

**Perinatal Statistics in Western Australia, 2000**  
**Eighteenth Annual Report of the**  
**Western Australian Midwives' Notification System**

July 2002



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Maternal and Child Health Studies Unit  
Health Statistics  
Health Information Centre  
Department of Health, Western Australia

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## 1. SUMMARY

The Midwives' Notification System compiles information on all births in Western Australia. Information on women resident in this State confined outside Western Australia during 2000 is not included in this report. This report presents an overview of data on births in 2000 in terms of maternal demography, procedures and infant outcomes. It also describes trends over the fifteen year period from 1986 to 2000.

### Maternal demographic information

- In 2000, 24,818 women gave birth in Western Australia.
- Teenage mothers represented 6.0% (n=1,479) and mothers aged 35 years or more 16.0% (n=3,972) of women confined. While the proportion of teenage mothers has remained stable the group of older mothers has increased significantly over the previous 15 years.
- Aboriginal mothers represented 6.4% (n=1,598) of women confined and have birth rates on average twice as high as non-Aboriginal women.
- The country of birth was recorded as Australia for 73.3% of women confined.
- The majority of women gave birth in hospital. In 2000, 99.2% of mothers delivered in hospital and 122 (0.5%) women were confined at home as planned.
- The metropolitan area was reported to be the usual place of residence for 72.6% of women although 76.7% of confinements occurred in metropolitan hospitals. This indicates the movement of women from the country to deliver in the metropolitan area. Women from country regions close to the metropolitan area were more likely to travel to Perth metropolitan area for delivery than women in distant country regions.

### Pregnancy profile

- Singleton pregnancies represented 98.4% of the total 24,818 women who gave birth in 2000. The 399 (1.6%) women with a multiple pregnancy gave birth to 810 twin or triplet babies. One pregnancy in every 62 was a multiple pregnancy. There were no quadruplet or quintuplet pregnancies recorded in 2000. There has been minimal difference in these proportions over the previous fifteen year period.
- First time mothers represented 41.2% of women confined and trend data indicates that there has been no significant increase in this proportion over the previous fifteen year period.  
Among women aged 35 years or more 938 (23.6%) gave birth for the first time.
- The Age Specific Birth Rate of women aged 15-19 years decreased over the past fifteen years from 24.9 births per 1000 women in 1986 to 21.7 births per 1000 women in 2000. The birth rate for women aged 35-44 years increased from 16.9 births per 1000 women in 1986 to 27.5 births per 1000 women in 2000.
- Complications of pregnancy were recorded for 39.2% of women. The more common complications were threatened abortion in early pregnancy (5.8%), urinary tract infection (4.3%) and pre-eclampsia (5.8%).
- A significant proportion of pregnant women have pre-existing medical conditions. In 2000, the most common of these conditions was asthma, affecting 10.1% of mothers. Psychological disorder was recorded for 4.1%, genital herpes for 1.9%, thyroid disorders for 1.1% and cervical dysplasia for 1.0% of mothers.

## Labour and delivery

- Labour was spontaneous in onset for 55.4% of women and induced for 29.3%. A further 15.3% of mothers had babies delivered by caesarean section and did not experience labour. Trend data indicates that, in accord with the increased rate of elective caesarean section, there was a significant increase over the fifteen year period in the proportion of women who did not experience labour.
- The rate of caesarean section in 2000 was 25.3%. This figure has risen from 15.6% in 1986, and represents one of the most striking features of modern obstetrics. Of the women recorded as having had a previous caesarean section 80.1% (n=2461) were again delivered by caesarean section.
- Among women who established labour spontaneously, only 25.7% proceeded through labour without augmentation and achieved a spontaneous vaginal delivery, although twice this proportion (55.9%) had a spontaneous onset of labour. Thus, a quarter of births occurred without intervention to the processes of labour or delivery.
- The increased use of epidural analgesia and anaesthesia is another feature of modern obstetrics. In 2000, 50.3% (n=12,478) of mothers received an epidural at some stage during labour and delivery. Among women delivering by elective caesarean section, 93.4% had an epidural and/or spinal anaesthetic and this statistic has almost doubled over the previous fifteen year period. The number of women receiving a general anaesthetic during delivery was 576 (2.3%). It should be noted that some hospitals conducting booked deliveries do not offer an epidural service.

