



**Government of South Australia**

Department of Health

**PREGNANCY OUTCOME  
IN  
SOUTH AUSTRALIA  
  
2005**

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December 2006

**PREGNANCY OUTCOME UNIT**

Department of Health

December 2006

Pregnancy Outcome in South Australia 2005

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ISSN 0819-3835

Suggested citation: Chan A, Scott J, Nguyen A-M, Sage L. Pregnancy Outcome in South Australia 2005. Adelaide: Pregnancy Outcome Unit, South Australian Department of Health, 2006.

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## Acknowledgements

We would like to thank all midwives and nurses in South Australia who completed and submitted the Supplementary Birth Records on which the perinatal data collection is based. We thank them also for responding so efficiently to our queries.

We would also like to express our sincere thanks to the following:

- doctors who notified births with congenital abnormalities and those who notified terminations of pregnancy;
- the pathology departments of teaching hospitals for autopsy information;
- the Department of Cytogenetics and Molecular Genetics, Women's and Children's Hospital for cytogenetic reports;
- the Births, Deaths and Marriages Registration Division for data and perinatal death certificates;
- the Coroner's Office for Coroner's findings and autopsy reports;
- Kevin Priest of the Health Statistics Unit for his assistance in programming and provision of perinatal data to the National Perinatal Statistics Unit and in data linkage;
- Ann-Marie Twisk of the Health Statistics Unit for her assistance with responding to data requests;
- Anna-Liisa Skene for assisting with data entry; and
- Sandra Sowerby and Maureen Fisher for the graphics and for formatting this report.

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## EXECUTIVE SUMMARY

This report on pregnancy outcome in South Australia for 2005 provides statistics derived mainly from the South Australian perinatal statistics collection of births. These are notified by hospital and homebirth midwives and neonatal nurses. For a more complete picture of pregnancy outcome, some statistics from the abortion statistics collection are also included. More statistics on abortions in the state in 2005 are provided in the Third Annual Report of the Abortion Reporting Committee. Comparisons of selected pregnancy characteristics are provided for five different hospital categories in the state. Individual hospital reports (Pregnancy and Neonatal Care Bulletins) with these comparisons made in greater detail are provided to hospitals in the state with at least 100 births per year. Group reports are provided for hospitals with smaller numbers of births.

### 1 Numbers and fertility rates

The number of births notified in South Australia in 2005 was 18,196, which was 674 more than the previous year. The number of women who gave birth was 17,897. The total fertility rate was 1.82 live births per woman compared with 1.74 in 2004. The fertility rates increased in all age groups, remaining highest in the 30-34 years age group, followed by the 25-29 years age group.

### 2 Place of birth

The main increase in the number of births occurred in metropolitan teaching hospitals with a slight increase also in metropolitan private hospitals. 1,023 women (5.7%) gave birth in birthing units in teaching hospitals and there were 63 planned home births. However, our ascertainment of planned home births is incomplete, being about 86% in 2005.

### 3 Teenage women

923 teenage women gave birth, accounting for 5.2% of confinements, and 887 teenage women had terminations of pregnancy, accounting for 18.8% of terminations. This is the first year since 1994 that teenage births have exceeded teenage abortions. In 2005, the proportion of 'known' pregnancies terminated was 49% for teenagers compared with 21% for women of all ages. The teenage pregnancy rate declined in the 1970s and 1980s, but increased in the early 1990s. It has declined again after 1996, and from 2003 the decline has been from the teenage abortion rate. The teenage pregnancy rate of 36.1 per 1,000 women in 2005 is the lowest rate recorded since 1970, when abortion statistics became available to derive a pregnancy rate.

### 4 Older mothers and first time mothers

The mean age of women giving birth increased from 26.55 years in 1981 to 29.86 years in 2005, and, among first time mothers, from 24.42 years to 28.02 years. The proportion who were aged 35 years or more increased from 4.6% in 1981 to 18.7% in 2005. Among first time mothers, this proportion increased from 1.2% to 11.4%. As in the previous 4 years, more women gave birth in the 30-34 years than in the 25-29 years age group.

### 5 Country of birth and race

Eighty-five percent of women who gave birth in 2005 were Australian-born. Of women born overseas who gave birth, the largest proportions came from the United Kingdom and Ireland (3.6% of confinements in the state), Vietnam (1.6%), New Zealand (1.1%) and the Philippines (0.6%).

Asian women accounted for 943 confinements, 5.3% of all confinements in the state in 2005, compared with 1.8% in 1981. They were slightly older than women of other races (20.3% being aged 35 years or more) and gave birth mainly in teaching hospitals.

## **6 Aboriginal women**

*Aboriginal women accounted for 487 confinements, 2.7% of confinements in the state. Twenty-one percent of Aboriginal women were teenagers (compared with 5% of non-Aboriginal women) and 41% had less than seven antenatal visits during pregnancy (compared with 7% of non-Aboriginal women). Smoking during pregnancy was more prevalent and heavier among Aboriginal women, with 64% smoking at the first antenatal visit compared with 18% of non-Aboriginal women. It is of concern that the proportion of Aboriginal women smoking during pregnancy has increased from 58% in 1998 to 64% in 2005, while the proportion of non-Aboriginal women smoking has decreased from 25% to 18% during the same period. Aboriginal women also had proportions of low birthweight births (<2,500g) nearly three times as high, and of preterm births (<37 weeks gestation) more than twice as high as those of non-Aboriginal women. The perinatal mortality rate of babies of Aboriginal women was nearly three times as high as that of births to non-Aboriginal women in 2005 (28.5 compared with 10.1 per 1,000 births).*

## **7 Type of care and length of stay**

Although many women had more than one type of antenatal care, the most common types used were hospital clinics (39%), obstetricians in private practice (33%) and general practitioners (22%). Thirty-three percent of women were private patients. The median length of stay of mothers after a birth was 4 days; it was 3 days for those who had a vaginal birth and 5 days for those who had a caesarean section. It was 2 days longer among private patients for both vaginal and caesarean births.

## **8 Procedures**

At least ninety-seven percent of women who gave birth had an ultrasound examination; 28% had labour induced while another 22% had spontaneous labour augmented; epidurals were used for pain relief during labour for 31% of women, and 13% had an episiotomy. The main reasons for induction of labour were prolonged pregnancy (23%), hypertension (16%), premature rupture of membranes (7%), intrauterine growth restriction (4%) and diabetes or gestational diabetes (6%). However, the proportion of inductions performed which were not for the defined indications has increased from 35% in 1998 to 45% in 2005.

## **9 Method of delivery**

Fifty-six percent of women had normal spontaneous vaginal deliveries. Seven percent were delivered by ventouse and 4% by forceps (compared with 1% and 15% respectively in 1981). In 2005 the proportion of women delivered by caesarean section rose to 32.3%, with 14.6% of women having elective caesareans. Sixteen percent of women who gave birth had had a previous caesarean section. Of those who had had a previous birth, 27% had experienced a caesarean section. Only 16% of women had a vaginal delivery following a previous first caesarean without intervening births, compared with 30% in 1998. The main reasons given for caesarean section were previous caesarean section (29%), failure to progress in labour or cephalopelvic disproportion (25%), fetal distress (15%) and malpresentation (10%).

## **10 Multiple births**

Multiple births accounted for 3.2% of births; confinements with twins or triplets accounted for 1.6% of confinements in 2005. These proportions have been increasing since the 1980s as a result of the use of assisted conception and the increasing proportion of older mothers, who have higher rates of multiple pregnancies than younger mothers. However, the peak proportion of multiple births was recorded in 2002 and 2003 (3.6%).

## **11 Abortions**

4,712 terminations of pregnancy were notified, 236 less than in 2004. The abortion rate was 15.3 per 1,000 women aged 15-44 years. Approximately 91% of terminations were performed in metropolitan teaching hospitals, including the Pregnancy Advisory Centre, and 76% were in family advisory clinics in these hospitals. Ninety-two percent of terminations were performed within the first 14 weeks of pregnancy and 1.5% (70) were late terminations (at or after 20 weeks gestation). Forty-nine percent of these late terminations were for fetal abnormalities. The abortion rate has declined significantly since 2001, when it was 17.7 per 1,000 women, with declines in the rates for younger age groups.

## **12 Perinatal mortality**

The perinatal mortality rate for all births in 2005 was 10.6 per 1,000 births and the neonatal mortality rate 3.5 per 1,000 live births. For international comparisons, the World Health Organization recommends including only births of at least 1,000g birthweight (or 28 weeks gestation if birthweight unavailable) and early neonatal deaths within the first 7 days of life (instead of 28 days) in calculating the perinatal mortality rate. This rate for international comparisons for South Australia for 2005 was 3.7 per 1,000 births. This rate has declined by 49% from 7.2 per 1,000 births in 1981. The decline has been even greater for neonatal deaths (a decline of 76% from 2.5 per 1,000 live births in 1981 to 0.6 per 1,000 live births in 2005).

## **I INTRODUCTION**

This Report summarizes the statistics for 2005 from the South Australian perinatal statistics collection and the South Australian abortion statistics collection, both of which are held in the Pregnancy Outcome Unit. Some definitions used by the Unit are provided in Appendix 1. Guidelines<sup>1</sup> with some of these definitions are issued to all South Australian obstetric units to promote the uniform completion of forms.

### **1 The Perinatal Statistics Collection**

This collection utilises notifications of births in South Australia made by hospital and homebirth midwives and hospital neonatal nurses on the Supplementary Birth Record (SBR - Appendix 2). The SBRs are checked manually for completeness and data discrepancies and then go through a series of automated validation procedures during data entry.

Information on congenital abnormalities detected at birth or in the neonatal period (within 28 days of birth) is provided by doctors using the Congenital Abnormality Form (Appendix 3). Few 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.<sup>2</sup> The Register complements statistics on birth defects from the perinatal and abortion statistics collections with statistics on birth defects detected and notified after discharge from the birth hospital up to the child's fifth birthday. Perinatal data are provided under legislation, the South Australian Health Commission (Pregnancy Outcome Statistics) Regulations 1999. The South Australian perinatal statistics collection includes all births occurring in South Australia, including those to women who normally reside interstate, mainly in New South Wales near the South Australian border and in the Northern Territory. Births of South Australian residents which occur in other states are not included. The perinatal data have been collected since 1981, but there have been changes in the data items collected over the years. The data items in the SBR have remained uniform since 1998.

Perinatal death certificates and Coroner's findings in coronial cases are obtained from the Births, Deaths and Marriages Registration Division, chromosome analysis reports from the Cytogenetics Department at Women's and Children's Hospital and autopsy reports from pathology departments and the Coroner's Office. All these are linked with the SBRs to provide more complete information on births and deaths. All maternal, perinatal and infant deaths in the state are reviewed by the Maternal, Perinatal and Infant Mortality Committee and details of these are reported in the annual report of the Committee entitled 'Maternal, Perinatal and Infant Mortality in South Australia 2005.'<sup>3</sup>

### **2 The Abortion Statistics Collection**

Notifications made by doctors of medical terminations of pregnancy under the Criminal Law Consolidation (Medical Termination of Pregnancy) Regulations 1996, are included in this collection.

It has been in existence since 1970, when specific abortion legislation came into force under the Criminal Law Consolidation Act. Termination of pregnancy became legal in the state if performed in a prescribed hospital by a medical practitioner for a woman who has been resident at least two months in the state. The practitioner and another medical practitioner must have examined the woman and formed the opinion that the continuation of the pregnancy would involve greater risk to her life or greater risk of injury to her physical or mental health than if the pregnancy were terminated; or that there is a substantial risk that if the pregnancy were not terminated and the child were born, the child would suffer from such physical or mental abnormalities as to be seriously handicapped. A termination may not be performed, except to save the mother's life, on a woman who is pregnant with a child

'capable of being born alive.' Evidence that a woman has been pregnant for a period of 28 weeks or more is *prima facie* proof that she was pregnant with a child that was capable of being born alive.

## II CONFINEMENTS AND BIRTHS: CHARACTERISTICS & OUTCOMES

The births in 2005 in South Australia described in this Report include live births of any gestation and stillbirths (including terminations of pregnancy for congenital abnormalities and medical conditions) of at least 400g birthweight or 20 weeks gestation. There was one stillbirth (a termination of pregnancy) of unknown birthweight at 23 weeks gestation, and one baby liveborn at 42 weeks gestation of unknown birthweight. Forty-five births of less than 400g birthweight have been included, consisting of 31 stillbirths and 14 live births. The 14 live births were born at 19-23 weeks gestation and died in the neonatal period. Twenty-three of these 45 births were terminations of pregnancy, twenty-two having been undertaken for congenital abnormalities. SBRs were received for all 18,196 births reported by hospital and home birth midwives in their monthly notification lists. These comprised 18,067 live births and 129 stillbirths. The number of women who gave birth was 17,897, an increase of 668 from 2004. Findings relating to Aboriginal mothers and babies in the text of this Report have been *italicised* for easy identification, in response to the request of the Aboriginal Health Council.

### 1 Place of residence of mother

South Australia is divided into 9 CURB (Committee for Uniform Regional Boundaries) Regions, comprising 5 country Regions and 4 Central Regions. Each of the Central Regions (Northern, Eastern, Western, Southern) has a Metropolitan (Adelaide) and a non-metropolitan component (Figures 1A and 1B). The distribution of births according to place of residence of mother by CURB Regions is provided in Table 1 together with the estimated resident population and crude birth rate. Only live births are used in calculating the crude birth rate (see Appendix 1). The crude birth rate in 2005 for South Australia was 11.7 per 1,000 population. It was lowest in Yorke and Lower North and relatively low in the Central Western, Eastern and Southern Regions. It was highest in the South East and Central Northern regions, and the Northern Region also had a relatively high rate.

**Table 1: Births and crude birth rate by CURB regions, South Australia, 2005**

CURB Region (Mother's residence)	Total births		Live births	Estimated resident population, June 30, 2005+	Crude birth rate per 1,000 population
	Number	Percent	Number	Number	
Central Northern	5,350	29.4	5,318	402,400	13.2
Central Western	2,315	12.7	2,291	215,094	10.7
Central Eastern	2,878	15.8	2,867	266,777	10.7
Central Southern	3,967	21.8	3,942	368,922	10.7
Yorke & Lower North	466	2.6	462	44,907	10.3
Murraylands	823	4.5	820	68,756	11.9
South East	848	4.7	841	63,499	13.2
Northern	992	5.5	981	77,017	12.7
Eyre	422	2.3	419	34,661	12.1
Interstate	135	0.7	126	na	na
<b>Total</b>	<b>18,196</b>	<b>100.0</b>	<b>18,067</b>	<b>1,542,033</b>	<b>11.7</b>

+ Australian Bureau of Statistics. Population estimates by age and sex, South Australia, 2005. Canberra: ABS, 2005 (Catalogue No 3235.0).

## 2 Place of birth

Of the 18,196 births in 2005, 63 (0.3%) were planned home births. The remaining 18,133 births occurred in hospitals or (in 73 cases) before arrival at hospitals into which the mothers had been booked. These 73 'Born Before Arrival' (or BBA) births have been included in the statistics for those hospitals. The distribution of births by place of birth (home or hospital) and plurality is provided in Table 2. Locations of South Australian hospitals with obstetric beds in 2005 are provided in Figures 1A and 1B.

**Table 2: Total births notified in 2005, by place of birth and plurality, South Australia (based on Supplementary Birth Records)**

Condition at birth	Home births		Hospital births			Total
	Singleton	Twin	Singleton	Twin	Triplet	
Live birth	63	0	17,425	559	20	18,067
Stillbirth	0	0	117	11	1	129
<b>Total births</b>	<b>63</b>	<b>0</b>	<b>17,542</b>	<b>570</b>	<b>21</b>	<b>18,196</b>

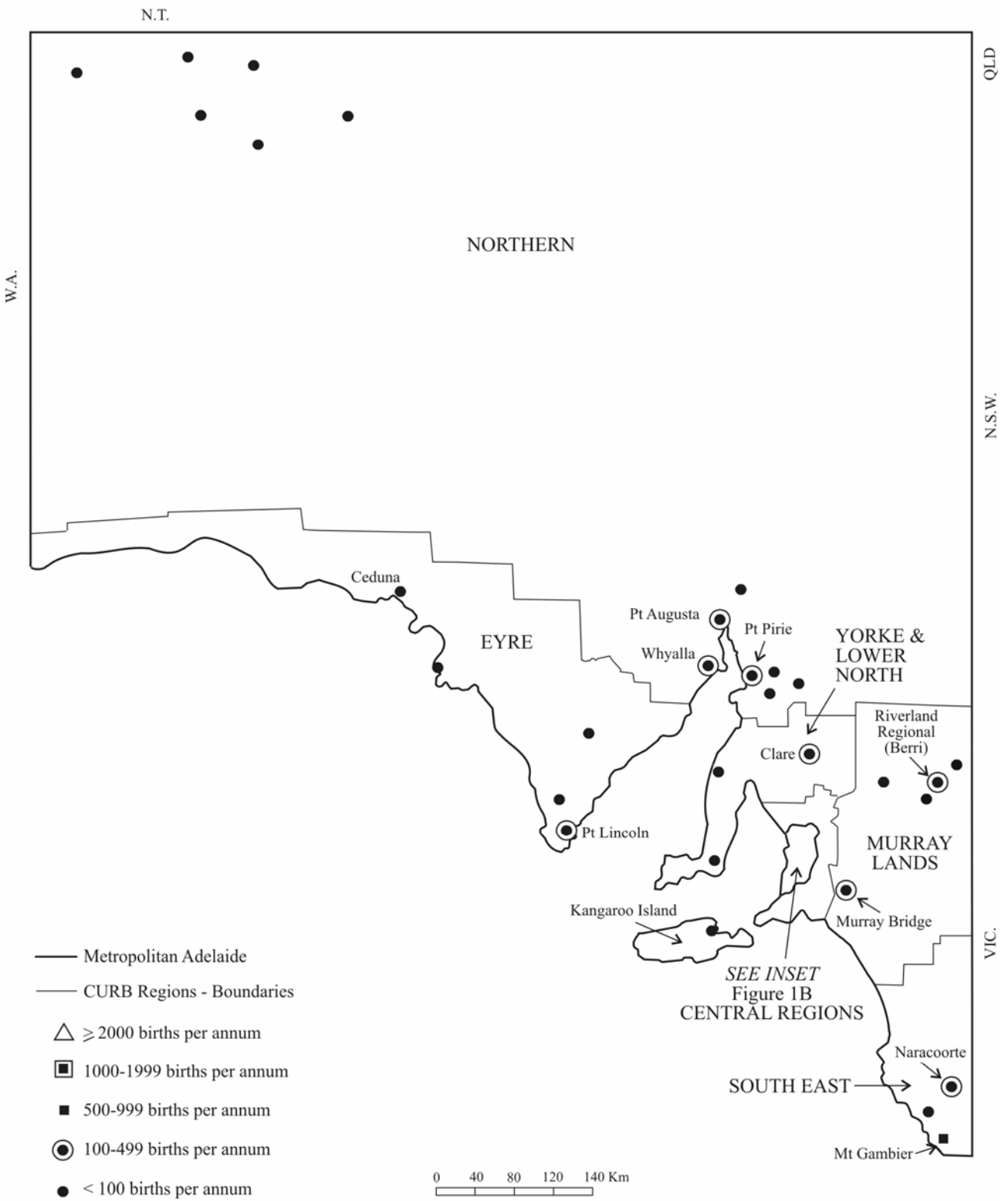
Of the 18,133 hospital births, 78% occurred in metropolitan hospitals (teaching and private) and 22% in country hospitals. This distribution is summarized in Table 3a and Figure 2 and the numbers of births and confinements by race in individual hospitals are provided in Table 3b. Metropolitan hospitals are listed in order of number of births and country hospitals in alphabetic order in their category of number of births. Fifty-two percent of births in South Australia in 2005 occurred in metropolitan teaching hospitals. Level III teaching hospitals - the Women's and Children's Hospital and Flinders Medical Centre - provide a high risk pregnancy service and neonatal intensive care. Two other teaching hospitals have neonatal special care units - Lyell McEwin Health Service and Modbury Hospital. These levels are defined in the Report 'Operational Policy, Guidelines and Standards for Maternal and Neonatal Services in South Australia.'<sup>4</sup>

Compared with 2004, the numbers of births in 2005 increased mainly in Level III teaching hospitals and at Lyell McEwin Health Service. The numbers also increased at Ashford, Burnside War Memorial and North Eastern Community Hospitals but decreased at Flinders Private Hospital. Central District Private Hospital ceased providing obstetric services from July 2005.

In country hospitals the numbers of births increased at Mount Gambier, Gawler and Naracoorte Hospitals, while decreases occurred at Port Pirie, Loxton, Cleve, Cummins, Jamestown and Waikerie Hospitals.

Figure 1A: Map showing SA hospitals with obstetric beds in 2005

**SOUTH AUSTRALIAN HOSPITALS WITH OBSTETRIC BEDS IN 2005\***



\* The six centres near the north-western border are Aboriginal clinics

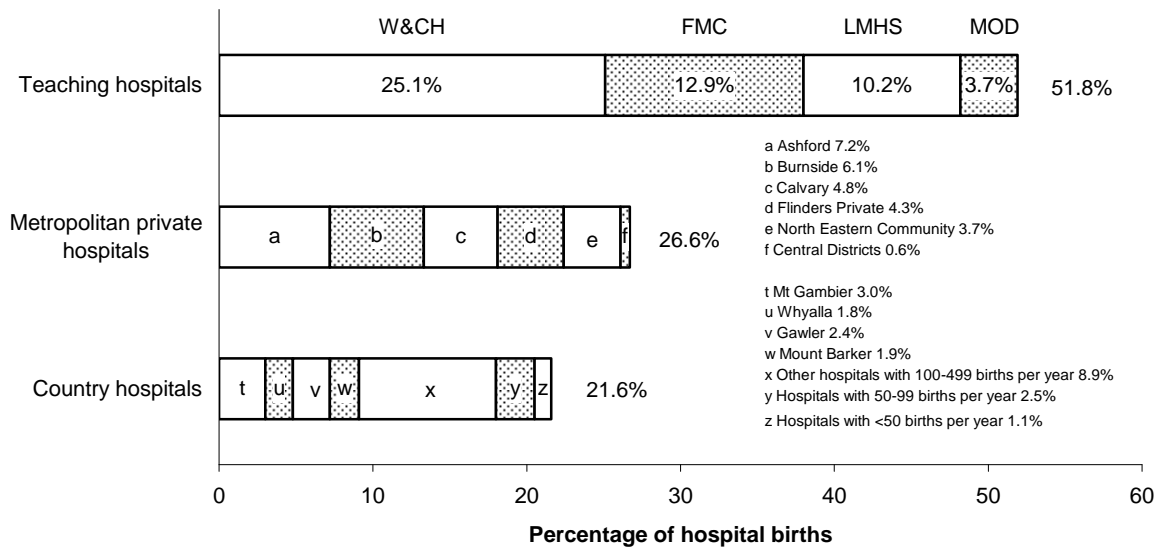
Figure 1B: Map showing Central Regions of SA

### CENTRAL REGIONS *(as at June 2005)*



**Table 3a: Hospital births by category of hospital, South Australia, 2005**

Hospital category	Number of births	Percent hospital births
Metropolitan teaching	9,390	51.8
Level III	(6,877)	(37.9)
Other teaching	(2,513)	(13.9)
Metropolitan private	4,818	26.6
Country	3,925	21.6
Major country	(876)	(4.8)
100-499 births per annum	(2,408)	(13.3)
50-99 births per annum	(444)	(2.5)
<50 births per annum	(197)	(1.1)
<b>Total</b>	<b>18,133</b>	<b>100.0</b>

**Figure 2: Distribution of hospital births by hospital category, South Australia, 2005 (n=18,133)**

Note: Hospital abbreviations as in Table 3b

**Table 3b: Hospital births in South Australia in 2005 by race and hospital (as indicated by returned SBRs for hospital births)**

<b>Hospital</b>	<b>Caucasian</b>	<b>Aboriginal</b>	<b>Asian</b>	<b>Other</b>	<b>Total births</b>	<b>Total confinements</b>
<b>Metropolitan teaching</b>						
Women's & Children's Hospital (W&CH)	3,629	188	480	249	4,546	4,431
Flinders Medical Centre (FMC)	2,146	39	112	34	2,331	2,287
Lyell McEwin Health Service (LMHS)*	1,608	65	144	28	1,845	1,816
Modbury Hospital (MOD)*	597	10	37	23	667	657
Noarlunga Health Service	1	0	0	0	1	1
<b>Total</b>	<b>7,981</b>	<b>302</b>	<b>773</b>	<b>334</b>	<b>9,390</b>	<b>9,192</b>
<b>Metropolitan private</b>						
Ashford*	1,261	1	30	11	1,303	1,266
Burnside War Memorial (BWMH)*	1,062	0	34	8	1,104	1,088
Calvary*	827	1	32	4	864	852
Central Districts	99	0	2	0	101	100
Flinders Private*	736	1	23	12	772	762
North Eastern Community (NECH)*	662	0	9	3	674	669
<b>Total</b>	<b>4,647</b>	<b>3</b>	<b>130</b>	<b>38</b>	<b>4,818</b>	<b>4,737</b>
<b>Country</b>						
<b>Major country</b>						
Mt. Gambier*	524	6	8	10	548	539
Whyalla	293	26	6	3	328	325
<b>Subtotal</b>	<b>817</b>	<b>32</b>	<b>14</b>	<b>13</b>	<b>876</b>	<b>864</b>
<b>100-499 births per annum</b>						
Clare	105	0	0	0	105	105
Gawler Health Service**	432	4	3	0	439	439
Mt. Barker	339	3	4	3	349	347
Murray Bridge Soldiers' Memorial	224	17	3	3	247	247
Naracoorte	143	0	3	1	147	146
Pt. Augusta	185	74	1	3	263	261
Pt. Lincoln	222	21	2	1	246	246
Pt. Pirie	170	6	0	4	180	179
Riverland Regional (Berri)	164	8	3	5	180	179
South Coast District (Victor Harbor)	108	2	1	2	113	113
Tanunda	137	0	2	0	139	139
<b>Subtotal</b>	<b>2,229</b>	<b>135</b>	<b>22</b>	<b>22</b>	<b>2,408</b>	<b>2401</b>

\* These hospitals have neonatal special care nurseries.

\*\* This is a metropolitan hospital situated at the metropolitan/country boundary; it has the characteristics of a country hospital and has been included as such.

