per 1,000 live births.

For more detailed data regarding perinatal mortality, refer to the 2019 Maternal and Perinatal Mortality in South Australia report here: https://www.wellbeingsa.sa.gov.au/evidence-data/pregnancy-outcome-statistics

Terminations of Pregnancy

In 2019, there were 4,462 terminations of pregnancy recorded, compared with 4,417 terminations in 2018. The termination of pregnancy rate has been declining steadily since 2008. In 2019, the termination rate was 13.4 per 1,000 women aged 15-44 years, similar to the rate in 2018. In 2019, 95.1% of terminations were performed in metropolitan public hospitals, including the Pregnancy Advisory Centre, and 26.8% were performed by medical practitioners in family advisory clinics.

Ninety-one (90.8%) percent of terminations were performed within the first 14 weeks of pregnancy and 9.2% were performed at or after 20 weeks gestation. Of the terminations performed at or after 20 weeks gestation; 52.4% were for congenital anomalies.

For more detailed data regarding terminations of pregnancy, refer to the 2019 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 2019 for the three major metropolitan public hospitals and an additional three hospital categories are provided in Table 63. 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 analyses[4], or of general interest, is provided with mean values for all state hospitals and the six hospital categories outlined above.

Where indicated (+) in Table 86 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. Flinders Private Hospital
8. North Eastern Community Hospital
9. Mount Gambier & District Health Service
10. Port Augusta Hospital & Regional Health Service
11. Gawler Health Service
12. Mount Barker District Soldiers' Memorial Hospital
13. Port Lincoln Health Service
14. Murray Bridge Soldiers' Memorial Hospital
15. Whyalla Hospital & Health Services
16. Riverland General Hospital (Berri)
17. Port Pirie Regional Health Service
18. Naracoorte Health Service
19. Country hospitals with <100 births per year

Table 63: Obstetric profiles by hospital category, South Australia, 2019

Factors	All state hospitals [1]	Metropolitan hospitals [3]		Country hospitals	
	Mean	SA Public Teaching	Private	Level 4:4	Other
Maternal factors					
Women (n=18,792)		11817	3,608	773	2,594
% Aboriginal women	4.0	4.1	0.4	13.3	5.5
% Antenatal visits <7 [2]	13.7	20.0	1.1	7.0	4.8
% Teenage women	1.6	1.7	0.0	4.5	2.4
% Women ≥ 35 years	23.1	22.1	34.0	13.5	15.2
% 4+ prior live births	3.3	3.9	0.3	4.5	4.2
% 1+ prior perinatal deaths	1.2	1.6	0.6	1.0	0.6
% Obstetric complications	56.3	64.1	44.5	54.2	37.8
% Labour complications	54.2	62.6	34.4	47.3	45.6
% Induction	37.6	38.3	39.7	38.8	31.4
% Emergency caesarean	17.8	17.6	18.3	16.7	18.7
% Elective caesarean	17.7	15.0	28.2	15.9	15.5
% Any caesarean	35.5	32.6	46.5	32.6	34.1
% Ultrasound examination [2]	97.9	98.2	97.7	97.5	96.8
% Amniocentesis [2]	1.6	2.2	0.7	0.4	0.8
% Episiotomy	17.2	19.7	15.0	13.3	9.6
% Repair of perineal tear	28.9	29.9	28.8	23.3	26.0
% Epidural analgesia	33.1	33.5	39.9	27.8	23.3
% Private patients	23.3	5.0	100.0	10.1	3.9
% Primiparous women	41.6	41.0	46.4	40.2	37.9
% Previous caesarean	19.4	18.7	22.0	18.2	19.4
% PPH [4]	28.4	33.1	19.5	19.5	22.2
Baby factors					
Births (n=19,086)		12039	3,671	780	2,596
% Birthweight <2,500g	7.2	9.3	4.4	4.7	1.8
% Gestational age <37 weeks at birth	9.1	10.9	8.3	7.7	1.7
% Prolonged hospitalisation (>27 days)	2.2	2.9	1.5	0.3	0.3
% Neonatal intensive care (Level 6 or W&CH paediatric intensive care)	3.5	4.4	1.1	1.7	1.0
% Birth defect	2.9	4.0	1.1	1.8	1.2

[1] mean values are calculated based on data from all state hospitals

[2] adjusted for missing values (missing values are included in the "no" group)

[3] excludes births from metropolitan hospitals that do not provide maternity services