## Baby characteristics

- In 2000, 25,229 babies were born in Western Australia.
- The crude birth rate steadily declined from 16.2 per 1000 in 1986 to 13.3 per 1000 in 2000.
- Birthweight is one of the most important factors affecting the survival of a baby. In 2000, two thirds of babies (66.4%) weighed 3000-3999g at birth, and the average birthweight was 3338 grams. The percentage of low birthweight (<2500g) babies was 6.9%, and this proportion has remained static over the previous fifteen year period.
- Indigenous status and low birthweight influence birth outcome. Babies of Aboriginal mothers do not fare as well as babies of non-Aboriginal women. In 2000 the percentage of low birthweight babies to mothers identified as Aboriginal (14.4%) was more than twice that of babies born to non-Aboriginal women (6.4%).
- Perinatal mortality among the babies born in 2000 indicated that there were 206 fetal deaths and 65 neonatal deaths, providing a perinatal mortality rate of 10.7 perinatal deaths per 1000 total births. The perinatal mortality rate has declined significantly over the previous fifteen year period, from 13.6 per 1000 in 1986.
- Mortality rates for babies of Aboriginal mothers were more than double those for babies of non-Aboriginal women. The perinatal mortality rate in 2000 for babies of Aboriginal mothers was 24.1 per 1000 compared with a rate of 9.8 per 1000 for babies of non-Aboriginal women. There has been a slight reduction in the perinatal mortality rate for babies of Aboriginal women over the previous fifteen years from 27.2 per 1000 in 1986 to 24.1 per 1000 in 2000.

## 2. INTRODUCTION

This is the Eighteenth 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.

This report contains information on women and their babies delivered in Western Australia during the 2000 calendar year. Pregnancies which 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 accord with national reporting methods.

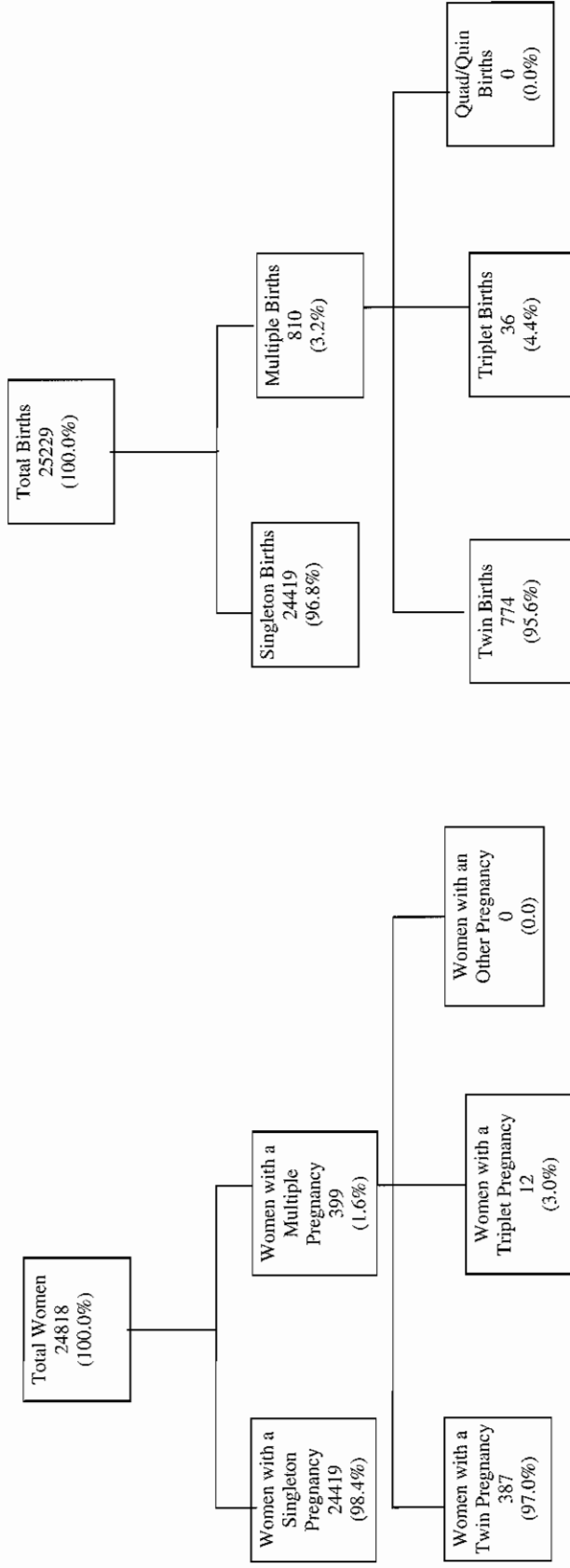
Notification of Case Attended (Midwives') Form 2 are received by the Maternal and Child Health Studies Unit where the information is checked for completeness and, if necessary, followed up for additional details. The information is then transcribed into a coded format, using the World Health Organisation - International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> Revision, Australian Modification<sup>2</sup> (ICD-10-AM) to code morbidity. Once this coding is complete, the data are entered to create the computer database.