<b>Hospital</b>	<b>Caucasian</b>	<b>Aboriginal</b>	<b>Asian</b>	<b>Other</b>	<b>Total births</b>	<b>Total confinements</b>
<b>50-99 births per annum</b>						
Crystal Brook	52	1	0	0	53	53
Kapunda	53	0	0	0	53	53
Loxton	80	4	0	1	85	85
Millicent	98	0	1	0	99	98
Northern Yorke Peninsula Regional Health Service (Wallaroo)	72	0	0	0	72	72
Renmark	73	0	6	3	82	82
<b>Subtotal</b>	<b>428</b>	<b>5</b>	<b>7</b>	<b>4</b>	<b>444</b>	<b>443</b>
<b>1-49 births per annum</b>						
Booleeroo Centre	6	0	0	0	6	6
Ceduna	11	7	0	0	18	18
Central Yorke Peninsula (Maitland)	0	1	0	0	1	1
Cleve	18	0	0	0	18	18
Cooper Pedy	0	1	0	0	1	1
Cummins	4	0	0	0	4	4
Jamestown	18	0	0	0	18	18
Kangaroo Island	22	1	0	1	24	24
Mannum	1	0	0	0	1	1
Meningie	1	0	0	0	1	1
Mid West Health (Streaky Bay)	10	0	0	0	10	10
Mimili	0	1	0	0	1	1
Peterborough	4	0	0	0	4	4
Pinnaroo	0	1	0	0	1	1
Quorn	10	1	0	0	11	11
Southern Yorke Peninsula (Yorketown)	30	0	0	0	30	30
Waikerie	44	1	1	2	48	48
<b>Subtotal</b>	<b>179</b>	<b>14</b>	<b>1</b>	<b>3</b>	<b>197</b>	<b>197</b>
<b>Total (country)</b>	<b>3,653</b>	<b>186</b>	<b>44</b>	<b>42</b>	<b>3,925</b>	<b>3,905</b>
<b>Grand total</b>	<b>16,281</b>	<b>491</b>	<b>947</b>	<b>414</b>	<b>18,133</b>	<b>17,834</b>

### 3 Maternal race

The distribution of South Australian confinements by race of mother is provided in Table 4a and also by category of birthplace in Table 4b. *In these tables and all others where distribution by race is shown, 'Aboriginal' includes Aboriginal (472 women), Torres Strait Islander (3 women) and those who are Aboriginal and Torres Strait Islander (12 women). Aboriginal mothers accounted for 2.7% of confinements and gave birth mainly in metropolitan teaching hospitals and country hospitals. Asian mothers accounted for 5.3% of confinements and gave birth mainly in metropolitan teaching hospitals but 13.8% gave birth in private hospitals.*

**Table 4a: Confinements by race of mother, South Australia, 2005**

Race of mother	Number of confinements	% Confinements
Caucasian	16,057	89.7
Aboriginal	487	2.7
Asian	943	5.3
Other	410	2.3
<b>Total</b>	<b>17,897</b>	<b>100.0</b>

**Table 4b: Confinements by race and birthplace category, South Australia, 2005**

Birthplace	Race of mother								Total	
	Caucasian		Aboriginal		Asian		Other			
	Number	%	Number	%	Number	%	Number	%	Number	%
Metropolitan teaching hospital	7,800	48.6	297	61.0	766	81.2	329	80.2	9,192	51.4
Metropolitan private hospital	4,566	28.4	3	0.6	130	13.8	38	9.3	4,737	26.5
Country hospital	3,633	22.6	186	38.2	44	4.7	42	10.2	3,905	21.8
Home	58	0.4	1	0.2	3	0.3	1	0.2	63	0.4
<b>Total</b>	<b>16,057</b>	<b>(89.7)</b>	<b>487</b>	<b>(2.7)</b>	<b>943</b>	<b>(5.3)</b>	<b>410</b>	<b>(2.3)</b>	<b>17,897</b>	<b>100.0</b>

### 4 Maternal age

Among the five-year age groups the largest proportion of confinements (32.4%) was contributed by women in the 30-34 years age group (Table 4c). The proportion of women in this age group has exceeded that of the 25-29 years age group since 2001. Confinements of teenagers comprised 5.2% and those of older women aged 35 years or more, 18.7% (Figure 3). *Aboriginal mothers were generally younger than non-Aboriginal: 20.9% were teenagers and only 7.6% were 35 years or older. Among Asian women, on the other hand, there were fewer teenagers (2.2%) and a larger proportion (20.3%) of older women.*

The age-specific fertility rates have increased for all age groups compared with 2004 (Table 4d). The rate was highest in the age group 30-34 years (114.7 per 1,000 women), followed closely by the 25-29 years age group (111.9 per 1,000 women). The general fertility rate (see Appendix 1) was 58.5 per 1,000 women aged 15-44 years. The total fertility rate (see Appendix 1) was 1.82 live births per woman, compared with 1.74 live births per woman in 2004.

Table 4c: Maternal age by race, South Australian confinements, 2005

Age (years)	Caucasian		Aboriginal		Asian		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
<15	3	0.0	0	0	0	0	0	0	3	0.0
15-19	770	4.8	102	20.9	21	2.2	27	6.6	920	5.1
20-24	2,445	15.2	171	35.1	126	13.4	83	20.2	2,825	15.8
25-29	4,491	28.0	108	22.2	281	29.8	134	32.7	5,014	28.0
30-34	5,303	33.0	69	14.2	324	34.4	100	24.4	5,796	32.4
35-39	2,547	15.9	32	6.6	151	16.0	54	13.2	2,784	15.6
40-44	472	2.9	5	1.0	39	4.1	12	2.9	528	3.0
45+	26	0.2	0	0	1	0.1	0	0	27	0.2
<b>Total</b>	<b>16,057</b>	<b>(89.7)</b>	<b>487</b>	<b>(2.7)</b>	<b>943</b>	<b>(5.3)</b>	<b>410</b>	<b>(2.3)</b>	<b>17,897</b>	100.0

Figure 3: Maternal age by race, South Australian confinements, 2005 (n=17,897)

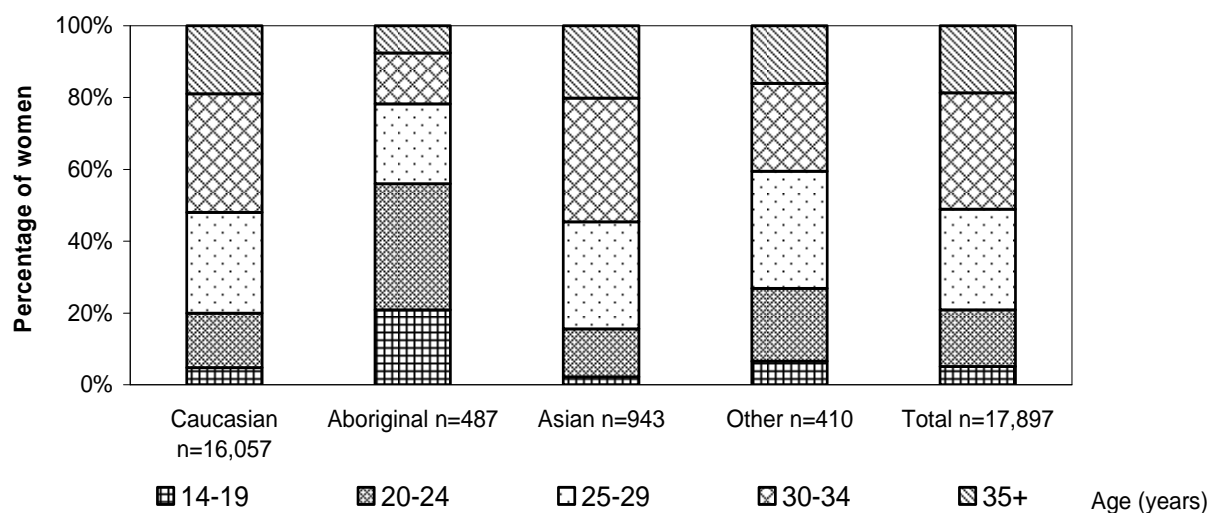


Table 4d: Age-specific fertility rates, South Australia, 2005

Age (years)	Number of live births	Estimated resident female population*	Age-specific fertility rate per 1,000 women (ASFR)
15-19	921**	50,147	18.4***
20-24	2,815	50,629	55.6
25-29	5,065	45,264	111.9
30-34	5,869	51,162	114.7
35-39	2,832	53,570	52.9
40-44	560**	57,950	9.7**
<b>Total</b>	<b>18,067</b>	<b>308,722</b>	<b>58.5**</b>

\* Australian Bureau of Statistics. Population Estimates by Age and Sex, South Australia 2005. Canberra: ABS, 2005 (Catalogue No 3235.0).

\*\* the fertility rate for women aged 15-19 years includes live births for younger ages, and the rate for women aged 40-44 years includes live births for older ages, while the total rate (general fertility rate) includes all live births. Live births in this table exclude terminations of pregnancy.

\*\*\* Sum of 5-year ASFRs = 363.2 per 1,000 women. Total fertility rate =  $363.2 \times 5 = 1,816.0$  per 1,000 women = 1.82 per woman.

## 5 Country of birth

The distribution of women by country of birth is provided in Table 5a and by specified countries of birth with 40 or more confinements in Table 5b. Of the 15.4% of women born outside Australia, the largest proportion was born in the United Kingdom and Ireland (3.6%). Other countries contributing relatively large proportions of migrant women were Vietnam (1.6% of confinements), New Zealand (1.1%), the Philippines (0.6%), India (0.5%), Cambodia, China, Malaysia, South Africa and Sudan (0.4% each), the United States of America and Thailand (0.3%), and Canada and Poland (0.2% each.)

**Table 5a: Confinements by country of birth of mother, major groups,\* South Australia, 2005**

	Country of birth	Number	%
1	Oceania and Antarctica	15,391	86.0
2	Europe and the USSR	1,008	5.6
3	The Middle East and North Africa	217	1.2
4	Southeast Asia	668	3.7
5	Northeast Asia	150	0.8
6	Southern Asia	166	0.9
7	Northern America	87	0.5
8	South America, Central America and the Caribbean	51	0.3
9	Africa (excluding North Africa)	159	0.9
	<b>Total</b>	<b>17,897</b>	<b>100.0</b>

\* Australian Bureau of Statistics. Australian Standard Classification of Countries for Social Statistics (ASCCSS). Canberra: ABS, 1990 (Catalogue No 1269.0).

**Table 5b: Confinements by specified country of birth\* of mother, South Australia, 2005**

	Specified country of birth	Number	% of confinements	% of confinements of migrant women (n=2,756)
1100	Australia	15,141	84.6	na
4102	Cambodia	77	0.4	2.8
7102	Canada	40	0.2	1.5
5101	China	73	0.4	2.6
6104	India	83	0.5	3.0
4105	Malaysia	77	0.4	2.8
1301	New Zealand	202	1.1	7.3
4107	Philippines	113	0.6	4.1
2504	Poland	40	0.2	1.5
9220	South Africa	64	0.4	2.3
3207	Sudan	69	0.4	2.5
4109	Thailand	45	0.3	1.6
2101-2107	The United Kingdom and Ireland	638	3.6	23.2
7104	United States of America	47	0.3	1.7
4110	Vietnam	287	1.6	10.4
	All other countries	901	5.0	32.7
	<b>Total</b>	<b>17,897</b>	<b>100.0</b>	<b>100.0</b>

\* ASCSS, Australian Bureau of Statistics

## 6 Marital status and type of patient

While 86.1% of women who gave birth in 2005 were married or in a de facto relationship, 13.8% were single (12.5% were never married and 1.3% were widowed, separated or divorced Table 6a) and marital status was unknown for 0.1%. Of never married women, nearly a quarter were teenage and just over a third were in the early twenties age group. Relatively more single women were hospital/public patients than married women and women in de facto relationships (91.4% v 63.4%, Table 6b). Nearly a third of all women were private patients (32.7%).

Table 6a: Marital status by age of mother, South Australia, 2005

Age of mother (years)	Marital status of mother								Total	
	Never married		Married/de facto		Widowed/ separated/divorced		Unknown		Number	%
	Number	%	Number	%	Number	%	Number	%	Number	%
<20	517	23.1	402	2.6	3	1.3	1	10.0	923	5.2
20-24	752	33.6	2,038	13.2	32	13.9	3	30.0	2,825	15.8
25-29	465	20.8	4,497	29.2	49	21.2	3	30.0	5,014	28.0
30-34	316	14.1	5,417	35.1	62	26.8	1	10.0	5,796	32.4
35-39	154	6.9	2,567	16.7	62	26.8	1	10.0	2,784	15.6
40-44	35	1.6	470	3.1	22	9.5	1	10.0	528	2.9
45+	1	0.0	25	0.2	1	0.4	0	0	27	0.1
<b>Total</b>	<b>2,240</b>	<b>(12.5)</b>	<b>15,416</b>	<b>(86.1)</b>	<b>231</b>	<b>(1.3)</b>	<b>10</b>	<b>(0.1)</b>	<b>17,897</b>	<b>100.0</b>

Table 6b: Type of patient by marital status of mother, South Australia, 2005

Type of patient	Marital status of mother								Total	
	Never married		Married / de facto		Widowed / separated / divorced		Unknown		Number	%
	Number	%	Number	%	Number	%	Number	%	Number	%
Hospital/public	2,050	91.5	9,780	63.4	209	90.5	9	90.0	12,048	67.3
Private	190	8.5	5,636	36.6	22	9.5	1	10.0	5,849	32.7
<b>Total</b>	<b>2,240</b>	<b>(12.5)</b>	<b>15,416</b>	<b>(86.1)</b>	<b>231</b>	<b>(1.3)</b>	<b>10</b>	<b>(0.1)</b>	<b>17,897</b>	<b>100.0</b>

## 7 Occupation of father and mother

This distribution is based on the Australian Statistical Classification of Occupations (ASCO) of the Australian Bureau of Statistics and is provided in Table 7. Unclassified occupations have been assigned a separate category (Category 9).

A much larger proportion of mothers than fathers (25.6% v 0.4%) was included in the occupation 'home duties'. Larger proportions were also found for the groups of clerks, salespersons and personal service workers and students. More fathers were managers and administrators, tradespersons, plant and machine operators and labourers, but occupation was unknown for 12.0% of fathers and 5.7% of mothers.

Table 7: Occupation of father and mother,\* South Australian confinements, 2005

Occupation	Father		Mother	
	Number	%	Number	%
1 Managers and administrators	2,967	16.6	1,441	8.0
2 Professionals	2,235	12.5	2,233	12.5
3 Para professionals	888	5.0	949	5.3
4 Tradespersons	3,030	16.9	600	3.3
5 Clerks	473	2.6	2,178	12.2
6 Salespersons and personal service workers	1033	5.8	2,629	14.7
7 Plant and machine operators and drivers	1,068	6.0	84	0.5
8 Labourers and related workers	2,539	14.2	622	3.5
9 Students	318	1.8	573	3.2
Pensioners	104	0.6	60	0.3
Home duties	68	0.4	4,590	25.6
Unemployed	799	4.5	804	4.5
Other	219	1.2	121	0.7
Unknown	2,156	12.0	1,013	5.7
<b>Total</b>	<b>17,897</b>	<b>100.0</b>	<b>17,897</b>	<b>100.0</b>

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

## 8 Previous pregnancy outcomes

Forty-two percent of women had no previous birth and 31.3% were pregnant for the first time. Among Aboriginal women and those of 'other' races, these proportions were lower, with 33.3% and 34.6% respectively giving birth for the first time.

The proportion of women of parity 4 or greater was higher among Aboriginal women (13.3%) than among Caucasian women (2.6%) and Asian women (1.6%) (Table 8a).

Table 8a: Parity by race of mother, South Australian confinements, 2005

Parity	Race of mother								Total	
	Caucasian		Aboriginal		Asian		Other			
	Number	%	Number	%	Number	%	Number	%	Number	%
0-PRIMIGRAVIDA	5,040	31.4	120	24.6	337	35.7	112	27.3	5,609	31.3
0-MULTIGRAVIDA	1,787	11.1	42	8.6	119	12.6	30	7.3	1,978	11.1
1	5,745	35.8	126	25.9	323	34.3	123	30.0	6,317	35.3
2	2,299	14.3	78	16.0	121	12.8	70	17.1	2,568	14.4
3	776	4.8	56	11.5	28	3.0	38	9.3	898	5.0
4	237	1.5	22	4.5	8	0.9	20	4.9	287	1.6
≥5	173	1.1	43	8.8	7	0.7	17	4.2	240	1.3
<b>Total</b>	<b>16,057</b>	<b>(89.7)</b>	<b>487</b>	<b>(2.7)</b>	<b>943</b>	<b>(5.3)</b>	<b>410</b>	<b>(2.3)</b>	<b>17,897</b>	<b>100.0</b>

Among women with previous pregnancies (multigravid women), the proportions who have had previous adverse pregnancy outcomes are shown in Table 8b. About a third of the women have had a miscarriage and a fifth have had a termination of pregnancy.

**Table 8b: Previous pregnancy outcomes, South Australian confinements, 2005 (multigravidae only, n= 12,288)**

Previous pregnancy outcome	Number	%
Miscarriage	4,015	32.7
Termination of pregnancy	2,440	19.9
Stillbirth	166	1.4
Neonatal death	72	0.6
Ectopic pregnancy	297	2.4

## 9a Antenatal care

Women who gave birth are grouped in Table 9a according to the number of reported antenatal visits: no visits, only 1 - 6 visits, 7 or more visits. *If we exclude women for whom the number of antenatal visits was unknown, 41.4% of Aboriginal women compared with 7.0% of Caucasian women were reported to have made less than 7 visits. Among Asian women this proportion was 9.2%. A low frequency of antenatal visits may be taken, particularly in term births, as an indication of inadequate antenatal care. However, for 9.5% of women (11.7% of Aboriginal women), the number of antenatal visits made was not known. It is hoped that this proportion will be reduced by wider use of the Pregnancy Record,<sup>5</sup> which will also facilitate continuity of care.*

**Table 9a: Antenatal visits by race, South Australian confinements, 2005**

Antenatal visits	Race of mother								Total	
	Caucasian		Aboriginal		Asian		Other			
	Number	%	Number	%	Number	%	Number	%	Number	%
None	40	0.3	25	5.1	1	0.1	1	0.2	67	0.4
1-6	979	6.1	153	31.4	77	8.2	49	12.0	1,258	7.0
≥7	13,520	84.2	252	51.8	769	81.6	331	80.7	14,872	83.1
Unknown	1,518	9.5	57	11.7	96	10.2	29	7.1	1,700	9.5
<b>Total</b>	<b>16,057</b>	<b>(89.7)</b>	<b>487</b>	<b>(2.7)</b>	<b>943</b>	<b>(5.3)</b>	<b>410</b>	<b>(2.3)</b>	<b>17,897</b>	<b>100.0</b>

## 9b Type of antenatal care

Table 9b shows that the main types of antenatal care used were hospital clinics (38.8%), obstetricians in private practice (32.9%), general practitioners (22.0%) and birth centres (7.7%). There were 68 women (0.4%) who had no antenatal care at all. Individual women may have used more than one type of antenatal care.

**Table 9b: Type of antenatal care, South Australian confinements, 2005 (n = 17,897)**

Type of care	Number	%
No antenatal care	68	0.4
Hospital clinic	6,943	38.8
Obstetrician in private practice	5,893	32.9
General practitioner (GP)	3,930	22.0
Birth centre	1,379	7.7
Home birth midwife	68	0.4
Obstetrician/midwife (shared care) in private practice	268	1.5
GP/midwife (shared care)	634	3.5
Midwifery Group Practice (W&CH)	659	3.7
Northern Women's Community Health Centre (NWCHC)	137	0.8
Mothers with Midwives clinic TQEH (MWM)	134	0.7
Other	39	0.2
Not stated	44	0.2

## 10 Smoking

In 1998 two new items were added to the Supplementary Birth Record to ascertain the smoking status of pregnant women, an important factor in pregnancy outcome. The first item requested information on the woman's tobacco smoking status at her first antenatal visit (Table 10a), and the second on the average number of tobacco cigarettes smoked daily in the second half of her pregnancy (Table 10b).

Table 10a shows that 19.4% of women were reported to be smokers at their first antenatal visit, and 3.8% had quit smoking before their first visit. Smoking status was unknown for 1.2% of women. The highest rates of smoking were among teenagers (42.5%) and women aged 20-24 years (32.1%). *A higher proportion of Aboriginal women was reported to be smokers at their first antenatal visit (61.2%) and 4.3% reported that they had quit smoking, while smoking status was unknown for 3.7%. If those of unknown smoking status are excluded, 63.5% were smoking at their first antenatal visit compared with 18.4% among non-Aboriginal women. Smoking rates were high among all age groups of Aboriginal women: the lowest rate was 56.3% - in the 35-39 years age group.*

In the second half of pregnancy 17.6% of women were reported to be smokers and 0.8% smoked more than 20 cigarettes per day, but the number of cigarettes smoked was not known for 2.9% of women. *In the second half of pregnancy 54.8% of Aboriginal women smoked, compared with 16.6% of non-Aboriginal women. A higher proportion of Aboriginal women (3.7% compared with 0.7%) was also smoking more than 20 cigarettes per day, but the number of cigarettes smoked was not known for 9.7% of Aboriginal women and 2.7% of non-Aboriginal women.*

*It is of concern that, while the proportion of non-Aboriginal women smoking during pregnancy has been declining in the state, from 24.9% in 1998 to 18.4% in 2005 (excluding unknown smoking status), the proportion of Aboriginal women smoking during pregnancy has increased from 57.8% in 1998 to 63.5% in 2005.*

**Table 10a: Tobacco smoking status at first visit, South Australian confinements, 2005**

<b>Smoking status</b>	<b>Number</b>	<b>% of confinements</b>
Smoker	3,465	19.4
Quit in pregnancy before first visit	681	3.8
Non-smoker	13,539	75.7
Unknown smoking status	212	1.2
<b>Total</b>	<b>17,897</b>	<b>100.0</b>

**Table 10b: Average number of tobacco cigarettes smoked per day in second half of pregnancy, South Australian confinements, 2005**

<b>Average number per day</b>	<b>Number</b>	<b>% of confinements</b>
None	14,236	79.5
Occasional (<1)	100	0.6
1-10	2,033	11.4
11-20	872	4.9
21-30	124	0.7
31-40	14	0.1
41+	7	0.0
Unknown	511	2.9
<b>Total</b>	<b>17,897</b>	<b>100.0</b>

## 11 Medical conditions

A medical condition was recorded in the current pregnancy for 5,145 women (28.7%). The frequencies of specified medical conditions are provided in Table 11.

**Table 11: Medical conditions in current pregnancy, South Australian confinements, 2005**

	<b>Medical condition</b>	<b>Number</b>	<b>% of confinements (n = 17,897)</b>
1	None	12,752	71.3
2	Anaemia	1,109	6.2
3	Urinary tract infection	454	2.5
4	Hypertension (pre-existing)	225	1.3
5	Diabetes (pre-existing)	101	0.6
6	Epilepsy	110	0.6
7	Asthma	1,176	6.6
8	Other	2,939	16.4

## 12 Obstetric complications

An obstetric complication was recorded in 5,620 confinements (31.4%). The reported frequencies of the more common complications are presented in Table 12. There were no maternal deaths (cf definition in Appendix 1) notified to the Maternal, Perinatal and Infant Mortality Committee in 2005.<sup>3</sup>

**Table 12: Frequency of some obstetric complications, South Australian confinements, 2005**

Obstetric complication	Number	% of confinements (n= 17,897)
No complication	12,277	68.6
Threatened miscarriage	340	1.9
Antepartum haemorrhage (APH) - Abruption	111	0.6
APH - Placenta praevia	117	0.7
APH – Other & unknown causes	485	2.7
Pregnancy hypertension	1,335	7.5
Intrauterine growth restriction (suspected)	472	2.6
Gestational diabetes	806	4.5
Other complications (including 27 women with impaired glucose tolerance)	3,108	17.4

## 13 Procedures performed in current pregnancy

Procedures performed are listed as reported in Table 13. At least one ultrasound examination was performed for 96.6% of women, amniocentesis for 5.3% and chorion villus sampling for 0.8%.

For quite a large proportion of women it was not known whether a specific procedure had been performed, eg 6.8% for maternal serum alpha foeto-protein (MSAFP) screening. The figures for Down's syndrome screening are believed to be underestimates, when compared with statistics from the Chemical Pathology Department of the Women's and Children's Hospital. It is hoped that the increasing use of the Pregnancy Record will reduce the number of 'unknown' entries.

**Table 13: Procedures performed in current pregnancy, South Australian confinements, 2005**

Procedure	Yes		No		Unknown	
	Number	%	Number	%	Number	%
MSAFP (Neural tube defect screen etc)	7,517	42.0	9,157	51.2	1,223	6.8
Triple/Quadruple screen (Down's etc)	9,462	52.9	7,261	40.6	1,174	6.6
Ultrasound	17,284	96.6	464	2.6	149	0.8
Chorion villus sampling	149	0.8	17,289	96.6	459	2.6
Amniocentesis	953	5.3	16,510	92.3	434	2.4
Cordocentesis	6	0.0	17,433	97.4	458	2.6
Other surgical procedure	99	0.6	17,798	99.5	0	0

## 14a Onset of labour

Labour occurred spontaneously in 54.9% of confinements (Table 14a). It was induced in 28.3%, and the methods of induction used were artificial rupture of membranes (ARM) in 63.3% of inductions, prostaglandins in 62.3% and oxytocics in 47.2% (Table 14b). More than one method was used in many cases.

**Table 14a: Onset of labour, South Australian confinements, 2005**

Onset of labour	Number	%
Spontaneous	9,817	54.9
No labour - LSCS*	3,013	16.8
Induction	5,067	28.3
<b>Total</b>	<b>17,897</b>	<b>100.0</b>

\* Lower segment caesarean section

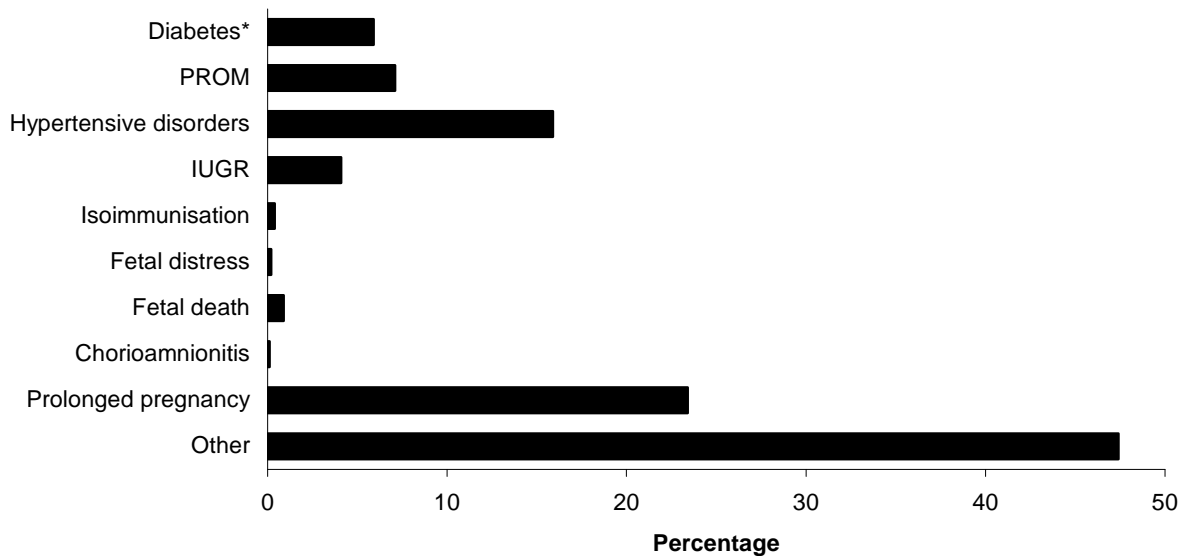
**Table 14b: Method of induction of labour, South Australian confinements, 2005**

Method of induction	Number	% of confinements (n =17,897)	% of inductions (n =5,067)
No induction	12,830	71.7	-
ARM	3,206	17.9	63.3
Oxytocics	2,393	13.4	47.2
Prostaglandins	3,159	17.7	62.3

## 14b Reasons for induction of labour

Up to two reasons could be provided for reason for induction. These reasons for induction of labour are the ones listed in the Australian Council on Healthcare Standards Obstetrics and Gynaecology Indicators 'Clinical Indicators - A Users' Manual Version 4' (cf p 149).

Fig 4 demonstrates that 23.4% of women were induced for prolonged pregnancy (41 or more completed weeks), 15.9% for hypertension, 7.1% for premature rupture of membranes (PROM), 4.1% for intrauterine growth restriction (IUGR) and 5.9% for diabetes (including gestational diabetes and glucose intolerance), but in 47.4% of cases the reasons were not one of these.

