

Perinatal Statistics in Western Australia, 2004

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Western Australian Midwives' Notification System

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FURTHER INFORMATION

Enquiries or comments on this publication and/or requests for additional information should be addressed to:

Manager, Maternal and Child Health Unit
Information Collection and Management
Department of Health
189 Royal Street
EAST PERTH WA 6004

Telephone: (08) 9222 4262
Facsimile: (08) 9222 4236
Email: vivien.gee@health.wa.gov.au

Internet: www.health.wa.gov.au/publications

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EXECUTIVE SUMMARY

The Midwives' Notification System compiles information on all births in Western Australia. This report presents an overview of data on births for 2004 in terms of maternal demography, procedures and infant outcomes. It also describes trends over the 15 year period from 1990 to 2004. Information on women resident in this State who gave birth outside Western Australia during 2004 is not included in this report.

Maternal Demographic Information

- In 2004, 25,111 women gave birth in Western Australia.
- Teenage mothers represented 5.5% (n=1,389) and mothers aged 35 years or more represented 18.4% (n=4,631) of women who gave birth. While the proportion of teenage mothers has remained stable, the group of older mothers increased significantly during the last 15 years.
- Aboriginal mothers represented 6.2% (n=1,553) of women who gave birth and have birth rates on average almost twice as high as non-Aboriginal women.
- Of births to teenage mothers, the proportion to Aboriginal mothers was five times greater than for non-Aboriginal mothers.
- The majority (99.1%) of women gave birth in hospital and 150 (0.6%) women gave birth at home as planned. The remainder (0.3%) were unplanned births outside hospital.

Pregnancy Profile

- First time mothers represented 41.9% of women who gave birth in 2004 and had an average age of 27.6 years. Trend data shows that there has been no significant increase in this proportion over the last 15 years.
- Among women aged 35 years or more 26.3% (n=1,217) gave birth for the first time.
- The Age Specific Birth Rate of women aged 15-19 years decreased over the past 15 years from 25.5 births per 1000 women in 1990 to 19.1 births per 1000 women in 2004. The rate for women aged 35-44 years increased from 19.7 births per 1000 women in 1990 to 30.6 births per 1000 women in 2004.
- Complications of pregnancy were recorded for 37.2% of women. The more common complications were premature rupture of membranes (5.1%), threatened abortion in early pregnancy (5.0%), pre-eclampsia (4.3%), gestational diabetes (4.0%) and urinary tract infection (3.6%).
- A significant proportion of pregnant women have pre-existing medical conditions. In 2004, the most common of these conditions was asthma, affecting 10.9% of mothers. Psychological disorder was recorded for 5.6% and genital herpes for 1.7% of mothers.

Labour and Delivery

- Labour was spontaneous in onset for 50.5% of women and induced for 28.7%. A further 20.8% of mothers did not experience labour, being amongst those delivered by elective caesarean section. Trend data indicates that there was a significant increase over the 15 year period in the proportion of women who did not experience labour.
- The caesarean section rate in 2004 was 32.4%. This figure has risen from 18.8% in 1990, and represents one of the most striking features of modern obstetrics. Of the women recorded as having had a previous caesarean section, 86.1% (n=3,138) were again delivered by caesarean section.
- Among women who established labour spontaneously, only 22.8% proceeded through labour without augmentation and achieved a spontaneous vaginal birth, although twice this proportion (50.5%) had a spontaneous onset of labour. Thus, less than a quarter of births occurred without intervention to the processes of labour or delivery.

Baby Characteristics

- In 2004, 25,528 babies were born in Western Australia.
- The crude birth rate has steadily declined from 16.0 per 1000 in 1990 to 12.8 per 1000 in 2004.
- Singleton pregnancies represented 98.4% of the total 25,111 women who gave birth in 2004. The 409 (1.6%) women with a multiple pregnancy gave birth to 826 twin or triplet babies. There were no quadruplet or quintuplet pregnancies recorded in 2004. There has been minimal difference in these proportions over the previous 15 year period.
- Along with Aboriginality and early gestational age, birthweight is one of the most important factors affecting the survival of a baby. In 2004, two thirds of babies (66.5%) weighed 3,000-3,999g at birth, and the average birthweight was 3,336 grams. The percentage of low birthweight (<2,500grams) babies was 7.1%, and this proportion has remained static over the previous 15 year period.
- In 2004 the percentage of low birthweight babies to mothers identified as Aboriginal (14.9%) was more than twice that of babies born to non-Aboriginal women (6.6%).
- In 2004 there were 356 (1.4%) babies born as low pre-term (23-31 weeks gestation). Of these, the majority were born in Public Teaching Hospitals (89.6%), reflecting high referral rates to these institutions.
- Perinatal mortality among the babies born in 2004 indicated that there were 188 fetal deaths and 61 neonatal deaths, providing a perinatal mortality rate of 9.8 perinatal deaths per 1000 total births. The perinatal mortality rate has declined over the previous 15 year period, from 10.8 per 1000 total births in 1990.
- The perinatal mortality rate in 2004 for babies of Aboriginal mothers was 15.9 per 1000 compared with a rate of 9.4 per 1000 for babies of non-Aboriginal women. The perinatal mortality rate for babies of Aboriginal mothers has fluctuated during the 15 year period from 1990, but the rate of 15.9 per 1000 for 2004 is the lowest recorded.

INTRODUCTION

This is the Twenty-second Annual Report on Perinatal Statistics in Western Australia from the Midwives' Notification System. All routine reports from the collection are in statistical form without identification of individual patients, midwives, doctors or hospitals.

The report contains information on women who gave birth in 2004 and their babies. Pregnancies that resulted in a final product of conception at 20 weeks or more gestation and/or a birthweight equal to or greater than 400 grams have been included. These criteria are in accordance with national reporting methods.

Western Australia's statutory reporting requirements are outlined in the *Health Act 1911*, Section 355. Under the Health (Notifications by Midwives) Regulations 1994, midwives are required to provide the Department of Health with notifications of cases attended. These notifications are received predominantly by electronic data transmission, with the remainder received in paper format. The Maternal and Child Health personnel check the data for completeness and, if necessary, follow up for additional details. Information received in paper format is transcribed into a coded format, using the World Health Organisation - International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification² (ICD-10-AM, 4th Edn.) to code morbidity.

To ensure the complete ascertainment of perinatal births and deaths within Western Australia, information is collated from the Midwives' Notification System, Hospital Morbidity System and the Registry of Births, Deaths and Marriages. These data are maintained as state-wide data collections.

1. MATERNAL DEMOGRAPHIC INFORMATION

1.1 Age

25,111 women gave birth in Western Australia in 2004. This represented an increase of 3.4% on 2003³.

Maternal age ranged between 13 and 49 years with a mean of 29.3 years, while the average age of first time mothers was 27 years.

Table 1. Age and Aboriginality of Women who gave birth in Western Australia, 2004

	Aboriginality of Mother				Total No.
	Aboriginal		Non-Aboriginal		
	No.	%	No.	%	
≤19	381	24.5	1008	4.3	1389
20-24	497	32.0	3447	14.6	3944
25-29	344	22.2	6517	27.7	6861
30-34	222	14.3	8064	34.2	8286
35-39	92	5.9	3802	16.1	3894
40-44	16	1.0	695	3.0	711
≥45	1	0.1	25	0.1	26
Total	1553	100	23558	100	25111

The proportion of teenage pregnancies has remained fairly constant over the past decade being 6.0% or less since 1996.

In the last 15 years, there has been a steady increase in the proportion of women aged 35 years and older who gave

birth rising from 9.4% in 1990 to 18.4% in 2004 (see Figure 1).

1.2 Aboriginality

Women identified as being Aboriginal represented 6.2% of women giving birth in 2004.

Child bearing usually occurs at an earlier age among women who identify as Aboriginal.

Of births to teenage mothers, the proportion of Aboriginal mothers was five times greater than for non-Aboriginal mothers.

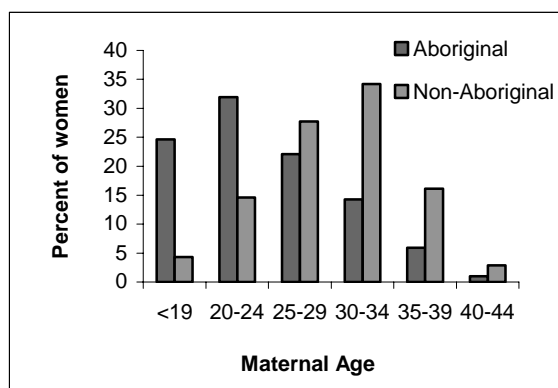


Figure 2. Age distribution by Aboriginality for women giving birth in Western Australia, 2004

Amongst women who were reported as being non-Aboriginal, 53.4% of births occurred in women aged 30 years or more (see Figure 2).

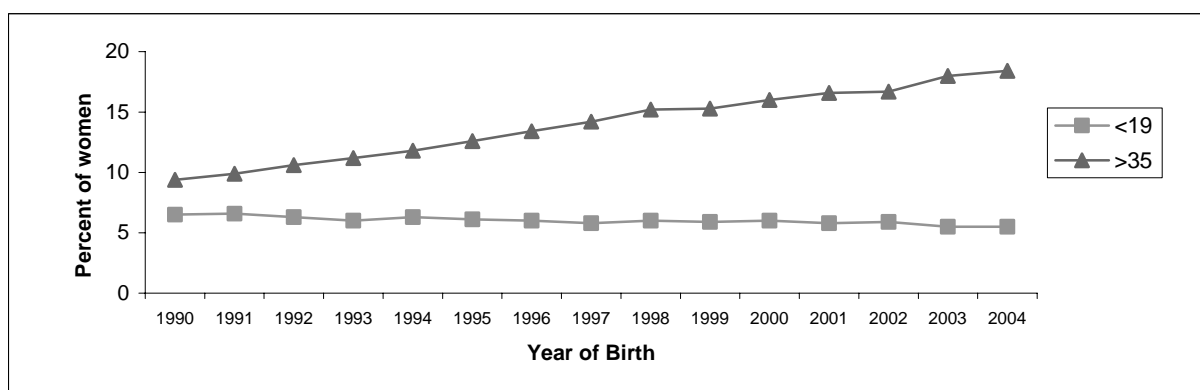


Figure 1. Trends in maternal age in Western Australia, 1990-2004

1.3 Country of Birth

The country of birth was recorded for 23,473 (93.5%) women who gave birth in Western Australia. Of these one quarter were born overseas.

Table 2. Country of birth of women who gave birth in Western Australia, 2004

Country of Birth	Percentage
Australia	75.0
United Kingdom & Ireland	7.8
Asia	6.8
Africa	3.4
New Zealand	3.2
Other Europe	2.5
Americas & Pacific Islands	1.3

1.4 Conjugal State

At the time of giving birth 90.8% of women in Western Australia were reported as being in a married or de facto relationship.

Single women represented 7.6% and the remaining women (1.6%) were either separated, divorced or widowed.

1.5 Health Region of Residence

Almost three-quarters (74.4%) of women who gave birth in 2004 provided their usual residential address as being within a metropolitan health region, while 25.5% reported their usual place of residence as within one of the seven non-metropolitan health regions, and 43 (0.2%) women were non-residents of Western Australia.

Among birthing women who identified as Aboriginal, 34.8% were metropolitan residents and 65.1% were resident in a non-metropolitan region.

Conversely 77.0% of non-Aboriginal women were resident in a metropolitan health region, 22.8% were resident in a non-metropolitan health region and 0.2% were not usual residents of Western Australia.

Table 3. Health region of residence and Aboriginality of women who gave birth in Western Australia, 2004

Health Region of Residence	Total	Aboriginality of Mother	
		Aboriginal %	Non-Aboriginal %
Metropolitan			
North Metro	9994	16.4	41.3
South Metro	8682	18.4	35.6
Total Metropolitan	18676	34.8	77.0
Non-Metropolitan			
Kimberley	650	24.9	1.1
Pilbara Gascoyne	828	11.8	2.7
Midwest Murchison	693	9.1	2.3
Wheatbelt	899	3.9	3.6
Goldfields SE Coastal	899	8.0	3.3
Great Southern	728	4.2	2.9
South West	1695	3.2	6.9
Total Non-Metropolitan	6392	65.1	22.8
Outside WA	43	0.1	0.2
Overall State	25111	100	100

The majority of women resident in both the North and South Metropolitan Health Regions gave birth in hospitals within their health region or a metropolitan teaching hospital (see Figure 3).

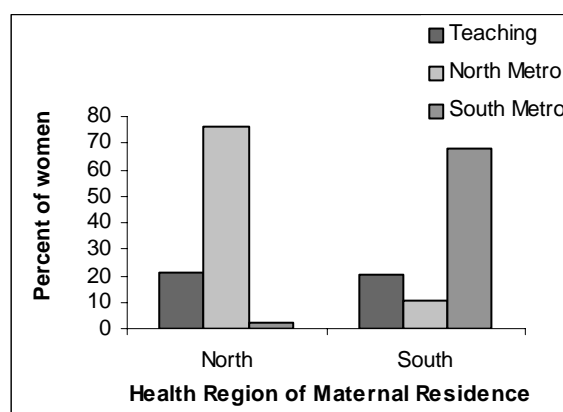


Figure 3. Place of birth for women resident in metropolitan Health Regions in Western Australia, 2004

One fifth, 5,060 (20.2%) of women who gave birth in Western Australia birthed in a non-metropolitan hospital.

A further 1,404 (5.6%) women with a non-metropolitan residential address gave birth in a metropolitan hospital.

1.6 Place of Birth

Of the 25,111 women who gave birth in Western Australia in 2004, 99.1% gave birth in a hospital.

Non-hospital births included 82 babies born before arrival at hospital (BBA) and 150 babies born at home as planned.

Trend data indicates that the proportion of births at private hospitals over the past six years has increased with the introduction of provision of care in private facilities for public patients. The proportion of births at teaching hospitals has remained relatively constant (see Figure 4).

Plurality of pregnancy influenced the place of birth, where metropolitan teaching hospitals being the place of birth for 41.6% of women with multiple pregnancy and 17.2% of those with a singleton pregnancy (see Figure 5 and 6).

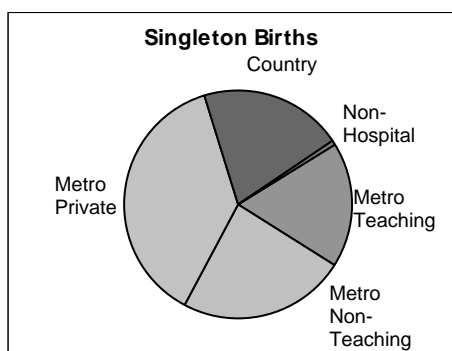


Figure 5. Place of birth for singleton births in Western Australia, 2004

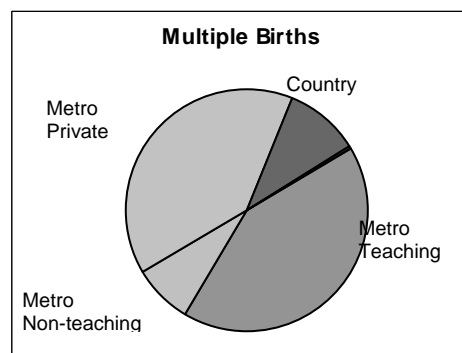


Figure 6. Place of birth for multiple births in Western Australia, 2004

The trend for homebirth has remained relatively constant representing between 0.4% and 0.7% of women who gave birth over the past 15 years.

The Department received notification of a further 21 women who had planned a birth at home but because of complications were referred to hospital care, either being transferred during pregnancy (6 women) or labour (15 women). These women and their babies are included in hospital births.

An additional five women who gave birth at home received subsequent medical attention in hospital for management of difficulties with the third stage of labour and/or postpartum haemorrhage and perineal repair.

Further information on Maternal Demographics 2004 is available from Appendix B (Tables 1-10).