To ensure the complete ascertainment of perinatal deaths within Western Australia, information is collated from the Midwives' Notification System, Hospital Morbidity System, Registry of Births Deaths and Marriages and Community and Child Health Services. This is then linked to the birth cohort.

Population estimates based on census data were obtained from the Western Australian Branch of the Bureau of Statistics.

**TREE DIAGRAM 1**

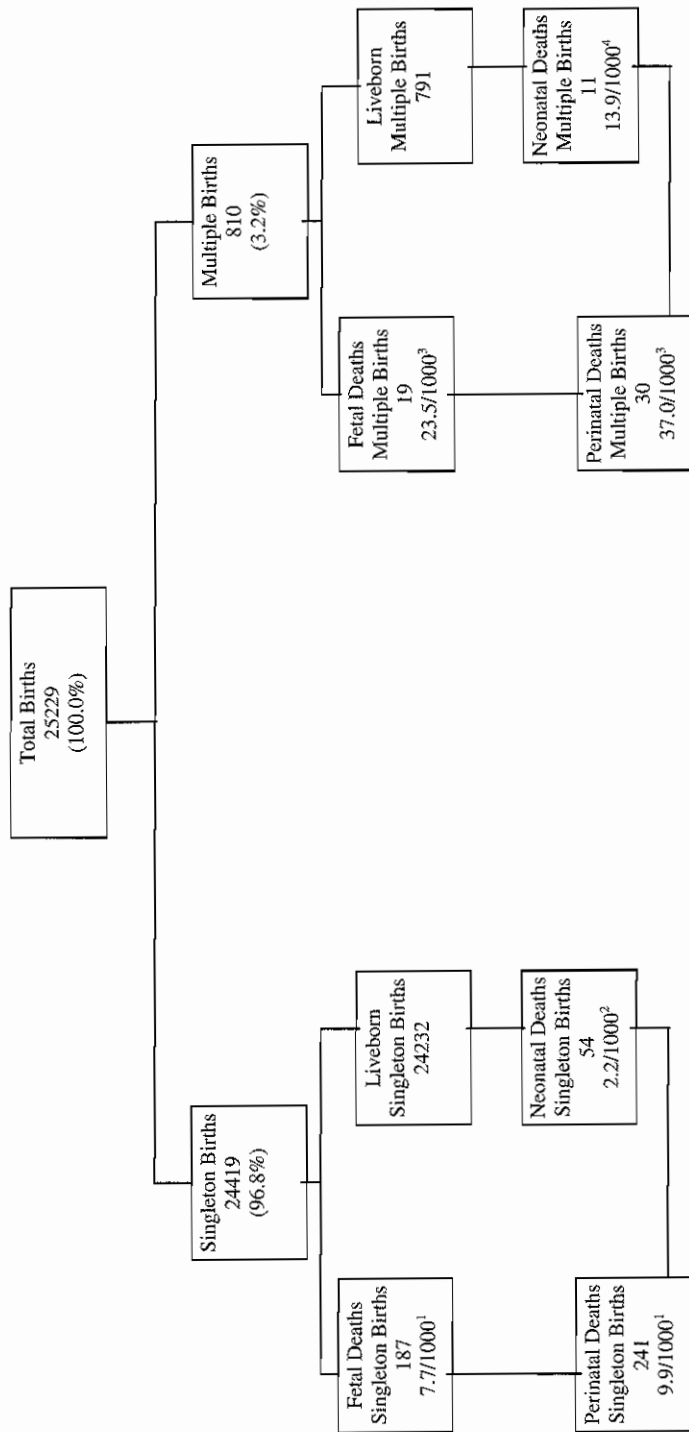
**PREGNANCIES AND BIRTHS IN WESTERN AUSTRALIA, 2000**