**Figure 4: Reasons for induction of labour, SA, 2005 (n=5,067)**

\*includes diabetes mellitus, gestational diabetes and glucose intolerance

Labour was augmented for 3,888 (39.6%) of the 9,817 women who went into spontaneous labour. Methods used in augmentation were artificial rupture of membranes (ARM) (74.5%), oxytocics (39.8%) and prostaglandins (1.4%). More than one method may be used for a woman. It should be noted that prostaglandins are not recommended by the manufacturers as a method of augmenting labour. The proportion of women giving birth who had labour augmented was 21.7%.

**Table 14c: Augmentation of labour after spontaneous onset, South Australian confinements, 2005**

Method of augmentation	Number	% of confinements (n=17,897)	% of augmentations (n=3,888)
Any augmentation	3,888	21.7	100.0
1 ARM	2,895	16.2	74.5
2 Oxytocics	1,548	8.6	39.8
3 Prostaglandins	56	0.3	1.4

### 15a Presentation and method of delivery

Of the women who gave birth, 55.8% had normal spontaneous vaginal deliveries (Table 15a and Figure 5A). Caesarean section (LSCS) was performed for 32.3% of women, with 14.6% of deliveries being elective sections; forceps were utilised for 4.2%, ventouse for 7.3% and breech delivery for the remaining 0.4%. The method of delivery given for confinements in multiple births is that for the first birth. The method of delivery by presentation for all births is provided in Table 15b. Breech presentation occurred in 5.0% of births and caesarean section was the method of delivery for 88.9% of breech presentations. Caesarean section was utilised for 90.2% of breech presentations in singletons (Table 15c).

**Table 15a: Method of delivery, South Australian confinements, 2005**

<b>Method of delivery</b>	<b>Number</b>	<b>%</b>
Normal spontaneous vaginal	9,991	55.8
Forceps	753	4.2
Assisted breech	24	0.1
LSCS (elective)	2,618	14.6
LSCS (emergency)	3,156	17.6
Ventouse	1,300	7.3
Breech extraction	10	0.1
Breech spontaneous	45	0.3
<b>Total</b>	<b>17,897</b>	<b>100.0</b>

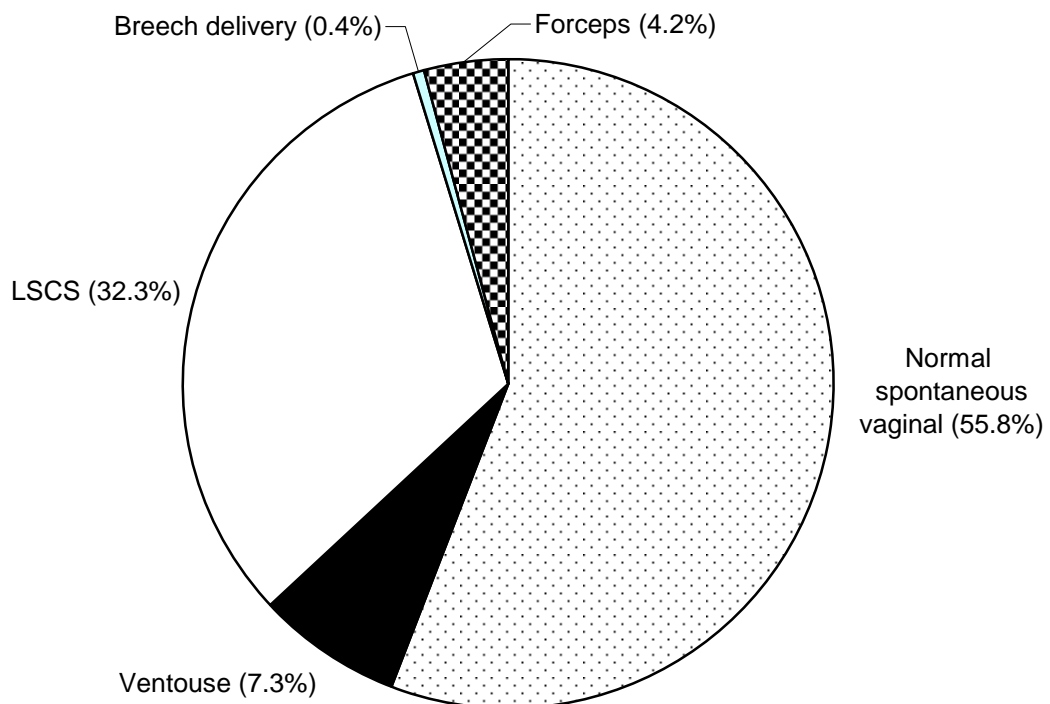
**Figure 5A: Method of delivery in all confinements, South Australia, 2005 (n = 17,897)**

Table 15b: Method of delivery by presentation, South Australian births, 2005 (n=18,196)

Method of delivery	Presentation								Total	
	Vertex		Breech		Other		Unknown		Number	%
	Number	%	Number	%	Number	%	Number	%	Number	%
1 Normal spontaneous	9,998	58.5	0	0	38	22.1	8	26.7	10,044	55.2
2 Forceps	758	4.4	0	0	6	3.5	0	0	764	4.2
3 Assisted breech	0	0	29	3.2	0	0	0	0	29	0.1
4 Elective LSCS	2,184	12.8	471	51.5	36	20.9	16	53.3	2,707	14.9
5 Emergency LSCS	2,835	16.6	342	37.4	86	50.0	6	20.0	3,269	18.0
6 Ventouse	1,305	7.6	0	0	6	3.5	0	0	1,311	7.2
7 Breech extraction	0	0	16	1.8	0	0	0	0	16	0.1
8 Breech spontaneous	0	0	56	6.1	0	0	0	0	56	0.3
<b>Total</b>	<b>17,080</b>	<b>(93.9)</b>	<b>914</b>	<b>(5.0)</b>	<b>172</b>	<b>(1.0)</b>	<b>30</b>	<b>(0.2)</b>	<b>18,196</b>	<b>100.0</b>

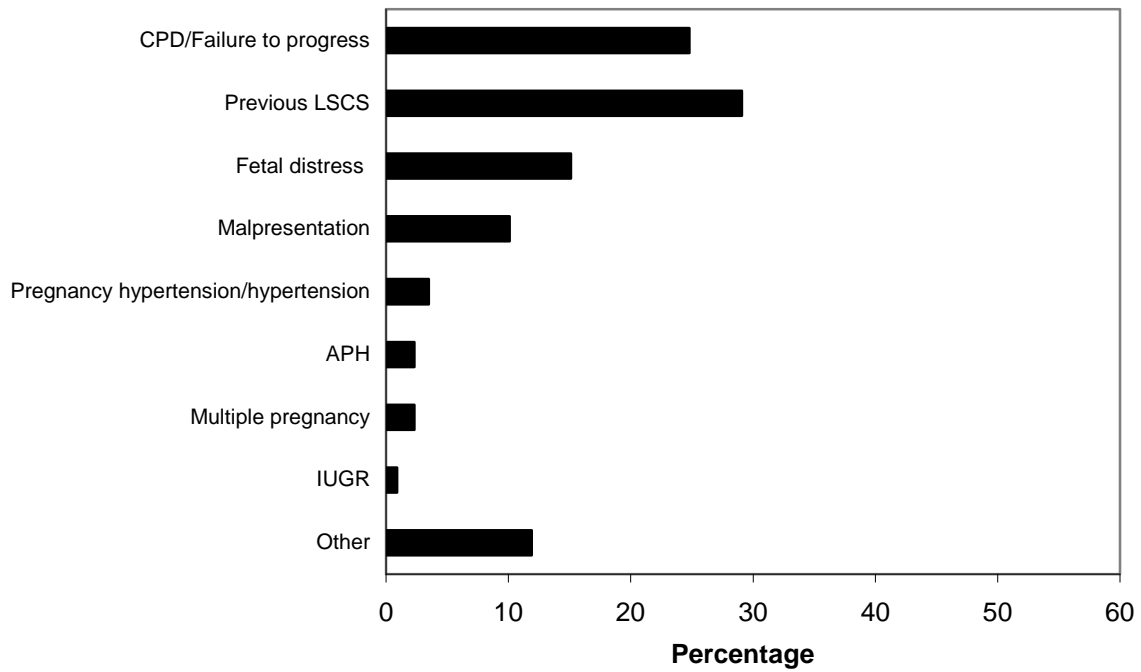
Table 15c: Method of delivery in breech presentation, by plurality, South Australian births, 2005 (n = 914)

Plurality	Assisted breech	Elective LSCS	Emergency LSCS	Breech extraction	Breech spontaneous	Total
Singleton	22	402	270	7	44	745
Twins	7	64	71	9	12	163
Triplets	0	5	1	0	0	6
<b>Total</b>	<b>29 (3.2%)</b>	<b>471 (51.5%)</b>	<b>342 (37.4%)</b>	<b>16 (1.8%)</b>	<b>56 (6.1%)</b>	<b>914 (100.0%)</b>

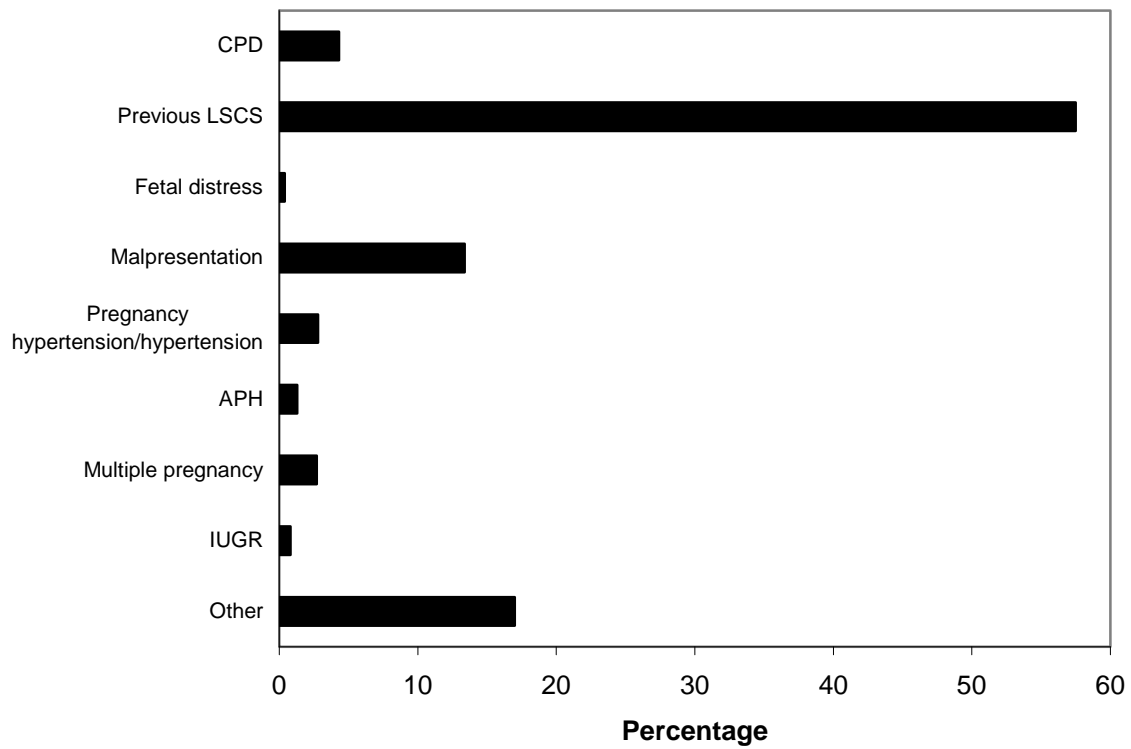
### 15b Reason for caesarean section

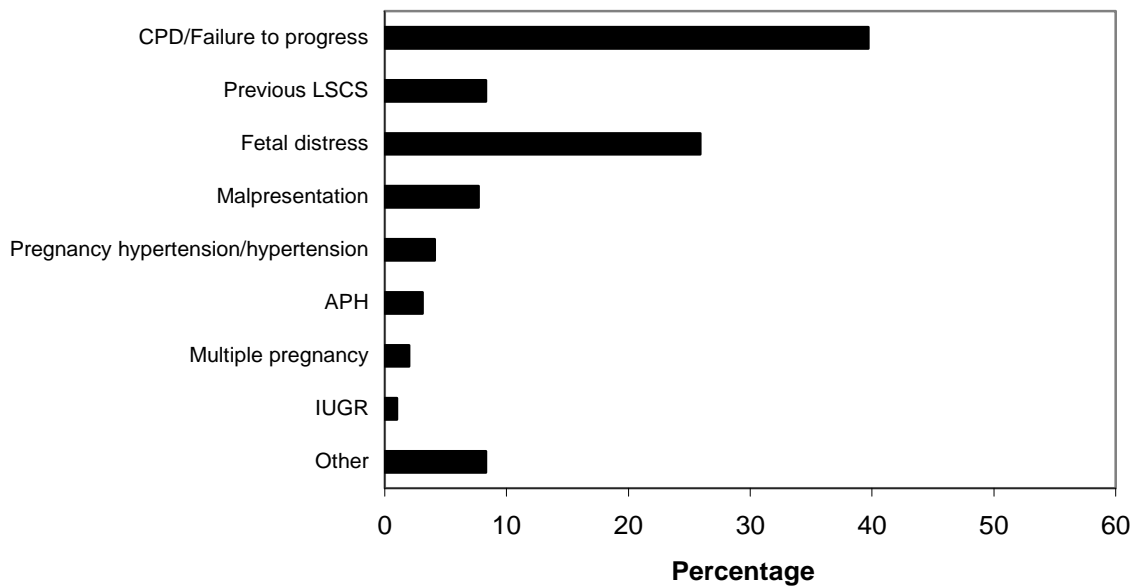
Up to two reasons may be provided on the supplementary birth record for caesarean section, and these have been collated in Figure 5B (all caesarean sections), Figure 5C (elective sections only) and Figure 5D (emergency sections only). The main reasons given for all caesarean sections were failure to progress/cephalopelvic disproportion (CPD) (24.8%), previous caesarean section (29.1%), fetal distress (15.1%) and malpresentation (10.1%). The main reasons for elective sections were previous section (57.5%), malpresentation (13.4%) and CPD (4.3%), and the main reasons given for emergency sections were failure to progress or CPD (39.7%), fetal distress (25.9%) and malpresentation (7.7%). 2,825 women had had a previous caesarean section: thus 15.8% of all women who gave birth in 2005 or 27.4% of women with a previous birth had had a previous caesarean section.

**Figure 5B: Reason for LSCS, 2005 (n=5,774)**



**Figure 5C: Reason for elective LSCS, 2005 (n=2,618)**



**Figure 5D: Reason for emergency LSCS, 2005 (n=3,156)**

## 16 Complications of labour and delivery and perineal status after delivery

A complication of labour or delivery was recorded in 6,285 confinements (35.1%). The reported frequency of some complications is presented in Table 16. Episiotomy was performed for 2,284 women (12.8%). More than half the women who gave birth (9,517 or 53.2%) had an intact perineum after delivery and 4,377 (24.5%) had a repair of a perineal tear. Two hundred and forty-three women (1.4%) had a third or fourth degree tear.

**Table 16: Frequency of some complications of labour and delivery, South Australian confinements, 2005**

Complication of labour	Number of confinements	% of confinements (n=17,897)
None	11,612	64.9
Post-partum haemorrhage (PPH) - primary	1,150	6.4
Fetal distress	2,177	12.2
Retained placenta	237	1.3
Prolonged labour	198	1.1
Cord prolapse	17	0.1
Wound infection	53	0.3
Third degree tear (227) or fourth degree tear (16)	243	1.4
Failure to progress	2,196	12.3
Other	3,943	22.0

## 17 Fetal monitoring during labour

Cardiotocography (CTG) was performed during labour for 60.7% of women. The majority of these (53.3% of women) were external CTGs (Table 17a) while a scalp clip was used for 7.4%. A fetal scalp pH was taken during labour in 247 confinements (1.4%, Table 17b).

**Table 17a: CTG performed during labour, South Australian confinements, 2005**

	<b>CTG during labour</b>	<b>Number of confinements</b>	<b>% of confinements (n=17,897)</b>
1	None	7,037	39.3
2	External	9,545	53.3
3	Scalp clip	1,315	7.4

**Table 17b: Fetal scalp pH taken during labour, South Australian confinements, 2005**

	<b>Fetal scalp pH taken</b>	<b>Number of confinements</b>	<b>% of confinements (n=17,897)</b>
1	No	17,650	98.6
2	Yes	247	1.4

## 18 Analgesia for labour and anaesthesia for delivery

These distributions are provided in Tables 18a and 18b. Epidurals were used for analgesia in labour for 31.2% and for anaesthesia in delivery for 24.8% of women. The proportion of women who had an epidural for either was 32.2% (5,757 women). The proportion of women who had a spinal anaesthetic increased between 1991 and 2005 from 0.2% to 0.9% for analgesia and from 0.5% to 22.8% for anaesthesia. General anaesthesia was used for 2.8% of deliveries. It was used in 8.1% of caesarean sections. Thirty-six percent of women who delivered received none of the specified methods for analgesia during labour.

**Table 18a: Analgesia for labour,\* South Australian confinements, 2005**

	<b>Analgesia</b>	<b>Number</b>	<b>% of confinements</b>
1	None	6,435	36.0
2	Nitrous oxide and oxygen	6,245	34.9
3	Narcotic (parenteral)	3,973	22.2
4	Epidural (lumbar/caudal)	5,577	31.2
5	Spinal	166	0.9
6	Other	100	0.6

\* more than one method may be used for each woman

**Table 18b: Anaesthesia for delivery,\* South Australian confinements, 2005**

	<b>Anaesthesia</b>	<b>Number</b>	<b>% of confinements</b>
1	None	6,864	38.4
2	Local anaesthesia	2,305	12.9
3	Pudendal	147	0.8
4	Epidural (lumbar/caudal)	4,431	24.8
5	Spinal	4,072	22.8
6	General anaesthesia	495	2.8
7	Other	103	0.6

\* more than one method may be used for each woman

## 19 Postnatal length of stay of mother

The distribution of length of stay of mothers who gave birth in hospitals is presented in Table 19a for public and private patients. The median duration for all women was four days. It was three days for vaginal deliveries and five days for caesarean deliveries (Table 19b). The median duration of stay was two days longer for private patients for vaginal and caesarean deliveries (four and six days respectively for private patients compared with two and four days respectively for public patients).

**Table 19a: Postnatal length of stay of mother, South Australian hospital confinements, 2005**

Postnatal length of stay (days)	Public		Private		Total	
	Number	%	Number	%	Number	%
<1	517	4.3	35	0.6	552	3.1
1	1,640	13.6	76	1.3	1,716	9.6
2	2,637	21.9	167	2.9	2,804	15.7
3	2,881	24.0	492	8.5	3,373	18.9
4	2,164	18.0	1,892	32.6	4,056	22.7
5	1,297	10.8	1,631	28.1	2,928	16.4
6	468	3.9	1,026	17.7	1,494	8.4
7 or more	423	3.5	488	8.4	911	5.1
<b>Total</b>	<b>12,027</b>	<b>100.0</b>	<b>5,807</b>	<b>100.0</b>	<b>17,834</b>	<b>100.0</b>

**Table 19b: Average postnatal length of stay of mother by type of patient & type of delivery, South Australian hospital confinements, 2005**

Average length of stay	Public			Private			Total		
	Vaginal (n=8,679)	LSCS (n=3,348)	Total (n=12,027)	Vaginal (n=3,381)	LSCS (n=2,426)	Total (n=5,807)	Vaginal (n=12,060)	LSCS (n=5,774)	Total (n=17,834)
Mean number of days	2.54	4.52	3.09	4.09	5.61	4.73	2.98	4.98	3.62
(±SD)	(±1.69)	(±1.70)	(±1.91)	(±1.22)	(±1.23)	(±1.44)	(±1.72)	(±1.61)	(±1.93)
Median number of days	2	4	3	4	6	5	3	5	4

## 20 Sex of baby

The sex distribution of babies is provided in Table 20; the male:female sex ratio was 1.07:1.

**Table 20: Sex of baby, South Australian births, 2005**

Sex of baby	Number	%
Male	9,409	51.7
Female	8,787	48.3
<b>Total</b>	<b>18,196</b>	<b>100.0</b>

## 21 Birthweight and gestation

The birthweight distribution of all births is presented in Table 21a. The percentage of low birthweight babies (<2,500g) was 7.6%, and that of very low birthweight babies (<1,500g) was 1.9%. The mean birthweight was 3,337g (SD 635.4g), with birthweights ranging from 60g to 6,380g. *Among babies of Aboriginal mothers, the proportion of low birthweight babies was 19.3% compared with 7.2% for babies of non-Aboriginal mothers..*

**Table 21a: Birthweight distribution of all births, South Australia, 2005**

<b>Birthweight (g)</b>	<b>Number of births</b>	<b>Percentage of births</b>
<400	45	0.3
400-499*	28	0.2
500-749	65	0.4
750-999	46	0.2
1,000-1,499	153	0.8
1,500-1,999	252	1.4
2,000-2,499	786	4.3
2,500-2,999	2,705	14.9
3,000-3,499	6,532	35.9
3,500-3,999	5,505	30.2
4,000-4,499	1,780	9.8
4,500+	297	1.6
Unknown	2	0.0
<b>Total</b>	<b>18,196</b>	<b>100.0</b>

The improvement in perinatal mortality with increasing birthweight, except for births of 4,500g or greater, is demonstrated in Table 21b and Figure 6. The perinatal mortality rate for babies of normal birthweight (2,500g or more) was 2.6 per 1,000 births. In 2005, 1,375 babies (7.6%) were of low birthweight and 1,633 (9.0%) were preterm (<37 weeks gestation). Among babies of Aboriginal mothers, the proportion of preterm births was 20.3% compared with 8.7% for babies of non-Aboriginal mothers. The improvement in perinatal mortality with increasing gestation is demonstrated in Table 21c.

Table 21b: Perinatal mortality by birthweight (all births), South Australia, 2005

Birthweight (g)	Total births	Live births	Stillbirths		Neonatal deaths		Perinatal deaths	
			Number	Deaths per 1,000 births	Number	Deaths per 1,000 live births	Number	Deaths per 1,000 births
<400	45	14	31	688.9	14	1000.0	45	1000.0
400-499*	28	12	16	571.4	8	666.7	24	857.1
500-749	65	43	22	338.5	16	372.1	38	584.6
750-999	46	42	4	87.0	3	71.4	7	152.2
1,000-1,499	153	138	15	98.0	0	0	15	98.0
1,500-1,999	252	245	7	27.8	0	0	7	27.8
2,000-2,499	786	778	8	10.2	4	5.1	12	15.3
2,500-2,999	2,705	2,694	11	4.1	3	1.1	14	5.2
3,000-3,499	6,532	6,523	9	1.4	7	1.1	16	2.4
3,500-3,999	5,505	5,501	4	0.7	5	0.9	9	1.6
4,000-4,499	1,780	1,779	1	0.6	2	1.1	3	1.7
4,500+	297	297	0	0	1	3.4	1	3.4
Unknown	2	1**	1*	-	0	0	1*	-
<b>Total</b>	<b>18,196</b>	<b>18,067</b>	<b>129</b>	<b>7.1</b>	<b>63</b>	<b>3.5</b>	<b>192</b>	<b>10.6</b>

\* this stillbirth occurred at 23 weeks gestation

\*\* this was a livebirth at 42 weeks gestation

Figure 6: Perinatal mortality rate by birthweight, South Australian births, 2005

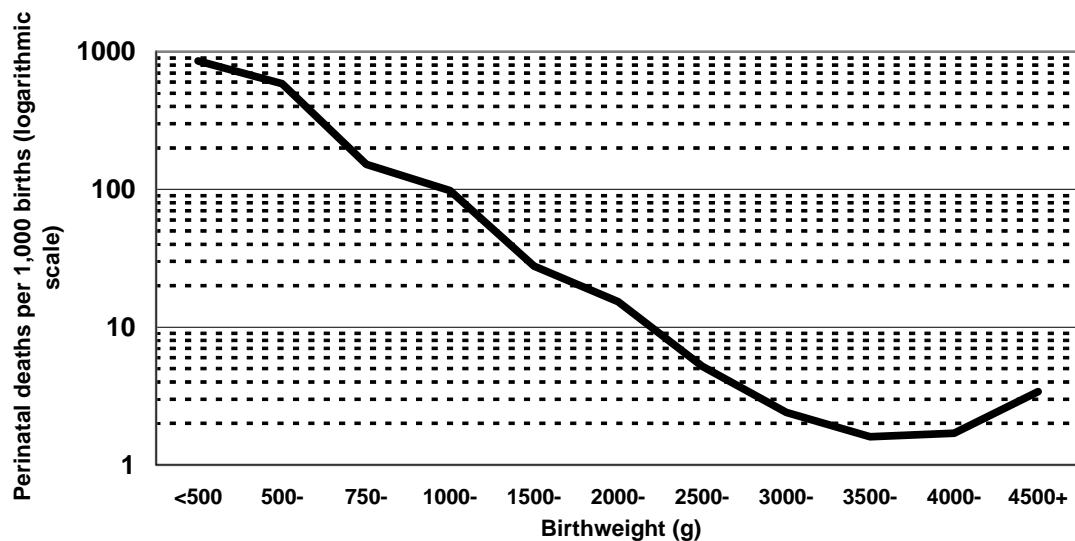


Table 21c: Perinatal mortality by gestational age at birth, South Australia, 2005

Gestational age at birth (weeks)	Total births	Live births	Stillbirths		Neonatal deaths		Perinatal deaths	
			Number	Deaths per 1,000 births	Number	Deaths per 1,000 live births	Number	Deaths per 1,000 births
<24	93	35	58	623.7	29	828.6	87	935.5
24-27	88	74	14	159.1	12	162.2	26	295.5
28-31	187	171	16	85.6	1	5.8	17	90.9
32-36	1,265	1,250	15	11.9	5	4.0	20	15.8
37-41	16,467	16,441	26	1.6	16	1.0	42	2.6
42+	96	96	0	0	0	0	0	0
<b>TOTAL</b>	<b>18,196</b>	<b>18,067</b>	<b>129</b>	<b>7.1</b>	<b>63</b>	<b>3.5</b>	<b>192</b>	<b>10.6</b>

## 22 Birth injuries

Birth injuries were reported in 133 live births (0.7%). The most common injury reported was cephalhaematoma. Fracture and nerve injury occurred less frequently (Table 22).

Table 22: Birth injuries\* (in 18,067 live births), South Australia, 2005

Birth injury	Number of live births	% of live births
None	17,934	99.3
Fracture	10	0.1
Dislocation	2	0.0
Nerve Injury	15	0.1
Cephalhaematoma	88	0.5
Other	26	0.1

\*More than one injury may occur in each birth

## 23 Treatment given in neonatal period

The proportions of live births who received specified treatments in the neonatal period are provided in Table 23: 83.7% of neonates did not receive any of these treatments.

Table 23: Neonatal treatment given (all live births), South Australia, 2005

Neonatal treatment	Number	% of live births
None of the treatments listed below	15,128	83.7
Oxygen therapy for more than 4 hours	1,241	6.9
Phototherapy for jaundice	1,313	7.3
Gavage feeding more than once	1,477	8.2
Any intravenous therapy	1,570	8.7

## 24 Level of care utilised

Table 24 shows that 83.6% of neonates utilised Level I care only. Level II care was used by 16.2% of neonates, Level III care at the Women's and Children's Hospital or Flinders Medical Centre by 2.9% and paediatric intensive care at the Women's and Children's Hospital by 0.3% of neonates. As would be expected, with decreasing birthweight, an increasing percentage of babies required Level II and Level III care.