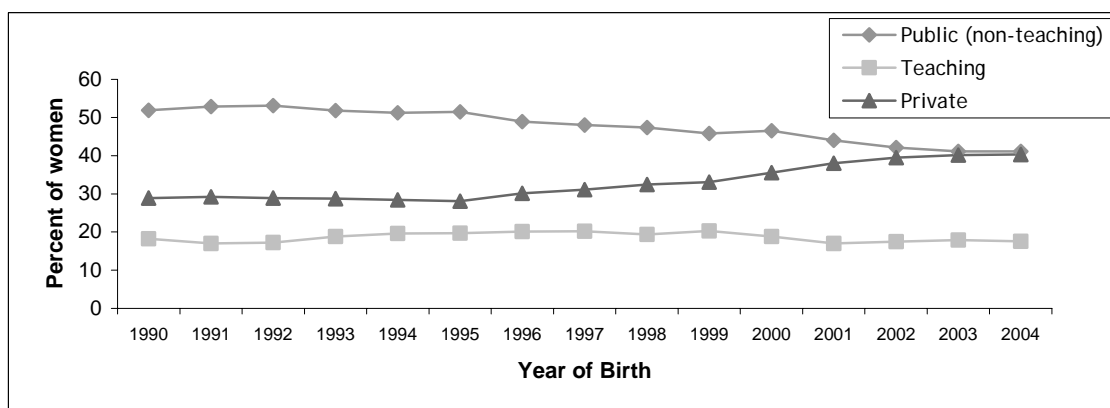


Figure 4. Trend in use of public and private facilities for women giving birth in Western Australia 1990-2004

2. PREGNANCY PROFILE

2.1 Previous Pregnancies

Almost half of the women who gave birth in Western Australia during 2004 were giving birth for the first time (41.9%).

The highest number of recorded previous pregnancies was 17 with a mean of 1.52 previous pregnancies per women.

In 2004 the highest number of previous births of 20 weeks or more gestational age was 13 with a mean of 1.00 birth.

The percentage of women identified as non-Aboriginal giving birth for the first time (42.5%) was higher than for Aboriginal first time mothers (31.6%).

Of women giving birth, the percentage having their fifth or more child among Aboriginal women (10.2%) was more than eight times the percentage (1.2%) among non-Aboriginal women (see Figure 7).

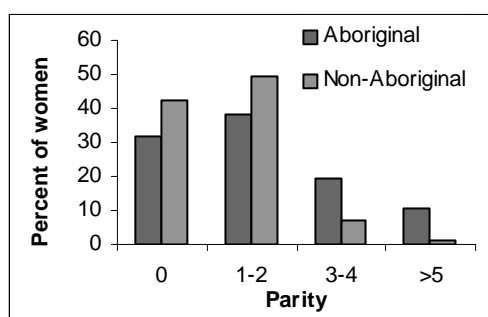


Figure 7. Parity and Aboriginality of women who gave birth in Western Australia, 2004

Of the 10,512 women giving birth for the first time:

- 10.9% were teenage (<20 years)
- 77.5% were aged 20-34 years
- 11.6% were aged 35 years or more.

Among the 4,631 women giving birth who were aged 35 years or more, more than a quarter, 1,217 (26.3%) were having their first baby.

Women with either one or two previous births comprised:

- 1.9 % teenage women
- 76.6 % women aged 20-34
- 21.5 % women aged 35 or more.

Table 4. Parity and age of women who gave birth in Western Australia, 2004

Parity	Total No.	Maternal Age		
		≤19 %	20-34 %	≥35 %
0	10512	82.6	42.7	26.3
1-2	12197	17.1	48.9	56.6
3-4	1954	0.4	7.1	12.8
≥5	448	-	1.3	4.3
Total	25111	100.0	100.0	100.0

Trend data shows a gradual increase in the proportion of mothers having their first birth experience is consistent with reduced family size.

Trend data has also shown that the average parity (births before current pregnancy) has remained constant during the 15 year period from 1990 to 2004 ranging between 1.00 and 1.06, although the average parity of 1.00 for 2004 is the lowest recorded value.

2.2 Socio-economic Status

Socio-economic status was assessed for all women who gave birth in Western Australia in 2004.

Using 2001 Census data, Statistical Local Areas were allocated to six groups based on the Socio-Economic-Index-For-Areas (SEIFA) Disadvantage Index.

Group I has the highest socio-economic status and group VI has the lowest and the numbers of women in these groups range between 1,063 and 7,217.

Table 5. Socioeconomic status and age of women who gave birth in Western Australia, 2004

	Total No.	Maternal Age		
		≤19 %	20-34 %	≥35 %
I	5017	1.8	70.1	28.0
II	3145	3.7	76.5	19.8
III	4502	5.3	76.3	18.4
IV	7217	6.6	77.7	15.7
V	3295	7.8	78.7	13.5
VI	1063	13.1	76.6	10.3
Total	24239	5.4	75.8	18.8

Note: 872 women could not be classified using this index

2.3 Age-Specific Birth Rates

Overall the birth rate of Aboriginal women was 91.3 per 1000 compared with the birth rate of non-Aboriginal women, 57.1 per 1000.

Among the 15-19 year age group the birth rate of Aboriginal women (97.5 per 1000) was more than six times the rate for non-Aboriginal women (14.7 per 1000).

For those women in the 20-24 year age group, the birth rate for Aboriginal women (167.3 per 1000) was three times the rate for non-Aboriginal women (52.8 per 1000) (see Figure 8).

For women in the 30-34 year age group, the birth rate for Aboriginal women (76.8 per 1000) was higher than the rate for non-Aboriginal women (112.2 per 1000).

Trend data indicates that the age specific birth rate for women 15-19 years decreased over the past 15 years from 25.5 births per 1000 in 1990 to 19.1 per 1000 in 2004.

Trend data also indicates that the birth rate for women aged 35-44 increased from 19.7 births per 1000 women in 1990

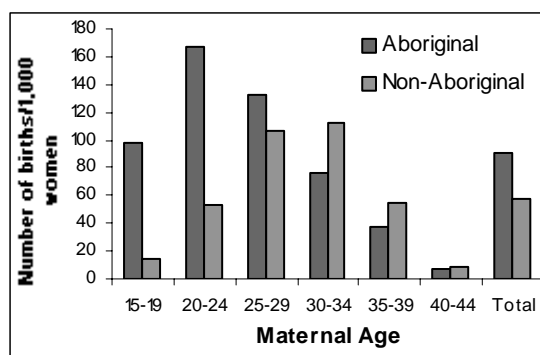


Figure 8. Age specific birth rates by 5 year age groups and Aboriginality in Western Australia, 2004

2.4 Complications of Pregnancy

Over half (62.8%) of the women who gave birth during 2004 were recorded as having had no complications of pregnancy.

Of the women who did experience complications, premature rupture of membranes was reported for 5.1% and threatened abortion before 20 weeks gestation was reported for 5.0% of women.

Table 6. Selected complications of pregnancy of women who gave birth in Western Australia, 2004

Complications of Pregnancy ¹	No.	% of women
Threatened Abortion	1252	5.0
Threatened preterm labour	561	2.2
Urinary Tract Infection	911	3.6
Pre-eclampsia	1071	4.3
Antepartum haemorrhage		
-placenta praevia	176	0.7
-placental abruption	111	0.4
-other	768	3.1
Premature rupture of membranes	1285	5.1
Gestational Diabetes	1014	4.0
Other	5203	20.7
No complications of pregnancy	15759	62.8

¹A woman may have more than one complication of pregnancy.

2.5 Medical Conditions

There were 8,437 reported instances of pre-existing medical complications recorded among the 25,111 women who gave birth during 2004.

No pre-existing medical condition was recorded for 71.3% of women.

Table 7. Selected pre-existing medical conditions for women who gave birth in Western Australia, 2004

Medical Conditions ¹	No.	% of women
Asthma	2729	10.9
Other	1583	6.3
Psychological disorders	1408	5.6
Genital herpes	423	1.7
Cardiac murmurs	342	1.4
Thyroid disorders	310	1.2
Cervical dysplasia	257	1.0
Vaginal infections	257	1.0
Spinal deformities/disorders	243	1.0
Urinary tract infection	232	0.9
Essential hypertension	221	0.9
Pre-existing diabetes	134	0.5
Epilepsy	109	0.4
Anaemia	106	0.4
Bronchial disorders	83	0.3
No medical conditions	17905	71.3

¹A woman may have more than one medical condition

2.6 Procedures and Treatments

There were 43,513 procedures and treatments provided to 25,111 women who gave birth in 2004.

The most common procedure was uterine ultrasound, with 96.6% of women having undergone this procedure.

Table 8. Procedures and treatments provided to women who gave birth in Western Australia, 2004

Procedures and Treatments ¹	No.	% of women
Ultrasound	24254	96.6
CTG intrapartum	9740	39.0
CTG antepartum	8201	32.7
Amniocentesis	577	2.3
Fertility treatment	575	2.3
CVS/placental biopsy	88	0.4
Cervical suture	78	0.3

¹ A Woman may have more than one procedure or treatment

Further information on Pregnancy Profiles 2004 is available from Appendix B (Tables 11-18).

3. LABOUR AND DELIVERY

3.1 Onset of Labour

Labour established spontaneously for half (50.5%) of the women who gave birth in Western Australia in 2004.

Induction of labour occurred for 28.7% of all women who gave birth and 20.8% did not experience labour, being delivered by caesarean section.

Among those women with a multiple pregnancy:

- 33.5% had a spontaneous onset of labour,
- 20.0% had labour induced and
- 46.5% did not experience labour (see Figure 9).

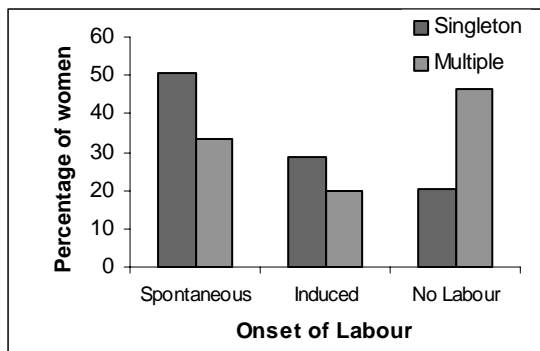


Figure 9. Onset of labour for singleton and multiple births in Western Australia, 2004

Trend data indicates an increase in the proportion of women with a singleton pregnancy for whom labour was induced (24.0% in 1990 to 28.9% in 2004) and those who did not experience labour (11.0% in 1990 to 20.4% in 2004).

There was a corresponding decrease evidenced in the proportion of women who established labour spontaneously (65.0% in 1990 to 50.8% in 2004) (see Figure 10).

3.2 Augmentation of Labour

Augmentation of spontaneous labour by surgical and/or medical intervention was administered to 5,357 (42.3%) of women who established labour spontaneously.

Of the women for whom labour was augmented, 3,416 (13.6%) progressed to a spontaneous vaginal birth, 1,214 (4.8%) to a vaginal birth with assistance and 727 (2.9%) required a caesarean section delivery.

Women who established labour and gave birth without obstetric intervention comprised only 22.8% of all women who gave birth.

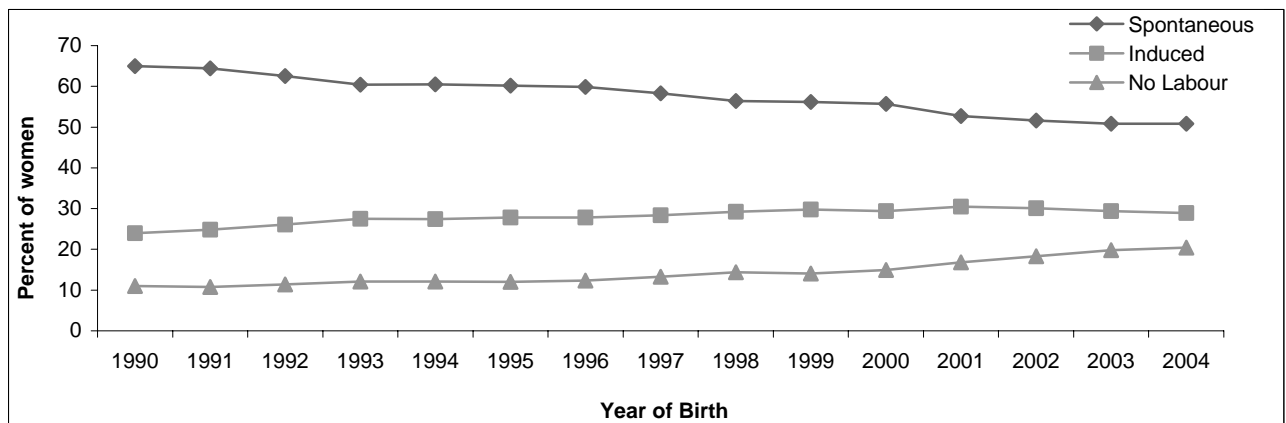


Figure 10. Onset of labour for singleton births in Western Australia, 1990-2004

3.3 Induction of Labour

Labour was induced by medical and/or surgical means for 7,211 (28.7%) women who gave birth.

The methods of induction were usually combined. Artificial rupture of membranes combined with an oxytocin infusion and/or prostaglandins were recorded for 67.0%, while artificial rupture of membranes alone (6.2%) and oxytocin infusion alone (7.5%) comprised methods for women whose labour was induced.

3.4 Analgesia

Among the 16,986 women who gave birth vaginally, 20.0% received no pharmacological analgesia.

Of those women who did receive analgesia in labour, a lumbar epidural block was administered to 36.4%, nitrous oxide and oxygen inhalation was provided to 21.8%, narcotic sedation to 19.2%, and spinal analgesic block to 1.4% of women.

Table 9. Analgesia for women who had vaginal births in Western Australia, 2004

Vaginal Births		
Type of Analgesia	No.	% of women
None	3392	20.0
Nitrous oxide & oxygen	3711	21.8
Narcotic sedation	3266	19.2
Epidural	6180	36.4
Spinal	236	1.4
Other	201	1.2
Total	16986	100.0

3.5 Anaesthesia

Among the 16,986 women who gave birth vaginally, 9,647 (56.8%) received no anaesthesia at time of birth.

Epidural and/or spinal anaesthesia was the most frequently administered (33.2%) form of anaesthesia to those women who required pain relief.

Table 10. Anaesthesia for women who had vaginal births in Western Australia, 2004

Vaginal Births		
Type of Anaesthesia	No.	% of women
None	9647	56.8
Local infiltration	1302	7.7
Pudendal block	210	1.2
Epidural &/or spinal	5635	33.2
General/ other	192	1.1
Total	16986	100.0

Among women who were delivered by caesarean section, epidural and/or spinal anaesthesia was the preferred option (93.9%).

Trend data for the last 15 years shows that the use of general anaesthesia/analgesia has decreased in women who were delivered by caesarean section. For example, in 1990 general anaesthesia was used in 21.8% of elective caesareans compared with 3.4% in 2004.

Table 11. Anaesthesia for women who had caesarean births in Western Australia, 2004

Caesarean Births		
Type of Anaesthesia	No.	% of women
Epidural &/or spinal	7632	93.9
General	414	5.1
Combination of epidural, spinal & general	79	1.0
Total	8125	100.0

3.6 Presentation

The majority of singleton pregnancy babies were cephalic presentations (95.3%) of which 70.1% delivered vaginally.

Breech presentations among babies of singleton pregnancies (4.0%) were delivered by caesarean section in 90.4% of cases.

Table 12. Caesarean births in other States and Territories of Australia, 2003

Caesarean Births		
Other States and Territories	Year	% of women
New South Wales	2003	26.5
Victoria	2003	28.6
Queensland	2003	30.7
South Australia	2003	30.0
Northern Territory	2003	27.8
Tasmania	2003	25.4
Australian Capital Territory	2003	25.2
Western Australia	2003	30.9
Australia	2003	28.5

3.7 Type of Birth

Spontaneous vaginal birth occurred for just over half (54.8%) of women who gave birth in 2004. A further 12.8% required an assisted vaginal birth.