**SOURCE: MIDWIVES' NOTIFICATION SYSTEM**

**TREE DIAGRAM 2**

**PLURALITY OF BIRTHS AND PERINATAL DEATHS IN WESTERN AUSTRALIA, 2000**



<sup>1</sup>/1000 total singleton births  
<sup>3</sup>/1000 total multiple births

<sup>2</sup>/1000 singleton livebirths  
<sup>4</sup>/1000 multiple livebirths

**SOURCES: MIDWIVES' NOTIFICATION SYSTEM      HOSPITAL MORBIDITY DATA SYSTEM  
REGISTRAR GENERAL'S OFFICE      COMMUNITY AND CHILD HEALTH SERVICES**

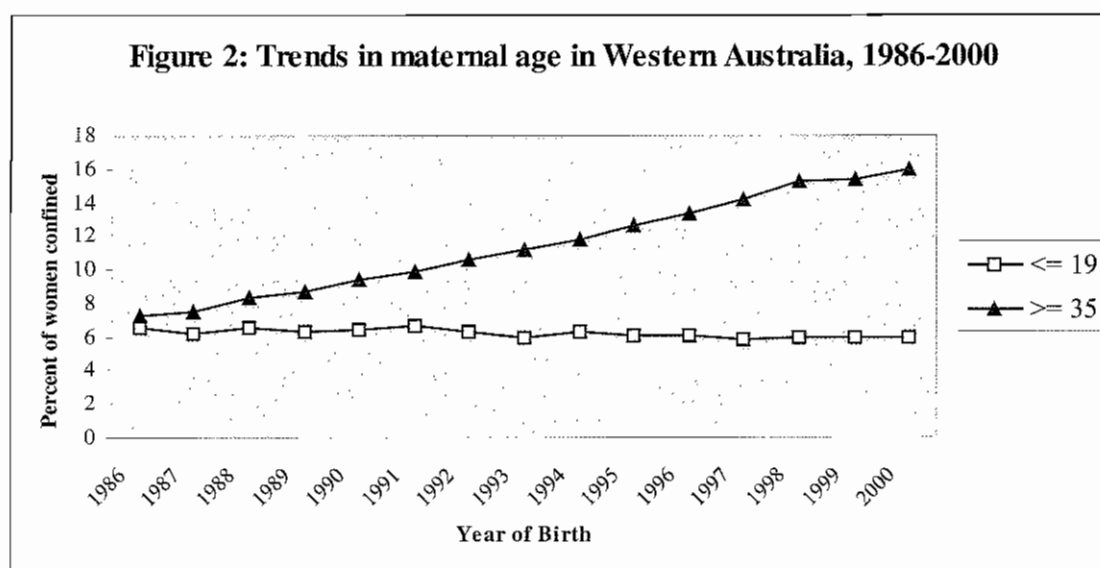
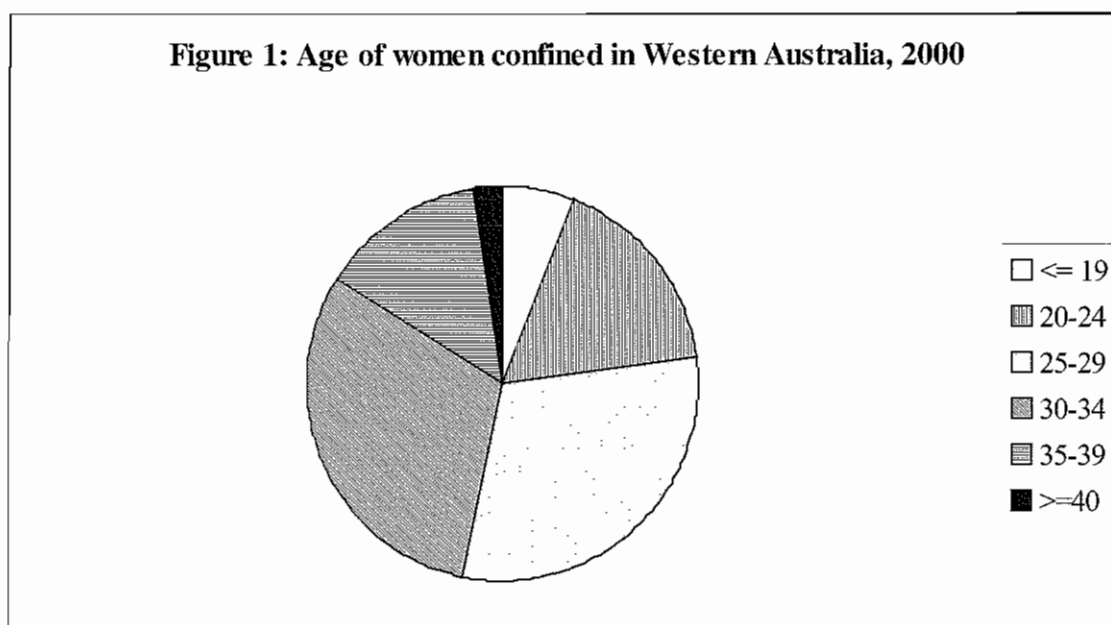