**Table 24: Level of nursery care utilised by birthweight (all live births), South Australia, 2005**

Level of care utilised	Birthweight (g)							
	<1,500 (n=249)		1,500-2,499 (n=1023)		2,500+ (n=16,794*)		Total (n=18,067*)	
	Number	%	Number	%	Number	%	Number	%
Level I only	36	14.5	218	21.3	14,854*	88.4	15,108*	83.6
Level II	205	82.3	800	78.2	1,917	11.4	2,922	16.2
Level III (W&CH & FMC)	200	80.3	184	18.0	136	0.8	520	2.9
Level III (W&CH Paediatric intensive care)	4	1.6	7	0.7	37	0.2	48	0.3

\*includes 1 baby of unknown birthweight at 42wks gest

## 25 Length of stay of babies

Table 25 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 5.4 days (SD 10.5) and the median duration 4 days. The mean duration was 3.8 days (SD 4.0) for term births and 23.0 days (SD 28.2) for preterm births, while the median durations were 4 and 15 days respectively.

**Table 25: Length of stay of liveborn babies in hospital, South Australia, 2005**

Length of stay (days)	Preterm births		Term births		Total	
	Number	%	Number	%	Number	%
<1	39	2.6	489	3.0	528	2.9
1	22	1.4	1,575	9.6	1,597	8.9
2	29	1.9	2,659	16.1	2,688	14.9
3	60	3.9	3,140	19.1	3,200	17.8
4	89	5.8	3,744	22.7	3,833	21.3
5	94	6.1	2,690	16.3	2,784	15.5
6	89	5.8	1,300	7.9	1,389	7.7
7-13	302	19.7	750	4.6	1,052	5.8
14-20	238	15.6	70	0.4	308	1.7
21-27	173	11.3	22	0.1	195	1.1
28 or more	395	25.8	35	0.2	430	2.4
<b>Total</b>	<b>1,530</b>	<b>100.0</b>	<b>16,474</b>	<b>100.0</b>	<b>18,004</b>	<b>100.0</b>

## 26 Congenital abnormalities

Among the 18,196 births in 2005 there were 451 births (2.5%) notified with congenital abnormalities; 432 (2.4%) of these births had abnormalities notified in the congenital anomalies range 74000-75999 of the British Paediatric Association (BPA) Classification of Diseases.\* This is a 5-digit extension of the ICD-9\*\* 4-digit classification. Table 26 includes births with the more readily identifiable defects used for international monitoring (sentinel defects) notified to the perinatal statistics collection in 1995-2005. Terminations of pregnancy are not included in this table unless they meet a criterion for inclusion in the perinatal data collection, ie at least 400g birthweight or 20 weeks gestation. Notifications of births with birth defects identified after discharge from the hospital of birth but within the first 5 years of life are made to the South Australian Birth Defects Register at the Women's and Children's Hospital, and more complete statistics on birth defects in South Australia are available from the Register's Annual Report.<sup>2</sup>

**Table 26: Selected congenital abnormalities notified to the perinatal statistics collection, 1995-2005, South Australia**

Congenital abnormality BPA CODE	Year										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Number of births =</b>	<b>19,620</b>	<b>19,111</b>	<b>18,674</b>	<b>18,734</b>	<b>18,519</b>	<b>17,871</b>	<b>17,704</b>	<b>17,745</b>	<b>17,844</b>	<b>17,522</b>	<b>18,196</b>
74000-74029 Anencephalus	3	1	0	1	2	3	1	4	0	1	0
74100-74199 Spina bifida	7	5	3	9	4	5	9	4	7	5	5
74200-74209 Encephalocele	1	1	1	0	1	0	0	1	0	0	1
74230-74239 Hydrocephalus	5	0	3	5	7	4	4	3	7	6	9
74900-74909 Cleft palate	12	14	14	16	8	10	14	17	9	10	15
74910-74929 Cleft lip and palate (Total cleft lip)	24	18	19	20	17	16	15	16	14	17	9
75030-75038 Tracheo- oesophageal fistula, oesophageal atresia and stenosis	8	8	5	7	6	2	10	3	2	2	5
75120-75124 Atresia and stenosis of large intestine, rectum and anal canal	4	9	4	13	5	9	3	9	6	6	12
75260-75261 Hypospadias and epispadias	47	53	43	46	43	40	40	42	34	41	38
75300-75301 Renal agenesis and dysgenesis	7	4	6	2	4	5	7	5	10	4	12
75520-75549 Limb reduction defects	14	9	5	9	9	11	6	7	5	8	8
75660-75669 Anomalies of diaphragm	3	5	5	3	4	7	6	7	4	4	7
75670-75679 Anomalies of abdominal wall	8	7	7	12	8	8	13	10	13	12	9
75800-75809 Down's syndrome	20	11	24	25	25	19	21	19	13	14	19

\* British Paediatric Association Classification of Diseases. London: The British Paediatric Association, 1979.

\*\* International Classification of Diseases. Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death, 1975 Revision. Geneva: World Health Organisation, 1977.

## 27 Multiple births

There were 285 twin and 7 triplet confinements compared with 17,605 singleton ones. Thus there was one twin confinement in every 63 and 1 triplet confinement in every 2,557 confinements. Confinements with twins or triplets comprised 1.6% of all confinements. The total number of multiple births was 591 (3.2% of total births).

A comparison of multiple births with singleton ones shows that multiple births were of lower birthweight (with 57.7% being of low birthweight compared with 5.9% for singletons, Table 27a), and gestation (with 58.4% being preterm births compared with 7.3% for singletons, Table 27b). The proportion in hospital at 28 days was 17.1% for multiple births compared with 1.9% for singletons, and the perinatal death rate for multiple births was also elevated (38.9 compared with 9.6 deaths per 1,000 births for singletons, Table 27c).

**Table 27a: Birthweight by plurality (all births), South Australia, 2005**

Birthweight (g)	Singleton births		Multiple births	
	Number	%	Number	%
<400	35	0.2	10	1.7
400-499*	21	0.1	7	1.2
500-749	54	0.3	11	1.9
750-999	42	0.2	4	0.7
1,000-1,499	112	0.6	41	6.9
1,500-1,999	177	1.0	75	12.7
2,000-2,499	593	3.4	193	32.7
2,500-2,999	2,528	14.4	177	29.9
3,000-3,499	6,469	36.8	63	10.7
3,500-3,999	5,495	31.2	10	1.7
4,000-4,499	1,780	10.1	0	0
4,500+	297	1.7	0	0
Unknown	2	0	0	0
<b>Total</b>	<b>17,605</b>	<b>100.0</b>	<b>591</b>	<b>100.0</b>

**Table 27b: Gestation at delivery, by plurality (all births), South Australia, 2005**

Gestation (weeks)	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
<24	76	0.4	17	2.9	93	0.5
24-27	78	0.4	10	1.7	88	0.5
28-31	143	0.8	44	7.4	187	1.0
32-36	991	5.6	274	46.4	1,265	7.0
37-41	16,221	92.1	246	41.6	16,467	90.5
42+	96	0.6	0	0	96	0.5
<b>Total</b>	<b>17,605</b>	<b>100.0</b>	<b>591</b>	<b>100.0</b>	<b>18,196</b>	<b>100.0</b>

Table 27c: Perinatal outcome by plurality (all births) South Australia, 2005

Perinatal outcome	Singleton births		Multiple births		Total	
	Number	%	Number	%	Number	%
Stillbirth	117	0.7	12	2.0	129	0.7
Discharged within 28 days	17,097	97.1	467	79.0	17,564	96.5
In hospital at 28 days	339	1.9	101	17.1	440	2.4
Neonatal death	52	0.3	11	1.9	63	0.4
<b>Total</b>	<b>17,605</b>	<b>100.0</b>	<b>591</b>	<b>100.0</b>	<b>18,196</b>	<b>100.0</b>

## 28 Perinatal mortality

High crude perinatal mortality rates were associated with low birthweight births (Table 21b), low gestation births (Table 21c) and multiple births (Table 27c). The perinatal mortality rate for all births (of at least 400g birthweight/20 weeks gestation) in 2005 was 10.6 per 1,000 births and the neonatal mortality rate was 3.5 per 1,000 live births. The perinatal mortality rates for other specified minimum birthweights or gestational ages (where birthweight was unavailable) are provided in Table 28a. The perinatal mortality rate recommended by the World Health Organisation (WHO) for use in international comparisons refers only to births of at least 1,000g birthweight (or, if birthweight is unavailable, 28 weeks gestation) and to neonatal deaths within the first 7 days of life. This rate was 3.7 per 1,000 births in 2005, with a neonatal mortality rate of 0.6 per 1,000 live births. *The perinatal mortality rate for births to Aboriginal mothers was 28.5 per 1,000 births in 2005 compared with 10.1 per 1,000 births for births to non-Aboriginal mothers (Table 28b).*

Table 28a: Perinatal mortality, South Australia, 2005 (all births of specified birthweight/gestation)

Specified birthweight/gestation	Total births	Live births	Stillbirths	Neonatal deaths	Perinatal deaths
	Number	Number	Number	Deaths per 1,000 births	Deaths per 1,000 births
≥400g/20 weeks*	18,196	18,067	129	7.1	192
≥500g/22 weeks	18,123	18,041	82	4.5	123
(WHO National Statistics)				30**	112**
≥1,000g/28 weeks	18,011	17,956	55	3.1	77
(WHO International Statistics)				11**	66**

\* includes 45 births of birthweight <400g

\*\* only neonatal deaths within the first 7 days of life are included

Table 28b: Perinatal mortality by race, South Australian births, 2005

Race	Total births	Stillbirths	Neonatal deaths	Alive at 28 days	Perinatal deaths
	Number	Number	Number	Number	Deaths per 1,000 births
Caucasian	16,339	111	53	16,175	10.0
Aboriginal	492	11	3	478	28.5
Asian	950	4	4	942	8.4
Other	415	3	3	409	14.5
<b>Total</b>	<b>18196</b>	<b>129</b>	<b>63</b>	<b>18,004</b>	<b>10.6</b>

## 29 Home births

Supplementary Birth Records were received from home birth midwives for 63 planned home confinements which occurred at home in 2005.

Ascertainment of planned home births occurring at home in South Australia for the year 2005 is estimated to be 86.3% (63 out of 73 home births). This estimate has been derived from a comparison with data from the Births, Deaths and Marriages Registration Division on births registered, which did not occur in hospital (and were not BBAs - babies born before arrival at the hospital into which the mother had been booked). In addition, 20 women who planned to deliver at home were transferred to hospital care before delivery. Statistics for all 83 planned home confinements 2005 are provided in Tables 29-32.

**Table 29: Planned home confinements by age of mother, South Australia, 2005**

Age (years)	Delivered at home		Delivered in hospital		Total	
	Number	%	Number	%	Number	%
<20	0	0	0	0	0	0
20-24	4	6.4	4	20.0	8	9.6
25-29	17	27.0	4	20.0	21	25.3
30-34	15	23.8	6	30.0	21	25.3
35-39	23	36.5	6	30.0	29	34.9
40-44	3	4.8	0	0	3	3.6
45+years	1	1.6	0	0	1	1.2
<b>Total</b>	<b>63</b>	<b>100.0</b>	<b>20</b>	<b>100.0</b>	<b>83</b>	<b>100.0</b>

**Table 30: Method of delivery in planned home confinements, South Australia, 2005**

Method of delivery	Delivered at home		Delivered in hospital		Total	
	Number	%	Number	%	Number	%
Normal spontaneous vaginal	63	100.0	9	45.0	72	86.8
LSCS elective	0	0	1	5.0	1	1.2
LSCS emergency	0	0	8	40.0	8	9.6
Ventouse	0	0	2	10.0	2	2.4
<b>Total</b>	<b>63</b>	<b>100.0</b>	<b>20</b>	<b>100.0</b>	<b>83</b>	<b>100.0</b>

**Table 31: Birthweight distribution of planned home births, South Australia, 2005**

Birthweight	Delivered at home		Delivered in hospital		Total	
	Number	%	Number	%	Number	%
2,000-2,499	1	1.6	2	10.0	3	3.6
2,500-2,999	2	3.2	3	15.0	5	6.0
3,000-3,499	19	30.1	5	25.0	24	28.9
3,500-3,999	25	39.7	6	30.0	31	37.4
4,000-4,499	15	23.8	2	10.0	17	20.5
4,500+	1	1.6	1	5.0	2	2.4
Unknown	0	0	1	5.0	1	1.2
<b>Total</b>	<b>63</b>	<b>100.0</b>	<b>20</b>	<b>100.0</b>	<b>83</b>	<b>100.0</b>

Table 32: Perinatal outcome in planned home births, South Australia, 2005

Perinatal outcome	Delivered at home		Delivered in hospital		Total	
	Number	%	Number	%	Number	%
Live birth, survived neonatal period	63	100.0	20	100.0	83	100.0
<b>Total</b>	<b>63</b>	<b>100.0</b>	<b>20</b>	<b>100.0</b>	<b>83</b>	<b>100.0</b>

### 30 Birthing unit births

Statistics presented for births in birthing units in South Australia (Tables 33-36) relate to the birthing units at The Queen Elizabeth Hospital, the Women's and Children's Hospital, the Lyell McEwin Health Service and Flinders Medical Centre. The units at the Women's and Children's Hospital and the Lyell McEwin Health Service were established in 1992 and 1993 respectively under the Alternative Birthing Services Programme. In October 1996 the birthing unit at Flinders Medical Centre commenced deliveries. These statistics relate to all 2,026 planned birthing unit confinements. Of these, 1,023 confinements occurred in the birthing units while 1,003 women (49.5%) gave birth in labour wards. Some of these women were transferred to labour wards because of medical or obstetric complications. With the commencement of the Midwifery Group Practice model of care at Women's and Children's Hospital in 2004, more of these women who gave birth in labour wards than previously did so because the birthing unit was not available at the time. These women have been included in the statistics here as they gave 'birthing unit' as their intended place of birth. Of the women who gave birth in labour wards, 30.9% had Caesarean sections and 16.6% had instrumental deliveries. These statistics have also been included in the statistics for the respective hospitals. Three percent of all the babies were low birthweight and there were 6 perinatal deaths (perinatal mortality rate 3.0 per 1,000 births).

Table 33: Planned birthing unit confinements by age of mother, South Australia, 2005

Age (years)	Delivered in birthing unit		Delivered in labour ward		Total	
	Number	%	Number	%	Number	%
<20	83	8.1	98	9.8	181	8.9
20-24	251	24.5	220	21.9	471	23.3
25-29	336	32.8	293	29.2	629	31.1
30-34	244	23.9	266	26.5	510	25.2
35-39	92	9.0	111	11.1	203	10.0
40-44	16	1.6	14	1.4	30	1.5
45+	1	0.1	1	0.1	2	0.1
<b>Total</b>	<b>1,023</b>	<b>100.0</b>	<b>1,003</b>	<b>100.0</b>	<b>2,026</b>	<b>100.0</b>

**Table 34: Method of delivery in planned birthing unit confinements, South Australia, 2005**

Method of delivery	Delivered in birthing unit		Delivered in labour ward		Total	
	Number	%	Number	%	Number	%
Normal spontaneous vaginal	1008	98.5	524	52.2	1,532	75.6
Forceps	3	0.3	48	4.8	51	2.5
Assisted breech	0	0	1	0.1	1	0.1
LSCS elective	0	0	37	3.7	37	1.8
LSCS emergency	0	0	273	27.2	273	13.5
Ventouse	9	0.9	118	11.8	127	6.3
Breech spontaneous	3	0.3	2	0.2	5	0.2
<b>Total</b>	<b>1,023</b>	<b>100.0</b>	<b>1,003</b>	<b>100.0</b>	<b>2,026</b>	<b>100.0</b>

**Table 35: Birthweight distribution of planned birthing unit births, South Australia, 2005**

Birthweight (g)	Delivered in birthing unit		Delivered in labour ward		Total	
	Number	%	Number	%	Number	%
<,1500	0	0	6	0.6	6	0.3
1,500-1,999	1	0.1	12	1.2	13	0.6
2,000-2,499	12	1.2	29	2.9	41	2.0
2,500-2,999	105	10.3	128	12.7	233	11.5
3,000-3,499	361	35.3	351	35.0	712	35.1
3,500-3,999	408	39.9	313	31.2	721	35.6
4,000-4,499	113	11.0	140	13.9	253	12.5
4,500+	23	2.2	25	2.5	48	2.4
<b>Total</b>	<b>1,023</b>	<b>100.0</b>	<b>1,004</b>	<b>100.0</b>	<b>2,027</b>	<b>100.0</b>

**Table 36: Perinatal outcome in planned birthing unit births, South Australia, 2005**

Perinatal outcome	Delivered in birthing unit		Delivered in labour ward		Total	
	Number	%	Number	%	Number	%
Stillbirth	0	0	5	0.5	5	0.2
Discharged within 28 days	1023	100.0	982	97.8	2,005	98.9
Prolonged hospitalisation (in hospital at 28 days)	0	0	16	1.6	16	0.8
Neonatal death	0	0	1	0.1	1	0.1
<b>Total</b>	<b>1,023</b>	<b>100.0</b>	<b>1,004</b>	<b>100.0</b>	<b>2,027</b>	<b>100.0</b>

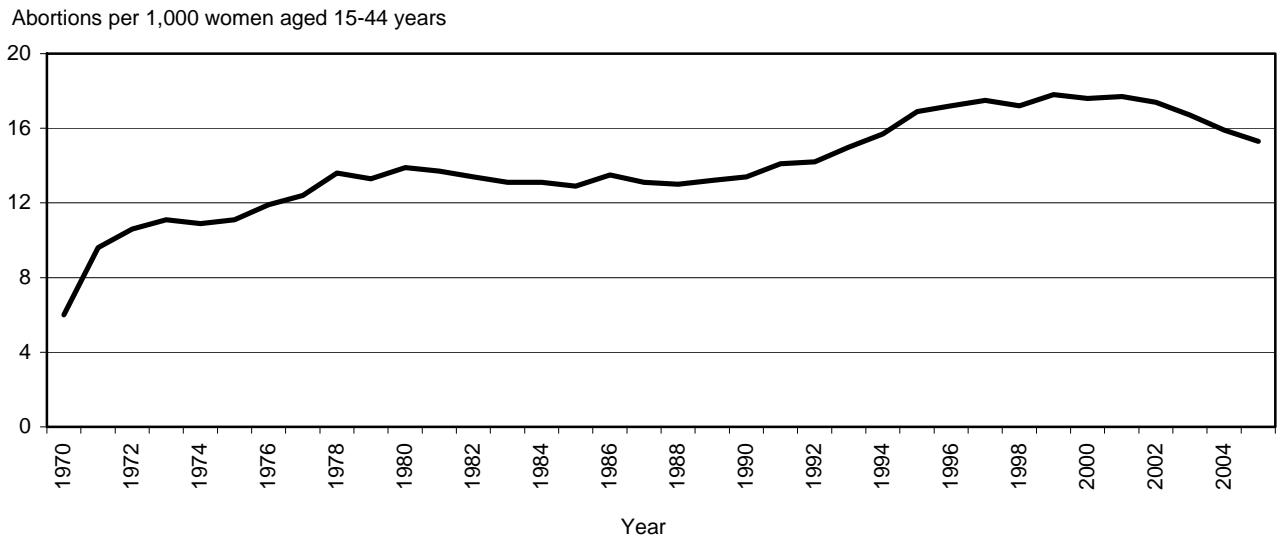
### III TERMINATIONS OF PREGNANCY

#### 1 Numbers and rates

There were 4,712 terminations of pregnancy notified in South Australia in 2005. This was 236 less than in 2004. The abortion rate was 15.3 abortions per 1,000 women aged 15-44 years. There was a steep increase in the rate in the early years after specific abortion legislation came into effect in 1970 to a peak of 13.9 in 1980, followed by a period of relative stability in the 1980s. Another increase in the abortion rate commenced in 1991 (Table 37 and Fig 7) and reached a peak of 17.8 in 1999. The rate declined significantly from 17.7 in 2001 to 15.3 in 2005. (Some of the abortion rates for 1997-2001 have been amended, resulting in slight differences from earlier reports due to a few late notifications received, but largely due to the revision of the ABS estimated resident population figures after the 2001 Census.)

**Table 37: Abortion rate per 1,000 women aged 15-44 years, South Australia, 1970-2005**

<b>Year</b>	<b>Number of abortions</b>	<b>Abortions per 1,000 women aged 15-44 years</b>
1970	1,440	6.0
1971	2,409	9.6
1972	2,692	10.6
1973	2,847	11.1
1974	2,867	10.9
1975	3,000	11.1
1976	3,289	11.9
1977	3,494	12.4
1978	3,895	13.6
1979	3,880	13.3
1980	4,081	13.9
1981	4,096	13.7
1982	4,061	13.4
1983	4,036	13.1
1984	4,091	13.1
1985	4,079	12.9
1986	4,327	13.5
1987	4,229	13.1
1988	4,263	13.0
1989	4,342	13.2
1990	4,463	13.4
1991	4,696	14.1
1992	4,717	14.2
1993	4,959	15.0
1994	5,140	15.7
1995	5,475	16.9
1996	5,546	17.2
1997	5,608	17.5
1998	5,487	17.2
1999	5,671	17.8
2000	5,578	17.6
2001	5,574	17.7
2002	5,467	17.4
2003	5,216	16.7
2004	4,948	15.9
2005	4,712	15.3

**Figure 7: Abortion rate in South Australia, 1970-2005**

## 2 Age of women

The age distribution of women who had terminations is shown in Table 38. Among the 5-year age groups (Table 39), the highest abortion rate was among women aged 20-24 years (26.4 per 1,000 women) followed by women aged 25-29 years (20.7 per 1,000 women) and teenage women (17.7 per 1,000 women). Compared with 2004, abortion rates have fallen considerably for age groups under 25 years especially teenage women, with marginal increases in older age groups. The abortion proportion (abortions as a proportion of abortions and live births) was 0.21; it was highest among teenagers (0.49), and was also high among women aged 20-24 years (0.32) and older women aged 40 years or more (0.32). This indicates that about 49% of known teenage pregnancies were terminated. This proportion was highest for younger teenagers (0.86 for those aged <15 years). This is the first year since 1994 that teenage abortions have been lower than teenage births.

**Table 38: Terminations of pregnancy by age, South Australia, 2005**

Age (years)	Number	%
13	4	0.1
14	14	0.3
15	53	1.1
16	110	2.3
17	188	4.0
18	236	5.0
19	282	6.0
20-24	1,335	28.3
25-29	935	19.8
30-34	766	16.3
35-39	524	11.1
40-44	240	5.1
45+	25	0.5
<b>Total</b>	<b>4,712</b>	<b>100.0</b>

The distribution of abortions and live births by age in South Australia in 2005 (Table 39 and Figure 8A) demonstrates that the largest proportion of abortions occurred in the age group 20-24 years while the largest proportion of live births occurred among those 30-34 years, who had the highest fertility (live birth) rate of 114.7 per 1,000 women. Teenagers accounted for 18.8% of the abortions and 5.1% of the live births in South Australia in 2005. The teenage pregnancy rate (per 1,000 women aged 15-19 years) declined in the 1970s and 1980s with the decline in the teenage birth rate but increased in the 1990s till 1996. After that it has declined again, and, from 2003, this was associated with a decline in the teenage abortion rate (Figure 8B). The teenage pregnancy rate was 36.1 per 1,000 women in 2005, the lowest since abortion statistics became available to derive a pregnancy rate in 1970.

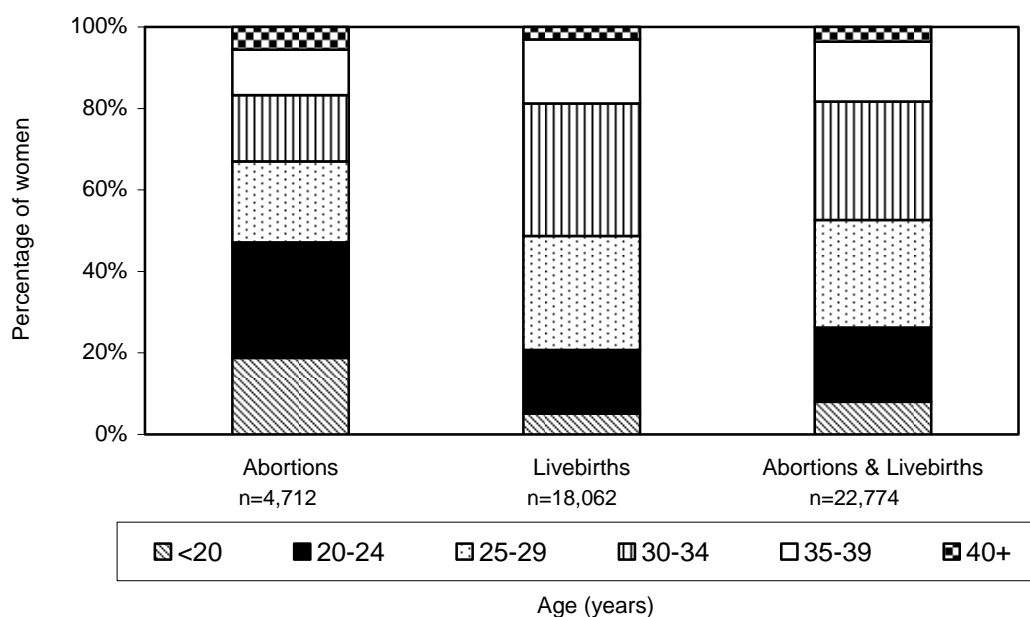
**Table 39: Abortion and live birth rates and abortion proportions by age, South Australia, 2005**

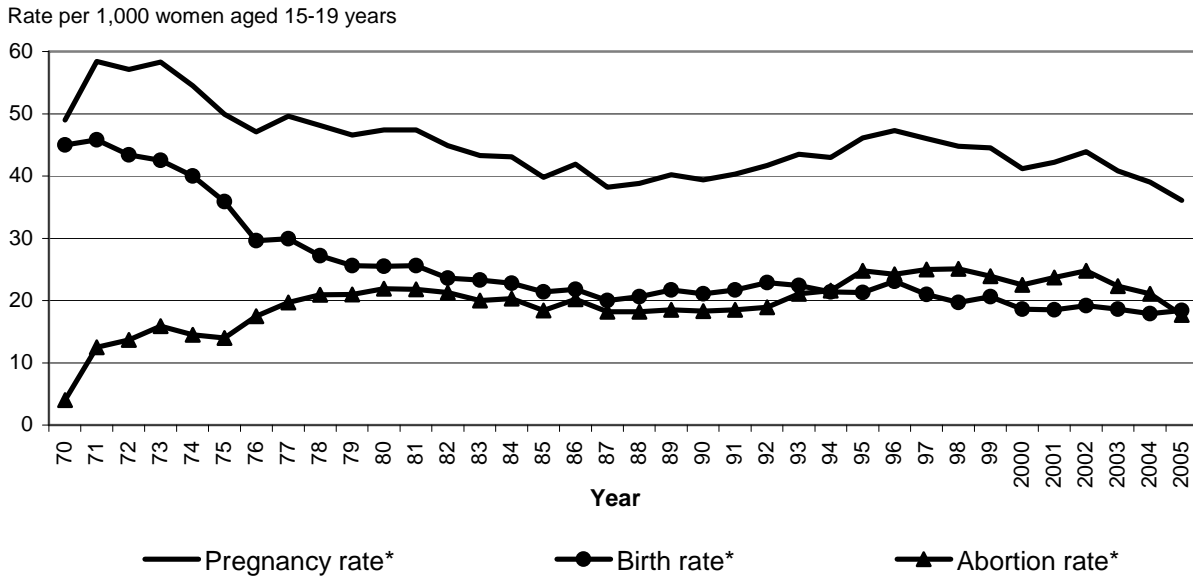
Age (years)	Number of abortions	Estimated resident female population June 30 2005*	Abortion rate per 1,000 women	Number of live births**	Fertility rate per 1,000 women	Abortions + live births	Abortion proportion
<15	18	na	na	3	na	21	0.86
15-19	869	50,147	17.7**	918	18.4**	1,787	0.49
20-24	1,335	50,629	26.4	2,815	55.6	4,150	0.32
25-29	935	45,264	20.7	5,065	111.9	6,000	0.16
30-34	766	51,162	15.0	5,869	114.7	6,635	0.12
35-39	524	53,570	9.8	2,832	52.9	3,356	0.16
40-44	240	57,950	4.6**	533	9.7**	773	0.31
45+	25	na	na	27	na	52	0.48
<b>Total</b>	<b>4,712</b>	<b>308,722</b>	<b>15.3**</b>	<b>18,062</b>	<b>58.5**</b>	<b>22,774</b>	<b>0.21</b>

\*Australian Bureau of Statistics. Population Estimates by Age and Sex, South Australia 2005. Canberra: ABS, 2005 (Catalogue No 3235.0).