For those women who required assistance for a vaginal birth, 9.7% were aided by vacuum extraction and 2.8% by forceps. Among women with breech presentation 95 (9.6%) gave birth vaginally with or without assistance.

Caesarean section was the method of birth for 8,125 (32.4%) women. This comprised 18.1% elective and 14.3% emergency procedures.

Women with multiple birth pregnancies have a higher probability of caesarean section delivery. In 2004, 261 (65.1%) of women with a twin pregnancy and all 8 women with a triplet pregnancy were delivered by caesarean section.

Women who have had caesarean section births previously are most likely to have repeat procedures. This is shown by 86.1% of women for whom previous caesarean section was recorded having a repeat caesarean in 2004.

Caesarean section to optimise birth outcome is the preferred choice of delivery of preterm births (<37 weeks). In 1990 34.8% of preterm babies were delivered by caesarean section while in 2004 this proportion has risen to 47.4%.

Trend data indicates that the incidence of caesarean section has increased significantly over the past 15 years from 18.8% in 1990 to 32.4% in 2004.

The most recent national comparison⁴ (2003) of State and Territory caesarean section births indicates that Western Australia with a recorded proportion of 30.9% had the highest proportion (Table 12). The national proportion of caesarean section in 2003 was 28.5%.

Indications for caesarean section are provided by complications of labour and delivery. More than one complication may be recorded and women delivered by caesarean section had a minimum of one complication recorded.

Table 13. Complications of labour and delivery for women who gave birth by caesarean section in Western Australia, 2004

Caesarean Births		
Complications of Labour and Delivery ¹	No.	% of caesarean section
Previous caesarean	3156	38.9
Placental disorders and haemorrhage	1393	17.2
Fetal distress	1378	17.0
Obstructed or delayed labour	1232	15.2
Breech or other malpresentation	1081	13.3
Cephalopelvic disproportion	913	11.2
Pregnancy induced disorders	726	8.9
Abnormal forces of labour	723	8.9
Other	1556	12.8
Total	12158	

¹ A woman may have more than one complication of labour and delivery recorded.

3.8 Hours of Established Labour

The duration of labour for the majority of women with spontaneous labour was between 1-4 hours (37.2%) and 5-12 hours (46.4%).

Women for whom labour was induced tended to have shorter hours of labour than those with spontaneous onset of labour.

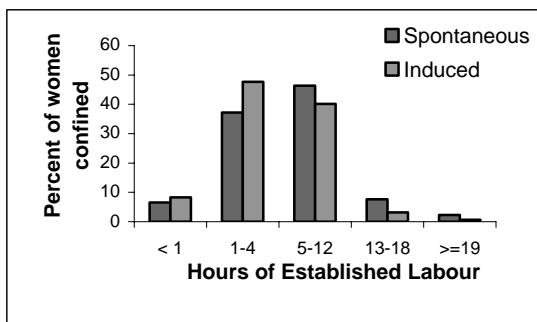


Figure 11. Hours of established labour for spontaneous and induced onsets in Western Australia, 2004

3.9 Complications of Labour and Delivery

There were no complications of labour and delivery recorded for over one-third (37.4%) of women who gave birth in 2004.

Of women who had a multiple pregnancy, only 5.1% of women reported having no complications of labour and delivery.

Table 14. Complications of labour and delivery for women who gave birth in Western Australia, 2004

All Births		
Complications of Labour and Delivery ¹	No.	% of women
Previous caesarean	3425	13.6
Post partum haemorrhage	2456	9.8
Fetal distress	3678	14.7
Precipitate delivery	1306	5.2
Cord tightly around neck	1119	4.5
Cephalopelvic disproportion	542	2.2
Retained placenta - manual removal	335	1.3
Persistent occipito posterior	541	2.2
Shoulder dystocia	340	1.4
Failure to progress ≤3cms	552	2.2
Failure to progress >3cms	983	3.9
Prolapsed cord	41	0.2
Other	6247	24.9
Total	21568	100.0

¹ A woman may have more than one complication of labour and delivery.

Among the women who identified as having had a complication, fetal distress was recorded for 14.6%, previous

caesarean section for 13.6% and post partum haemorrhage for 9.8% of all women who gave birth in 2004.

Differences in complications of labour and delivery exist between singleton and multiple births. For example, post partum haemorrhage was recorded for 9.5% of singleton pregnancies and 25.2% of multiple pregnancies for an overall figure of 9.8%.

3.10 Accoucheur

A midwife or a midwife supervising a student was the accoucheur for 10,004 (72.7%) of women who gave birth spontaneously.

Obstetricians and other medical officers were reported to be the accoucheur for 40.1% of women who gave birth vaginally.

3.11 Repair of Perineum and/or Vagina

Among women who gave birth vaginally 6,573 (38.7%) did not require a repair procedure. Of all women who gave birth vaginally, 18.7% had an episiotomy repaired and 38.0% had repair of a first or second degree tear (Figure 12).

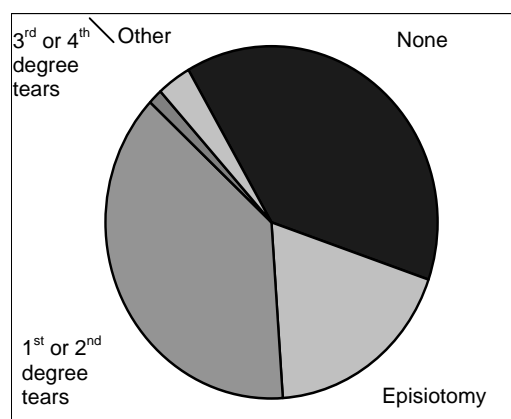


Figure 12. Repair of perineum and/or vagina for vaginal births in Western Australia, 2004

Further information on Labour and Delivery 2004 is available from Appendix B (Tables 19-39).

4. BABY CHARACTERISTICS

4.1 Births

Notification forms (Appendix C) were received for 25,528 births of 20 weeks or more gestation or 400 grams or greater birth weight in 2004, an increase of 3.4% from 2003 births.

4.2 Crude Birth Rate

The crude birth rate in 2004 was 12.8 per 1000 population.

Trend data indicates that the rate has gradually declined during the past 15 years from 16.0 per 1000 in 1990 (see Figure 13).

4.3 Gender

The gender of births was, male (51.2%) and female (48.8%) during 2004 (male: female ratio of 1.05).

4.4 Condition at Birth

There were 25,340 (99.3%) livebirths and 188 (0.7%) fetal deaths during 2004 and this proportion has remained consistent during the past 15 year period.

The referral of mothers with a high-risk pregnancy and/or known fetal death in utero is illustrated by almost two thirds of fetal deaths (63.3%) being delivered in a metropolitan teaching hospital.

4.5 Plurality of Birth

Singleton births represented 96.8% and multiple birth babies 3.2% of total births.

There were 802 twin babies and 24 triplet babies (8 sets) born during 2004.

The proportion of multiple births has generally increased over the past 15 years rising from 2.4% in 1990 to 3.2% of total births.

4.6 Apgar Score at One Minute and Five Minutes

An Apgar Score at one minute of 8-10 was recorded for 82.4% of livebirths while only 329 (1.4%) of livebirths had an Apgar Score of less than 4 at one minute.

97.7% of livebirths had an Apgar Score of 8-10 at five minutes.

4.7 Time to Spontaneous Respiration

Among all livebirths, 90.7% established spontaneous respiration within the first minute of life. The time taken by babies who were intubated during resuscitation to establish spontaneous respiration is not reported.

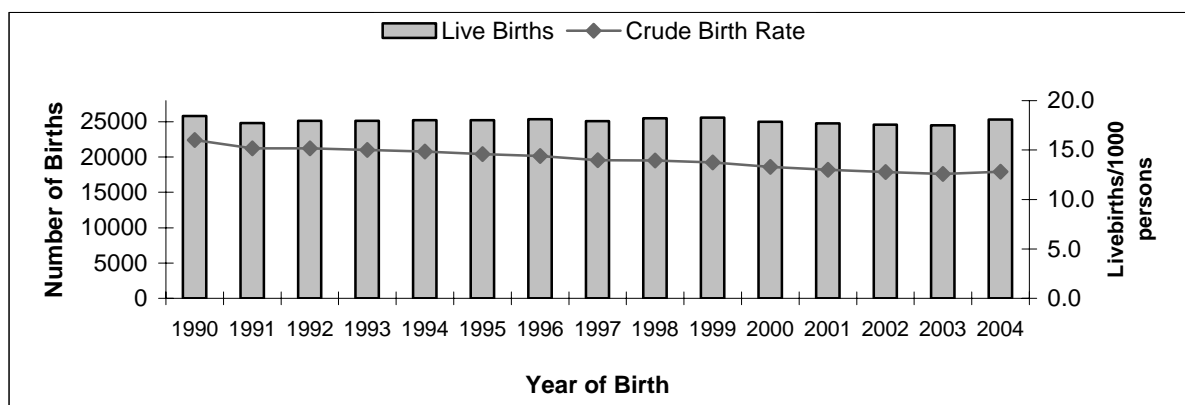


Figure 13. Live births and crude birth rates in Western Australia, 1990-2004

4.8 Resuscitation

Less than half (41.8%) of newborns received some form of resuscitation. Suction only was provided to 16.7% and suction and oxygen to 15.8%.

More active resuscitation was required for other babies (7.2%) using bag and mask technique and endotracheal intubation either alone or with external cardiac massage (2.1%).

Table 15. Resuscitation methods for babies born in Western Australia, 2004

Resuscitation Method ¹	No.	% of livebirths
None	14742	58.2
Suction Only	4226	16.7
Oxygen Therapy	3996	15.8
Bag & Mask	1813	7.2
Intubation	256	1.0
External Cardiac Massage	56	0.2
Other	231	0.9

¹ Resuscitation methods of livebirths.

4.9 Birthweight

A mean birthweight of 3,336 grams with a standard deviation of 617 grams was recorded.

Two thirds (66.5%) of babies weighed between 3,000 and 3,999 grams at birth. Low birthweight babies (<2,500 grams) represented 7.1% of births.

Among babies of women identified as Aboriginal, the proportion of low birthweight was higher (14.9%) than the proportion among babies of women who did not identify as Aboriginal (6.6%).

Trend data indicates that the proportion of low birthweight among babies of Aboriginal mothers ranged between 11.4% and 15.7% over the past 15 years. Although there has been no general increase, the proportion of low birthweight among babies of non-Aboriginal women has increased slightly over the same period.

4.10 Gestational Age

Preterm birth (less than 37 weeks gestation) occurred for 8.8% of the total births in 2004.

Plurality affected gestational age outcome with 7.1% of singleton births and 58.6% of multiple births being born preterm.

Among the lower preterm births of 23 to 31 weeks gestation, 89.6% were born in a metropolitan teaching hospital and 4.8% in a private hospital.

Trend data indicates that the proportion of livebirths at 23-31 week age, born at metropolitan teaching hospitals has increased slightly from 72.3% in 1990 to 78.8% in 2004 indicating an increase in referral transfer of women with a high risk pregnancy.

4.11 Birth Trauma

Cephalhaematoma and other soft tissue damage to skull were reported in 5.4% of vaginal births. This includes trauma from application of a vacuum cup or forceps blades during assisted vaginal births.

4.12 Birth Defects

Table 16. Birth Defects for babies born in Western Australia, 2004

Birth Defects	No.	Rate/1000 births
Nervous System	82	3.2
Cardiovascular	266	10.4
Respiratory System	27	1.1
Gastro-Intestinal	123	4.8
Urinary-Genital	228	8.9
Musculo-Skeletal	301	11.8
Chromosome	143	5.6

Recording of a birth defect provides an initial data source for the Birth Defect Registry. More detailed information is available upon request to the Birth Defects Registry⁵.

4.13 Special Care

Reporting of special care for newborn babies relates only to those who received care in Level 2 or Level 3 special care nurseries. Babies who stayed for less than one day are not included. The proportion of livebirths who received special care of one day or more was 8.1%.

4.14 Neonatal Transfers

Inter-hospital transfers were made for 995 (3.9%) of livebirths. This was to provide care at tertiary hospitals (37.7%) and for provision of continued care in a hospital or a community facility during the neonatal period prior to discharge home.

4.15 Length of Stay

The majority of liveborn babies (80.9%) stayed in their hospital of birth from 2-7 days and a further 10.7% stayed for less than 24 hours following birth. An additional 5.8% stayed between 8 and 14 days while 1.2% stayed for more than 28 days.

4.16 Perinatal Mortality

There were 249 perinatal deaths of 20 weeks or more gestation recorded during 2004 (188 fetal deaths plus 61 neonatal deaths).

This represented a perinatal mortality rate of 9.8 per 1000 total births, a fetal death rate of 7.4 per 1000 total births and a neonatal mortality rate of 2.4 per 1000 livebirths for 2004.

A perinatal death rate among babies of women identified as Aboriginal (15.9 per 1000) was higher than the rate for babies of non-Aboriginal women (9.4 per 1000).

Trend data indicated that there has been a gradual reduction in the perinatal mortality rate over the past 15 years from 10.8 in 1990 to 9.8 per 1000 total births in 2004. Among babies of Aboriginal mothers the rate reduction from 20.5 to 15.9 per 1000 was more marked than the rate among babies of non-Aboriginal women (10.2 to 9.4 per 1000 total births).

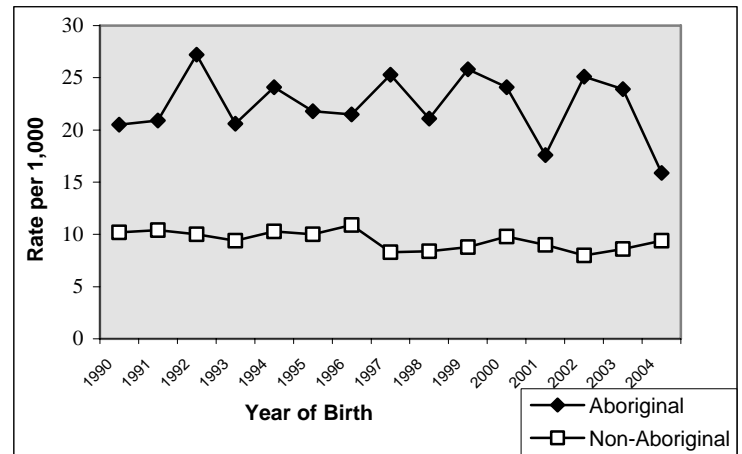


Figure 14. Perinatal mortality by Aboriginality in Western Australia, 1990-2004

Low birthweight and early gestational age influence perinatal mortality rates.

Almost half (40.6%) of the perinatal deaths in 2004 were in babies with a birthweight less than 500 grams and more than three quarters (79.1%) were in the low birthweight category of less than 2,500 grams birthweight.

Multiple birth babies are subject to increased mortality due to complications associated with low birthweight and earlier gestational age. The perinatal mortality rate for multiple births of 36.3 per 1000 was four times the rate for singleton births of 8.6 per 1000 in 2004.

A neonatal death (the death of a liveborn baby before the 28th day) is more likely to occur before the end of the first day of life (72.1%).

The principal causes of both fetal and neonatal deaths were conditions associated with extremely low birthweight (<1000 grams) (39.4% fetal and 57.4% neonatal). Lethal birth defects were the cause of 22.9% of fetal deaths and 23.0% of neonatal deaths.

Autopsy requests were made for 57.4% of perinatal deaths. This comprised 66.0% of fetal deaths and 31.1% of neonatal deaths. There were 47 perinatal deaths for which it was not known if an autopsy had been requested.

Further information on Baby Characteristics 2004 is available from Appendix B (Tables 40-76).