### 3. MATERNAL DEMOGRAPHIC INFORMATION - 2000

#### 3.1 Age

There were 24,818 women confined in Western Australia during 2000. The range of maternal age for these women was 13 to 50 years with a mean age of 28.8 years. Women aged between 20 and 34 years represented 78.0% of all women confined. Young women aged 19 years or less represented 6.0% and the 35 years and older age group represented 16.0% of total women confined. There were 3,972 women in the 35 years and older age group, 938 (23.6%) of whom were experiencing their first confinement (Tables 1 and 12, Figure 1).

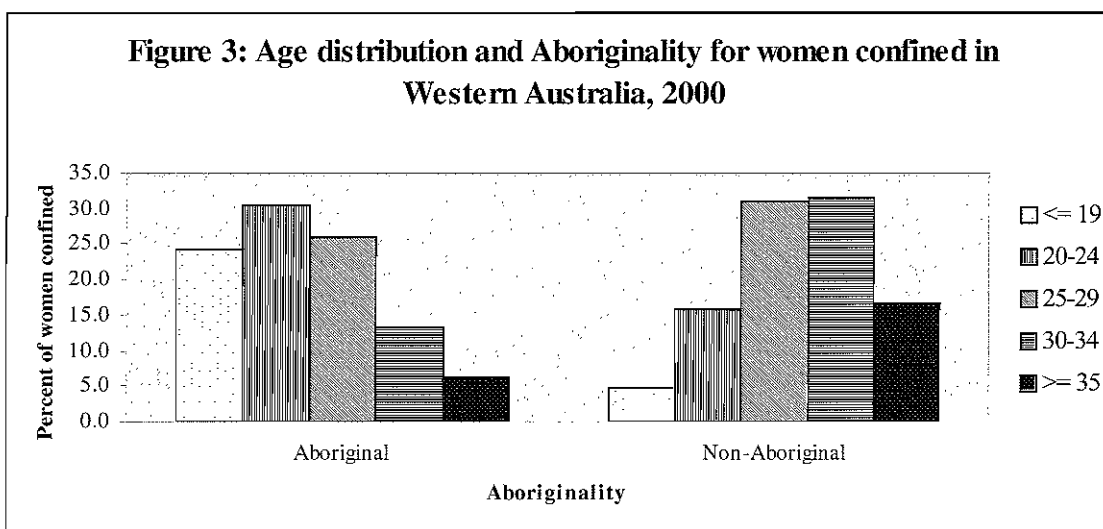
Trend data for maternal age indicated that among teenage women the proportion remained stable while among women 35 years and older there was a steady increase (7.3% in 1986 to 16.0% in 2000) through time (Table 2, Figure 2).



### 3.2 Aboriginality

The recording of Aboriginality of childbearing women identified that the majority (93.6%) of women confined were reported as being non-Aboriginal. The remaining six per cent of women were reported as being Aboriginal.