[4] 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 change[4]. This annual report presents the indicators with 95% Confidence Intervals (CI) for South Australian births in 2019. The core maternity indicators are also reported for individual hospitals in the Pregnancy and Neonatal Care Bulletins for 2019. 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 41 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=1,696)
Denominator:	The total number of women who gave birth (n=18,879)
Indicator A1a	**9.0% (95% CI 8.6% - 9.4%)**

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= 928)
Denominator:	The number of women who gave birth who reported smoking tobacco at any time in the pregnancy (n= 1,696)
Indicator A1b	**54.7% (95% CI 52.3% – 57.1%)**

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=15,429)
Denominator:	The number of all women who gave birth (n=18,879)
Indicator A2	**81.7% (95% CI 81.2% - 82.3%)**

Labour and Birth: Induction of labour for selected primiparae

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

Purpose: This indicator is used to benchmark practice.

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

Numerator:	The number of selected primiparae who had labour induced (n=2,710)
Denominator:	All selected primiparae (n=5,568)
Indicator B1	**48.7% (95% CI 47.4% - 50.0%)**

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=2,617)
Denominator:	All selected primiparae (n=5,568)
Indicator B2	**47.0% (95% CI 45.7% - 48.3%)**

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=1,383)
Denominator:	All selected primiparae (n=5,568)
Indicator B3	**24.8% (95% CI 23.7% - 26.0%)**

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=933)

Denominator: The number of women having their first baby who gave birth vaginally without instruments (n=3,355)

Indicator B4a 27.8% (95% CI 26.3% - 29.3%)

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

Numerator: The number of women having their first baby who had an episiotomy during a vaginal birth with instruments (n=1,420)

Denominator: The number of women having their first baby who gave birth vaginally with instruments (n=1,698)

Indicator B4b 83.6% (95% CI 81.8% - 85.3%)

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=1,568)

Denominator: All selected primiparae (n=5,568)

Indicator B5 28.2% (95% CI 27.0% - 29.4%)

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

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

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

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

Numerator:	The number of women having their second birth vaginally whose first birth was by caesarean section (n=305)
Denominator:	The number of women having their second birth whose first birth was by caesarean section (n=2,265)
Indicator B6	**13.5% (95% CI 12.1% - 14.9%)**

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=349)
Denominator:	The total number of women who gave birth by caesarean section (n=6,667)
Indicator B7	**5.2% (95% CI 4.7% - 5.8%)**

Birth Outcomes: Third and fourth degree tears for vaginal births

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

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

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

Numerator:	The number of women who had a third or fourth degree perineal laceration after giving birth for the first time and had a vaginal birth (n=303)
Denominator:	The number of women who gave birth for the first time and had a vaginal birth (n=5,053)
Indicator C1a	**6.0% (95% CI 5.4% - 6.7%)**

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=401)

Denominator: The number of women who gave birth vaginally (n=12,212)

Indicator C1b 3.3% (95% CI 3.0% - 3.6%)

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=233)

Denominator: The number of live babies born at term (n=17,429)

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=52)

Denominator: The total number of babies born at or after 40 weeks (n=5,085)

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

Key Statistics and Trends 2010 - 2019

Perinatal statistics are presented in Table 64 and Table 65 for both socio-demographic and obstetric aspects for each year from 2010-2019, and for 1986, when the perinatal data collection was commenced. The trends noted are as follows:

1 The total fertility rate was 1.65 live births per woman in 2019, 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 4.0% in 2019.

3 The proportion of teenage women giving birth decreased from 6.2% in 1986 to 1.6% in 2019. 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 23.1% in 2019. Amongst primiparous women, the proportion aged 35 years or older in 1986 was 2.9%, and in 2019 was 14.9%. The mean age among women giving birth increased from 26.9 years in 1986 to a peak of 30.6 in 2019. The mean age among primiparous women increased from 25.0 years in 1986 to 29.1 in 2019.

5 The proportion of multiple births has been relatively stable since 2010 and in 2019 this proportion was 3.1% of all births.

6 The induction of labour rate increased from 29.6% in 2010 to 37.5% in 2019. Around fourteen percent (14.1%) of inductions in 2019 were performed for other than defined indications, which has increased from 10.0% in 2018.

7 The proportion of normal spontaneous vaginal births decreased from 55.2% in 2010 to 52.9% in 2019. The proportion of caesarean section births has increased gradually but steadily in the past decade, and reached 35.3% in 2019. The proportion of breech and ventouse births were stable in the past decade and were 0.2% and 5.8% respectively in 2019.