\*\*Terminations of pregnancy are excluded from the numbers of live births. The abortion and live birth rates for women aged 15-19 years include terminations and live births at younger ages, and the rates for women aged 40-44 years include terminations and live births at older ages, while the total rates include all terminations and live births.

**Figure 8A: Abortions and live births by age, South Australia, 2005**



**Figure 8B: Teenage pregnancy, abortion and birth rates, South Australia, 1970-2005**

\*Abortions and births to women aged less than 15 years are included in the numerator

### 3 Marital status

Terminations were performed in the majority of cases (61.0%) for single women (Table 40). In 2.9% of cases the marital status was not known.

**Table 40: Terminations by marital status, South Australia, 2005**

Marital status	Number	%
Never married	2,338	49.6
Married	1,168	24.8
De facto	533	11.3
Widowed	4	0.1
Divorced/Separated	532	11.3
Not known	137	2.9
<b>Total</b>	<b>4,712</b>	<b>100.0</b>

### 4 Place of residence and place where termination performed

While 83.0% of terminations were performed for metropolitan residents (Table 41), a larger proportion (94.4%) was performed in metropolitan hospitals (Table 42), which include the Pregnancy Advisory Centre at which 2,625 terminations (55.7% in the state) were performed.

**Table 41: Terminations by place of residence, South Australia, 2005**

Residence of women	Number	%
Metropolitan	3,910	83.0
Country	802	17.0
<b>Total</b>	<b>4,712</b>	<b>100.0</b>

**Table 42: Terminations by hospital category, South Australia, 2005**

Hospital where termination performed	Number	%
Metropolitan teaching	4,295	91.2
Metropolitan private	151	3.2
Country	266	5.6
<b>Total</b>	<b>4,712</b>	<b>100.0</b>

The proportion of terminations performed by obstetricians was 19.8%, which has declined further from 68.5% in 1991, while the proportion performed by medical practitioners in family advisory clinics has increased from 23.8% in 1991 to 75.7% in 2005 (Table 43).

**Table 43: Terminations by category of doctor, South Australia, 2005**

Category of doctor performing termination	Number	%
Obstetrician/gynaecologist	933	19.8
Trainee obstetrician/gynaecologist	103	2.2
Medical practitioner in family advisory clinic	3,566	75.7
General practitioner	110	2.3
<b>Total</b>	<b>4,712</b>	<b>100.0</b>

## 5 The reason for termination

The number of terminations performed for fetal reasons was 142 (3.0% of terminations), of which 138 (97.2%) were for specified fetal or chromosomal abnormalities (Table 44).

**Table 44: Reason for termination for fetal reasons, South Australia, 2005**

Reason for termination	Number	%
Identified chromosomal abnormality	81	57.0
Other identified fetal abnormality	57	40.1
Possibility of damage from drugs	1	0.7
Possibility of damage from other causes	3	2.1
<b>Total</b>	<b>142</b>	<b>100.0</b>

## 6 Gestation, method and complications

The majority of terminations (92.3%) was performed within the first 14 weeks of pregnancy and most frequently (in 88.3% of cases) by vacuum aspiration. There were 70 late terminations (performed at 20 weeks gestation or later): 49% of these were for fetal reasons. Twenty-one complications were reported for 20 women (0.4%). The types of complications are listed in Table 45. Complications are believed to be undernotified as the notification forms are usually completed about the time the woman is discharged from hospital after the procedure.

**Table 45: Complications of terminations, South Australia, 2005**

<b>Complications</b>	<b>Number</b>	<b>% of complications</b>
Sepsis	6	28.6
Haemorrhage - intra-operative	1	4.8
- post-operative	4	19.0
Perforation of or trauma to body of uterus	2	9.5
Other (mainly retained products of conception)	8	38.1
<b>Total</b>	<b>21</b>	<b>100.0</b>

## 7 Previous terminations. Total abortion rate and Total first abortion rate

Of the 4,712 women who had terminations, 1,826 (38.8%) had had a previous termination (Table 46a). Among the teenagers 15.9% had had a previous termination, while nearly half of those in all the 5-year age groups over 24 years had had previous terminations. The total abortion rate (TAR) for 2005 was 471.0 per 1,000 women aged 15-44 years (Table 46b). This represents the number of abortions 1,000 women would have during their lifetime if they experienced the abortion rates of the different age groups for 2005. As a woman may have more than one abortion in her lifetime, to estimate how prevalent abortion is at these age-specific abortion rates for 2005, a total first abortion rate (TFAR, Table 46c) may be calculated after exclusion of women with repeat terminations. This TFAR for 2005 was 288.5 per 1,000 women aged 15-44 years. This suggests that about 29% of women would have an abortion in their lifetime if they experienced the abortion rates of the different age groups for 2005.

**Table 46a: Women with previous terminations by age, South Australia, 2005**

<b>Age (years)</b>	<b>Number</b>	<b>%</b>	<b>% of age group</b>
< 15	1	0.1	5.6
15 - 19	140	7.7	16.1
20 - 24	484	26.5	36.3
25 - 29	451	24.7	48.2
30 - 34	374	20.5	48.8
35 - 39	248	13.6	47.3
40+	128	7.0	48.3
<b>Total</b>	<b>1,826</b>	<b>100.0</b>	<b>38.8</b>

Further details of abortions in South Australia in 2005 may be obtained from the Third Annual Report of the South Australian Abortion Reporting Committee – for the year 2005.<sup>6</sup>

Table 46b: Calculation of total abortion rate (TAR) for 2005 for South Australia\*

Age (years)	Number of women who had terminations	Estimated female resident population 30 <sup>th</sup> June 2005	Abortion rate per 1,000 women
15-19	887	50,147	17.7
20-24	1,335	50,629	26.4
25-29	935	45,264	20.7
30-34	766	51,162	15.0
35-39	524	53,570	9.8
40-44	265	57,950	4.6
<b>Total</b>	<b>4,712</b>	<b>308,722</b>	<b>15.3</b>

\*In these calculations, abortions to women under 15 years are included in the age group 15-19 yrs and abortions to women aged 45 years or more are included in the age group 40-44 years, as is traditional.

**Total abortion rate** = sum of abortion rates for 5-year age groups x 5 = 94.2X5=471.0 per 1,000 women aged 15-44 years.

Table 46c: Calculation of total first abortion rate (TFAR) for 2005 for South Australia\*

Age (years)	Number of women who had terminations (A)	Number of women who had previous terminations (B)	Number of women who had first termination (A) – (B)	Estimated female resident population June 30 <sup>th</sup> 2005	First abortion rate per 1,000 women
15-19	887	141	746	50,147	14.9
20-24	1,335	484	851	50,629	16.8
25-29	935	451	484	45,264	10.7
30-34	766	374	392	51,162	7.7
35-39	524	248	276	53,570	5.2
40-44	265	128	137	57,950	2.4
<b>Total</b>	<b>4,712</b>	<b>1,826</b>	<b>2,886</b>	<b>308,722</b>	<b>9.3</b>

\* In these calculations, abortions to women under 15 years are included in the age group 15-19 yrs and abortions to women aged 45 years or more are included in the age group 40-44 years, as is traditional.

**Total first abortion rate (TFAR)** = sum of first abortion rates for 5-year age groupsX5 = 57.7 x 5 = 288.5 per 1,000 women aged 15-44 yrs.

## IV OBSTETRIC PROFILES BY HOSPITAL CATEGORY

Obstetric profiles for 5 hospital categories for 2005 are provided in Table 47 and Figures 9-28.

These hospital categories are:

1. Metropolitan teaching Level III hospitals with neonatal intensive care facilities, ie the Women's & Children's Hospital and Flinders Medical Centre,
2. Other metropolitan teaching hospitals, ie the Lyell McEwin Health Service and Modbury Hospital,
3. Metropolitan private hospitals,
4. The two major country hospitals (Mount Gambier and Whyalla) and
5. Other country hospitals (mainly smaller).

A list of maternal and baby factors identified either as risk factors for poor perinatal outcome in earlier analyses,<sup>7</sup> or of general interest, is provided with "means" for all state hospital births as well as proportions for the 5 hospital categories.

The "mean" is the proportion for all state hospital confinements (for maternal factors) or births (for baby factors),

e.g. % Aboriginal mothers

$$\frac{\text{Number of confinements of Aboriginal mothers in state hospitals}}{\text{Total confinements in state hospitals}} \times 100$$

Where indicated (+) in Table 47, it is the mean (number of confinements or births) for the 25 hospitals or groups of hospitals for which obstetric profiles have been provided, and which have also been included in the provision of the 10<sup>th</sup> and 90<sup>th</sup> percentile values. These are as follows:

1. Women's & Children's Hospital
2. Flinders Medical Centre
3. Lyell McEwin Health Service
4. Modbury Hospital
5. Ashford Hospital
6. Burnside War Memorial Hospital Inc
7. Calvary Hospital Adelaide Inc
8. Central Districts Private Hospital
9. Flinders Private Hospital
10. North Eastern Community Hospital Inc
11. Mount Gambier & District Health Service Inc
12. The Whyalla Hospital & Health Services Inc
13. Clare District Hospital
14. Gawler Health Service

15. Mount Barker District Soldiers' Memorial Hospital Inc
16. Murray Bridge Soldiers' Memorial Hospital Inc
17. Naracoorte Health Service Inc
18. Port Augusta Hospital & Regional Health Service Inc
19. Port Lincoln Health Service Inc
20. Port Pirie Regional Health Service Inc
21. Riverland Regional Health Service (Berri)
22. South Coast District Hospital (Victor Harbor)
23. Tanunda War Memorial Hospital
24. Country hospitals with 50-99 births per year
25. Country hospitals with <50 births per year

The 10th percentile is the proportion below which 10% of the 25 hospital proportions, ie the two lowest hospital proportions, would be found if the 25 proportions were ranked from highest to lowest. The 90th percentile is the proportion above which 10% of the 25 hospital proportions, ie the two highest proportions, would be found if the 25 proportions were ranked from highest to lowest. As the two Level III hospitals which account for 37.9% of hospital births have proportions of some factors (such as prolonged hospitalisation and use of neonatal intensive care) which are much greater than for the other 23 hospitals, occasionally the mean for all hospitals will be seen to be higher than the 90th percentile.

The table and figures provide obstetric profiles for the 5 different categories of hospitals. These have been provided since 1986 to hospitals with 100 or more births per year, together with their individual hospital profiles, including crude and standardized perinatal mortality ratios,<sup>8</sup> the latter with exclusion of perinatal deaths from congenital abnormalities<sup>3</sup> and terminations of pregnancy. For country hospitals with less than 100 births per year, group reports have been provided.

Each hospital's statistics for each factor may be compared with those for state hospitals and for categories of hospitals, eg whether a hospital's proportion for any factor falls within the range of the more common proportions prevailing in hospitals in the state (ie between the 10th and the 90th percentiles).

**Table 47: Obstetric profiles by hospital category, South Australia, 2005, births of  $\geq 400\text{g}$  or  $\geq 20$  weeks gestation**

Factors	All state hospitals			Metropolitan hospitals			Country hospitals	
	Mean	10th percentile	90th percentile	Level III teaching	Other teaching	Private	Major	Other
<b>Maternal factors</b>								
Confinements (n=17,834)	713 <sup>+</sup>	113	1,816	6,718	2,474	4,737	864	3,041
% Aboriginal mothers	2.7	0	8.0	3.3	3.0	0.1	3.7	5.1
% Antenatal visits <7*	8.2	0.2	14.2	13.0	9.4	0.9	8.6	7.2
% Teenage mothers	5.2	0.2	11.6	5.8	9.6	0.3	9.3	6.6
% Mothers $\geq 35$ years	18.6	10.1	27.0	17.5	13.1	27.8	12.5	12.9
% Single mothers	13.9	2.1	20.0	21.5	18.2	2.7	15.2	10.9
% 4+ prior live births	2.8	0.4	5.4	3.1	5.0	0.5	3.5	3.6
% 1+ prior perinatal deaths	1.3	0.4	2.7	1.8	1.5	0.5	2.0	1.1
% Obstetric complications	31.5	16.1	34.1	41.4	33.1	22.7	25.4	23.7
% Labour complications	35.2	21.0	42.2	44.3	37.9	29.6	21.4	25.8
% Induction	28.4	20.7	33.6	28.7	26.0	31.9	23.0	26.0
% Emergency LSCS	17.7	8.1	20.0	19.9	15.5	19.9	10.8	13.3
% Elective LSCS	14.7	8.6	24.3	10.7	11.8	22.9	13.5	13.5
% Total LSCS	32.4	19.8	48.7	30.5	27.4	42.7	24.3	26.7
% Ultrasound examination*	97.5	94.0	100.0	98.5	95.7	97.5	98.4	96.4
% Amniocentesis*	5.5	1.5	8.1	6.1	3.3	8.2	2.3	2.8
% Episiotomy	12.8	4.8	22.1	10.8	11.5	18.3	8.6	11.0
% Repair of perineal tear	24.5	16.0	38.0	25.9	22.3	23.4	27.2	24.2
% Epidural analgesia	31.3	8.6	44.4	31.9	24.7	44.4	21.2	17.7
% Spinal analgesia	0.9	0.6	2.1	0.4	1.1	1.3	0.6	1.6
% Private patients	32.6	0.6	100.0	8.3	4.0	100.0	10.4	10.6
% Primiparous women	42.5	31.7	46.2	44.6	39.8	46.3	35.8	36.1
% Previous LSCS	15.8	11.0	21.5	14.3	13.7	20.1	14.9	14.4
% PPH	6.4	2.9	9.2	9.2	5.5	3.8	4.8	5.7
<b>Baby factors</b>								
Births (n=18,133)	725 <sup>+</sup>	113	1,845	6,877	2,513	4,818	876	3,049
% Birthweight <2,500g	7.6	1.2	8.2	12.3	7.6	4.0	7.3	2.7
% Gestational age <37 weeks at birth	9.0	1.2	9.5	14.9	8.4	5.3	7.0	2.8
% Prolonged hospitalisation (>27 days)	2.4	0	2.8	5.6	0.8	0.5	0.6	0.2
% Neonatal intensive care (Level III or W&CH paediatric intensive care)	3.0	0.5	2.9	6.4	1.0	0.9	0.7	1.0
% Birth defect	2.5	0.8	3.2	3.2	2.7	1.8	1.8	2.1

\* adjusted for missing values

+ mean number of confinements or births for the 25 hospitals or groups of hospitals

Figure 9: Percentage of Aboriginal mothers by hospital category

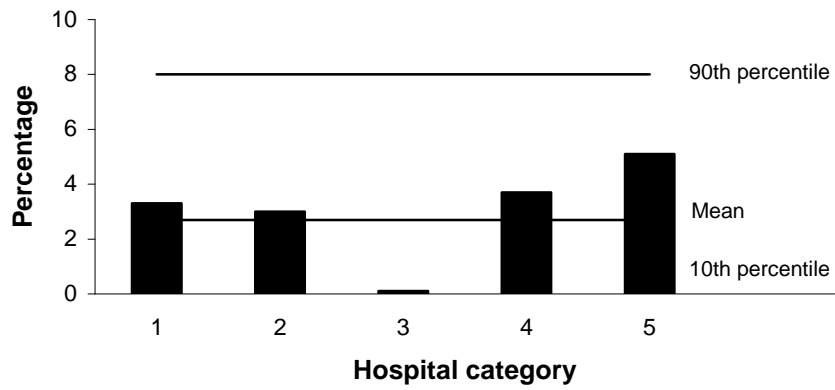


Figure 10: Percentage of mothers with <7 antenatal visits by hospital category

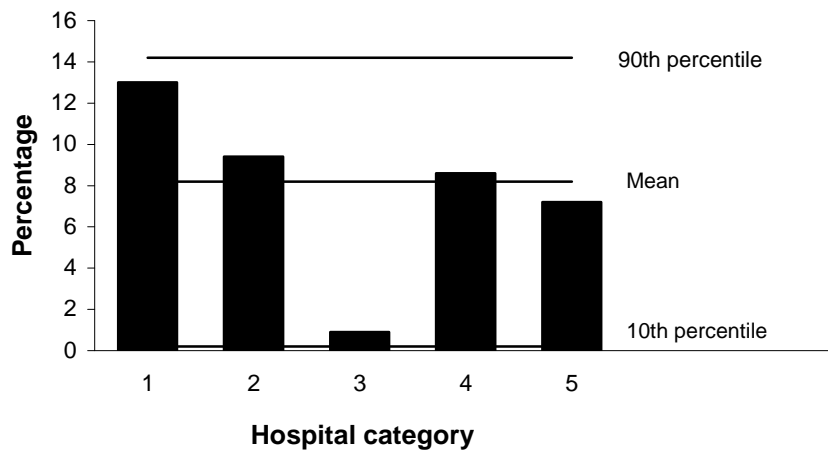


Figure 11: Percentage of teenage mothers by hospital category

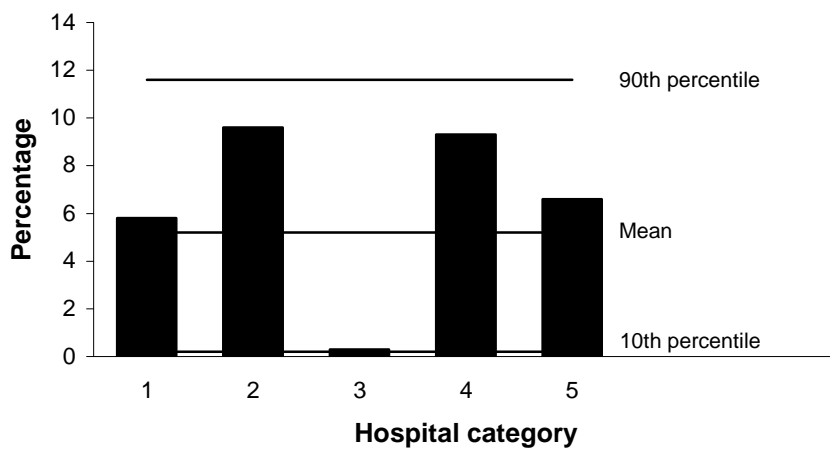


Figure 12: Percentage of mothers 35 years or more by hospital category

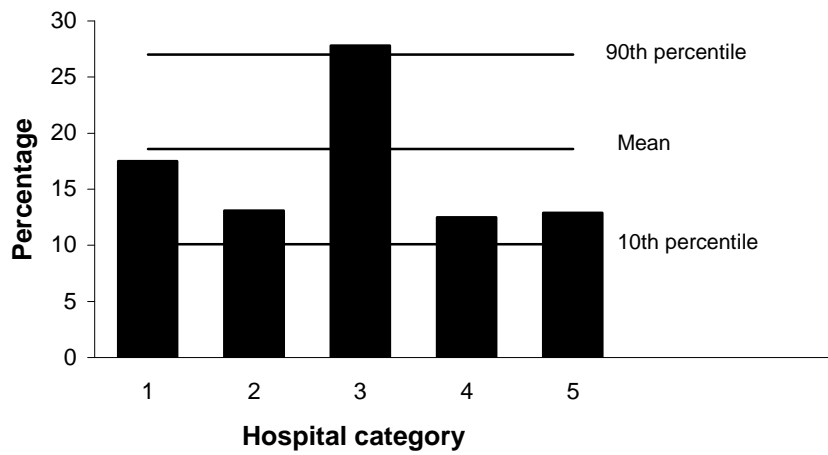


Figure 13: Percentage of single mothers by hospital category

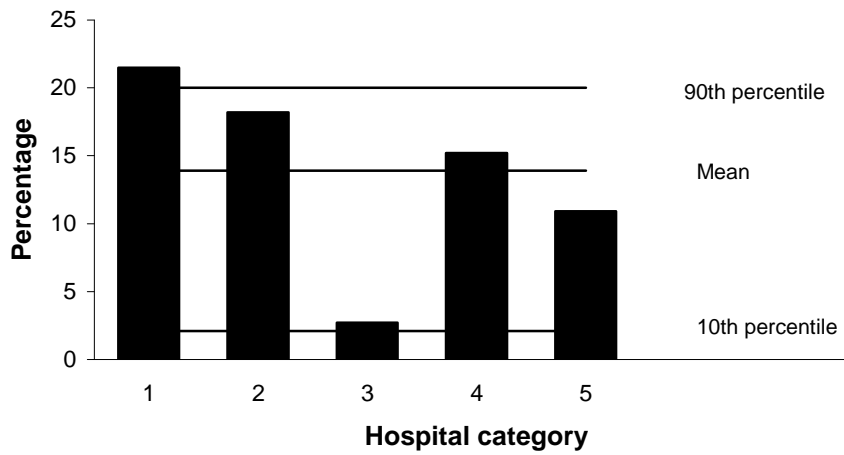


Figure 14: Percentage of mothers with 4 or more prior livebirths by hospital category

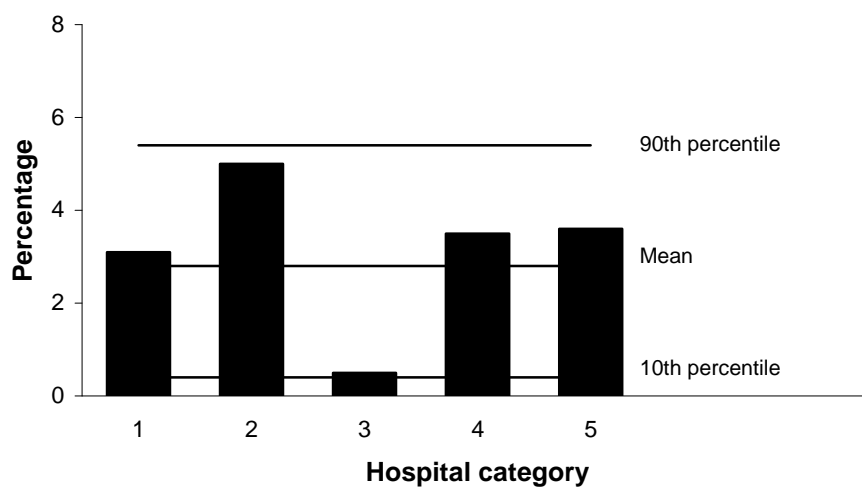


Figure 15: Percentage of mothers with 1 or more prior perinatal deaths by hospital category

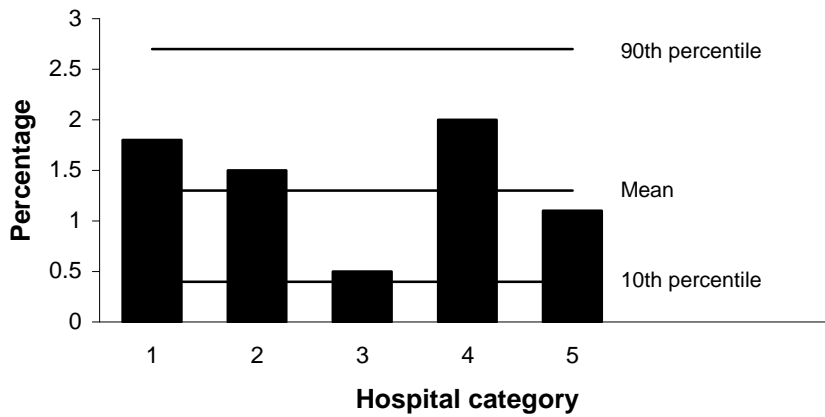


Figure 16: Percentage of mothers with obstetric complications by hospital category

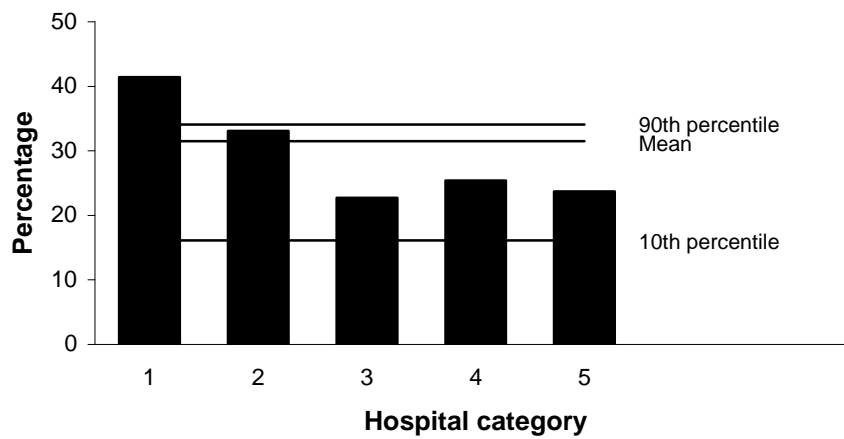


Figure 17: Percentage of mothers with complications during labour or delivery by hospital category