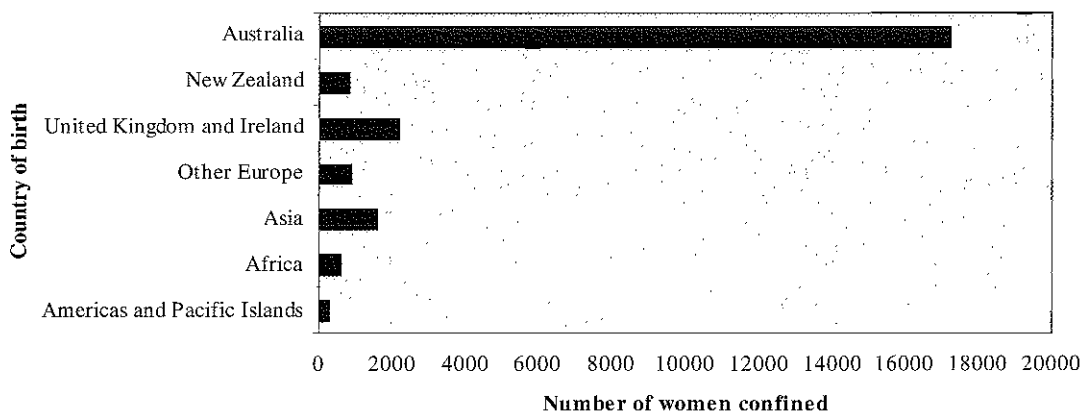
Among women who were reported as being Aboriginal it is usual for childbearing to occur at a younger age as demonstrated by 24.3% of births to teenagers and 6.3% to women 35 years or more. Corresponding data for non-Aboriginal women showed proportions of 4.7% for teenagers and 16.7% for women aged 35 years or more (Table 1, Figure 3).



### 3.3 Country of Birth

The country of birth was recorded for 23,516 women who gave birth in Western Australia during 2000. Women born in Australia represented 73.3%, 9.2% were born in the United Kingdom and Ireland and 3.4% in New Zealand. Of the remainder, 6.7% were born in Asia, 3.7% in other European countries, 2.5% in Africa and 1.2% in the Americas and Pacific Islands (Table 3, Figure 4).

**Figure 4: Country of birth for women confined in Western Australia, 2000**



### 3.4 Conjugal State

The majority of women (90.3%) in Western Australia during 2000 were reported to be in a married or de facto relationship at time of confinement. Almost ten per cent were reported to be socially unsupported, being either single, widowed, separated or divorced. Single women represented the largest unsupported group (8.1%). For women with multiple pregnancy 5.8% were unsupported (Table 4).

### 3.5 Health Zone

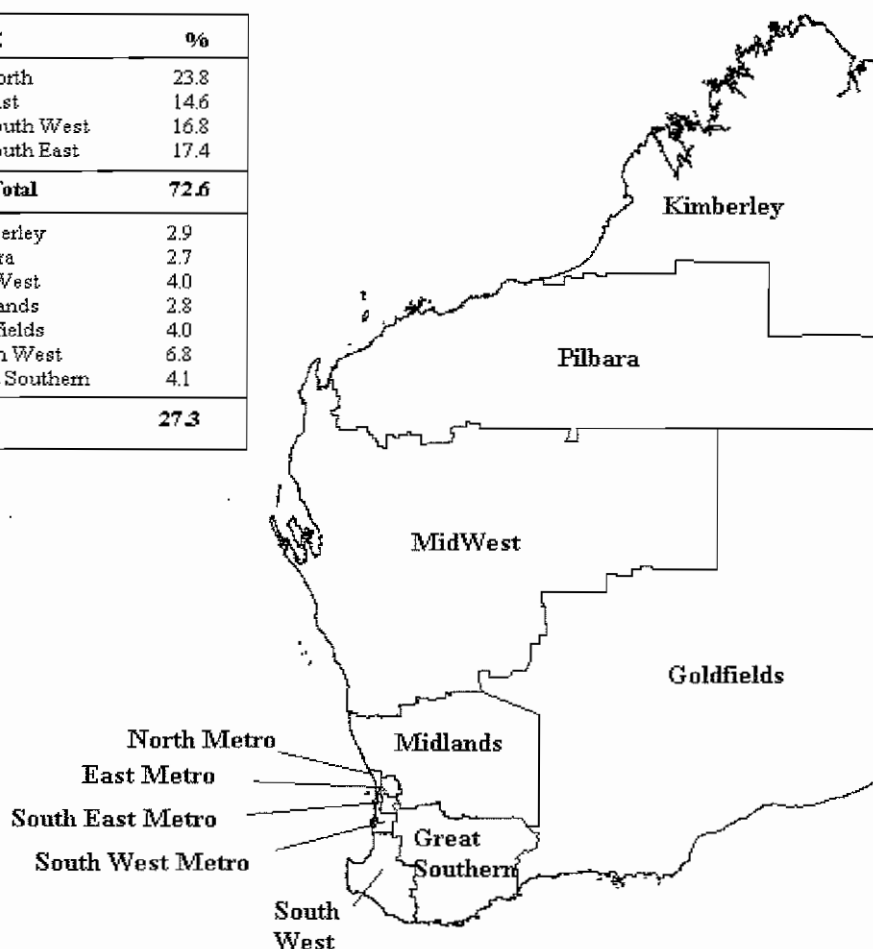
Almost three quarters (72.6%) of women confined in 2000 gave their residential address as being within the four Metropolitan Health Zones. There were 27.3% of women confined whose usual place of residence was within the seven Country Health Zones and 40 women (0.2%) were not residents of Western Australia.