8 Despite minor fluctuations in the proportion of low birthweight births (<2,500 grams) over the past decade, the proportion has remained at 7.2% in 2010 and 2019. The proportion of preterm births was 8.9% in 2010, and this peaked at 9.8% in 2013. In 2019, the proportion was 9.0%.

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 2.9% in 2019.

10 In the past decade, the proportion of babies utilising Nursery or special care (level 4-5) increased from 15.9% in 2010 to a peak of 19.7% in 2019. The proportion of births using neonatal or paediatric intensive care (level 6) has increased from 2.7% in 2010 to 3.5% in 2019. The proportion of infants in hospital at 28 days after birth has been relatively stable over the past decade.

Table 64: Socio-demographic aspects of perinatal statistics, South Australia, 1986 and 2010 – 2019

Characteristic	Year										
	1986	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total births	19,799	20,002	20,343	20,663	20,262	20,747	20,154	20,067	19,485	19,332	19,173
Live births	19,650	19,883	20,191	20,525	20,124	20,602	20,001	19,931	19,356	19,198	19,062
Women who gave birth	19,562	19,667	20,042	20,335	19,924	20,446	19,818	19,763	19,195	19,043	18,879
Total fertility rate per woman	1.75	1.87	1.89	1.91	1.85	1.87	1.79	1.77	1.71	1.68	1.65
Place of birth (%)											
Teaching hospital	45.4	54.3	55.7	57.1	57.3	58	59.7	60.4	61.4	61.8	62.8
Private hospital	15.1	25.6	24.2	23.3	22.8	22.5	21.5	20.7	19.9	19.2	19.1
Country hospital	39.1	19.3	19.7	19.2	19.3	19.1	18.3	18.4	18.3	18.5	17.6
Domiciliary[1]	0.4	0.7	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.4
Aboriginal status											
Aboriginal, %	1.7	3.1	3.1	3.2	3.6	3.5	3.6	3.8	3.8	3.9	4.0
N of women who gave birth	334	617	630	653	715	711	716	751	736	735	749
N of births to Aboriginal women	335	622	640	660	727	719	730	760	748	748	766
N of babies identified as Aboriginal				901	960	954	1,003	1,032	962	1023	1077
Age											
Mean age (yrs)	26.9	29.6	29.7	29.7	29.8	30.0	30.1	30.3	30.4	30.4	30.6
Teenage (%)	6.2	4	4	3.9	3.4	3.1	2.8	2.4	2.1	1.9	1.6
≥35 years (%)	6.5	20.5	20.6	20.4	19.8	20.6	20.3	21.3	21.8	22.5	23.1
Primiparae											
Mean age (yrs)	25	27.8	27.9	27.9	28.2	28.4	28.5	28.7	28.8	28.9	29.1
Teenage (%)	12.6	7.8	7.8	7.8	6.7	6.3	5.6	4.6	4.2	3.9	3.3
≥35 years (%)	2.9	12.2	12	11.7	12.4	12.9	12.5	12.5	13.7	14.3	14.9

Table 65: Obstetric aspects of perinatal statistics, South Australia, 1986 and 2010 – 2019