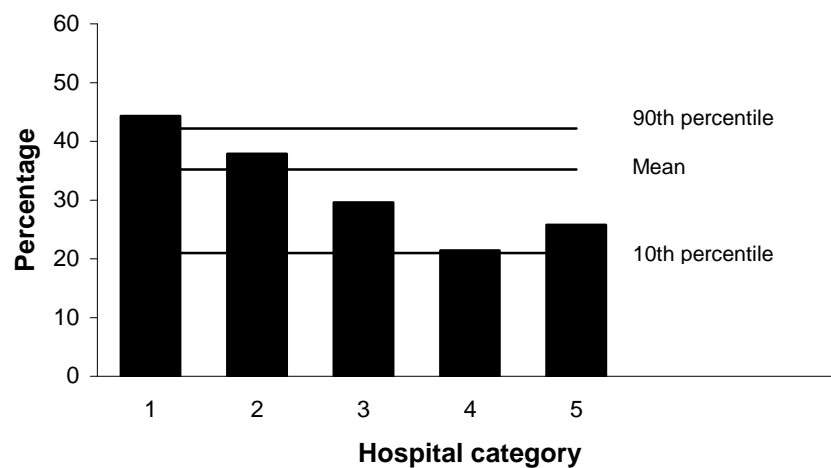


Figure 18: Percentage of mothers with induction of labour by hospital category

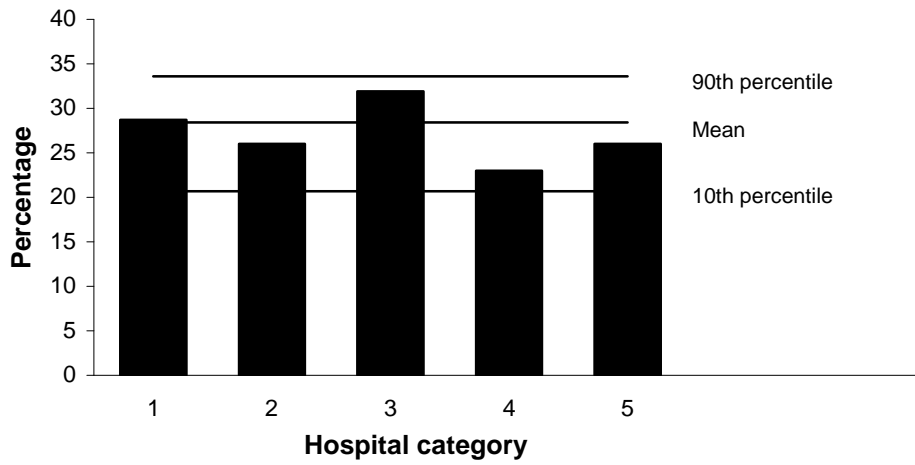


Figure 19: Percentage of mothers having epidural analgesia by hospital category

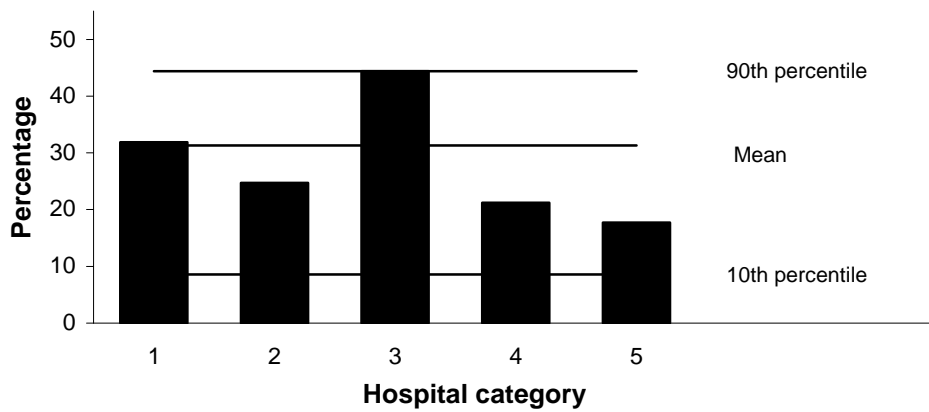


Figure 20: Percentage of breech deliveries by hospital category

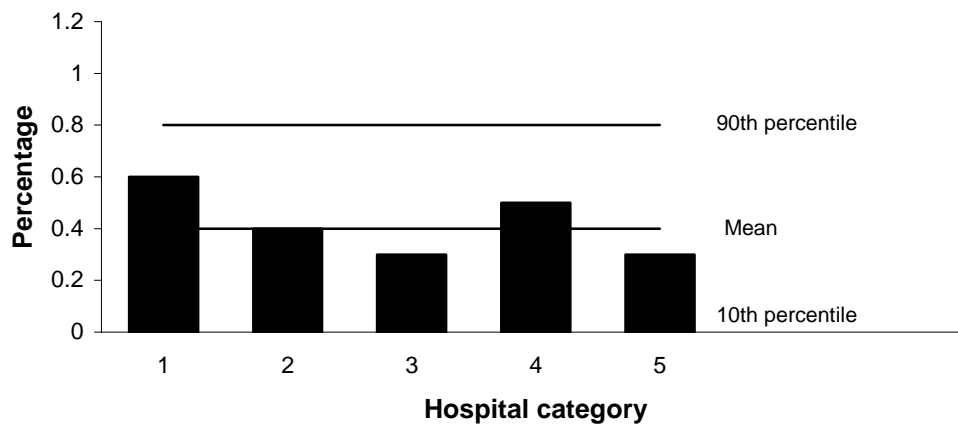


Figure 21: Percentage of emergency LSCS by hospital category

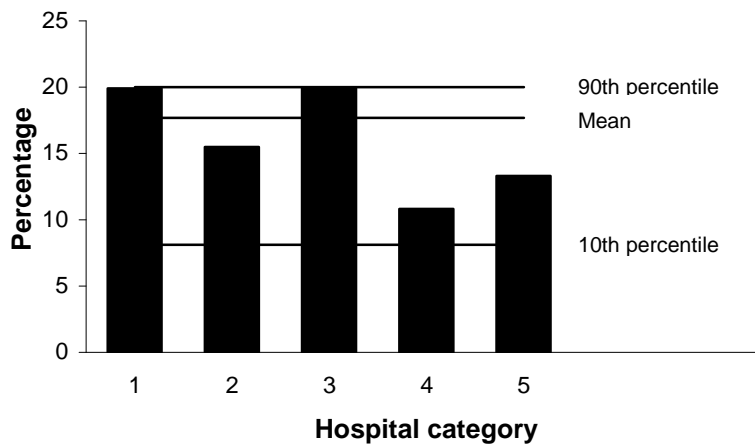


Figure 22: Percentage of elective LSCS by hospital category

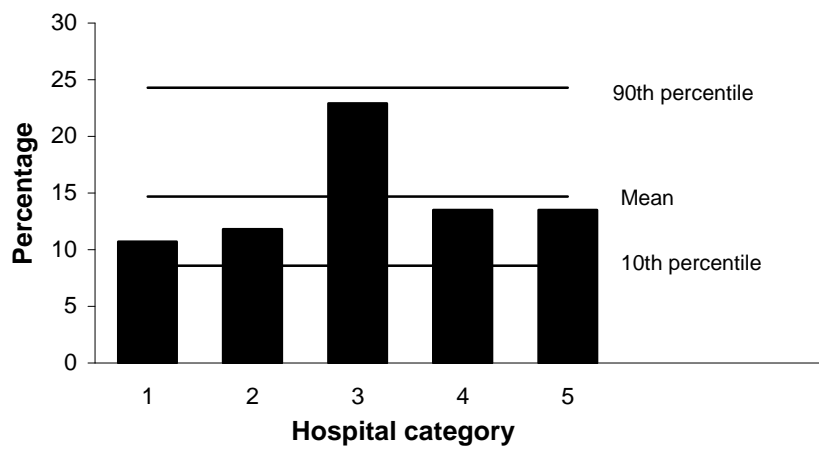


Figure 23: Percentage of total LSCS by hospital category

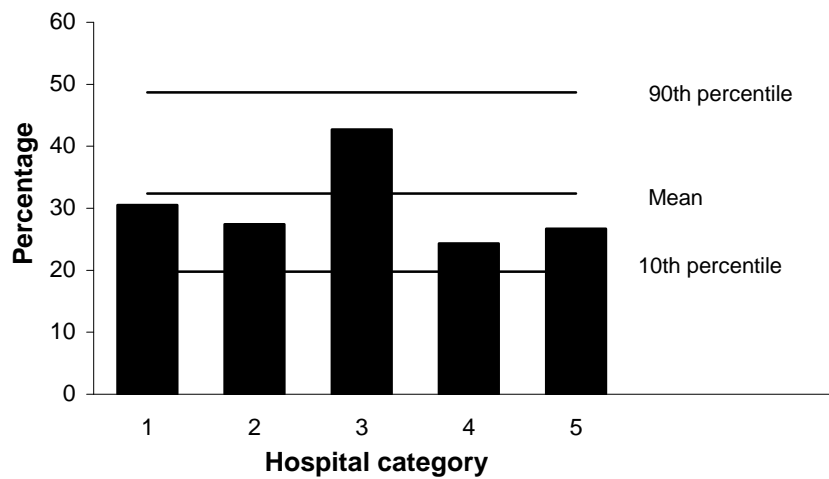


Figure 24: Percentage of births with birthweight below 2,500g by hospital category

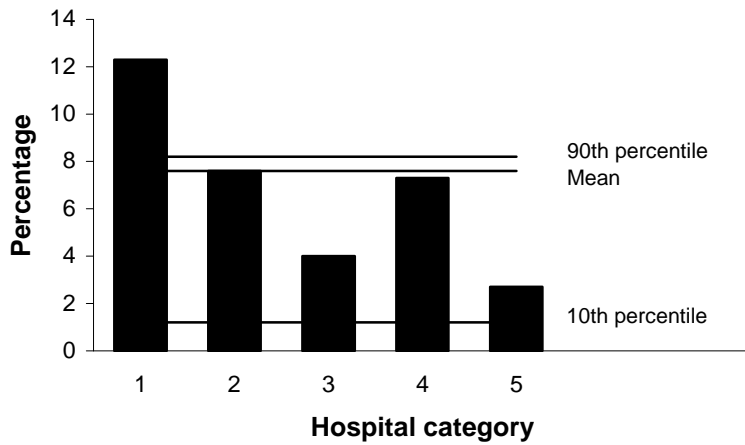


Figure 25: Percentage of births with gestation less than 37 weeks by hospital category

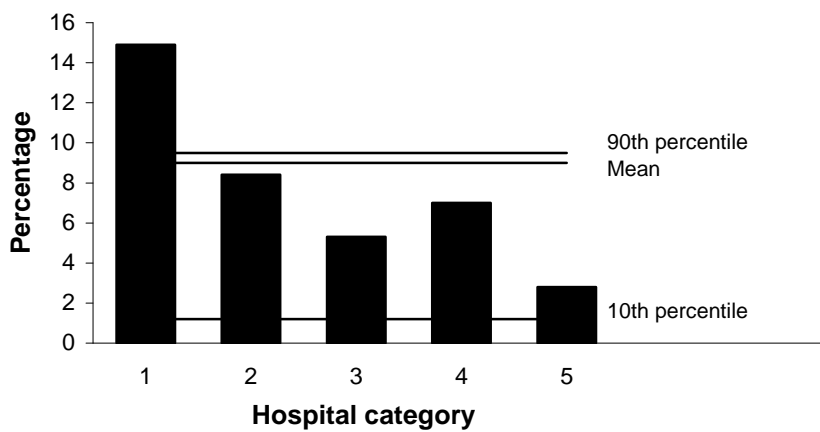


Figure 26: Percentage of births with prolonged hospitalisation by hospital category

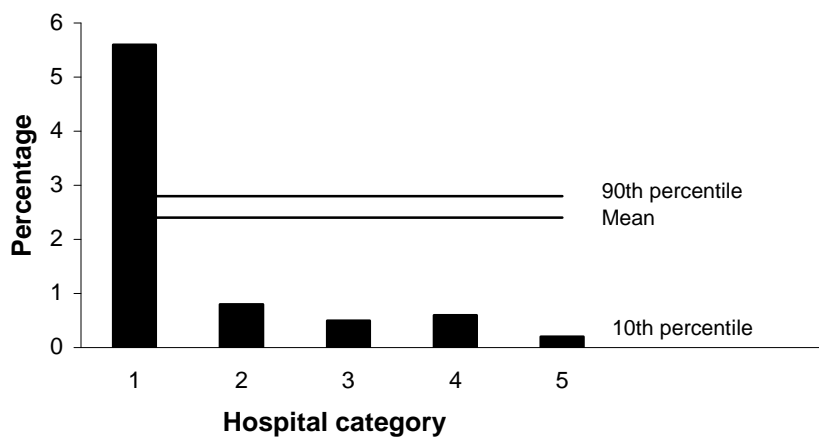


Figure 27: Percentage of livebirths requiring neonatal intensive care by hospital category

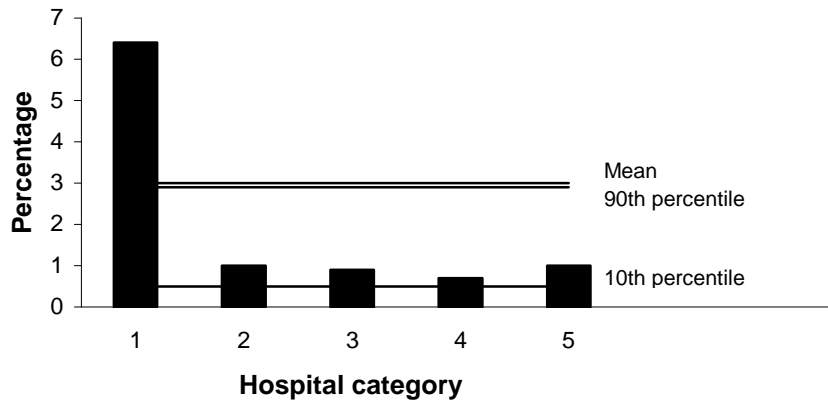
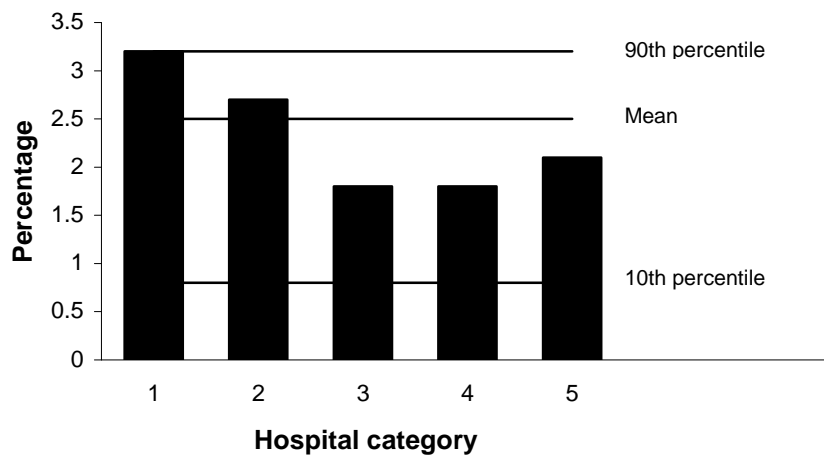


Figure 28: Percentage of births with birth defects by hospital category



## V CLINICAL AND MATERNITY PERFORMANCE INDICATORS

### 1 Clinical indicators

These clinical indicators of The Australian Council on Healthcare Standards (ACHS Obstetrics and Gynaecology Indicators 'Clinical Indicators - A Users' Manual Version 4') are reported for the state in pages 53-56. They are also reported for hospital categories and individual hospitals in the Pregnancy and Neonatal Care Bulletin 2005.

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#### INDICATOR 1: INDUCTION OF LABOUR OTHER THAN FOR DEFINED INDICATIONS

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**Rationale:** These indicators have been included because induction of labour is a common obstetric intervention and one which is often stated by community critics to be unnecessarily high.

##### ❖ Clinical indicator 1.1: Induction of labour other than for defined indications among all inductions

**Numerator:** The number of women undergoing induction of labour for indications other than those defined (n=2,290). These are diabetes, premature rupture of membranes, hypertensive disorders (including chronic renal disease), intrauterine growth restriction, isoimmunisation, fetal distress (as documented by the clinician), fetal demise, chorioamnionitis and prolonged pregnancy (41 completed weeks or more).

Patients having augmentation of labour are excluded in both numerator and denominator data.

**Denominator:** The total number of women undergoing induction of labour for any reason (excluding augmentation of labour) (n = 5,067).

$$\text{Clinical indicator 1.1} = \frac{2,290 \times 100}{5,067} = 45.2\% \text{ (95\%CI 43.8\%-46.6\%).}$$

##### ❖ Clinical indicator 1.2: Induction of labour other than for defined indications among all women who delivered

**Numerator:** The number of women undergoing induction of labour for indications other than those listed above (excluding augmentation of labour) (n=2,290).

**Denominator:** The total number of women delivering (including augmentation of labour) (n=17,897).

$$\text{Clinical indicator 1.2} = \frac{2,290 \times 100}{17,897} = 12.8\% \text{ (95\%CI 12.3\%-13.3\%).}$$

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**INDICATOR 2: RATE OF VAGINAL DELIVERY FOLLOWING PRIMARY CAESAREAN SECTION**


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**Rationale:** This indicator has been included to monitor the conduct of labour and trial of scar in those women who have had a previous primary (first) caesarean section.

❖ **Clinical indicator 2.1: Rate of vaginal delivery following primary caesarean section**

**Numerator:** The number of women delivering vaginally following a previous primary (first) caesarean section and having no intervening pregnancies greater than 20 weeks gestation (n=334).

**Denominator:** The total number of women delivering who have had a previous primary (first) caesarean section and no intervening pregnancies greater than twenty weeks gestation (n=2,036).

$$\text{Clinical indicator 2.1} = \frac{334 \times 100}{2,036} = 16.4\% \text{ (95\% CI 14.8\%-18.1\%).}$$

---

**INDICATOR 3: PRIMARY CAESAREAN SECTION FOR FAILURE TO PROGRESS**


---

**Rationale:** This indicator is to monitor the adequacy of trial of labour. There are two indicators, one for failure to progress after a period of labour with cervical dilatation of 3cm or less and the other with cervical dilatation of more than 3cm. As information on cervical dilatation is not collected, the two indicators have been combined.

❖ **Clinical indicator 3.0: Primary caesarean section for failure to progress among primary non-elective caesarean sections**

**Numerator:** The number of women undergoing primary (first) caesarean section for failure to progress (clinician's documented statement), which may include CPD, uterine inertia, persistent occipitoposterior position (n=1,394).

**Denominator:** The total number of women undergoing primary non-elective caesarean section (n=2,574).

$$\text{Clinical indicator 3.0} = \frac{1,394 \times 100}{2,574} = 54.2\% \text{ (95\% CI 52.2\%-56.1\%).}$$

---

**INDICATOR 4: PRIMARY CAESAREAN SECTION FOR FETAL DISTRESS**


---

Rationale: To determine the comparative frequency of caesarean section for fetal distress.

❖ **Clinical indicator 4.1: Primary caesarean section for fetal distress among all women who delivered**

Numerator: The number of women undergoing primary caesarean section for fetal distress in labour as evidenced by the clinician's documented diagnosis of fetal distress (n=938).

Denominator: The total number of women delivering including those delivering vaginally (n=17,897).

$$\text{Clinical indicator 4.1} = \frac{938 \times 100}{17,897} = 5.2\% \text{ (95\% CI 4.9\%-5.6\%).}$$

❖ **Clinical indicator 4.2: Primary caesarean section for fetal distress among primary caesarean sections**

Numerator: The number of women undergoing primary caesarean section for fetal distress as defined above (n=938).

Denominator: The total number of women delivering by primary caesarean section only (n = 3,451).

$$\text{Clinical indicator 4.2} = \frac{938 \times 100}{3,451} = 27.2\% \text{ (95\%CI 25.7\%-28.7\%).}$$

---

**INDICATOR 5: INCIDENCE OF AN INTACT LOWER GENITAL TRACT IN PRIMIPAROUS PATIENTS DELIVERING VAGINALLY**


---

Rationale: This indicator has been included because a high incidence of an intact perineum is considered a desirable outcome.

❖ **Clinical indicator 5.1: Incidence of an intact lower genital tract in primiparous women delivering vaginally**

Numerator: The number of primiparous patients not requiring surgical repair or suture of the lower genital tract (those structures below and not including the cervix) following delivery (n=1,491).

Denominator: The total number of primiparous women delivering vaginally (n=4,931).

$$\text{Clinical indicator 5.1} = \frac{1,491 \times 100}{4,931} = 30.2\% \text{ (95\%CI 29.0\%-31.5\%).}$$

---

**INDICATOR 6: APGAR SCORE**


---

Rationale: This indicator has been included as a measure of the outcome of labour, with particular emphasis on the assessment of baby well-being.

❖ **Clinical indicator 6.1: Apgar score of 4 or below at five minutes after delivery among all babies except antepartum fetal deaths**

Numerator: The number of babies born with an Apgar score of 4 or below at five minutes post delivery (n=91).

Denominator: The total number of babies born (excluding fetal deaths in utero diagnosed prior to commencement of labour) (n=18,135).

$$\text{Clinical indicator 6.1} = \frac{91 \times 100}{18,135} = 0.5\% \text{ (95\% CI 0.4\%-0.6\%).}$$

---

**INDICATOR 7: TERM BABIES TRANSFERRED OR ADMITTED TO A NEONATAL INTENSIVE CARE UNIT FOR REASONS OTHER THAN CONGENITAL ABNORMALITY**


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Rationale: This indicator has been included as an index of the overall management of labour in terms of outcome.

❖ **Clinical indicator 7.1: Term babies transferred or admitted to a neonatal intensive care unit for reasons other than congenital abnormality**

Numerator: The number of term babies (37 weeks gestation or later) transferred/admitted to a neonatal intensive care unit for reasons other than congenital abnormality (n=93).

Denominator: The total number of term live babies born (n=16,537).

$$\text{Clinical indicator 7.1} = \frac{93 \times 100}{16,537} = 0.6\% \text{ (95\% CI 0.5\%-0.7\%).}$$

## 2 Maternity performance indicators, hospitals with at least 500 births per year

The first two of these indicators have been selected from the Victorian set of maternity performance indicators,<sup>9</sup> while three are ACHS clinical indicators. These six indicators are as follows:

### ❖ 1. Induction of labour proportion for standard primiparae

$$= \frac{\text{Number of standard primiparae undergoing induction of labour}}{\text{Number of standard primiparae who gave birth}}$$

### ❖ 2. Caesarean section rate for standard primiparae

$$= \frac{\text{Number of standard primiparae undergoing caesarean section}}{\text{Number of standard primiparae who gave birth}}$$

The standard primipara is aged  $\geq 20$  and  $\leq 34$  years, with a singleton pregnancy, delivered at gestation  $\geq 37$  and  $\leq 41$  weeks, with an infant not small for gestational age (classified using birthweight percentiles rather than clinical suspicion of light for dates).<sup>9</sup> The birthweight percentiles used are the national birthweight-gestation percentiles.<sup>10</sup>

“Using the standard primipara (rather than all women giving birth) as the basis for internal hospital comparison of maternity controls for substantial differences in case mix (pre risk-adjustment) and increases the validity of those comparisons.”<sup>9</sup>

### ❖ 3. VBAC: proportion of women delivering vaginally following a previous primary (first) caesarean section and no intervening births.

This is as defined for Clinical indicator 2 (page 54) and was 16.4% for the state in 2005 (and 16.3% for state hospitals) in 2005.

### ❖ 4. PRIMIP no repair: proportion of women not requiring surgical repair following vaginal delivery.

This is as defined for Clinical indicator 5 (page 55) and was 30.2% for the state in 2005 (30.1% for state hospitals).

### ❖ 5. TERM NICU: proportion of term babies admitted to neonatal intensive care (NICU) for reasons other than congenital abnormality.

This is as defined for Clinical indicator 7 (page 56) and was 0.6% for the state (and state hospitals) for 2005.

### ❖ 6. SPMR: Standardized perinatal mortality ratio for all births.

This is as defined<sup>8</sup> in the Pregnancy and Neonatal Care Bulletin 2005. It adjusts for the difference between the distribution of births by birthweight between the hospital and state hospital births. As perinatal mortality is much higher in babies of low birthweight, this adjustment ensures that a hospital is directly comparable with other hospitals and state hospitals as a whole if it has a higher proportion of low birthweight babies than state hospital births.

$$\text{SPMR} = \frac{\text{Observed number of deaths}}{\text{Expected number of deaths}} \times 100$$

To obtain the expected number of deaths for a hospital, the state hospital perinatal mortality rate for 2005 for each of the birthweight groups in Table 21b is applied to the number of births in each corresponding birthweight group for the hospital. This gives an expected

number of deaths in each birthweight group. These expected deaths are then totalled to give a total number of expected deaths for the hospital.

SPMRs provided in this report exclude deaths attributed to congenital abnormalities (as determined by the Maternal, Perinatal and Infant Mortality Committee<sup>3</sup>), which are the least preventable, as well as terminations of pregnancy. An SPMR above 100 means that after adjustment for birthweight differences and deaths attributed to congenital abnormalities and terminations of pregnancy, perinatal mortality for that hospital is higher than that for state hospital births eg an adjusted SPMR of 120 means that it is 20% higher.

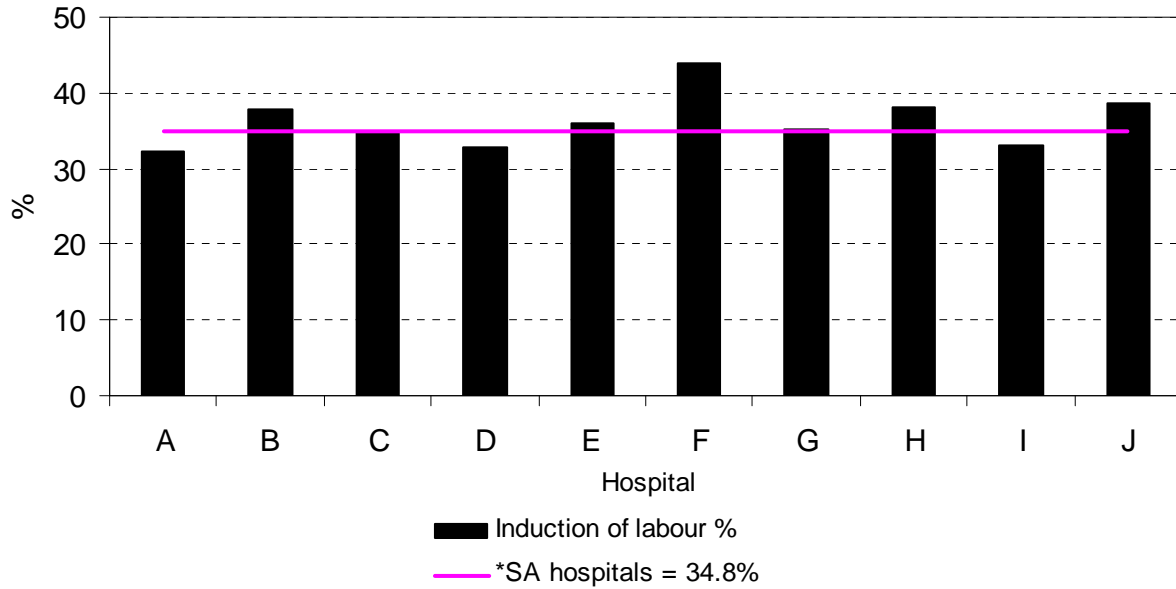
A 95% confidence interval (CI) which includes the value 100 in its range means that the hospital's perinatal mortality is not (statistically) significantly different from that for state hospital births for 2005. These confidence intervals have been calculated using tabular values of 95% confidence limit factors for estimates of a poisson distributed variable.<sup>11</sup>

Statistics for the six maternity performance indicators for 2005 are provided for the ten hospitals, A - J, with at least 500 births in 2005 in Figures 29A - 29F. Metropolitan teaching hospitals have been named with their permission and are as follows:

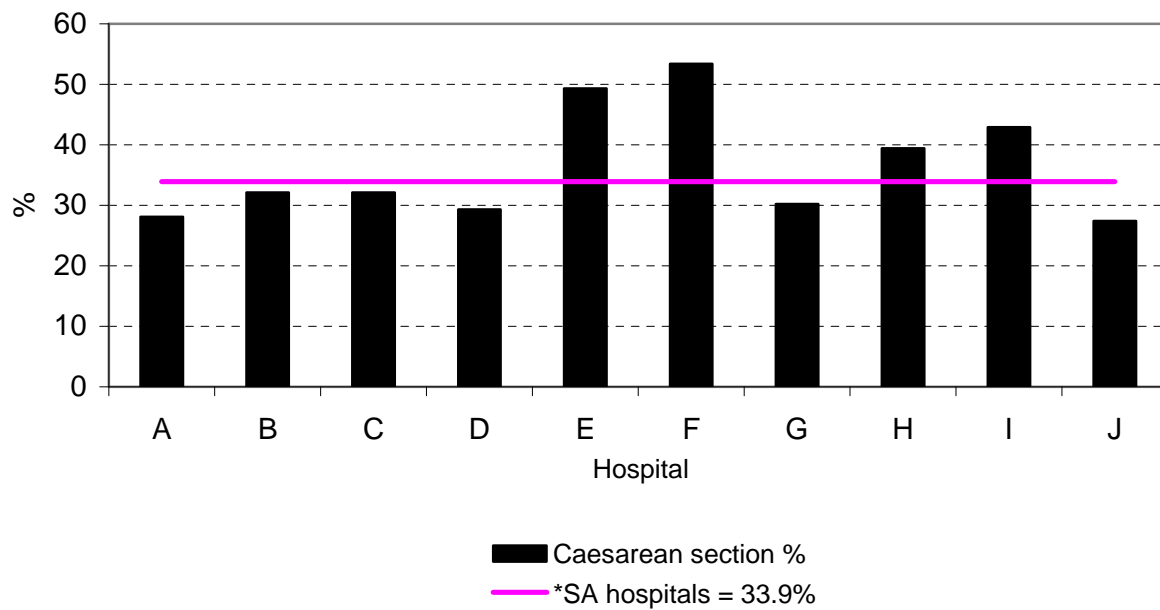
- A. Women's and Children's
- B. Flinders Medical Centre
- C. Lyell McEwin Health Service
- D. Modbury

None of the elevations in the SPMR for the individual hospitals for 2005 was statistically significant when compared with statewide data. The SPMR for Women's and Children's Hospital was significantly lower than that for the state: 67 (95%CI 48-92).