REFERENCES:

1. Gee V. Guidelines for Completion of the Notification of Case Attended Midwives' Form 2. Health Department of Western Australia, Perth, 2nd Edition, 1990.
2. The International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification. National Centre for Classification in Health, Sydney, 1998.
3. Gee V and Green T J. Perinatal Statistics in Western Australia: Twenty-first Annual Report of the Western Australian Midwives' Notification System for 2003, Department of Health, Western Australia, Perth, 2004.
4. Laws P J and Sullivan E A. 2005. Australia's mothers and babies 2003. AIHW Cat. No. PER 29. Sydney: AIHW National Perinatal Statistics Unit (Perinatal Statistics Series No.16).
5. Bower C, Rudy E, Ryan A and Cosgrove P. Report of the Birth Defects Registry in Western Australia 1980-2004, King Edward Memorial Hospital, No 12, 2005.

APPENDIX A - GLOSSARY

Age-Specific Birth Rate	The total births (livebirths and stillbirths) per 1000 to women aged between 15-44 years.
Apgar Score	A numerical scoring system applied after birth to evaluate the condition of the baby. It is based on the heart rate, respiration, muscle tone, reflexes and colour. Low scores indicate poor condition.
Born Before Arrival (BBA)	A birth that occurs prior to arrival of the mother at the intended place of birth.
Birth Defects	Any defect present at birth, probably of developmental origin.
Birthweight	<p>The first weight, measured to the nearest five grams, of the newborn, which is usually obtained within the first hour of birth.</p> <p><u>Low Birthweight</u>: A birthweight of less than 2500 grams.</p> <p><u>Very Low Birthweight</u>: A birthweight of less than 1500 grams.</p>
Caesarean Section	<p>A delivery of the fetus through an incision in the abdominal wall.</p> <p><u>Elective Caesarean Section</u> - A planned procedure prior to onset of labour and before spontaneous rupture of membranes or without any induction procedure.</p> <p><u>Emergency Caesarean Section</u> - An unplanned procedure, performed because of a complication. May be performed before the onset of labour or during labour.</p>
Confinement	Pregnancy resulting in at least one birth.
Crude Birth Rate	The number of livebirths per 1000 person-years of total population.
Epidural	Injection of analgesic agent outside the dura mater which covers the spinal canal.
Episiotomy	An incision of the perineum and vagina to enlarge the vulval orifice
Gestational Age	The duration of pregnancy in completed weeks from the first day of the last normal menstrual period.
Fetal Death	The complete expulsion or extraction from its mother of a product of conception of at least 20 weeks gestation or 400

grams birthweight, which after separation did not show any sign of life.

Length of Stay	The total number of patient days in hospital at time of discharge. A stay of less than one day (patient admission, birth and discharge on the same day) is counted as one day, in the total days of care. For patients admitted and discharged on different days, the number of days is computed by subtracting the date of admission from the day of separation. For planned homebirths it is routinely coded as 10 days from date of birth.
Livebirth	The complete expulsion or extraction from its mother of a product of conception, irrespective of duration of pregnancy, which after separation shows signs of life.
Mortality Rates	<p><u>Fetal death rate</u> - the number of fetal deaths per 1000 total births in a year.</p> <p><u>Neonatal mortality</u> - the number of neonatal deaths per 1000 livebirths in a year.</p> <p><u>Perinatal mortality</u> - the number of stillbirths and neonatal deaths per 1000 total births in a year.</p>
Neonatal Death	The death of a liveborn infant within 28 days of birth.
Parity	<p>The total number of livebirths and fetal deaths of the mother prior to the parturition under consideration.</p> <p><u>Nulliparous:</u> Never having completed a pregnancy beyond 20 weeks gestation.</p> <p><u>Multiparous:</u> Having completed one or more pregnancies beyond 20 weeks gestation.</p>
Perinatal Death	A fetal death or neonatal death.
Perineal Status	<p><u>1st degree tear:</u> a perineal graze-laceration-tear involving the fourchette, hymen, labia, skin, vagina or vulva.</p> <p><u>2nd degree tear:</u> a perineal laceration or tear involving the pelvic floor or perineal muscles or vagina muscles.</p> <p><u>3rd degree tear:</u> a perineal laceration-tear involving the anal sphincter or rectovaginal septum.</p> <p><u>4th degree tear:</u> a third degree perineal laceration or tear which also involves the anal mucosa or rectal mucosa.</p>
Plurality	The number of fetuses or babies resulting from the pregnancy. On this basis pregnancy may be classified as singleton or multiple.

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Maternal Demographic Information

Table 1: Age and Aboriginality of women who gave birth in Western Australia, 2004

Maternal Age	Aboriginality of Mother				Total	
	Aboriginal		Non-Aboriginal		No.	%
	No.	%	No.	%		
≤ 14	12	0.8	5	0.0	17	0.1
15	29	1.9	23	0.1	52	0.2
16	50	3.2	76	0.3	126	0.5
17	84	5.4	180	0.8	264	1.1
18	99	6.4	296	1.3	395	1.6
19	107	6.9	428	1.8	535	2.1
≤ 19	381	24.5	1008	4.3	1389	5.5
20-24	497	32.0	3447	14.6	3944	15.7
25-29	344	22.2	6517	27.7	6861	27.3
30-34	222	14.3	8064	34.2	8286	33.0
35-39	92	5.9	3802	16.1	3894	15.5
40-44	16	1.0	695	3.0	711	2.8
≥ 45	1	0.1	25	0.1	26	0.1
TOTAL	1553	100.0	23558	100.0	25111	100.0

Mean = 29.3 years. Standard deviation = 5.7 years.

Table 2: Age of women who gave birth in Western Australia, 1990-2004

Year of Birth	Maternal Age						Total	
	≤ 19		20-34		≥ 35		No.	%
	No.	%	No.	%	No.	%		
1990	1662	6.5	21617	84.1	2423	9.4	25702	100.0
1991	1639	6.6	20602	83.5	2438	9.9	24679	100.0
1992	1574	6.3	20757	83.1	2639	10.6	24970	100.0
1993	1496	6.0	20670	82.8	2807	11.2	24973	100.0
1994	1592	6.3	20515	81.8	2964	11.8	25071	100.0
1995	1522	6.1	20395	81.3	3173	12.6	25090	100.0
1996	1521	6.0	20297	80.6	3374	13.4	25192	100.0
1997	1446	5.8	19899	80.0	3524	14.2	24869	100.0
1998	1519	6.0	19928	78.8	3847	15.2	25294	100.0
1999	1509	5.9	19979	78.7	3890	15.3	25378	100.0
2000	1479	6.0	19367	78.0	3972	16.0	24818	100.0
2001	1422	5.8	19005	77.6	4065	16.6	24492	100.0
2002	1438	5.9	18872	77.4	4084	16.7	24394	100.0
2003	1340	5.5	18566	76.5	4375	18.0	24281	100.0
2004	1389	5.5	19091	76.0	4631	18.4	25111	100.0

Table 3: Country of birth and age of women who gave birth in Western Australia, 2004

Country of Birth	Maternal Age						Total	
	≤ 19		20-34		≥ 35		No.	%
	No.	%	No.	%	No.	%		
Australia	1159	90.8	13729	76.8	2707	62.6	17595	75.0
New Zealand	45	3.5	557	3.1	145	3.4	747	3.2
Other Pacific	2	0.2	52	0.3	19	0.4	73	0.3
United Kingdom and Ireland	29	2.3	1145	6.4	654	15.1	1828	7.8
Other Europe	10	0.8	419	2.3	165	3.8	594	2.5
Vietnam	2	0.2	220	1.2	48	1.1	270	1.2
Malaysia	0	0.0	182	1.0	69	1.6	251	1.1
Other SE Asia	9	0.7	424	2.4	137	3.2	570	2.4
Other Asia	3	0.2	366	2.0	133	3.1	502	2.1
North America	4	0.3	105	0.6	53	1.2	162	0.7
South and Central America	2	0.2	53	0.3	23	0.5	78	0.3
South Africa and Zimbabwe	3	0.2	228	1.3	75	1.7	306	1.3
Other Africa and Middle East	8	0.6	392	2.2	97	2.2	497	2.1
TOTAL	1276	100.0	17872	100.0	4325	100.0	23473	100.0

Excludes 1638 women whose country of birth is unknown.

Table 4: Conjugal state and plurality of women who gave birth in Western Australia, 2004

Conjugal State	Plurality				TOTAL	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Single	1876	7.6	28	6.8	1904	7.6
Married/De facto	22430	90.8	374	91.4	22804	90.8
Other ¹	396	1.6	7	1.7	403	1.6
TOTAL	24702	100.0	409	100.0	25111	100.0

¹ Other includes separated, divorced and widowed.

Table 5: Health region of residence and Aboriginality of women who gave birth in Western Australia, 2004

Health Region of Residence	Aboriginality of Mother				TOTAL	
	Aboriginal		Non-Aboriginal		No.	%
	No.	%	No.	%		
Metropolitan						
North	254	16.4	9740	41.3	9994	39.8
South	286	18.4	8396	35.6	8682	34.6
Total Metro	540	34.8	18136	77.0	18676	74.4
Country						
Kimberley	387	24.9	263	1.1	650	2.6
Pilbara Gascoyne	183	11.8	645	2.7	828	3.3
Midwest Murchison	141	9.1	552	2.3	693	2.8
Wheatbelt	60	3.9	839	3.6	899	3.6
Goldfields SE Coastal	125	8.0	774	3.3	899	3.6
South West	65	4.2	1630	6.9	1695	6.8
Great Southern	50	3.2	678	2.9	728	2.9
Total Country	1011	65.1	5381	22.8	6392	25.5
Outside WA	2	0.1	41	0.2	43	0.2
TOTAL	1553	100.0	23558	100.0	25111	100.0

Table 6: Place of birth for women resident in metropolitan health regions in Western Australia, 2004

Health Region of Residence	Birth Hospital in Health Region				Non Hospital	TOTAL
	Teaching	North Metro	South Metro	Country		
	Number					
North	2132	7606	195	3	58	9994
South	1782	893	5910	22	75	8682
TOTAL	3914	8499	6105	25	133	18676
Percentage						
North	21.3	76.1	2.0	0.0	0.6	100.0
South	20.5	10.3	68.1	0.3	0.9	100.0
TOTAL	21.0	45.5	32.7	0.1	0.7	100.0

Table 7: Place of birth for women resident in country health regions in Western Australia, 2004

Health Region of Residence	Birth Hospital in Health Region					TOTAL
	Internal	Metro		Other Country	Non Hospital	
		Teaching	Other			
Number						
Kimberley	557	62	24	7	-	650
Pilbara Gascoyne	580	91	140	17	-	828
Midwest	563	80	48	2	-	693
Wheatbelt	291	133	438	36	1	899
Goldfields SE Coastal	802	49	39	8	1	899
South West	1555	65	56	6	13	1695
Great Southern	624	39	54	10	1	728
TOTAL	4972	519	799	86	16	6392
Percentage						
Kimberley	85.7	9.5	3.7	1.1	-	100.0
Pilbara Gascoyne	70.0	11.0	16.9	2.1	-	100.0
Midwest Murchison	81.2	11.5	6.9	0.3	-	100.0
Wheatbelt	32.4	14.8	48.7	4.0	0.1	100.0
Goldfields SE Coastal	89.2	5.5	4.3	0.9	0.1	100.0
South West	91.7	3.8	3.3	0.4	0.8	100.0
Great Southern	85.7	5.4	7.4	1.4	0.1	100.0
TOTAL	77.8	8.1	12.5	1.3	0.3	100.0

Table 8: Place of birth and intended place of birth for women who gave birth in Western Australia, 2004

Actual Place of Birth	Intended Place of Birth			TOTAL
	Hospital	Birth Centre	Home	
Number				
Teaching ¹	4043	139	2	4184
Public Hospital	10258	50	16	10324
Private Hospital ²	10097	33	-	10130
Birth Centre	16	225	-	241
Home	4	1	145	150
BBA ³	74	6	2	82
TOTAL	24492	454	165	25111
Percentage				
Teaching	96.6	3.3	0.0	100.0
Public Hospital	99.4	0.5	0.2	100.0
Private Hospital	99.7	0.3	-	100.0
Birth Centre	6.6	93.4	-	100.0
Home	2.7	0.7	96.7	100.0
BBA	90.2	7.3	2.4	100.0
TOTAL	97.5	1.8	0.7	100.0

¹ Teaching Hospital - University Medical School (Teaching Hospitals Act 1955).

² Private Hospital - includes some Private Hospitals with both private and public beds.

³ BBA - born before arrival at hospital.

Table 9: Place of birth and plurality of women who gave birth in Western Australia, 2004

Place of Birth	Plurality				TOTAL	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Metropolitan						
Teaching	4255	17.2	170	41.6	4425	17.6
Department	5832	23.6	33	8.1	5865	23.4
Private	9365	37.9	164	40.1	9529	37.9
Country						
Regional ¹	3030	12.3	21	5.1	3051	12.2
Private	588	2.4	13	3.2	601	2.4
Other ²	1401	5.7	7	1.7	1408	5.6
Non Hospital						
Homebirths	149	0.6	1	0.2	150	0.6
BBA	82	0.3	-	-	82	0.3
TOTAL	24702	100.0	409	100.0	25111	100.0

¹ Country Regional Hospital - public hospital in regional centre.

² Other Country Hospital - other public hospital.

Table 10: Place of birth of women who gave birth in Western Australia, 1990-2004

Year of Birth	Place of Birth									
	Teaching		Public		Private		Home Birth		BBA	
	No.	%	No.	%	No.	%	No.	%	No.	%
1990	4674	18.2	13349	51.9	7436	28.9	151	0.6	92	0.4
1991	4199	17.0	13054	52.9	7204	29.2	145	0.6	77	0.3
1992	4300	17.2	13269	53.1	7216	28.9	107	0.4	78	0.3
1993	4694	18.8	12935	51.8	7161	28.7	102	0.4	81	0.3
1994	4917	19.6	12841	51.2	7111	28.4	109	0.4	93	0.4
1995	4931	19.7	12913	51.5	7055	28.1	96	0.4	95	0.4
1996	5074	20.1	12331	48.9	7583	30.1	120	0.5	84	0.3
1997	5025	20.2	11925	48.0	7742	31.1	113	0.5	64	0.3
1998	4912	19.4	11980	47.4	8201	32.4	102	0.4	99	0.4
1999	5150	20.3	11634	45.8	8398	33.1	126	0.5	70	0.3
2000	4671	18.8	11313	46.5	8633	35.5	122	0.5	79	0.3
2001	4166	17.0	10785	44.0	9317	38.0	144	0.6	80	0.3
2002	4267	17.5	10277	42.1	9645	39.5	121	0.5	84	0.3
2003	4335	17.9	9975	41.1	9727	40.1	163	0.7	81	0.3
2004	4425	17.6	10324	41.1	10130	40.3	150	0.6	82	0.3

Pregnancy Profile

Table 11: Parity and Aboriginality of women who gave birth in Western Australia, 2004

Parity	Aboriginality of Mother				TOTAL	
	Aboriginal		Non-Aboriginal		No.	%
	No.	%	No.	%		
0	490	31.6	10022	42.5	10512	41.9
1-2	598	38.5	11599	49.2	12197	48.6
3-4	306	19.7	1648	7.0	1954	7.8
≥ 5	159	10.2	289	1.2	448	1.8
TOTAL	1553	100.0	23558	100.0	25111	100.0

Table 12: Parity and age of women who gave birth in Western Australia, 2004

Parity	Maternal Age						TOTAL	
	≤ 19		20-34		≥ 35		No.	%
	No.	%	No.	%	No.	%		
0	1147	82.6	8148	42.7	1217	26.3	10512	41.9
1-2	237	17.1	9340	48.9	2620	56.6	12197	48.6
3-4	5	0.4	1356	7.1	593	12.8	1954	7.8
≥ 5	-	-	247	1.3	201	4.3	448	1.8
TOTAL	1389	100.0	19091	100.0	4631	100.0	25111	100.0