Characteristic	Year										
	1986	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Plurality											
Multiple births, %	2.4	3.3	2.9	3.2	3.3	2.9	3.3	3.0	3.0	3.0	3.1
Twins, number	450	644	586	636	640	574	648	592	568	574	580
Triplets, number	18	15	12	15	27	21	18	12	9	3.0	6.0
Quadruplets, number		4									
Induction of labour (%)	23.3	29.6	31.1	30.9	32.5	32.2	32.5	34	35.9	37.4	37.5
Method of birth, %											
Normal spontaneous	63.3	55.2	54.7	54.2	53.9	54.1	53.1	52.7	53.2	53.1	52.9
Elective caesarean	9	15.5	16	15.9	16.2	16.6	17.2	17.3	16.8	16.7	17.6
Emergency caesarean	9.9	16.7	17.2	17.9	17.8	17.3	17.8	17.8	18.1	18.5	17.7
Forceps	14.9	5.4	5.7	5.5	5.6	5.3	5.6	5.7	5.9	5.6	5.6
Breech	0.1	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2
Ventouse	1.9	6.9	5.9	6	5.9	6.3	5.9	6.1	5.7	5.7	5.8
Total caesarean	19	32.2	33.2	33.8	34	33.9	35.1	35.1	34.8	35.2	35.3
Birthweight <2,500 g, %	6.5	7.2	7.5	7.7	7.7	7.1	7.6	7.7	7.3	7.7	7.2
Singletons	5.4	5.6	6.2	6.1	5.8	5.7	5.9	6	5.7	6.1	5.6
Multiples	52.1	54.1	52	56.8	63	57.3	59.8	63.1	58.9	58.2	57.8
Gestational age <37 wks, %	6.4	8.9	9.2	9.4	9.8	9.2	9.6	9.5	9.6	9.7	9.0
Singletons	5.5	7.2	7.6	7.6	7.7	7.5	7.6	7.5	7.6	7.7	6.9
Multiples	44.4	58.4	61.7	64.7	70.9	69.1	69.4	74.5	75	76.4	76.8
Congenital abnormalities, %	2.8	2.9	2.3	2.3	2.8	2.7	2.6	2.6	2.7	2.8	2.9
Level of perinatal care utilised, %											
Nursery/special care (L4-5)	9.5	15.9	16.1	15.4	16.4	15.8	16.8	17.2	17.6	17.9	19.7
Neonatal intensive care/ Paediatric intensive care unit FMCH/WCH (L6)	3.1	2.7	2.8	2.7	2.9	2.7	3	3.3	3.3	3.0	3.5
Hospitalisation for 28 days or more, %	1.8	2	2.1	2.4	2.4	2.1	2.1	2.1	2	2.0	2.2
Neonatal deaths, number	85	44	41	46	45	39	35	39	47	43	27
Stillbirths, number	149	119	152	138	138	145	153	136	129	134	111
Perinatal deaths, number	234	163	193	184	183	184	188	175	176	177	138
Perinatal mortality rate per 1,000 births											
≥400g / 20 wks	11.8	8.1	9.5	8.9	9	8.9	9.3	8.7	9	9.2	7.2
≥500g / 22 wks	11.4	5.8	7.1	6	6.4	6	6.4	6.2	5.9	7.4	5.3
≥1000g / 28 wks	7.4	3.7	3.8	2.7	3.4	2.8	3.4	3.3	2.9	3.9	2.9

Summary Statistics for 2019

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

1. Number of births
Notified births with Supplementary Birth Records: 19,173
Notified women who gave birth on SBRs: 18,879
Crude birth rate: 10.9 live births per 1,000 population
Total fertility rate: 1.65 live births per woman

2. Place of birth
Home births: 81 home births in all (0.4%), of which 73 were planned home births
Metropolitan teaching hospitals: 12,043 (62.8%)
Metropolitan private hospitals: 3,671 (19.1%)
Country hospitals: 3,378 (17.6%)

3. Sex of babies
Males 9,897 (51.6%)
Females 9,275 (48.7%)
Male: Female sex ratio 1.1:1

4. Plurality
Singleton 18,587 (96.9%)
Twin 580 (3.0%)
Triplet 6 (<0.1%)

5. Aboriginal status of women
Non-Aboriginal 18,130 (96.0%)
Aboriginal 749 (4.0%)

6. Obstetric interventions
Induction of labour: 7,075 (37.5% of women)
Augmentation of labour: 2,783 (14.7% of women)
Forceps: 1,062 (5.6%)
Ventouse: 1,092 (5.8%)
Episiotomy: 3,225 (32.3% of women who gave birth vaginally)
Caesarean section: 6,667 (35.3%)
Elective caesarean section: 3,317 (17.6%)
Emergency caesarean section: 3,350 (17.7%)

7. Low birthweight (<2,500 g)
Number of all births of low birthweight =1,372 (7.2% of all births)
Number of singleton births of low birthweight =1,033 (5.6% of singleton births)
Number of multiple births of low birthweight =339 (57.8% of multiple births)

8. Congenital anomalies
Births notified with congenital anomalies: 560 (2.9%)

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 2019 was 7.2 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 of a fetus or newborn obtained after birth. 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 57 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 removal or expulsion of a pregnancy from the uterus via surgical or medical intervention, and excludes spontaneous abortions or miscarriages

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

2019 SUPPLEMENTARY BIRTH RECORD

FOR COMPLETION BY MIDWIVES AND NEONATAL NURSES

Mother's name ..... (Surname) ..... (Given names)

Child's surname (if different) ..... (Given name – if known)

Mother's address .....

..... Postcode

2 1 9

Hospital/Place of birth .....

Mother's Case Record Number .....