Among Aboriginal women confined, 31.5% were Metropolitan residents and 68.3% were residents of country Health Zones (Table 5, Figure 5).

Information on Western Australian women confined in other States and outside Australia during 2000 is not included in this report.

**Figure 5: Health zone of residence of women confined in Western Australia, 2000**

HEALTH ZONE	%
Metro: North	23.8
East	14.6
South West	16.8
South East	17.4
<b>Metropolitan Total</b>	<b>72.6</b>
Country: Kimberley	2.9
Pilbara	2.7
MidWest	4.0
Midlands	2.8
Goldfields	4.0
South West	6.8
Great Southern	4.1
<b>Country Total</b>	<b>27.3</b>



Excludes those 40 (0.2%) women resident outside Western Australia.

## Metropolitan Health Zones

There were 24,818 women confined in Western Australia during 2000, of whom 19,038 (76.6%) gave birth in hospitals within the metropolitan area. These included 17,779 (93.4%) women resident in the metropolitan area, a further 1,226 (6.4%) women with a country residential address and 33 (0.2%) women resident outside Western Australia.

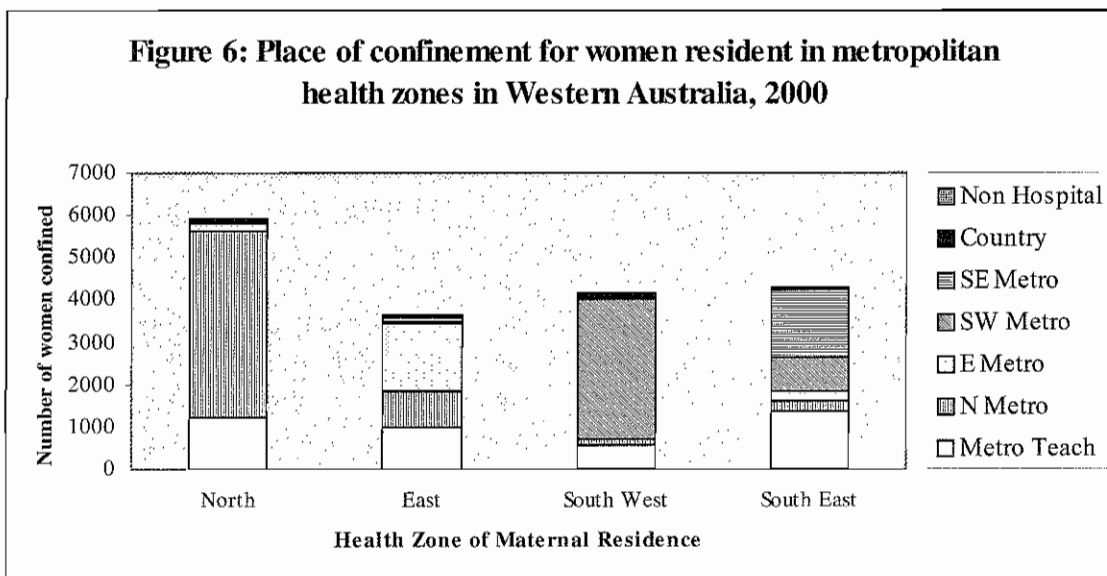
Consideration of the maternal usual place of residence within Health Zone in relation to place of confinement, showed that most women were confined at hospitals within the region of their residence. The referral rate of women to metropolitan teaching hospitals influenced the numbers particularly within the South East Metropolitan Health Zone.