Table 13: Parity of women who gave birth in Western Australia, 1990-2004

Year of Birth	Number of Women	Parity				Average Parity
		0 %	1-2 %	3-4 %	≥ 5 %	
1990	25702	39.0	50.5	9.2	1.3	1.06
1991	24679	39.7	49.8	9.1	1.3	1.05
1992	24970	38.7	50.8	9.0	1.5	1.06
1993	24973	38.7	50.9	8.9	1.6	1.06
1994	25071	40.0	49.7	8.8	1.5	1.04
1995	25090	40.6	49.2	8.6	1.6	1.03
1996	25192	40.0	49.9	8.5	1.5	1.03
1997	24869	40.3	49.6	8.6	1.6	1.03
1998	25294	40.0	49.7	8.7	1.6	1.03
1999	25378	40.4	49.6	8.4	1.6	1.02
2000	24818	41.2	48.5	8.5	1.9	1.03
2001	24492	40.7	49.4	8.2	1.8	1.02
2002	24394	40.6	49.3	8.3	1.8	1.02
2003	24281	41.3	49.0	7.8	1.9	1.01
2004	25111	41.9	48.6	7.8	1.8	1.00

Table 14: Socioeconomic status and age of women who gave birth in Western Australia, 2004

Socio-economic Status ¹	Women		Maternal Age					
			≤ 19		20-34		≥ 35	
	No.	%	No.	%	No.	%	No.	%
I	5017	20.7	92	0.4	3518	14.5	1407	5.8
II	3145	13.0	116	0.5	2407	9.9	622	2.6
III	4502	18.6	239	1.0	3435	14.2	828	3.4
IV	7217	29.8	477	2.0	5606	23.1	1134	4.7
V	3295	13.6	258	1.1	2593	10.7	444	1.8
VI	1063	4.4	139	0.6	814	3.4	110	0.5
TOTAL	24239	100.0	1321	5.4	18373	75.8	4545	19.5

¹ Socioeconomic status is in accord with the Socioeconomic Indices for Areas (SEIFA) disadvantage index, constructed by the Australian Bureau of Statistics using 2001 Census data. SLA's were allocated to six groups based on their disadvantage index. Group I has the highest socioeconomic status and group VI has the lowest. Index ranges used are: I = 1055-1145, II = 1004-1055, III = 984-1004, IV = 961-984, V = 923-961, VI = 406-923. Excludes 872 women who could not be classified using this index.

Table 15: Age-specific birth rates and Aboriginality for women who gave birth in Western Australia, 2004

Age	Aboriginality of Mother						TOTAL		
	Aboriginal			Non-Aboriginal			Births	Population	Birth Rate ¹
	Births	Population	Birth Rate ¹	Births	Population	Birth Rate ¹			
15-19	369	3786	97.5	1003	68108	14.7	1372	71894	19.1
20-24	497	2970	167.3	3447	65336	52.8	3944	68306	57.7
25-29	344	2600	132.3	6517	60845	107.1	6861	63445	108.1
30-34	222	2890	76.8	8064	71887	112.2	8286	74777	110.8
35-39	92	2471	37.2	3802	70077	54.3	3894	72548	53.7
40-44	16	2150	7.4	695	75885	9.2	711	78035	9.1
TOTAL	1540	16867	91.3	23528	412138	57.1	25068	429005	58.4

¹ Age-Specific Birth Rate - The total number of births in one year per 1000 women of the same age group.

SOURCE: Estimated resident population (projected to 2004 based on 1999 to 2003 data) .
Epidemiology Branch, Analysis and Performance Reporting, Department of Health WA 2004.

Table 16: Age-specific birth rates¹ by age and Aboriginality of women who gave birth in Western Australia, 1990-2004

Year of Birth	Aboriginality of Mother						TOTAL		
	Aboriginal			Non-Aboriginal			15-19	20-34	35-44
	15-19	20-34	35-44	15-19	20-34	35-44			
1990	166.5	179.6	24.0	20.0	107.6	19.6	25.5	109.7	19.7
1991	180.1	157.7	21.2	19.6	102.4	19.2	25.8	104.1	19.2
1992	159.9	154.7	19.0	20.0	102.7	20.4	25.4	104.3	20.4
1993	165.7	152.3	21.4	18.5	102.4	21.6	24.2	104.0	21.6
1994	166.0	148.2	18.2	20.1	101.2	22.5	25.7	102.7	22.4
1995	143.6	151.8	22.5	19.7	99.6	23.7	24.6	101.3	23.7
1996	137.7	148.2	21.7	19.6	98.9	24.6	24.1	100.6	24.5
1997	156.2	159.4	22.0	17.4	95.7	25.1	22.7	97.9	25.0
1998	137.9	151.7	26.3	18.2	95.1	27.0	23.2	97.0	27.0
1999	134.4	164.5	28.0	17.9	94.9	26.9	22.8	97.2	27.0
2000	126.8	160.3	28.0	17.0	91.6	27.5	21.7	93.9	27.5
2001	118.1	167.0	24.4	16.2	91.8	27.2	20.8	94.4	27.1
2002	103.5	143.4	25.7	16.0	84.8	27.7	20.3	87.0	27.7
2003	101.7	127.8	21.2	14.3	90.8	29.7	18.7	92.3	29.5
2004	97.5	125.7	23.4	14.7	91.0	30.8	19.1	92.4	30.6

¹ Age-Specific Birth Rate - The total number of births in one year per 1000 women of the same age group.

Table 17: Selected complications of pregnancy and plurality of women who gave birth in Western Australia, 2004

Complications of Pregnancy ¹	Plurality				TOTAL	
	Singleton		Multiple		No.	% ⁴
	No.	% ²	No.	% ³		
Threatened abortion	1215	4.9	37	9.0	1252	5.0
Threatened preterm labour	520	2.1	41	10.0	561	2.2
Urinary tract infection	897	3.6	14	3.4	911	3.6
Pre-eclampsia	1028	4.2	43	10.5	1071	4.3
Antepartum haemorrhage						
- placenta praevia	173	0.7	3	0.7	176	0.7
- abruptio	107	0.4	4	1.0	111	0.4
- other	753	3.0	15	3.7	768	3.1
Premature rupture of membranes	1233	5.0	52	12.7	1285	5.1
Gestational diabetes	978	4.0	36	8.8	1014	4.0
Other	4958	20.1	245	59.9	5203	20.7
No complications of pregnancy	15656	63.4	103	25.2	15759	62.8

¹ A woman may have more than one complication of pregnancy.

² Percentage of women with a singleton pregnancy.

³ Percentage of women with a multiple pregnancy.

⁴ Percentage of women who gave birth.

Table 18: Selected pre-existing medical conditions for women who gave birth in Western Australia, 2004

Medical Conditions ¹	No.	% of women
Asthma	2729	10.9
Cardiac murmurs	342	1.4
Genital herpes	423	1.7
Essential hypertension	221	0.9
Thyroid disorders	310	1.2
Epilepsy	109	0.4
Urinary tract infection	232	0.9
Anaemia	106	0.4
Bronchial disorders	83	0.3
Cervical dysplasia	257	1.0
Vaginal infections	257	1.0
Spinal deformities/disorders	243	1.0
Pre-existing diabetes	134	0.5
Psychological disorders	1408	5.6
Other	1583	6.3
No medical conditions	17905	71.3

¹ A woman may have more than one medical condition.

Labour and Delivery

Table 19: Onset of labour and plurality of women who gave birth in Western Australia, 2004

Onset of Labour	Plurality				TOTAL	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Spontaneous	12539	50.8	137	33.5	12676	50.5
Induced	7129	28.9	82	20.0	7211	28.7
No Labour	5034	20.4	190	46.5	5224	20.8
TOTAL	24702	100.0	409	100.0	25111	100.0

Table 20: Onset and augmentation of labour and type of delivery for women who gave birth in Western Australia, 2004

Onset and Augmentation of Labour	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
Spontaneous onset no augmentation	5730	22.8	620	2.5	-	-	969	3.9	7319	29.1
Spontaneous onset and augmentation	3416	13.6	1214	4.8	-	-	727	2.9	5357	21.3
Induced onset	4612	18.4	1394	5.6	-	-	1210	4.8	7216	28.7
No Labour	-	-	-	-	4535	18.1	684	2.7	5219	20.8
TOTAL	13758	54.8	3228	12.9	4535	18.1	3590	14.3	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 21: Augmentation of labour and hours of established labour for women with a spontaneous onset who gave birth in Western Australia, 2004

Type of Augmentation	Hours of Established Labour						TOTAL
	< 1	1-4	5-12	13-18	19-24	> 24	
Number							
None	594	3299	3057	275	55	28	7308
Oxytocin	91	396	871	224	51	11	1644
Artificial Rupture of Membranes (ARM)	73	793	1427	245	48	18	2604
Oxytocin and ARM	67	218	522	209	59	14	1089
Other	4	9	4	3	-	-	20
TOTAL	829	4715	5881	956	213	71	12665
Percentage							
None	71.7	70.0	52.0	28.8	25.8	39.4	57.7
Oxytocin	11.0	8.4	14.8	23.4	23.9	15.5	13.0
Artificial Rupture of Membranes (ARM)	8.8	16.8	24.3	25.6	22.5	25.4	20.6
Oxytocin and ARM	8.1	4.6	8.9	21.9	27.7	19.7	8.6
Other	0.5	0.2	0.1	0.3	-	-	0.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Excludes 11 women for whom hours of established labour were not recorded.

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 22: Type of induction and delivery for women who were induced in Western Australia, 2004

Type of Induction	Type of Delivery						TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%		
Oxytocin	329	61.0	103	19.1	107	19.9	539	100.0
Prostaglandin	379	56.1	123	18.2	173	25.6	675	100.0
Artificial Rupture of Membrane (ARM)	365	80.8	47	10.4	40	8.8	452	100.0
Oxytocin and ARM	2533	68.6	690	18.7	470	12.7	3693	100.0
Prostaglandin and ARM	319	67.2	83	17.5	73	15.4	475	100.0
Prostaglandin and Oxytocin	78	37.0	64	30.3	69	32.7	211	100.0
Prostaglandin, Oxytocin and ARM	587	51.7	278	24.5	271	23.9	1136	100.0
Other	18	60.0	5	16.7	7	23.3	30	100.0
TOTAL	4608	63.9	1393	19.3	1210	16.8	7211	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 23: Onset of labour for singleton births of women who gave birth in Western Australia, 1990-2004

Year of Birth	Onset of Labour						TOTAL	
	Spontaneous		Induced		No Labour		No.	%
	No.	%	No.	%	No.	%		
1990	16512	65.0	6085	24.0	2792	11.0	25389	100.0
1991	15673	64.4	6045	24.8	2637	10.8	24355	100.0
1992	15395	62.5	6436	26.1	2797	11.4	24628	100.0
1993	14868	60.4	6766	27.5	2991	12.1	24625	100.0
1994	14958	60.5	6777	27.4	2993	12.1	24728	100.0
1995	14890	60.2	6879	27.8	2975	12.0	38950	100.0
1996	14856	59.9	6898	27.8	3063	12.3	24817	100.0
1997	14279	58.3	6945	28.4	3263	13.3	24487	100.0
1998	14047	56.4	7288	29.2	3583	14.4	24918	100.0
1999	14043	56.2	7442	29.8	3518	14.1	25003	100.0
2000	13603	55.7	7170	29.4	3646	14.9	24419	100.0
2001	12672	52.7	7341	30.5	4046	16.8	24059	100.0
2002	12391	51.6	7227	30.1	4391	18.3	24009	100.0
2002	12131	50.8	7017	29.4	4739	19.8	23887	100.0
2004	12539	50.8	7129	28.9	5034	20.4	24702	100.0

Table 24: Analgesia and type of delivery for women who gave birth in Western Australia, 2004

Type of Analgesia	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
None	3206	12.8	186	0.7	4535	18.1	1365	5.4	9292	37.0
Nitrous oxide & oxygen inhalation	3431	13.7	280	1.1	-	-	108	0.4	3819	15.2
Intra-muscular narcotics	2853	11.4	413	1.6	-	-	219	0.9	3485	13.9
Epidural	3943	15.7	2237	8.9	-	-	1656	6.6	7836	31.2
Spinal	137	0.5	99	0.4	-	-	226	0.9	462	1.8
Other	188	0.7	13	0.1	-	-	16	0.1	217	0.9
TOTAL	13758	54.8	3228	12.9	4535	18.1	3590	14.3	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 25: Anaesthesia and type of delivery for women who gave birth in Western Australia, 2004

Type of Anaesthesia	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
None	9255	36.9	392	1.6	-	-	-	-	9647	38.4
Local anaesthesia to perineum	896	3.6	406	1.6	-	-	-	-	1302	5.2
Pudendal	19	0.1	191	0.8	-	-	-	-	210	0.8
Epidural	3353	13.4	2140	8.5	1867	7.4	1959	7.8	9319	37.1
Spinal	59	0.2	81	0.3	2516	10.0	1290	5.1	3946	15.7
General with Epidural or Spinal	1	0.0	1	0.0	33	0.1	46	0.2	81	0.3
General	10	0.0	5	0.0	119	0.5	295	1.2	429	1.7
Other	165	0.7	12	0.0	-	-	-	-	177	0.7
TOTAL	13758	54.8	3228	12.9	4535	18.1	3590	14.3	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 26: Epidural and general anaesthesia/analgesia for women who gave birth by caesarean section in Western Australia, 1990-2004

Year of Birth	Type of Delivery								Number of Caesareans	
	Elective Caesarean				Emergency Caesarean				Elective	Emerg.
	Epidural		General		Epidural		General			
No.	%	No.	%	No.	%	No.	%	No.	No.	
1990	1923	73.5	570	21.8	1436	61.4	902	38.6	2615	2338
1991	1846	78.2	516	21.8	1432	65.5	755	34.5	2362	2187
1992	2070	80.9	489	19.1	1486	65.9	768	34.1	2559	2254
1993	2282	82.6	481	17.4	1749	71.1	710	28.9	2763	2459
1994	2347	86.0	382	14.0	1891	75.8	603	24.2	2729	2494
1995	2371	86.5	369	13.5	1807	78.0	511	22.0	2740	2318
1996	2548	88.9	317	11.1	1860	81.5	423	18.5	2865	2283
1997	2761	90.8	281	9.2	2004	83.0	407	16.9	3042	2414
1998	3008	92.0	262	8.0	2257	85.6	379	14.4	3270	2636
1999	3100	93.7	210	6.3	2263	86.4	356	13.6	3310	2619
2000	3289	93.4	231	6.6	2439	88.4	321	11.6	3520	2760
2001	3563	95.2	181	4.8	2703	89.4	319	10.6	3744	3022
2002	3844	96.0	160	4.0	2822	89.3	339	10.7	4004	3161
2003	4160	96.1	167	3.9	2856	89.9	322	10.1	4327	3178
2004	4383	96.6	152	3.4	3249	90.5	341	9.5	4535	3590

Women with multiple pregnancies are classified according to the features of the first multiple delivered.
Epidural includes spinal anaesthesia/analgesia.