Plurality ☐ single ☐ twin ☐ triplet ☐ quad

Please return top copy to:
Pregnancy Outcome Unit, PO Box 6
Rundle Mall, Adelaide SA 5000

Personal information above this line is confidential

For multiple births, please complete a separate baby form for each baby.

MOTHER'S INFORMATION

1 Mother's date of birth
day / month / year

2 Ethnicity of Mother
☐ Aboriginal ☐ TSI
☐ Aboriginal and TSI ☐ Caucasian
☐ Asian ☐ 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

	Singleton	Multiple
Livebirths, not neonatal deaths		
Livebirths, neonatal deaths		
Stillbirths		
Miscarriages		
Ectopic pregnancies		
Terminations of pregnancy		

10 Outcome of last pregnancy
☐ No previous
☐ Single liveborn (survived 28 days)
☐ Single liveborn NND
☐ Single stillbirth
☐ Spontaneous miscarriage
☐ Induced abortion
☐ Ectopic pregnancy
☐ Multiple survived 28d
☐ Multiple, 1 or more NND/SB
☐ Unknown

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

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

13 Number of previous caesareans

THIS PREGNANCY

14 Date of last menstrual period
day / month / year

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

16a Number of antenatal visits

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

17 Type of antenatal care
☐ No antenatal care
☐ MGP at birthing hospital
☐ Birth unit/centre
☐ Public clinic (specialist led)
☐ Shared care (GP and public hospital)
☐ GP lead
☐ Private obstetrician +/- midwife
☐ Private midwife
☐ Aboriginal birth clinic eg. AMIC
☐ Other *(specify)* .....

18 Tobacco smoking at first visit
☐ Smoker ☐ Quit in pregnancy before first visit
☐ Non smoker ☐ Unknown smoking status

19 Average number of tobacco cigarettes smoked per day in the 2nd half of pregnancy
☐ None ☐ Number per day .....
☐ <1 (occasional) ☐ Unknown number

20 Medical conditions present in this pregnancy
☐ None
☐ Anaemia
☐ Urinary tract infection
☐ Essential hypertension
☐ Type 1 diabetes
☐ Type 2 diabetes
☐ Epilepsy
☐ Asthma
☐ GBS+
☐ Other *(specify)* .....

21 Obstetric complications
☐ None
☐ Threatened miscarriage
☐ APH abruption
☐ APH placenta praevia
☐ APH other and unknown
☐ Gestational hypertension
☐ Pre-eclampsia
☐ IUGR (suspected)
☐ Gestational diabetes
☐ Other *(specify)* .....

22 Date of admission prior to birth
day / month / year

23 Procedures performed in this pregnancy
☐ NIPT (Harmony)
☐ 1st trimester screen (US & biochem)
☐ 2nd trimester screen (biochem only)
☐ Ultrasound dating scan
☐ Ultrasound morphology scan
☐ Other ultrasound scan
☐ Amniocentesis
☐ Chorion villus biopsy
☐ Antenatal fetal blood sampling
☐ Other surgical procedures *(specify)*

LABOUR & BIRTH

24 Onset of labour
☐ Spontaneous
☐ No labour (CS)
☐ Induction (excluding augmentation)
Give reason/s for induction:
☐ Prolonged pregnancy ☐ Diabetes
☐ Pre labour ROM ☐ Multiple pregnancy
☐ Hypertensive disorder ☐ APH
☐ Chorioamnionitis ☐ Cholestasis
☐ Maternal age ☐ BMI
☐ Mental health ☐ Fetal compromise
☐ Fetal macrosomia ☐ Fetal death
☐ Fetal congenital anomaly ☐ IUGR
☐ Administrative ☐ Maternal choice
☐ Previous poor obst history *(specify)*
☐ Other *(specify)* .....

25 Methods of Induction/Augmentation
☐ ARM ☐ Oxytocin
☐ Prostaglandins eg. misoprostol/cervidil
☐ Mechanical dilation eg. Balloon/Cooks
☐ Antiprogestogen
☐ Other *(specify)* .....