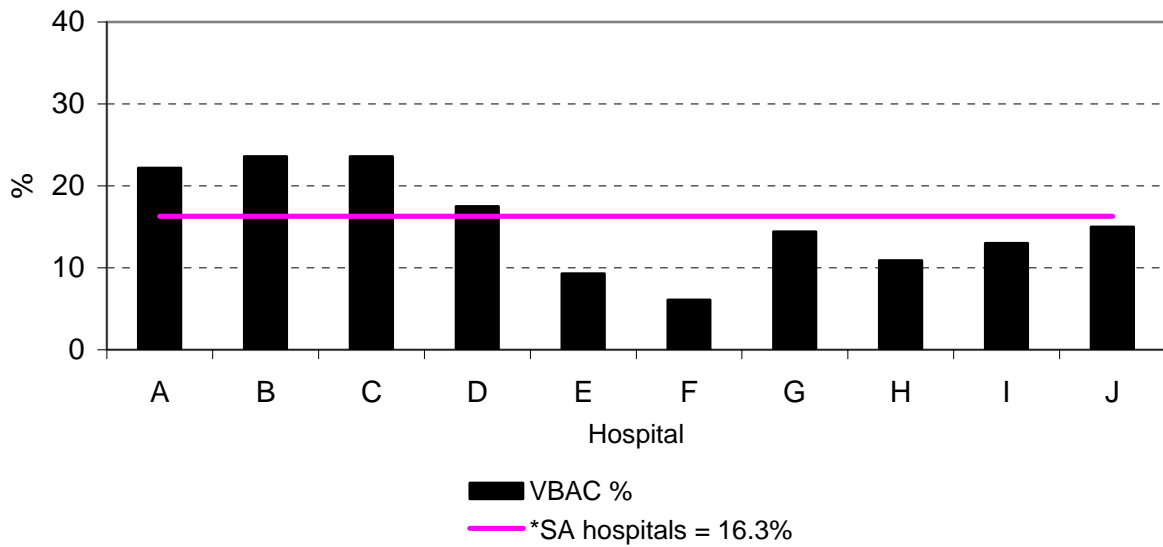
**Figure 29A: Induction of labour: % of confinements of standard primiparae in which labour was induced, SA hospitals with  $\geq 500$  births per year, 2005**



**Figure 29B: Caesarean sections for standard primiparae: % of confinements of standard primiparae in which caesarean section was performed, SA hospitals with  $\geq 500$  births per year, 2005**



**Figure 29C: VBAC: Proportion of women delivering vaginally following a previous primary (first) caesarean section and no intervening births, SA hospitals with  $\geq 500$  births per year, 2005**



**Figure 29D: PRIMIP no repair: proportion of primiparous women not requiring surgical repair following vaginal delivery, SA hospitals with  $\geq 500$  births per year, 2005**

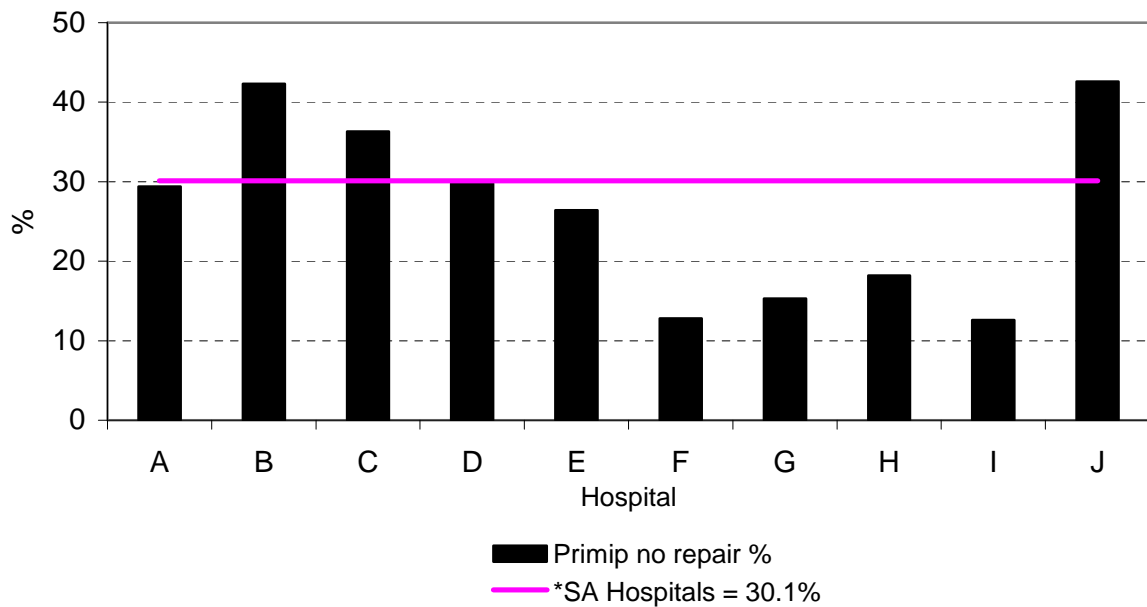


Figure 29E: TERM NICU: proportion of term babies admitted to NICU for reasons other than congenital abnormality, SA hospitals with  $\geq 500$  births per year, 2005

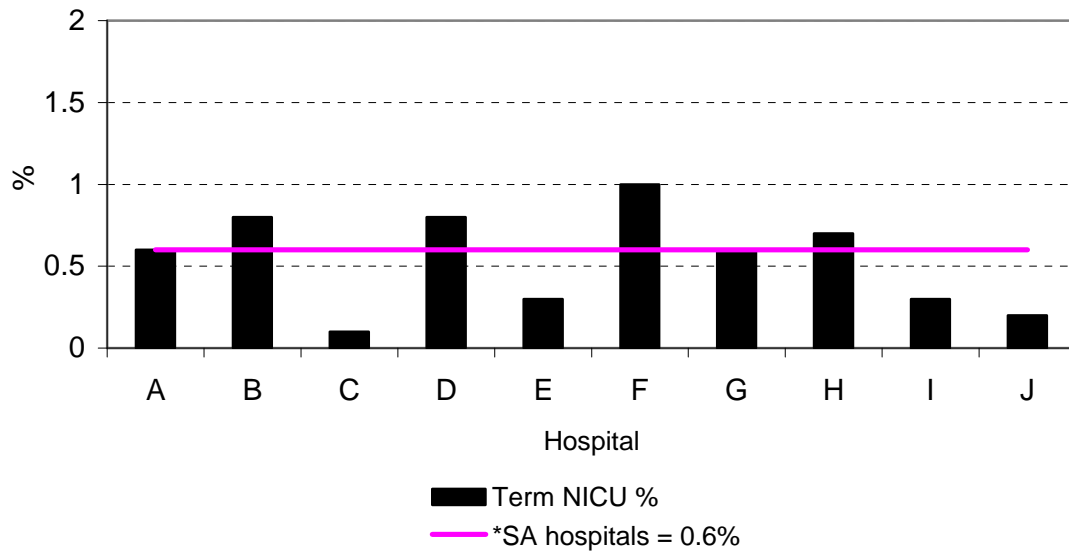
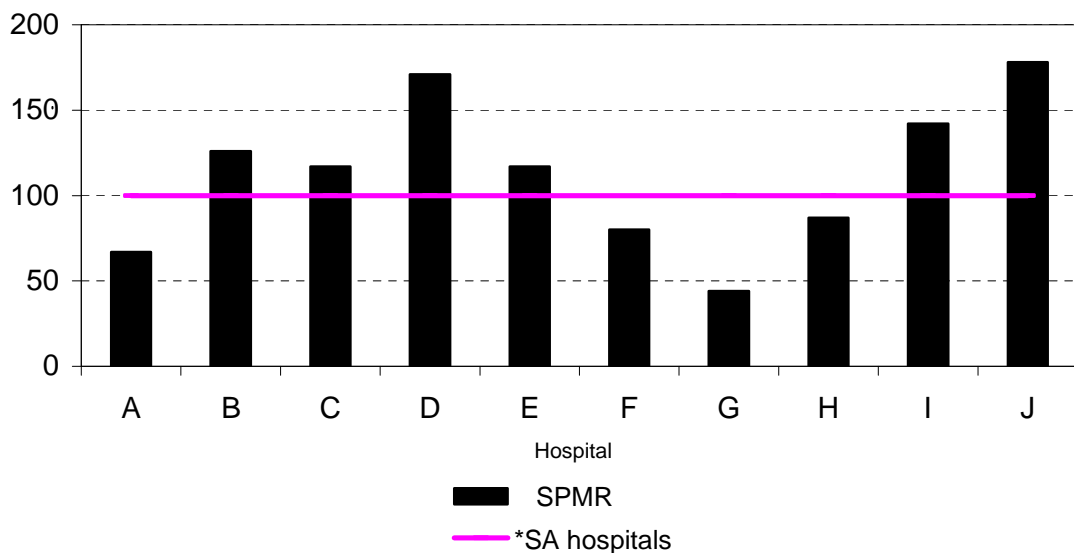


Figure 29F: SPMR (Standardized Perinatal Mortality Ratio) for all births, SA hospitals with  $\geq 500$  births per year, 2005



## VI TRENDS IN PERINATAL STATISTICS IN SOUTH AUSTRALIA, 1981-2005

Perinatal statistics are presented in Tables 48 and 49 for both socio-demographic and obstetric aspects for each year from 1996-2005, as well as for 1981, when the perinatal data collection was commenced. The trends noted between 1981 and 2005 are as follows, and some features are illustrated in Fig 30.1 – 30.8:

- 1 The annual number of births increased in 2005 to 18,196, which was 674 more than in 2004. The total fertility rate increased from 1.74 in 2004, to 1.82 live births per woman in 2005. It was lowest in 2000 and 2001 (1.71 live births per woman).
- 2 The increase in the proportion of confinements of Asian mothers from 1.8% to 5.3% and of Aboriginal mothers from 1.5% to 2.7% in 2005.
- 3 The decrease in the proportion of teenage confinements from 7.8% in 1981 to 5.2% in 2005, but this proportion has been relatively stable since 1993. The teenage pregnancy rate declined in the 1970s and 1980s and then rose, with the teenage abortion rate, in the 1990s till 1996, after which it has declined mainly due to the decline in the teenage birth rate. Recently the teenage abortion rate has also declined. The teenage pregnancy rate is the lowest since the perinatal data collection commenced in 1981.
- 4 The increase in the age of women giving birth. The proportion of women who gave birth who were 35 years or more increased from 4.6% to 18.7%, and among primiparous women from 1.2% to 11.4%. The mean age among women giving birth increased from 26.55 years to 29.86 years and among primiparous women from 24.42 years to 28.02 years.
- 5 The increase in the proportion of confinements of single women from 9.6% to the peak of 14.9% in 1996, after which it decreased. It was 13.8% in 2005.
- 6 The proportion of births in private hospitals declined in the late 1990s, but increased from 2001 and was 26.5% in 2005. Nearly a third of women gave birth as private patients in 2005. Births in country hospitals declined during this period, especially in ones with less than 100 births per year. The number of births in birthing units in teaching hospitals increased from 125 (0.6%) in 1992 to 1,023 (5.6%) in 2005. During each year in 1981-2005, home births contributed only 0.2%-0.4% of births in the state.
- 7 The increase in the proportion of multiple births, related to assisted conception pregnancies, and the older age of mothers, from 2.0% in 1981 to 3.2% in 2005. This proportion was highest at 3.6% in 2002 and 2003.
- 8 The induction rate increased from 22.1% in 1981 to 28.3% in 2005. It was highest at 29.3% in 2002. Forty-five percent of inductions in 2005 were performed for other than defined indications.
- 9 The fall in the proportion of normal spontaneous vaginal deliveries (from 66.1% to 55.8%), breech deliveries (from 1.1% to 0.4%) and forceps deliveries (from 15.2% to 4.2%), with an increase in the proportion delivered by ventouse, from 0.7% to 7.3%, and by caesarean section, from 16.9% to 32.3%.
- 10 The increase between 1991 and 2005 in the proportions of low birthweight (from 6.5% to 7.6%) and preterm babies (from 6.9% to 9.0%).
- 11 The proportion of births with congenital abnormalities identified before discharge from hospital after birth has been relatively stable at 2.3%-2.5% during the last decade.
- 12 The increase in the proportion of babies utilising Level II care from 6.7% in 1982 to 16.2% in 2005.

- 13 The considerable fall in the perinatal mortality rate, despite the increasing proportion of preterm births. This fall is reflected in the standardized perinatal mortality ratio which has been calculated in Table 49 for each year utilising perinatal mortality rates for 500g birthweight groups for the years 1981-1989 combined as the standard. It was 66.5 in 2005 compared with 117.6 in 1981. The fall in neonatal mortality has been particularly outstanding.

**Table 48: Socio-demographic aspects of perinatal statistics, South Australia, 1981 and 1996 – 2005**

Characteristic	Year										
	1981	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>1</b> Total births	19,052	19,111	18,674	18,734	18,519	17,872	17,704	17,745	17,844	17,522	18,196
<b>2</b> Live births	18,905	18,979	18,535	18,613	18,404	17,765	17,584	17,623	17,710	17,409	18,067
<b>3</b> Confinements	18,857	18,784	18,394	18,420	18,233	17,578	17,427	17,421	17,517	17,229	17,897
<b>4</b> Total fertility rate per woman	1.75	1.76	1.73	1.75	1.75	1.71	1.71	1.73	1.75	1.74	1.82
<b>5</b> Place of birth (%)											
Teaching hospital	52.2%	50.7%	50.9%	53.4%	53.6%	54.6%	51.6%	49.6%	50.6%	49.9%	51.6%
Private hospital	19.7%	24.9%	24.2%	22.6%	22.3%	21.9%	25.2%	27.9%	28.1%	27.2%	26.5%
Country hospital	27.8%	24.4%	24.9%	24.0%	24.0%	23.5%	22.9%	22.2%	21.3%	22.5%	21.6%
Domiciliary	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.4%	0.3%
	(65)	(52)	(44)	(36)	(39)	(35)	(37)	(48)	(60)	(67)	(63)
<b>6</b> Race (%)											
Aboriginal	1.5%	1.9%	2.1%	2.2%	2.4%	2.5%	2.3%	2.5%	2.7%	2.8%	2.7%
Asian	1.8%	3.8%	3.8%	4.1%	4.3%	4.5%	4.4%	4.8%	4.7%	4.8%	5.3%
<b>7</b> Age											
Mean age (years)	26.55	28.93	29.12	29.28	29.30	29.50	29.52	29.62	29.77	29.81	29.86
Teenage (%)	7.8%	5.9%	5.4%	5.1%	5.6%	5.3%	5.4%	5.6%	5.4%	5.3%	5.2%
≥35 years (%)	4.6%	13.4%	14.2%	15.0%	15.0%	16.2%	16.3%	17.0%	17.6%	17.9%	18.7%
<b>8</b> Marital status (%)											
Never married	7.6%	13.2%	12.3%	11.6%	12.0%	12.0%	12.3%	12.3%	11.9%	11.8%	12.5%
Widowed/ divorced/ separated (%)	2.0%	1.7%	1.6%	1.7%	1.5%	1.7%	1.6%	1.6%	1.5%	1.3%	1.3%
(Single)	(9.6%)	(14.9%)	(13.8%)	(13.3%)	(13.5%)	(13.7%)	(13.9%)	(13.9%)	(13.3%)	(13.0%)	(13.8%)
<b>9</b> Primiparae											
Mean age (years)	24.42	26.89	27.20	27.28	27.38	27.61	27.66	27.77	27.91	28.13	28.02
Teenage	15.4%	12.3%	11.2%	10.4%	11.3%	10.6%	10.9%	11.3%	10.9%	10.0%	10.1%
≥35 years	1.2%	7.1%	8.0%	8.3%	8.0%	9.3%	9.5%	9.9%	10.6%	11.0%	11.4%

**Table 49: Obstetric aspects of perinatal statistics, South Australia, 1981 and 1996 – 2005**

Characteristic	Year											
	1981	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
<b>1</b> Plurality												
Multiple births (%)	2.0%	3.4%	3.0%	3.3%	3.1%	3.3%	3.1%	3.6%	3.6%	3.3%	3.3%	
Twins	(363)	(606)	(528)	(614)	(564)	(560)	(550)	(632)	(626)	(578)	(570)	
Triplets	(21)	(36)	(24)	(9)	(6)	(21)	(3)	(12)	(21)	(6)	(21)	
Quadruplets	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
<b>2</b> Induction of labour (%)	22.1%	23.5%	25.0%	27.3%	27.9%	27.3%	28.3%	29.3%	29.0%	27.9%	28.3%	
<b>3</b> Method of delivery												
Normal spontaneous	66.1%	63.5%	62.5%	62.8%	62.3%	61.7%	59.5%	58.7%	57.8%	55.9%	55.8%	
LSCS elective	8.2%	9.7%	10.3%	10.0%	10.4%	10.4%	11.9%	12.6%	13.3%	14.0%	14.6%	
LSCS emerg	8.7%	13.4%	13.3%	13.8%	14.5%	14.8%	15.8%	16.6%	16.7%	17.6%	17.6%	
Forceps	15.2%	8.8%	9.3%	8.2%	7.1%	6.4%	6.1%	5.9%	4.8%	5.0%	4.2%	
Breech	1.1%	0.6%	0.7%	0.4%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	
Ventouse	0.7%	4.0%	4.0%	4.7%	5.2%	6.3%	6.3%	5.9%	6.9%	7.1%	7.3%	
Total LSCS	(16.9%)	(23.1%)	(23.5%)	(23.9%)	(24.9%)	(25.2%)	(27.8%)	(29.2%)	(30.0%)	(31.5%)	(32.3%)	
<b>4</b> Birthweight <2,500g	5.8%	7.4%	7.0%	7.0%	6.6%	7.2%	6.8%	7.1%	7.0%	7.0%	7.6%	
Singletons	4.9%	5.6%	5.5%	5.3%	5.2%	5.6%	5.5%	5.4%	5.3%	5.3%	5.9%	
Multiples	52.1%	57.0%	56.5%	54.7%	49.6%	55.9%	46.3%	50.5%	53.0%	55.8%	57.7%	
<b>5</b> Gestational age <37 weeks	5.5%	8.1%	7.8%	8.0%	8.1%	8.6%	8.1%	8.3%	8.4%	8.7%	9.0%	
Singletons	4.8%	6.5%	6.4%	6.4%	6.7%	6.9%	6.7%	6.6%	6.7%	7.0%	7.3%	
Multiples	41.1%	53.9%	55.8%	54.4%	51.8%	57.3%	50.8%	52.2%	54.6%	58.4%	58.4%	
<b>6</b> Congenital abnormalities	3.4%	2.3%	2.3%	2.5%	2.5%	2.3%	2.5%	2.4%	2.3%	2.5%	2.5%	
<b>7</b> Level II care	na	13.8%	13.5%	14.5%	16.6%	15.8%	15.2%	15.8%	16.6%	16.6%	16.2%	
<b>8</b> Level III care	3.3%	2.5%	2.5%	2.8%	2.6%	3.0%	2.6%	2.8%	2.7%	2.9%	2.9%	
<b>9</b> W&CH ICU care	na	0.2%	0.2%	0.2%	0.3%	0.2%	0.3%	0.2%	0.2%	0.2%	0.3%	
<b>10</b> Hospitalisation for 28 days or more	4.2%	2.0%	2.0%	2.0%	2.1%	2.5%	2.1%	2.2%	2.2%	2.3%	2.4%	
<b>11</b> Neonatal deaths	96	70	59	46	38	57	64	54	42	52	63	
<b>12</b> Stillbirths	147	132	139	121	115	106	120	122	134	113	129	
<b>13</b> Perinatal deaths	243	202	198	167	153	163	184	176	176	165	192	
<b>14</b> Perinatal mortality rate per 1,000 births												
≥400g/20 weeks	12.8	10.6	10.6	8.9	8.3	9.1	10.4	9.9	9.9	9.4	10.6	
≥500g/22 weeks*	11.6	7.6	6.6	6.5	5.7	6.1	6.9	6.8	6.5	5.7	6.2	
≥1,000g/28 weeks*	7.2	4.0	4.0	3.5	3.1	3.6	3.9	4.0	3.9	3.5	3.7	
<b>15</b> Standardized perinatal mortality ratio	117.6	72.5	72.1	69.1	60.2	62.0	70.6	70.3	68.1	66.9	66.5	

\* only neonatal deaths within the first 7 days of life are included

## Trends in Perinatal Statistics in SA, 1985 – 2005

Figure 30.1: Percentage of teenage mothers among women giving birth in SA

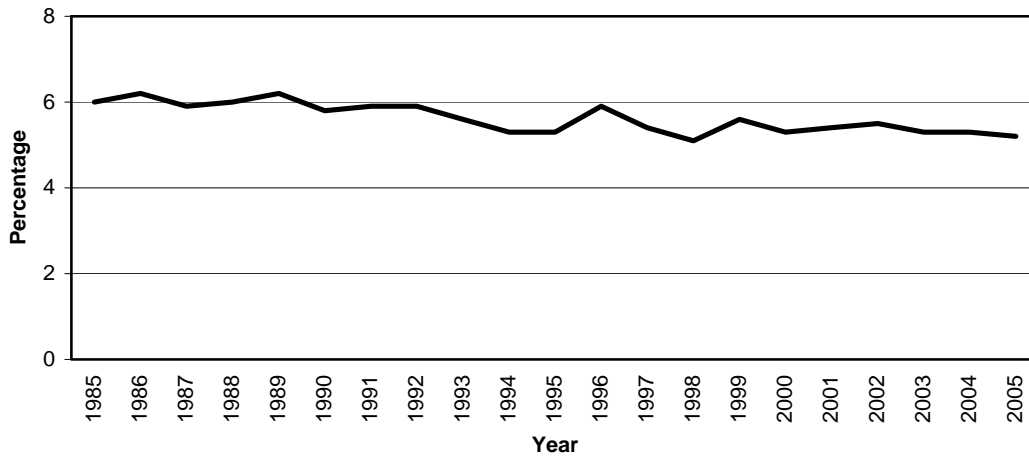


Figure 30.2: Percentage of mothers aged 35 years and over among women giving birth in SA

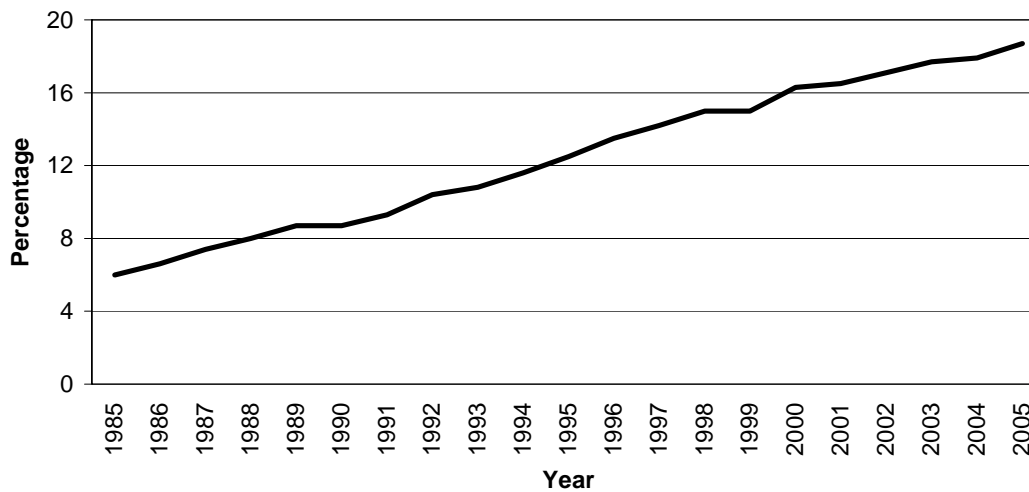


Figure 30.3: Percentage of primiparous women aged 35 years and over in SA

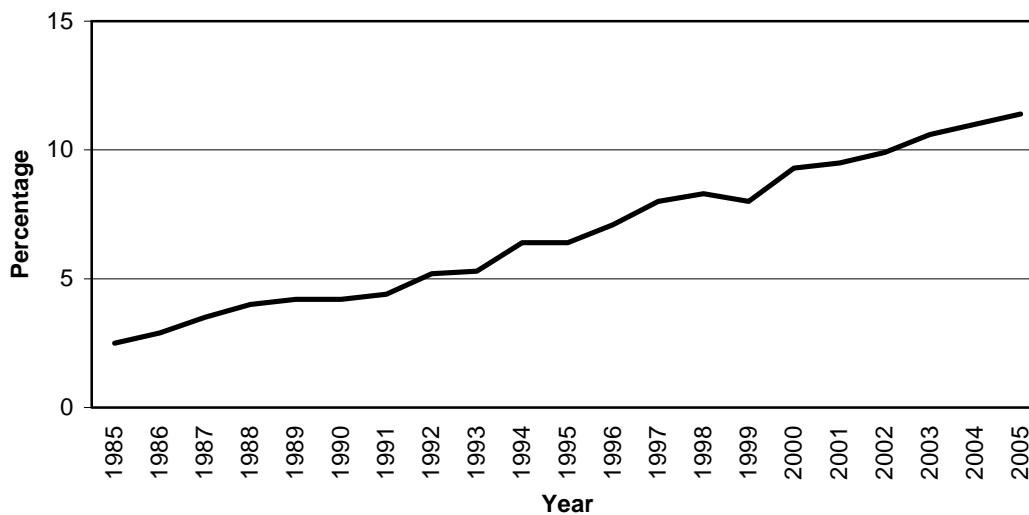


Figure 30.4: Percentage of confinements of Aboriginal women and Asian women in SA

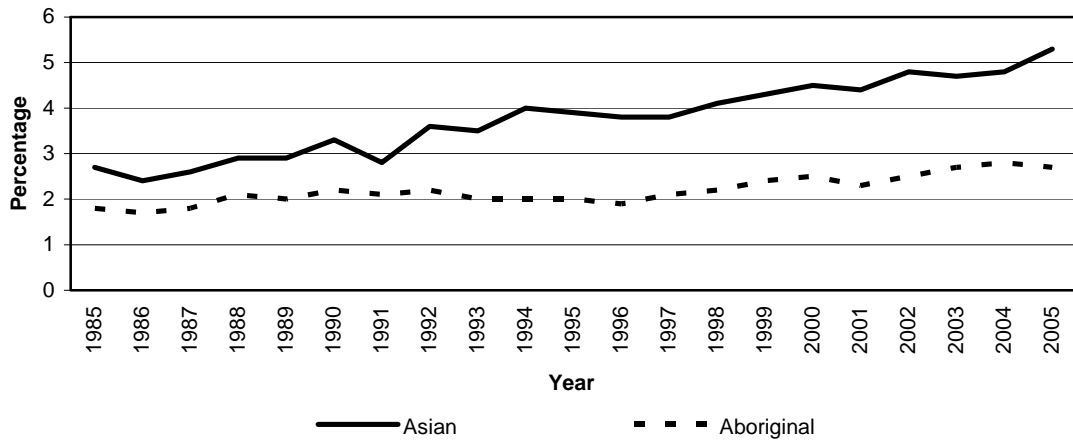


Figure 30.5: Percentage of mothers never married and with no defacto partner among women giving birth in SA