Table 27: Presentation and type of delivery for singleton births in Western Australia, 2004

Type of Delivery	Presentation						TOTAL	
	Vertex		Breech		Other		No.	%
	No.	%	No.	%	No.	%		
Normal	13611	57.8	7	0.7	39	22.9	13657	55.3
Vacuum	2409	10.2	3	0.3	6	3.5	2418	9.8
Forceps	680	2.9	-	-	6	3.5	686	2.8
Breech Manoeuvre	-	-	85	8.6	-	-	85	0.3
Elective Caesarean	3771	16.0	581	58.7	35	20.6	4387	17.8
Emergency Caesarean	3071	13.0	314	31.7	84	49.4	3469	14.0
TOTAL	23542	100.0	990	100.0	170	100.0	24702	100.0

Table 28: Type of delivery and plurality of women who gave birth in Western Australia, 2004

Type of Delivery	Plurality						TOTAL	
	Singleton		Twin		Triplet		No.	%
	No.	%	No.	%	No.	%		
Spontaneous Vaginal	13657	55.3	101	25.2	-	-	13758	54.8
Vacuum	2418	9.8	26	6.5	-	-	2444	9.7
Forceps	686	2.8	12	3.0	-	-	698	2.8
Breech Manoeuvre	85	0.3	1	0.2	-	-	86	0.3
Elective Caesarean	4387	17.8	145	36.2	3	37.5	4535	18.1
Emergency Caesarean	3469	14.0	116	28.9	5	62.5	3590	14.3
TOTAL	24702	100.0	401	100.0	8	100.0	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 29: Type of delivery and parity of women who gave birth in Western Australia, 2004

Type of Delivery	Parity								TOTAL	
	0		1-2		3-4		≥ 5		No.	%
	No.	%	No.	%	No.	%	No.	%		
Spontaneous Vaginal	4530	43.1	7496	61.5	1396	71.4	336	75.0	13758	54.8
Assisted Vaginal	2337	22.2	813	6.7	68	3.5	10	2.2	3228	12.9
Elective Caesarean	1363	13.0	2817	23.1	307	15.7	48	10.7	4535	18.1
Emergency Caesarean	2282	21.7	1071	8.8	183	9.4	54	12.1	3590	14.3
TOTAL	10512	100.0	12197	100.0	1954	100.0	448	100.0	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 30: Type of delivery and type of previous delivery of women who gave birth in Western Australia, 2004

Previous delivery	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
First delivery	4530	43.1	2337	22.2	1363	13.0	2282	21.7	10512	100.0
Previous deliveries no caesareans	8844	80.8	767	7.0	659	6.0	682	6.2	10952	100.0
Previous caesarean, last delivery vaginal	158	57.7	17	6.2	63	23.0	36	13.1	274	100.0
Previous caesarean, last delivery caesarean	226	6.7	107	3.2	2450	72.6	590	17.5	3373	100.0
TOTAL	13758	54.8	3228	12.9	4535	18.1	3590	14.3	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 31: Place of confinement and type of delivery for women who gave birth in Western Australia, 2004

Place of Birth	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
Metropolitan										
Teaching	2573	58.1	535	12.1	470	10.6	847	19.1	4425	100.0
Departmental	3725	63.5	550	9.4	877	15.0	713	12.2	5865	100.0
Private	3888	40.8	1597	16.8	2602	27.3	1442	15.1	9529	100.0
Country										
Regional	2005	65.7	316	10.4	334	10.9	396	13.0	3051	100.0
Private	288	47.9	101	16.8	118	19.6	94	15.6	601	100.0
Other	1048	74.4	128	9.1	134	9.5	98	7.0	1408	100.0
Non-hospital	232	100.0	-	-	-	-	-	-	232	100.0
TOTAL	13759	54.8	3227	12.9	4535	18.1	3590	14.3	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Non-hospital includes homebirths and births before arrival.

Table 32: Type of delivery for women who gave birth in Western Australia, 1990-2004

Year of Birth	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
1990	16444	64.0	4424	17.2	2493	9.7	2338	9.1	25699	100.0
1991	15963	64.7	4167	16.9	2362	9.6	2187	8.9	24679	100.0
1992	16028	64.2	4129	16.5	2559	10.2	2254	9.0	24970	100.0
1993	15873	63.6	3878	15.5	2763	11.1	2459	9.8	24973	100.0
1994	15935	63.6	3913	15.6	2729	10.9	2494	9.9	25071	100.0
1995	16208	64.6	3824	15.2	2740	10.9	2318	9.2	25090	100.0
1996	16119	64.0	3925	15.6	2865	11.4	2283	9.1	25192	100.0
1997	15756	63.4	3657	14.7	3042	12.2	2414	9.7	24869	100.0
1998	15794	62.4	3594	14.2	3270	12.9	2636	10.4	25294	100.0
1999	15772	62.1	3677	14.5	3310	13.0	2619	10.3	25378	100.0
2000	15098	60.8	3440	13.9	3520	14.2	2760	11.1	24818	100.0
2001	14619	59.7	3107	12.7	3744	15.3	3022	12.3	24492	100.0
2002	14139	58.0	3090	12.7	4004	16.4	3161	13.0	24394	100.0
2003	13837	57.0	2939	12.1	4327	17.8	3178	13.1	24281	100.0
2004	13758	54.8	3228	12.9	4535	18.1	3590	14.3	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 33: Frequency of complications of labour and delivery for women who gave birth by caesarean section in Western Australia, 2004

Number of complications of labour and delivery	Elective Caesarean		Emergency Caesarean		TOTAL	
	No.	%	No.	%	No.	%
1	3754	82.8	1804	50.3	5558	68.4
2	641	14.1	1003	27.9	1644	20.2
3	109	2.4	424	11.8	533	6.6
4	24	0.5	215	6.0	239	2.9
5	6	0.1	102	2.8	108	1.3
6	1	0.0	28	0.8	29	0.4
7	-	-	11	0.3	11	0.1
8	-	-	3	0.1	3	0.0
TOTAL	4535	100.0	3590	100.0	8125	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 34: Complications of labour and delivery for women who gave birth by caesarean section in Western Australia, 2004

Complications of labour and delivery ¹	Elective Caesarean		Emergency Caesarean		TOTAL	
	No.	% ²	No.	% ³	No.	% ⁴
Umbilical cord complications	49	1.1	127	3.5	176	2.2
Cephalopelvic disproportion	531	11.7	382	10.6	913	11.2
Breech and other malpresentation	660	14.6	421	11.7	1081	13.3
Previous caesarean section or other uterine surgery	2513	55.4	643	17.9	3156	38.8
Fetal distress	14	0.3	1364	38.0	1378	17.0
Multiple pregnancy	126	2.8	111	3.1	237	2.9
Pregnancy- induced disorders	262	5.8	464	12.9	726	8.9
Obstruction or delayed labour	-	-	1232	34.3	1232	15.2
Abnormal forces of labour	17	0.4	706	19.7	723	8.9
Placental disorders/haemorrhage	547	12.1	846	23.6	1393	17.1
Medical/Physiological	68	1.5	26	0.7	94	1.2
Infection	21	0.5	135	3.8	156	1.9
Previous poor obstetric and/or reproductive history	173	3.8	22	0.6	195	2.4
Other	475	10.5	223	6.2	698	8.6
TOTAL	5456		6702		12158	

¹ A woman may have more than one complication of labour and delivery.

² Percentage of women who had elective caesarean

³ Percentage of women who had emergency caesarean

⁴ Percentage of women who had a caesarean section

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 35: Hours of established labour and onset of labour for women who gave birth in Western Australia, 2004

Hours of Labour	Onset of Labour			
	Spontaneous		Induction	
	No.	%	No.	%
< 1	829	6.5	596	8.3
1-4	4715	37.2	3443	47.7
5-12	5881	46.4	2898	40.2
13-18	956	7.5	228	3.2
19-24	213	1.7	34	0.5
> 24	71	0.6	12	0.2
TOTAL	12665	100.0	7211	100.0

Excludes 5,221 women who did not experience labour and 11 women for whom hours of established labour were not recorded.

Table 36: Type of delivery and hours of established labour for women who gave birth in Western Australia, 2004

Type of Delivery	Hours of Established Labour							TOTAL
	No Labour	< 1	1-4	5-12	13-18	19-24	> 24	
Number								
Normal	4	229	6994	5822	555	97	46	13747
Vacuum	-	1	591	1532	251	56	13	2444
Forceps	1	-	108	458	101	24	6	698
Breech Manoeuvre	-	3	58	21	3	1	-	86
Elective Caesarean	4535	-	-	-	-	-	-	4535
Emergency Caesarean	684	1192	407	946	274	69	18	3590
TOTAL	5224	1425	8158	8779	1184	247	83	25100
Percentage								
Normal	0.1	16.1	85.7	66.3	46.9	39.3	55.4	54.8
Vacuum	-	0.1	7.2	17.5	21.2	22.7	15.7	9.7
Forceps	0.0	-	1.3	5.2	8.5	9.7	7.2	2.8
Breech Manoeuvre	-	0.2	0.7	0.2	0.3	0.4	-	0.3
Elective Caesarean	86.8	-	-	-	-	-	-	18.1
Emergency Caesarean	13.1	83.6	5.0	10.8	23.1	27.9	21.7	14.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Excludes 11 women for whom hours of established labour were not recorded.

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 37: Selected complications of labour and delivery and plurality for women who gave birth in Western Australia, 2004

Complications of Labour and Delivery ¹	Plurality				TOTAL	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Precipitate delivery	1297	5.3	12	2.9	1309	5.2
Fetal distress	3641	14.7	37	9.0	3678	14.6
Prolapsed cord	37	0.1	4	1.0	41	0.2
Cord tightly around neck	1116	4.5	3	0.7	1119	4.5
Cephalopelvic disproportion	540	2.2	2	0.5	542	2.2
Post partum haemorrhage	2353	9.5	103	25.2	2456	9.8
Retained placenta - manual removal	330	1.3	5	1.2	335	1.3
Persistent occipito posterior	539	2.2	2	0.5	541	2.2
Shoulder dystocia	340	1.4	-	-	340	1.4
Failure to progress <= 3cms	545	2.2	7	1.7	552	2.2
Failure to progress > 3cms	972	3.9	11	2.7	983	3.9
Previous caesarean section	3360	13.6	65	15.9	3425	13.6
Other	5897	23.9	350	85.6	6247	24.9
No complications of labour and delivery	9379	38.0	21	5.1	9400	37.4

¹ A woman may have more than one complication of labour and delivery.

Table 38: Type of delivery and accoucheur of women who gave birth in Western Australia, 2004

Accoucheur	Type of Delivery								TOTAL	
	Vaginal		Assisted Vaginal		Elective		Emergency		No.	%
	No.	%	No.	%	No.	%	No.	%		
Obstetrician	2064	15.0	1915	59.3	3786	83.5	2369	66.0	10134	40.4
Other Medical Officer	1583	11.5	1253	38.8	745	16.4	1212	33.8	4793	19.1
Midwife	9160	66.6	56	1.7	-	-	-	-	9216	36.7
Student	844	6.1	1	0.0	-	-	-	-	845	3.4
Self/no attendant	47	0.3	-	-	-	-	-	-	47	0.2
Other	60	0.4	3	0.1	4	0.1	9	0.3	76	0.3
TOTAL	13758	100.0	3228	100.0	4535	100.0	3590	100.0	25111	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Table 39: Type of delivery and repair of perineum and/or vagina for women who gave birth in Western Australia, 2004

Type of Delivery	Repair of perineum and/or Vagina					TOTAL
	None	Episiotomy	1 or 2 degree tear	3 or 4 degree tear	Other	
Number						
Normal	6150	1460	5480	128	540	13758
Vacuum	323	1150	877	54	40	2444
Forceps	28	553	87	24	6	698
Breech Manoeuvre	72	6	7	-	1	86
Elective Caesarean	4535	-	-	-	-	4535
Emergency Caesarean	3563	6	10	-	11	3590
TOTAL	14671	3175	6461	206	598	25111
Percentage						
Normal	41.9	46.0	84.8	62.1	90.3	54.8
Vacuum	2.2	36.2	13.6	26.2	6.7	9.7
Forceps	0.2	17.4	1.3	11.7	1.0	2.8
Breech Manoeuvre	0.5	0.2	0.1	-	0.2	0.3
Elective Caesarean	30.9	-	-	-	-	18.1
Emergency Caesarean	24.3	0.2	0.2	-	1.8	14.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Women with multiple pregnancies are classified according to the features of the first multiple delivered.

Baby Characteristics

Table 40: Condition at birth and crude birth rate in Western Australia, 1990-2004

Year of Birth	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	Crude Birth Rate ¹
	No.	%	No.	%		
1990	25844	99.3	175	0.7	26019	16.0
1991	24815	99.2	194	0.8	25009	15.2
1992	25159	99.3	165	0.7	25324	15.2
1993	25159	99.3	176	0.7	25335	15.0
1994	25237	99.3	188	0.7	25425	14.8
1995	25254	99.2	191	0.8	25445	14.6
1996	25385	99.2	199	0.8	25584	14.4
1997	25096	99.3	171	0.7	25267	14.0
1998	25516	99.4	164	0.6	25680	13.9
1999	25592	99.3	179	0.7	25771	13.8
2000	25022	99.2	206	0.8	25228	13.3
2001	24773	99.3	166	0.7	24939	13.0
2002	24607	99.3	175	0.7	24782	12.8
2003	24499	99.3	184	0.7	24683	12.6
2004	25340	99.3	188	0.7	25528	12.8

¹ Crude birth rate is the number of livebirths per 1,000 total population.

Table 41: Condition at birth and gender of births in Western Australia, 2004

Gender	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	%
	No.	%	No.	%		
Male	12956	51.1	102	54.3	13058	51.2
Female	12384	48.9	86	45.7	12470	48.8
TOTAL	25340	100.0	188	100.0	25528	100.0

Table 42: Condition at birth and Aboriginality of mother for births in Western Australia, 2004

Aboriginality of Mother	Condition at Birth				TOTAL		Fetal death rate
	Livebirth		Fetal death		No.	%	
	No.	%	No.	%			
Aboriginal	1555	6.1	17	9.0	1572	6.2	10.8
Non-Aboriginal	23785	93.9	171	91.0	23956	93.8	7.1
TOTAL	25340	100.0	188	100.0	25528	100.0	7.4

Table 43: Condition at birth and place of birth for births in Western Australia, 2004

Place of Birth	Condition at Birth				TOTAL		Fetal death rate
	Livebirth		Fetal death		No.	%	
	No.	%	No.	%			
Metropolitan							
Teaching	4482	17.7	119	63.3	4601	18.0	25.9
Department	5880	23.2	18	9.6	5898	23.1	3.1
Private	9666	38.1	28	14.9	9694	38.0	2.9
Country							
Regional	3060	12.1	12	6.4	3072	12.0	3.9
Private	612	2.4	2	1.1	614	2.4	3.3
Other	1410	5.6	5	2.7	1415	5.5	3.5
Non-Hospital							
Homebirths	151	0.6	-	-	151	0.6	-
BBA	79	0.3	4	2.1	83	0.3	48.2
TOTAL	25340	100.0	188	100.0	25528	100.0	7.4

¹ Country Regional Hospital - public hospital in regional centre.

² Other Country Hospital - other public hospital.

Table 44: Plurality of all births in Western Australia, 1990-2004

Year of Birth	Plurality							
	Singleton		Twins		Triplets		Other Multiple	
	No.	%	No.	%	No.	%	No.	%
1990	25389	97.6	618	2.4	12	0.0	-	-
1991	24355	97.4	636	2.5	18	0.1	-	-
1992	24628	97.3	660	2.6	36	0.1	-	-
1993	24625	97.2	668	2.6	42	0.2	-	-
1994	24728	97.3	666	2.6	27	0.1	4	0.0
1995	24744	97.2	674	2.6	27	0.1	-	-
1996	24817	97.0	720	2.8	39	0.2	8	0.0
1997	24487	96.9	738	2.9	30	0.1	12	0.0
1998	24918	97.0	732	2.9	30	0.1	-	-
1999	25003	97.0	720	2.8	39	0.2	9	0.0
2000	24419	96.8	774	3.1	36	0.1	-	-
2001	24059	96.5	842	3.4	36	0.1	-	-
2002	24009	96.9	764	3.1	9	0.0	-	-
2003	23887	96.8	774	3.1	18	0.1	4	0.0
2004	24702	96.8	802	3.1	24	0.1	-	-

Table 45: Apgar score at one minute and time to spontaneous respiration of livebirths in Western Australia, 2004

Time to Spontaneous Respiration	Apgar Score at 1 Minute								TOTAL	
	0		1-3		4-7		8-10		No.	%
	No.	%	No.	%	No.	%	No.	%		
≤ 1	5	33.3	32	9.7	2493	60.5	20431	98.0	22961	90.7
2-3	-	-	67	20.4	1249	30.3	328	1.6	1644	6.5
4-6	-	-	119	36.2	215	5.2	44	0.2	378	1.5
7-10	-	-	11	3.3	27	0.7	2	0.0	40	0.2
> 10	-	-	4	1.2	5	0.1	-	-	9	0.0
Intubation ¹	10	66.7	96	29.2	132	3.2	38	0.2	276	1.1
TOTAL	15	100.0	329	100.0	4121	100.0	20843	100.0	25308	100.0

Excludes 32 livebirths for whom Apgar Score at 1 minute and/or time to establish spontaneous respiration were unknown.