26 Presentation prior to birth
☐ Vertex ☐ Brow
☐ Breech ☐ Other
☐ Face ☐ Unknown

27 Method of birth
☐ Normal spontaneous
☐ Forceps (vaginal)
☐ Assisted breech (no forceps)
☐ Caesarean section (elective)
☐ Caesarean section (emergency)
If CS, state reason(s) below:
☐ Ventouse
☐ Breech extraction
☐ Breech spontaneous
☐ Assisted breech (with forceps to head)
☐ Unknown

28 Complications of labour, birth & puerperium
☐ None
☐ PPH primary ≥ 500 ml *specify* ml .....
☐ Transfusion required
☐ Fetal distress
☐ Retained placenta
☐ Prolonged labour (>18 hrs)
☐ Cord prolapse
☐ Wound infection
☐ Failure to progress *(specify)*
☐ Other *(specify)* .....

29 Perineal status after birth
Tick tear, repair & episiotomy if all
☐ Intact
☐ 1st degree tear/vaginal graze
☐ 2nd degree tear
☐ 3rd degree tear
☐ 4th degree tear
☐ Repair of tear
☐ Episiotomy
☐ Other *(specify)* .....
☐ Not stated

30 CTG performed during labour
☐ None ☐ External
☐ Scalp clip

31 Fetal scalp pH taken during labour
☐ No ☐ Yes

32 Analgesia to relieve labour pain
☐ None
☐ Nitrous oxide and oxygen
☐ Narcotic (parenteral)
☐ Epidural (lumbar/caudal)
☐ Spinal
☐ Other (ie TENS) *specify* .....
☐ Combined spinal-epidural
☐ Not stated / inadequately described

33 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 / inadequately described

34 Mother's outcome for birth hospital/ home birth
☐ Discharged home ☐ Died
☐ Transferred to .....
on
day / month / year

35 Mothers final discharge / death
day / month / year

BABY DETAILS

1 Case record number

2 Aboriginal status
☐ Aboriginal
☐ Torres Strait Islander (TSI)
☐ Aboriginal & TSI
☐ Not Aboriginal nor TSI
☐ Not stated / inadequately described.

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

4 Date of birth
day / month / year

5 Hour of birth (24 hour clock)

6 Sex ☐ Male ☐ Female ☐ Indeterminate

7 Birth weight (grams)

8 Gestation at birth in completed weeks

CONDITION AT BIRTH

9 Apgar Score 1 minute
5 minute

10 Time to establish regular breathing
M M S S

11 Resuscitation at birth
☐ None
☐ Suction/aspiration
☐ Oxygen therapy
☐ IPPV eg. bag & mask, T-piece
☐ CPAP
☐ IPPV eg. intubation & ventilation
☐ Adrenaline
☐ Narcotic antagonist
☐ Sodium bicarbonate
☐ External cardiac massage
☐ Other *(specify)* .....

12 Condition occurring during birth
☐ None ☐ Cerebral haemorrhage
☐ Fracture ☐ Scalp injury
☐ Dislocation ☐ Severe birth asphyxia
☐ Nerve injury ☐ Unspecified birth asphyxia
☐ Other *(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) Number of days
☐ 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

OUTCOME OF BABY

17 Outcome of baby
☐ Fetal death ☐ In hospital at 28 days
☐ Discharged ☐ Neonatal death

18 Baby transferred to
..... on
day / month / year

19 Date of final discharge (or 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*

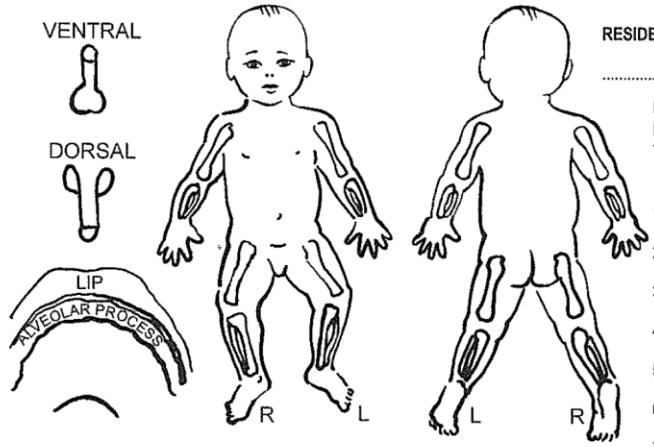
1. Parents *(specify)*..... ☐ ☐ ☐

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

Comments.....

.....

HAS THE FATHER OF THIS CHILD A HISTORY OF EXPOSURE TO ANY POTENTIAL TERATOGENS? ☐ Yes ☐ No ☐ Not known

(specify).....

ADDITIONAL INFORMATION (eg drinking water supply/local epidemics)

.....

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)..... ☐☐☐☐☐

..... ☐☐☐☐☐

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) .....