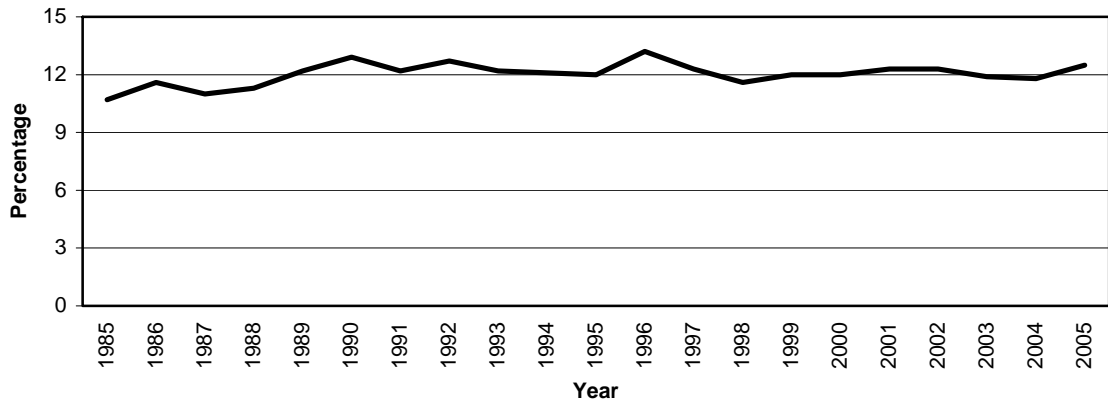
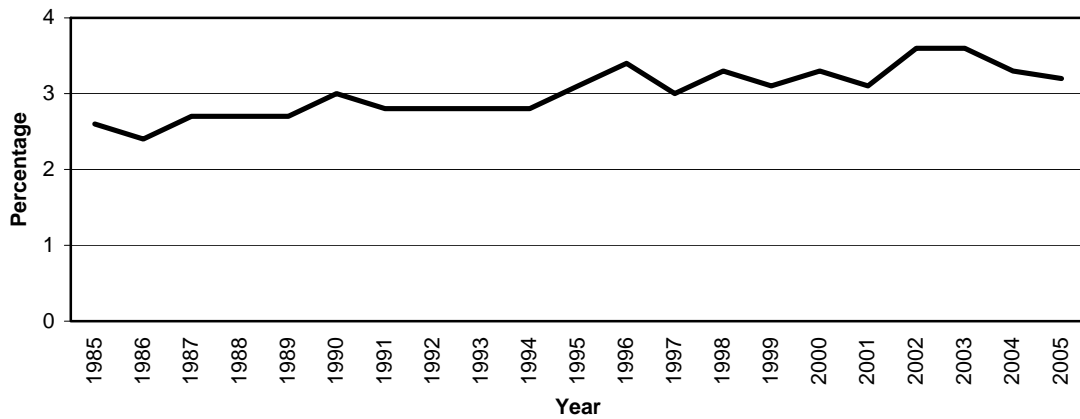
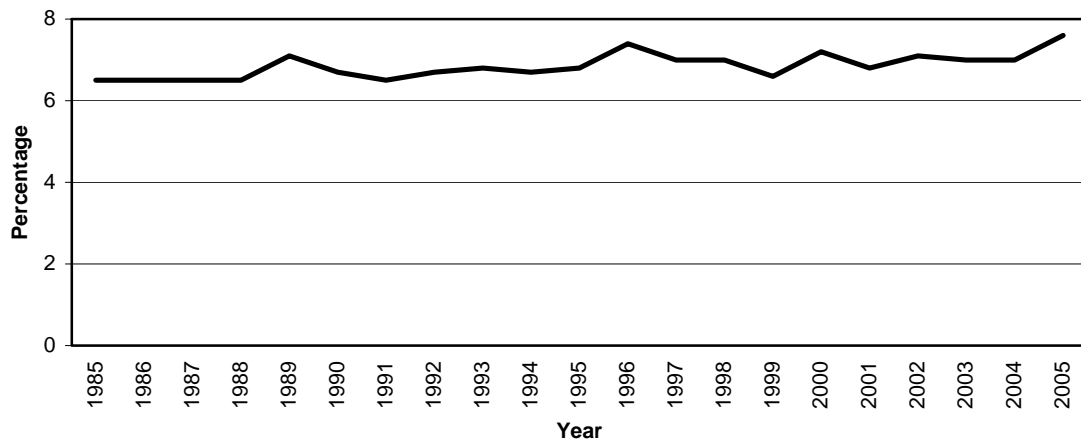
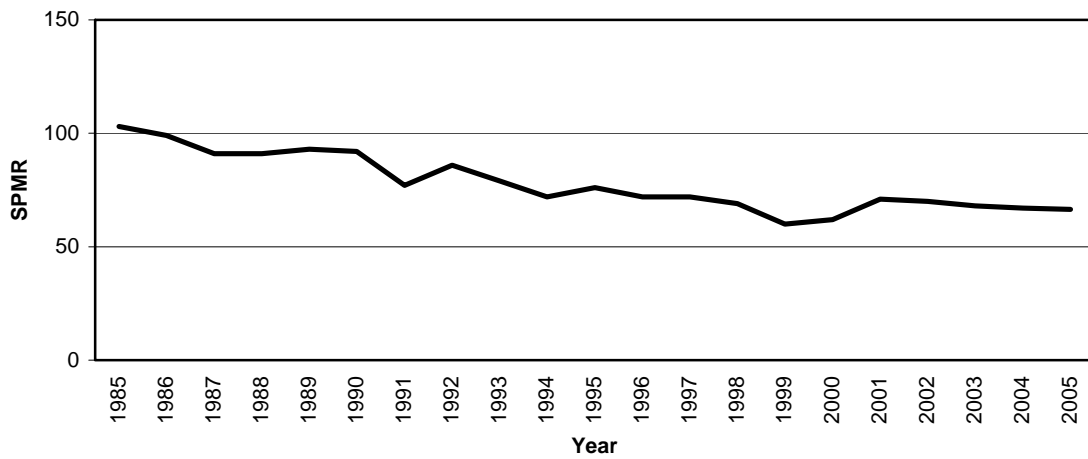


Figure 30.6: Percentage of multiple births among SA births



**Figure 30.7: Percentage of low birthweight babies among SA births****Figure 30.8: SA standardised perinatal mortality ratio (SPMR)**

## VII SUMMARY STATISTICS FOR 2005

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

### 1 Number of births

Reported number of births (from monthly notifications): 18,196

Notified births with Supplementary Birth Records: 18,196

Notified confinements with SBRs: 17,897

Crude birth rate: 11.7 per 1,000 population.

Total fertility rate: 1.82 per woman

### 2 Place of birth

Home births: 63 planned home births were notified (0.3% of births in the state).

Metropolitan teaching hospitals: 9,390 (51.6%)

Metropolitan private hospitals: 4,818 (26.5%)

Country hospitals: 3,925 (21.6%)

### 3 Sex

Males 9,409, Females 8,787. Male: Female sex ratio = 1.07:1

### 4 Plurality and condition at birth

Condition at birth	Plurality			Total
	Singleton	Twins	Triplets	
Live birth	17,488	559	20	18,067
Stillbirth	117	11	1	129
<b>Total</b>	<b>17,605</b>	<b>570</b>	<b>21</b>	<b>18,196</b>

### 5 Race of mother

Race	Number of confinements	%
Caucasian	16,057	89.7
<i>Aboriginal</i>	487	2.7
Asian	943	5.3
Other	410	2.3
<b>Total</b>	<b>17,897</b>	<b>100.0</b>

## 6 Obstetric interventions in 17,897 confinements

Induction of labour was performed in 5,067 (28.3%) and labour was augmented in another 3,888 (21.7%) confinements.

Forceps were utilised in 753 (4.2%), ventouse in 1,300 (7.3%) and episiotomy was performed in 2,284 confinements (12.8%).

Caesarean section was performed in 5,774 confinements (32.3%), of which 2,618 (14.6%) were elective, and 3,156 (17.6%) emergency operations.

## 7 Low birthweight (<2,500g)

Number of singleton births of low birthweight =1,035\* (5.9% of singleton births).

Number of multiple births of low birthweight =341 (57.7% of multiple births).

Number of all births of low birthweight =1,376\* (7.6% of all births).

\*includes one birth of unknown birthweight at 23 weeks gestation.

## 8 Congenital abnormalities

Births notified with congenital abnormalities: 451 (2.5 %).

## 9 Perinatal morality rates (numbers of deaths in parentheses)

	Birthweight/Gestation	Stillbirth rate per 1,000 births	Neonatal death rate per 1,000 live births	Perinatal mortality rate per 1,000 births
1	≥400g/20 weeks	(129) 7.1	(63) 3.5	(192) 10.6
2	≥500g/22 weeks (WHO National Statistics*)	(82) 4.5	(30) 1.7*	(112) 6.2*
3	≥1,000g/28 weeks if birthweight unavailable (WHO International/ Standard Statistics*)	(55) 3.1	(11) 0.6*	(66) 3.7*

\* Only neonatal deaths within the first 7 days of life are included.

## 10 Terminations of pregnancy

Total number of terminations notified: 4,712

Abortion rate per 1,000 women (15-44 years): 15.3

Total abortion rate per 1,000 women (15-44 years): 471.0

Total first abortion rate per 1,000 women (15-44 years): 288.5

Abortion proportion: 0.21

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Appendix C.

## Publications

The following is a list of publications from 1985 from the Pregnancy Outcome Unit or which utilised data from the Unit.

### Annual Reports

1. Pregnancy Outcome in South Australia (from 1981).
2. Maternal, Perinatal and Infant Mortality in South Australia. Annual Report of the Maternal, Perinatal & Infant Mortality Committee (from 1985).
3. Committee appointed to examine and report on abortions notified in South Australia (from 1985 to 2002). South Australian Abortion Reporting Committee Annual Report (from 2003).
4. Pregnancy and Neonatal Care Bulletin (from 1983): for individual hospitals.

The Unit provides birth defects data to the South Australian Birth Defects Register at the Women's and Children's Hospital and perinatal and birth defects data to the National Perinatal Statistics Unit in Sydney.

These reports are as follows:

1. The South Australian Birth Defects Register Annual Report (from 1986). Clinical Genetics Service, Women's and Children's Hospital, King William Road, North Adelaide, South Australia 5006. Telephone (08) 81616518  
Website: [www.wch.sa.gov.au/services/az/divisions/labs/geneticmed/](http://www.wch.sa.gov.au/services/az/divisions/labs/geneticmed/)
2. Australia's Mothers and Babies (from 1991). AIHW National Perinatal Statistics Unit, Sydney Children's Hospital, Level 2, McNevin Dickson Building, Randwick Hospital Campus, Randwick NSW 2031. Telephone (02) 9382 1014  
Website: [www.aihw.gov.au/npsu/](http://www.aihw.gov.au/npsu/)

### Other reports/papers

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#### 1 Birth defects

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13. Chan A, McCaul K, Keane RJ, Haan EA. Effect of parity, gravidity, previous miscarriage, and age on the risk of Down's syndrome : population-based study. *BMJ* 1998; 317: 923-4.
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15. Byron-Scott R. et al. A comparison of selected birth defects in Aboriginal and non-Aboriginal babies in South Australia. *Proceedings, Australian Birth Defects Society. Annual Scientific Meeting, Sydney 1998.*
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**5 Caesarean section**

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## Appendix 1: Definitions

**Confinements:** The number of women giving birth.

**Primigravida:** A woman pregnant for the first time.

**Multigravida:** A woman who has been pregnant more than once.

**Parity:** the total number of previous pregnancies resulting in live births or stillbirths.

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

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

**Caesarean section:** Delivery of a child by an abdominal operation.

**Elective caesarean section:** One which takes place as a planned procedure before the spontaneous onset of labour.

**Emergency caesarean section:** One which is undertaken for a complication:

- (a) before the onset of labour or
- (b) during labour, whether that labour is of spontaneous onset or following induction of labour.

**Gestational age:** The duration of pregnancy in completed weeks from the first day of the last normal menstrual period.

**Preterm:** less than 37 completed weeks gestation.

**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:** Birthweight of less than 2,500g.

**Very low birthweight:** Birthweight of less than 1,500g.

**Congenital abnormality:** Any defect probably of prenatal origin; thus structural, chromosomal and biochemical defects are included. An exclusion list of isolated minor abnormalities is provided by the Unit. Abnormalities are classified as major if they are either lethal or significantly affect the individual's function or appearance.

**Apgar score:** A numerical scoring system applied after birth (usually at 1 minute and again at 5 minutes) to evaluate the condition of the baby, as specified below:

Sign	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

**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.

**Crude birth rate:**

$$= \frac{\text{Number of live births in any year}}{\text{Average population in that year}} \times 1,000$$

**Age-specific fertility rate:**

$$\frac{\text{Number of live births to women in an age group in a year}}{\text{Estimated resident population of women of that age group in the same year}} \times 1,000$$

**General fertility rate:**

$$\frac{\text{Total number of live births in a year}}{\text{Estimated resident population of women aged 15 - 44 years in the same year}} \times 1,000$$

**Total fertility rate (TFR):** the sum of age-specific fertility rates (live births at each age of mother per female population of that age). 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.

**Neonatal death:** Death of a liveborn infant within 28 days of birth.

**Neonatal death rate:**

$$= \frac{\text{Number of neonatal deaths in any year}}{\text{Number of live births in that year}} \times 1,000$$

**Fetal death:** Death prior to the complete expulsion or extraction from its mother 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.

**Early fetal death:** Death in a fetus of less than 400g birthweight, or of less than 20 weeks gestation. A miscarriage is a spontaneous early fetal death.

**Late fetal death or stillbirth:** Death in a fetus of at least 400g birthweight, or of at least 20 weeks gestation.

**Late fetal death rate or stillbirth rate:**

$$= \frac{\text{Number of late fetal deaths or stillbirths in any year}}{\text{Number of live births and stillbirths in that year}} \times 1,000$$

**Perinatal death:** Includes late fetal death (stillbirth) and neonatal death.

**Perinatal mortality rate (PMR):**

$$= \frac{\text{Number of stillbirths and neonatal deaths}}{\text{Number of stillbirths and live births}} \times 1,000$$

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

For national statistics, the rate refers to all births of at least 500g birthweight, or when birthweight is unavailable, of at least 22 weeks gestation (as recommended by WHO) and neonatal deaths occurring within seven days of birth.

For international comparisons, the rate refers to all births of at least 1,000 g 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).

**Maternal death** is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from

any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.<sup>1</sup>

Maternal deaths are divided into two groups:

1. **Direct obstetric deaths:** those resulting from obstetric complications of the pregnant state (pregnancy, labour and puerperium) from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above.
2. **Indirect obstetric deaths:** those resulting from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy.

As an extension of the WHO definition, accidental and incidental deaths occurring in pregnant women are also reviewed by the Maternal, Perinatal and Infant Mortality Committee so as to avoid missing indirect deaths which may be difficult to distinguish from incidental deaths. Examples of incidental deaths are deaths from drowning and road accidents, where the pregnancy is unlikely to have contributed significantly to the death, although it may be possible to postulate a remote association.

**Termination of pregnancy:** Termination performed by a medical practitioner in a prescribed hospital in South Australia, on specified grounds before 28 weeks gestation, under the Criminal Law Consolidation Act and notified under the Criminal Law Consolidation (Medical Termination of Pregnancy) Regulations 1996. Fetuses of at least 400g birthweight or 20 weeks gestation aborted for congenital abnormalities or medical reasons are included in the South Australian perinatal data collection.

**Abortion rate:**

$$= \frac{\text{Number of induced abortions in a group of women in a year}}{\text{Estimated resident population of same group in the same year}} \times 1,000$$

The abortion rate per 1,000 women in the reproductive age group 15-44 years has been calculated in this report using as the numerator all abortions; the denominator used has been the estimated resident population for women aged 15-44 years in that year.

**Abortion proportion:**

$$= \frac{\text{Abortions}}{\text{Abortions} + \text{live births}}$$

This is often called the **abortion ratio**, which is strictly:  $\frac{\text{Abortion}}{\text{Live births}}$

**Total abortion rate** = the sum of the 5-year age-specific abortion rates multiplied by 5.

This represents the number of abortions 1,000 women would have during their lifetime if they experienced the rates of the year shown.

**Race**

1. **Caucasian:** individuals of European descent.
2. **Aboriginal:** this includes part-Aboriginals as well as full blood Aboriginals. An Aboriginal is a person of Aboriginal descent who identifies as an Aboriginal and is accepted as such by the community in which he or she lives.

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<sup>1</sup> World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Volume 2. Geneva: WHO, 1993, p 134.

3. **Asian:** (exclude Asia Minor) - In this category, include women originating from all Asian countries, including the Indian subcontinent (India, Bangladesh, Pakistan, Nepal, Sri Lanka), who were formerly listed as 'Other' race.
4. **Torres Strait Islander (TSI):** A Torres Strait Islander is a person of Torres Strait Islander descent who identifies as a Torres Strait Islander and is accepted as such by the community in which he or she lives.
5. **Aboriginal & TSI:** persons of both Aboriginal **and** Torres Strait Islander descent.
6. **Other:** Races other than (1) - (5). Include women from the Middle East and Africa.

**Guidelines for use regarding Indigenous Status** - categories (2), (4) and (5).

There are three components to the definition:

- descent
- self identification
- community acceptance

It is not possible to collect the three components of the definition in a single question. The Australian Bureau of Statistics (ABS) proposes that the focus of a single question should be the descent, the first component of the definition. The ABS therefore proposes the use of the following alternative questions, depending on whether the person is present or not.

Where the person is present

*“Are you of Aboriginal or Torres Strait Islander origin?”;*

**OR**

where the person is not present and someone who knows the person well responds for him/her

*“Is the person of Aboriginal or Torres Strait Islander origin?”*

If the response is “Yes”, then clarify whether the person is of Aboriginal origin (2), Torres Strait Islander origin (4) or both Aboriginal **and** Torres Strait Islander origin (5).

Self reporting of descent is not equivalent to self reporting of identity but because of the absence of a second ‘identity’ question some respondents will interpret the ‘origin’ question to mean both descent and identification. What identification in the context of the variable Indigenous Status should measure is an individual’s self assessed historical and cultural affiliation.

## Appendix 2: Supplementary Birth Record Form

## 2005 SUPPLEMENTARY BIRTH RECORD

FOR COMPLETION BY MIDWIVES AND NEONATAL NURSES

4	0	5					
---	---	---	--	--	--	--	--

Mother's name..... Surname Initials

Hospital/Place of birth.....

Child's surname (if different).....

Mother's Case Record Number.....

Mother's address.....

Plurality (1=single, 2=twin, 3=triplet, 4=quad) Postcode 

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

Personal information above this line is confidential SLA 

## MOTHER'S INFORMATION

1 Mother's date of birth

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
day	month	year	

2 Race

- Caucasian
- Aboriginal
- Asian
- Torres Strait Islander (TSI)
- Aboriginal & TSI
- Other

3 Country of birth

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

4 Type of patient

- Hospital/Public
- Private

5 Marital status

- Never married
- Married/De facto
- Widowed
- Divorced
- Separated

OCCUPATION

6 Baby's father

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

Baby's mother

PREVIOUS PREGNANCY OUTCOMES

7 No. of previous pregnancies

<input type="text"/>	<input type="text"/>
----------------------	----------------------

8 No. of previous pregnancies resulting in births  $\geq 20$  weeks (parity)

<input type="text"/>	<input type="text"/>
----------------------	----------------------

9 Number of previous outcomes

<input type="text"/>	<input type="text"/>
----------------------	----------------------

Livebirths, not neonatal deaths

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Singleton	Multiple		

Livebirths, neonatal deaths

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

Stillbirths

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

Miscarriages

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

Ectopic pregnancies

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

Terminations of pregnancy

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

10 Outcome of last pregnancy

<input type="text"/>	<input type="text"/>
----------------------	----------------------

11 Date of delivery/termination of last pregnancy

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
month	year		

12 Method of delivery in last birth

- No previous birth
- Vaginal
- Caesarean
- Not known

13 No. of previous caesareans

<input type="text"/>	<input type="text"/>
----------------------	----------------------

THIS PREGNANCY

14 Date of last menstrual period

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
day	month	year	

15 Intended place of birth

- Hospital
- Birth centre
- Home
- Other (specify).....
- Not booked

16 Number of antenatal visits

<input type="text"/>	<input type="text"/>
----------------------	----------------------

17 Type of antenatal care

- No antenatal care
- Hospital clinic
- Obstetrician in private practice
- General practitioner
- Birth centre
- Home birth midwife
- Obstetrician/midwife (shared care) in private practice
- GP/midwife (shared care)
- Other (specify).....

10.  Not stated

## 18 Tobacco smoking status at first visit

- Smoker
- Quit in pregnancy before first visit
- Non smoker
- Unknown smoking status

## 19 Average no. of tobacco cigarettes smoked per day in 2nd half of pregnancy

None

No. per day =

<1 (occasional)

Unknown no.

## 20 Medical conditions present in this pregnancy

- None
- Anaemia
- Urinary tract infection
- Hypertension (pre-existing)
- Diabetes (pre-existing)
- Epilepsy
- Asthma
- Other (specify).....

## 21 Obstetric complications

- None
- Threatened miscarriage
- APH - Abruptio
- APH - Placenta praevia
- APH - Other & unknown cause
- Pregnancy hypertension (all types)
- Suspected IUGR
- Gestational diabetes
- Other (specify, including impaired glucose tolerance).....

## 22 Date of admission prior to delivery

<input type="text"/>	<input type="text"/>	<input type="text"/>
day	month	year

## 23 Procedures performed in this pregnancy

Tick if Yes      Tick if Unknown

- MSAFP (NTD etc)
- Triple/Quadruple screen (Down's etc)
- Ultrasound examination
- Chorion villus sampling
- Amniocentesis
- Cordocentesis
- Other surgical procedures (specify).....

## LABOUR AND DELIVERY

24 Onset of labour

- Spontaneous
- No labour (LSCS)
- Induction (excluding augmentation) Give reason/s for induction (If postdates, state T+ ..... days)

## 25 If induction, or augmentation after spontaneous onset, specify method/s

- ARM
- Oxytocics
- Prostaglandins
- Other (specify).....

## 26 Presentation prior to delivery

- Vertex
- Breech
- Face
- Brow
- Other
- Unknown

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

## 27 Method of delivery

- Normal spontaneous
- Forceps
- Assisted breech
- LSCS (elective)
- LSCS (emergency) If LSCS state reason/s

## 28 Complications of labour, delivery and puerperium

- None
- PPH (Primary) (600mls or more)
- Fetal distress
- Retained placenta
- Prolonged labour (>18 hrs)
- Cord prolapse
- Wound infection
- Failure to progress (specify).....
- Other (specify).....

## 29 Perineal status after delivery

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 for labour

- None
- Nitrous oxide and oxygen
- Narcotic (parenteral)
- Epidural (lumbar/caudal)
- Spinal
- Other (specify).....

## 33 Anaesthesia for delivery

- None
- Local anaesthesia to perineum
- Pudendal
- Epidural (lumbar/caudal)
- Spinal
- General anaesthesia
- Other (specify).....

## 34 Mother's outcome for birth hospital/home birth

- Discharged
- Transferred
- Died
- Transferred to

on 

## 35 MOTHER'S FINAL DISCHARGE/ DEATH

Date 

## BABY DETAILS

## 1 Case record number

## 2 Place of birth

- Hospital
- BBA
- Domiciliary
- Birthing unit/centre

## 3 Date of delivery

<input type="text"/>	<input type="text"/>	<input type="text"/>
day	month	year

## 4 Hour of birth (24 hour clock)

## 5 Sex

- Male
- Female
- Indeterminate

## 6 Birthweight (grams)

## 7 Gestation at birth (best clinical estimate in weeks)

## CONDITION AT BIRTH

## 8 Apgar Score 1 minute

5 minute 

## 9 Time to establish regular breathing (to nearest minute)

## 10 Resuscitation at delivery

- None
- Aspiration
- Oxygen
- IPPV - bag & mask
- IPPV - intubation
- Narcotic antagonist
- Sodium bicarbonate
- Ext. cardiac massage
- Other (specify).....

## 11 Condition occurring during birth

- None
- Fracture
- Dislocation
- Nerve injury
- Other (specify).....

## 12 Congenital abnormalities

- Nil apparent
- Yes (specify).....

## 13 Treatment given

- None of the treatments below
- Oxygen therapy > 4 hours
- Phototherapy for jaundice
- Gavage feeding more than once
- Any intravenous therapy

## 14 Nursery care required

- Level 1 only
- Special nursery (Level 2)

No. of days 

- Neonatal Intensive Care Unit (NICU) - FMC/WCH (Level 3)

No. of days 

- Paediatric Intensive Care Unit (PICU) - WCH

No. of days 

- Paediatric Intensive Care Unit (PICU) - WCH

No. of days 

## 15 Was transfer to NICU/PICU for a congenital abnormality?

- Yes
- No

## OUTCOME OF BABY

## 16 Outcome of baby

- Fetal death
- Discharged
- In hospital at 28 days
- Neonatal death

## 17 Baby transferred to

on 

day month year

## 18 Date of final discharge (or death)

day month year

### Appendix 3: Congenital Abnormality Form

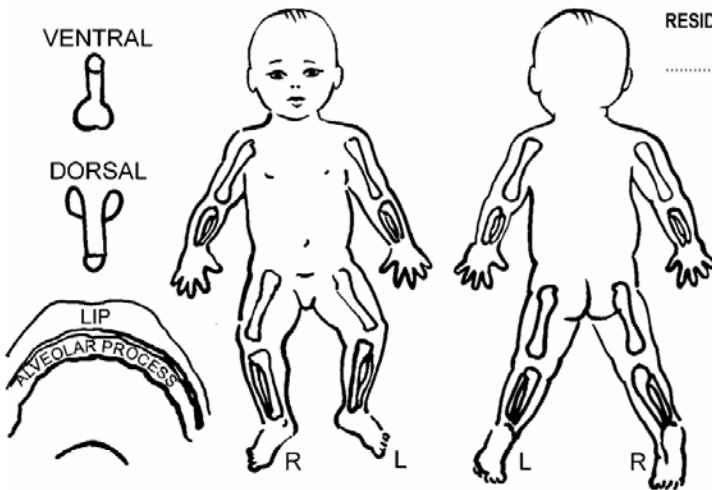
**S.A. PREGNANCY OUTCOME STATISTICS UNIT, SOUTH AUSTRALIAN DEPARTMENT OF HEALTH  
PO Box 6, Rundle Mall, Adelaide SA 5000  
CONGENITAL ABNORMALITY FORM**

ACC NO.

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 .....

**CONGENITAL ABNORMALITIES / BIRTH DEFECTS PRESENT**  
 (Please list all defects & specify where relevant right/left, anterior/posterior)

Office use only

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....
- 7.....
- 8.....
- 9.....
- 10.....
- SPECIFIC SYNDROME/S (if known) .....
- .....

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

(specify) .....

**ADDITIONAL INFORMATION** (eg drinking water supply/local epidemics)

**PRENATAL DIAGNOSIS**

Please tick all tests performed during this pregnancy result Please tick if abnormal

1.  MSAFP (NTD etc)
2.  Triple/Quadruple screen (Down's, etc)
3.  Ultrasound (morphology)
4.  Chorion villus sampling
5.  Amniocentesis
6.  Cordocentesis
8.  Other (specify) .....
9.  Not known

Comments .....

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

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