¹ These babies were intubated at birth and time to establish spontaneous respiration was not recorded.

Table 46: Apgar score at five minutes and time to spontaneous respiration of livebirths in Western Australia, 2004

Time to Spontaneous Respiration	Apgar Score at 5 Minutes								TOTAL	
	0		1-3		4-7		8-10		No.	%
	No.	%	No.	%	No.	%	No.	%		
≤ 1	8	100.0	4	11.8	134	24.3	22816	92.3	22962	90.7
2-3	-	-	-	-	153	27.8	1491	6.0	1644	6.5
4-6	-	-	3	8.8	122	22.1	253	1.0	378	1.5
7-10	-	-	2	5.9	23	4.2	15	0.1	40	0.2
> 10	-	-	2	5.9	7	1.3	-	-	9	0.0
Intubation ¹	-	-	23	67.6	112	20.3	141	0.6	276	1.1
TOTAL	8	100.0	34	100.0	551	100.0	24716	100.0	25309	100.0

Excludes 31 livebirths for whom Apgar Score at 5 minutes and/or time to establish spontaneous respiration were unknown.

¹ These babies were intubated at birth and time to establish spontaneous respiration was not recorded.

Table 47: Apgar score at five minutes and resuscitation methods of livebirths in Western Australia, 2004

Resuscitation	Apgar Score at 5 Minutes								TOTAL	
	0		1-3		4-7		8-10		No.	%
	No.	%	No.	%	No.	%	No.	%		
None	7	77.8	6	14.6	14	2.5	14715	59.5	14742	58.2
Suction Only	-	-	-	-	14	2.5	4212	17.0	4226	16.7
Oxygen Therapy	-	-	-	-	90	16.3	3906	15.8	3996	15.8
Bag & Mask	-	-	9	22.0	290	52.5	1514	6.1	1813	7.2
Intubation	-	-	11	26.8	106	19.2	139	0.6	256	1.0
Ext Card Mass	2	22.2	14	34.1	25	4.5	15	0.1	56	0.2
Other	-	-	1	2.4	13	2.4	217	0.9	231	0.9
TOTAL	9	100.0	41	100.0	552	100.0	24718	100.0	25320	100.0

Excludes 20 livebirths for whom Apgar Score at 5 minutes were unknown.

Table 48: Birthweight and resuscitation methods of livebirths in Western Australia, 2004

Resuscitation	Birthweight (grams)					TOTAL
	< 500	500-1499	1500-1999	2000-2499	≥ 2500	
Number						
None	7	21	97	487	14145	14757
Suction Only	-	9	27	130	4060	4226
Oxygen Therapy	-	52	117	256	3573	3998
Bag & Mask	-	38	77	129	1570	1814
Intubation	7	123	20	16	92	258
Ext Card Mass	2	7	7	8	32	56
Other	1	12	7	12	199	231
TOTAL	17	262	352	1038	23671	25340
Percentage						
None	41.2	8.0	27.6	46.9	59.8	58.2
Suction Only	-	3.4	7.7	12.5	17.2	16.7
Oxygen Therapy	-	19.8	33.2	24.7	15.1	15.8
Bag & Mask	-	14.5	21.9	12.4	6.6	7.2
Intubation	41.2	46.9	5.7	1.5	0.4	1.0
Ext Card Mass	-	2.7	2.0	0.8	0.1	0.2
Other	5.9	4.6	2.0	1.2	0.8	0.9
TOTAL	88.2	100.0	100.0	100.0	100.0	100.0

Table 49: Birthweight distribution and Aboriginality of mother for births in Western Australia, 2004

Birthweight (grams)	Aboriginality of Mother				TOTAL	
	Aboriginal		Non-Aboriginal		No.	%
	No.	%	No.	%	No.	%
< 500	8	0.5	96	0.4	104	0.4
500-999	22	1.4	115	0.5	137	0.5
1000-1499	23	1.5	147	0.6	170	0.7
1500-1999	47	3.0	317	1.3	364	1.4
2000-2499	134	8.5	911	3.8	1045	4.1
< 2500	234	14.9	1586	6.6	1820	7.1
2500-2999	372	23.7	3566	14.9	3938	15.4
3000-3499	501	31.9	8762	36.6	9263	36.3
3500-3999	334	21.2	7391	30.9	7725	30.3
4000-4499	110	7.0	2301	9.6	2411	9.4
≥ 4500	21	1.3	350	1.5	371	1.5
TOTAL	1572	100.0	23956	100.0	25528	100.0

Mean = 3336 grams. Standard deviation = 617 grams.

Table 50: Low birthweight and very low birthweight by Aboriginality of mother for births in Western Australia, 1990-2004

Year of Birth	Aboriginality of Mother							
	Aboriginal				Non-Aboriginal			
	Low birthweight ¹		Very low birthweight ²		Low birthweight ¹		Very low birthweight ²	
	No.	%	No.	%	No.	%	No.	%
1990	177	11.4	34	2.2	1457	6.0	280	1.1
1991	220	14.8	48	3.2	1405	6.0	311	1.3
1992	169	11.8	33	2.3	1481	6.2	309	1.3
1993	191	13.1	62	4.3	1456	6.1	281	1.2
1994	206	14.2	47	3.2	1441	6.0	348	1.5
1995	177	12.1	41	2.8	1496	6.2	322	1.3
1996	198	13.7	39	2.7	1542	6.4	349	1.4
1997	217	13.7	45	2.8	1467	6.2	328	1.4
1998	192	12.6	44	2.9	1538	6.4	320	1.3
1999	231	14.2	62	3.8	1488	6.2	314	1.3
2000	232	14.4	62	3.8	1521	6.4	337	1.4
2001	258	15.7	59	3.6	1495	6.4	322	1.4
2002	238	14.2	55	3.3	1432	6.2	298	1.3
2003	234	15.1	57	3.7	1477	6.4	286	1.2
2004	234	14.9	53	3.4	1586	6.6	358	1.5

¹ Low birthweight - less than 2500 grams.

² Very low birthweight - less than 1500 grams.

Table 51: Birthweight distribution and condition at birth for total births in Western Australia, 2004

Birthweight (grams)	Condition at Birth				TOTAL	
	Livebirth		Fetal Death		No.	%
	No.	%	No.	%		
< 500	17	0.1	87	46.3	104	0.4
500-999	105	0.4	32	17.0	137	0.5
1000-1499	157	0.6	13	6.9	170	0.7
1500-1999	352	1.4	12	6.4	364	1.4
2000-2499	1038	4.1	7	3.7	1045	4.1
< 2500	1669	6.6	151	80.3	1820	7.1
2500-2999	3924	15.5	14	7.4	3938	15.4
3000-3499	9249	36.5	14	7.4	9263	36.3
3500-3999	7718	30.5	7	3.7	7725	30.3
4000-4499	2410	9.5	1	0.5	2411	9.4
≥ 4500	370	1.5	1	0.5	371	1.5
TOTAL	25340	100.0	188	100.0	25528	100.0

Table 52: Birthweight distribution and condition at birth for singleton births in Western Australia, 2004

Birthweight (grams)	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	%
	No.	%	No.	%		
< 500	9	0.0	72	41.9	81	0.3
500-999	78	0.3	31	18.0	109	0.4
1000-1499	116	0.5	13	7.6	129	0.5
1500-1999	244	1.0	12	7.0	256	1.0
2000-2499	802	3.3	7	4.1	809	3.3
< 2500	1249	5.1	135	78.5	1384	5.6
2500-2999	3645	14.9	14	8.1	3659	14.8
3000-3499	9147	37.3	14	8.1	9161	37.1
3500-3999	7709	31.4	7	4.1	7716	31.2
4000-4499	2410	9.8	1	0.6	2411	9.8
≥ 4500	370	1.5	1	0.6	371	1.5
TOTAL	24530	100.0	172	100.0	24702	100.0

Table 53: Birthweight distribution and condition at birth for multiple births in Western Australia, 2004

Birthweight (grams)	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	%
	No.	%	No.	%		
< 500	8	1.0	15	93.8	23	2.8
500-999	27	3.3	1	6.3	28	3.4
1000-1499	41	5.1	-	-	41	5.0
1500-1999	108	13.3	-	-	108	13.1
2000-2499	236	29.1	-	-	236	28.6
< 2500	420	51.9	16	100.0	436	52.8
2500-2999	279	34.4	-	-	279	33.8
3000-3499	102	12.6	-	-	102	12.3
3500-3999	9	1.1	-	-	9	1.1
4000-4499	-	-	-	-	0	0.0
≥ 4500	-	-	-	-	0	0.0
TOTAL	810	100.0	16	100.0	826	100.0

Table 54: Birthweight distribution and gestation for total births in Western Australia, 2004

Birthweight (grams)	Gestation (weeks)								TOTAL	
	20-27		28-32		33-36		37-42		No.	%
	No.	%	No.	%	No.	%	No.	%		
< 500	97	43.1	3	0.9	1	0.1	3	0.0	104	0.4
500-999	109	48.4	26	7.7	1	0.1	1	0.0	137	0.5
1000-1499	19	8.4	134	39.5	12	0.7	5	0.0	170	0.7
1500-1999	-	-	141	41.6	198	11.8	25	0.1	364	1.4
2000-2499	-	-	30	8.8	565	33.7	450	1.9	1045	4.1
< 2500	225	100.0	334	98.5	777	46.4	484	2.1	1820	7.1
2500-2999	-	-	3	0.9	608	36.3	3327	14.3	3938	15.4
3000-3499	-	-	2	0.6	225	13.4	9036	38.8	9263	36.3
3500-3999	-	-	-	-	52	3.1	7673	32.9	7725	30.3
4000-4499	-	-	-	-	10	0.6	2401	10.3	2411	9.4
≥ 4500	-	-	-	-	3	0.2	368	1.6	371	1.5
TOTAL	225	100.0	339	100.0	1675	100.0	23289	100.0	25528	100.0

Table 55: Birthweight distribution and gestation for singleton births in Western Australia, 2004

Birthweight (grams)	Gestation (weeks)								TOTAL	
	20-27		28-32		33-36		37-42		No.	%
	No.	%	No.	%	No.	%	No.	%		
< 500	79	43.6	1	0.4	-	-	1.00	-	81	
500-999	85	47.0	23	9.1	1	0.1	-	-	109	0.4
1000-1499	17	9.4	99	39.3	8	0.6	5	0.0	129	0.5
1500-1999	-	-	98	38.9	136	10.3	22	0.1	256	1.0
2000-2499	-	-	26	10.3	409	30.9	374	1.6	809	3.3
< 2500	181	100.0	247	98.0	554	41.9	402	1.8	1384	5.6
2500-2999	-	-	3	1.2	497	37.6	3159	13.8	3659	14.8
3000-3499	-	-	2	0.8	209	15.8	8950	39.0	9161	37.1
3500-3999	-	-	-	-	49	3.7	7667	33.4	7716	31.2
4000-4499	-	-	-	-	10	0.8	2401	10.5	2411	9.8
≥ 4500	-	-	-	-	3	0.2	368	1.6	371	1.5
TOTAL	181	100.0	252	100.0	1322	100.0	22947	100.0	24702	100.0

Table 56: Birthweight distribution and gestation for multiple births in Western Australia, 2004

Birthweight (grams)	Gestation (weeks)								TOTAL	
	20-27		28-32		33-36		37-42		No.	%
	No.	%	No.	%	No.	%	No.	%		
< 500	18	40.9	2	2.3	1	0.3	2	-	23	2.8
500-999	24	54.5	3	3.4	-	-	1	-	28	3.4
1000-1499	2	4.5	35	40.2	4	1.1	-	-	41	5.0
1500-1999	-	-	43	49.4	62	17.6	3	0.9	108	13.1
2000-2499	-	-	4	4.6	156	44.2	76	22.2	236	28.6
< 2500	44	100.0	87	100.0	223	63.2	82	24.0	436	52.8
2500-2999	-	-	-	-	111	31.4	168	49.1	279	33.8
3000-3499	-	-	-	-	16	4.5	86	25.1	102	12.3
3500-3999	-	-	-	-	3	0.8	6	1.8	9	1.1
4000-4499	-	-	-	-	-	-	-	-	0	0.0
≥ 4500	-	-	-	-	-	-	-	-	0	0.0
TOTAL	44	100.0	87	100.0	353	100.0	342	100.0	826	100.0

Table 57: Condition at birth and place of birth for births for pre-term births (23-31 weeks gestation) in Western Australia, 2004

Place of Birth	Livebirths						Stillbirths		All	
	23-25 weeks		26-28 weeks		29-31 weeks		23-31 weeks		23-31 weeks	
	No.	%	No.	%	No.	%	No.	%	No.	%
Public										
Teaching	53	94.6	77	95.1	153	91.1	36	70.6	319	89.6
Department	-	-	1	1.2	5	-	4	3.9	10	2.8
Country	1	1.8	2	2.5	5	3.0	2	7.8	10	2.8
Private										
Private	2	3.6	1	-	5	3.0	9	17.6	17	4.8
TOTAL	56	100.0	81	98.8	168	97.0	51	100.0	356	100.0

Excludes 1 liveborn and 2 stillborn babies born before arrival at hospital

Table 58: Condition at birth and place of birth for births for pre-term births (23-31 weeks gestation) in Western Australia, 1990-2004

Year of Birth	Teaching				Other				Total			
	Livebirths		Stillbirths		Livebirths		Stillbirths		Livebirths		Stillbirths	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1990	206	72.3	41	14.4	19	6.7	19	6.7	225	78.9	60	21.1
1991	220	72.1	34	11.1	23	7.5	28	9.2	243	79.7	62	20.3
1992	231	77.5	32	10.7	21	7.0	14	4.7	252	84.6	46	15.4
1993	200	69.9	40	14.0	22	7.7	24	8.4	222	77.6	64	22.4
1994	244	74.4	32	9.8	22	6.7	30	9.1	266	81.1	62	18.9
1995	225	75.0	37	12.3	20	6.7	18	6.0	245	81.7	55	18.3
1996	226	71.7	45	14.3	22	7.0	22	7.0	248	78.7	67	21.3
1997	265	78.4	35	10.4	22	6.5	16	4.7	287	84.9	51	15.1
1998	264	78.1	37	10.9	16	4.7	21	6.2	280	82.8	58	17.2
1999	246	79.4	34	11.0	18	5.8	12	3.9	264	85.2	46	14.8
2000	268	76.6	44	12.6	27	7.7	11	3.1	295	84.3	55	15.7
2001	261	77.2	35	10.4	24	7.1	18	5.3	285	84.3	53	15.7
2002	219	73.7	40	13.5	25	8.4	13	4.4	244	82.2	53	17.8
2003	230	76.4	30	10.0	23	7.6	18	6.0	253	84.1	48	15.9
2004	283	78.8	36	10.0	23	6.4	17	4.7	306	85.2	53	14.8

Includes babies born before arrival at hospital and homebirths

Table 59: Births identified with birth defects in Western Australia, 2000-2004

Diagnostic Category (and British Paediatric Association Code)	Year of Birth									
	2000		2001		2002		2003		2004	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
Nervous System Defects (74000-74299)	121	4.8	113	4.5	107	4.3	76	3.1	82	3.2
Cardiovascular Defects (74500-74799)	341	13.5	319	12.8	314	12.7	274	11.1	266	10.4
Respiratory System Defects (74800-74899)	34	1.3	38	1.5	31	1.3	28	1.1	27	1.1
Gastro-Intestinal Defects (74900-75199)	159	6.3	145	5.8	145	5.9	157	6.3	123	4.8
Uro-Genital Defects (75200-75399)	487	19.3	442	17.7	349	14.1	284	11.5	228	8.9
Musculo-Skeletal Defects (75400-75699)	468	18.6	392	15.7	375	15.1	322	13.0	301	11.8
Chromosome Defects (75800-75899)	159	6.3	121	4.9	116	4.7	118	4.8	143	5.6

¹ Rate per 1000 births

SOURCE: Western Australian Birth Defects Registry.

Table 60: Length of stay in special care and plurality for livebirths in Western Australia, 2004

Length of Stay ¹ (days)	Plurality				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
1	406	23.1	33	11.0	439	21.4
2	273	15.6	15	5.0	288	14.0
3	186	10.6	14	4.7	200	9.7
4	107	6.1	19	6.3	126	6.1
5	73	4.2	11	3.7	84	4.1
6	84	4.8	12	4.0	96	4.7
7	68	3.9	15	5.0	83	4.0
8-14	207	11.8	51	17.0	258	12.6
15-20	92	5.2	42	14.0	134	6.5
21-28	64	3.6	22	7.3	86	4.2
29-60	117	6.7	48	16.0	165	8.0
61-90	43	2.5	4	1.3	47	2.3
91-180	33	1.9	14	4.7	47	2.3
> 180	1	0.1	-	-	1	0.0
TOTAL	1754	100.0	300	100.0	2054	100.0

¹ Excludes births with less than 24 hours stay in Special Care Nurseries.

Table 61: Length of stay in hospital of birth and birthweight distribution of livebirths in Western Australia, 2004

Birthweight (grams)	Length of Stay (days)						TOTAL
	≤ 1	2-7	8-14	15-20	21-28	> 28	
Number							
< 500	12	1	-	-	1	3	17
500-999	15	3	1	5	1	80	105
1000-1499	14	12	10	9	13	99	157
1500-1999	30	55	83	69	45	70	352
2000-2499	64	602	242	85	28	17	1038
< 2500	135	673	336	168	88	269	1669
2500-2999	376	3130	363	34	12	9	3924
3000-3499	1000	7811	397	14	7	20	9249
3500-3999	881	6552	269	6	2	8	7718
4000-4499	283	2029	88	3	2	5	2410
≥ 4500	41	311	17	1	-	-	370
TOTAL	2716	20506	1470	226	111	311	25340
Percentage							
< 500	0.4	0.0	-	-	-	1.0	0.1
500-999	0.6	0.0	0.1	-	0.9	25.7	0.4
1000-1499	0.5	0.1	0.7	4.0	11.7	31.8	0.6
1500-1999	1.1	0.3	5.6	30.5	40.5	22.5	1.4
2000-2499	2.4	2.9	16.5	37.6	25.2	5.5	4.1
< 2500	5.0	3.3	22.9	74.3	79.3	86.5	6.6
2500-2999	13.8	15.3	24.7	15.0	10.8	2.9	15.5
3000-3499	36.8	38.1	27.0	6.2	6.3	6.4	36.5
3500-3999	32.4	32.0	18.3	2.7	1.8	2.6	30.5
4000-4499	10.4	9.9	6.0	1.3	-	1.6	9.5
≥ 4500	1.5	1.5	1.2	0.4	-	-	1.5
TOTAL	100.0	100.0	100.0	100.0	98.2	100.0	100.0

Includes homebirths in midwife's care.

Table 62: Length of stay in hospital of birth and birthweight distribution of surviving livebirths in Western Australia, 2004

Birthweight (grams)	Length of Stay (days)						TOTAL
	≤ 1	2-7	8-14	15-20	21-28	> 28	
Number							
< 500	2	-	-	-	-	2	4
500-999	-	1	-	-	-	48	49
1000-1499	3	2	1	2	3	62	73
1500-1999	2	23	35	38	27	54	179
2000-2499	25	519	201	75	27	15	862
< 2500	32	545	237	115	57	181	1167
2500-2999	307	3048	345	32	11	7	3750
3000-3499	900	7741	388	14	7	20	9070
3500-3999	810	6498	264	6	2	7	7587
4000-4499	256	2007	86	3	2	5	2359
≥ 4500	36	304	17	1	-	-	358
TOTAL	2341	20143	1337	171	79	220	24291
Percentage							
< 500	0.1	-	-	-	-	0.9	0.0
500-999	-	0.0	-	-	-	21.8	0.2
1000-1499	0.1	0.0	0.1	1.2	3.8	28.2	0.3
1500-1999	0.1	0.1	2.6	22.2	34.2	24.5	0.7
2000-2499	1.1	2.6	15.0	43.9	34.2	6.8	3.5
< 2500	1.4	2.7	17.7	67.3	72.2	82.3	4.8
2500-2999	13.1	15.1	25.8	18.7	13.9	3.2	15.4
3000-3499	38.4	38.4	29.0	8.2	8.9	9.1	37.3
3500-3999	34.6	32.3	19.7	3.5	2.5	3.2	31.2
4000-4499	10.9	10.0	6.4	1.8	2.5	2.3	9.7
≥ 4500	1.5	1.5	1.3	0.6	-	-	1.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Includes homebirths in midwife's care.

Excludes 995 inter-hospital transfers and 54 deaths in hospital of birth.

Table 63: Length of stay in hospital of birth and gestational age of livebirths in Western Australia, 2004

Gestation (weeks)	Length of Stay (days)						TOTAL
	≤ 1	2-7	8-14	15-20	21-28	> 28	
Number							
20-27	28	4	2	5	1	77	117
28-32	23	22	28	36	34	167	310
33-36	87	873	457	155	62	29	1663
37-42	2578	19607	983	30	14	38	23250
TOTAL	2716	20506	1470	226	111	311	25340
Percentage							
20-27	1.0	0.0	0.1	2.2	0.9	24.8	0.5
28-32	0.8	0.1	1.9	15.9	30.6	53.7	1.2
33-36	3.2	4.3	31.1	68.6	55.9	9.3	6.6
37-42	94.9	95.6	66.9	13.3	12.6	12.2	91.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Includes homebirths in midwife's care.

Table 64: Length of stay in hospital of birth and gestational age of surviving livebirths in Western Australia, 2004

Gestation (weeks)	Length of Stay (days)						TOTAL
	≤ 1	2-7	8-14	15-20	21-28	> 28	
Number							
20-27	2	-	-	-	-	52	54
28-32	2	2	1	7	10	107	129
33-36	18	729	372	135	55	26	1335
37-42	2319	19412	964	29	14	35	22773
TOTAL	2341	20143	1337	171	79	220	24291
Percentage							
20-27	0.1	-	-	-	-	23.6	0.2
28-32	0.1	0.0	0.1	4.1	12.7	48.6	0.5
33-36	0.8	3.6	27.8	78.9	69.6	11.8	5.5
37-42	99.1	96.4	72.1	17.0	17.7	15.9	93.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Includes homebirths in midwife's care.

Excludes 995 inter-hospital transfers and 54 deaths in hospital of birth.

Perinatal Mortality

Table 65: Perinatal mortality in Western Australia using birthweight criteria, 2004

Birthweight	Fetal death rate	Neonatal death rate	Perinatal death rate
≥ 400 grams	5.1	2.2	7.3
≥ 500 grams	4.0	1.9	5.8

Fetal death rate: the number of fetal deaths per 1000 total births.

Neonatal death rate: the number of neonatal deaths per 1000 livebirths.

Perinatal death rate: the number of fetal and neonatal deaths per 1000 total births.

Table 66: Perinatal mortality in Western Australia using gestational age criteria, 2004

Gestation	Fetal death rate	Neonatal death rate	Perinatal death rate
≥ 20 weeks	7.4	2.4	9.8
≥ 22 weeks	5.3	2.1	7.4

Fetal death rate: the number of fetal deaths per 1000 total births.

Neonatal death rate: the number of neonatal deaths per 1000 livebirths.

Perinatal death rate: the number of fetal and neonatal deaths per 1000 total births.

Table 67: Fetal, neonatal and perinatal mortality rates by Aboriginality of mother in Western Australia, 2004

Type of Death	Aboriginality of Mother		TOTAL
	Aboriginal	Non-Aboriginal	
Fetal death rate	10.8	7.1	7.4
Neonatal death rate	5.1	2.2	2.4
Perinatal death rate	15.9	9.4	9.8

Fetal death rate: the number of fetal deaths per 1000 total births.

Neonatal death rate: the number of neonatal deaths per 1000 livebirths.

Perinatal death rate: the number of fetal and neonatal deaths per 1000 total births.

Table 68: Fetal mortality by Aboriginality of mother in Western Australia, 1990-2004

Year of Birth	Aboriginality of Mother		Total Rate
	Aboriginal	Non-Aboriginal	
	Rate	Rate	
1990	11.5	6.5	6.8
1991	14.8	7.3	7.7
1992	15.3	6.0	6.6
1993	13.7	6.5	6.9
1994	16.5	6.8	7.5
1995	13.0	7.4	7.7
1996	14.5	7.4	7.8
1997	20.9	5.8	6.7
1998	9.9	6.2	6.4
1999	13.5	6.5	6.9
2000	16.7	7.6	8.2
2001	10.9	6.4	6.7
2002	16.1	6.4	7.1
2003	16.2	6.9	7.5
2004	10.8	7.1	7.4

Fetal death rate: the number of fetal deaths per 1000 total births.

Table 69: Neonatal mortality by Aboriginality of mother in Western Australia, 1990-2004

Year of Birth	Aboriginality of Mother		Total Rate
	Aboriginal	Non-Aboriginal	
	Rate	Rate	
1990	9.1	3.7	4.1
1991	6.1	3.1	3.3
1992	12.0	4.0	4.5
1993	7.0	2.9	3.1
1994	7.7	3.5	3.8
1995	9.0	2.6	3.0
1996	7.0	3.6	3.8
1997	4.5	2.5	2.6
1998	11.3	2.2	2.7
1999	12.5	2.3	2.9
2000	7.6	2.3	2.6
2001	6.8	2.7	2.9
2002	9.1	1.7	2.2
2003	7.9	1.8	2.2
2004	5.1	2.2	2.4

Neonatal death rate: the number of neonatal deaths per 1000 livebirths.

Table 70: Perinatal mortality by Aboriginality of mother in Western Australia, 1990-2004

Year of Birth	Aboriginality of Mother		Total Rate
	Aboriginal Rate	Non-Aboriginal Rate	
1990	20.5	10.2	10.8
1991	20.9	10.4	11.0
1992	27.2	10.0	11.0
1993	20.6	9.4	10.0
1994	24.1	10.3	11.1
1995	21.8	10.0	10.7
1996	21.5	10.9	11.5
1997	25.3	8.3	9.3
1998	21.1	8.4	9.1
1999	25.8	8.8	9.9
2000	24.1	9.8	10.7
2001	17.6	9.0	9.6
2002	25.1	8.0	9.2
2003	23.9	8.6	9.6
2004	15.9	9.4	9.8

Perinatal death rate: the number of fetal and neonatal deaths per 1000 total births.

Table 71: Birthweight distribution of fetal, neonatal and perinatal deaths in Western Australia, 2004

Birthweight	Fetal deaths		Neonatal deaths		Perinatal deaths	
	No.	%	No.	%	No.	%
< 500	87	46.3	14	23.0	101	40.6
500-999	32	17.0	20	32.8	52	20.9
1000-1499	13	6.9	2	3.3	15	6.0
1500-1999	12	6.4	5	8.2	17	6.8
2000-2499	7	3.7	5	8.2	12	4.8
< 2500	151	80.3	46	75.4	197	79.1
2500-2999	14	7.4	3	4.9	17	6.8
3000-3499	14	7.4	8	13.1	22	8.8
3500-3999	7	3.7	2	3.3	9	3.6
4000-4499	1	0.5	1	1.6	2	0.8
≥ 4500	1	0.5	1	1.6	2	0.8
TOTAL	188	100.0	61	100.0	249	100.0

Table 72: Plurality of fetal, neonatal and perinatal deaths in Western Australia, 2004

Plurality	Fetal deaths		Neonatal deaths		Perinatal deaths	
	No.	Rate	No.	Rate	No.	Rate
Singleton	172	7.0	47	1.9	219	8.6
Multiple	16	19.4	14	17.3	30	36.3
TOTAL	188	7.4	61	2.4	249	9.8

Fetal death rate, singletons: the number of singleton fetal deaths per 1000 singleton births.

Neonatal death rate, singletons: the number of singleton neonatal deaths per 1000 singleton livebirths.

Perinatal death rate, singletons: the number of singleton fetal and neonatal deaths per 1000 singleton births.

Fetal death rate, multiples: the number of multiple fetal deaths per 1000 multiple births.

Neonatal death rate, multiples: the number of multiple neonatal deaths per 1000 multiple livebirths.

Perinatal death rate, multiples: the number of multiple fetal and neonatal deaths per 1000 multiple births.

Table 73: Age at death for neonatal deaths in Western Australia, 2004

Age at Neonatal death	No.	% of neonatal deaths
< Day 1	34	55.7
Day 1	10	16.4
Day 2	4	6.6
Day 3	2	3.3
Day 4	1	1.6
Day 5	1	1.6
Day 6	-	-
Day 7	1	1.6
Day 8-14	3	4.9
Day 15-21	4	6.6
Day 22-28	1	1.6
TOTAL	61	100.0

Table 74: Causes of fetal and neonatal deaths in Western Australia, 2004

Causes of Death	Fetal deaths		Neonatal deaths	
	No.	%	No.	%
Lethal birth defects	43	22.9	14	23.0
Extremely low birthweight (< 1000 grams) ¹	74	39.4	35	57.4
Low birthweight (1000-2499 grams) ²	22	11.7	2	3.3
Asphyxia	-	-	6	9.8
Maternal - Obstetric	-	-	-	-
- Medical	-	-	-	-
- Hypertension	-	-	-	-
Placenta and cord	16	8.5	-	-
Hydrops fetalis	-	-	-	-
Infection	-	-	-	-
Sudden Infant Death Syndrome	-	-	1	1.6
Other	-	-	-	-
Unknown	33	17.6	3	4.9
TOTAL	188	100.0	61	100.0

¹ Any non-malformed perinatal death of birthweight less than 1000 grams was included in the extremely low birthweight category.

² Any non-malformed perinatal death of birthweight greater than or equal to 1000 grams and less than 2500 grams was included in the low birthweight category.

Table 75: Autopsy requests for fetal, neonatal and perinatal deaths in Western Australia, 2004

Autopsy Request	Fetal deaths		Neonatal deaths		Perinatal deaths	
	No.	%	No.	%	No.	%
Yes	124	66.0	19	31.1	143	57.4
No	42	22.3	17	27.9	59	23.7
Unknown	22	11.7	25	41.0	47	18.9
TOTAL	188	100.0	61	100.0	249	100.0

APPENDIX C - ASSOCIATED RECENT REPORTS

Available on <http://www.health.wa.gov.au/publications/>

1. Perinatal, Infant and Maternal Mortality in WA - A Triennial Cohort of 1999-2001 births (December 2005).
2. Induced Abortion in Western Australia 1990-2004: Report of The WA Abortion Notification System (July 2005).
3. The 11th Report of the Perinatal and Infant Mortality Committee of Western Australia 2000-01 (July 2005).
4. Perinatal Statistics in Western Australia, 2003. Twenty-first Annual Report of the Western Australian Midwives' Notification System (September 2004).