Of women resident in the North Metropolitan Health Zone 74.0% were confined at hospitals within the area and 21.0% were confined at a metropolitan teaching hospital.

Among the women resident in the East Metropolitan Health Zone, 45.2% were confined at hospitals within the Zone and 27.2% at a metropolitan teaching hospital and a further 23.4% in the North Metropolitan Health Zone.

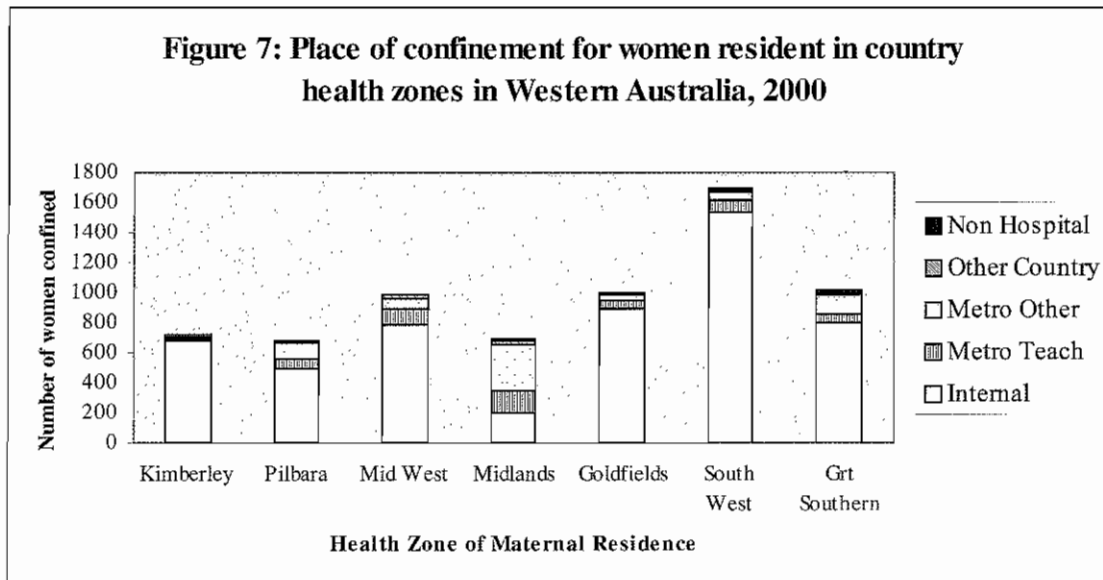
For women residing in the South West Metropolitan Health Zone, 79.2% were confined in hospitals within the area with a further 13.2% confined at a metropolitan teaching hospital.

In the South East Metropolitan Health Zone, less than half (37.3%) of women were confined in the Zone, 31.8% in a metropolitan teaching hospital and a further 19.2% in the South West Metropolitan Health Zone (Tables 6 and 7, Figure 6).



## Country Health Zones

Almost one quarter, 5,579 (22.5%) of women confined in Western Australia during 2000 were confined in country hospitals. There were a further 1,226 women, with a country residential address, confined in metropolitan hospitals. This indicates the movement of women from the country to deliver in the metropolitan area. Women living in country health zones closer to the city are more likely to travel to the Perth metropolitan area for delivery than women in distant country health zones. For example 64.3% of women resident in the Midlands Health Zone delivered in the Perth metropolitan area compared with 4.4% of women resident in the Kimberley Health Zone (Table 6, Table 7, Figure 7).



### 3.6 Place of Confinement

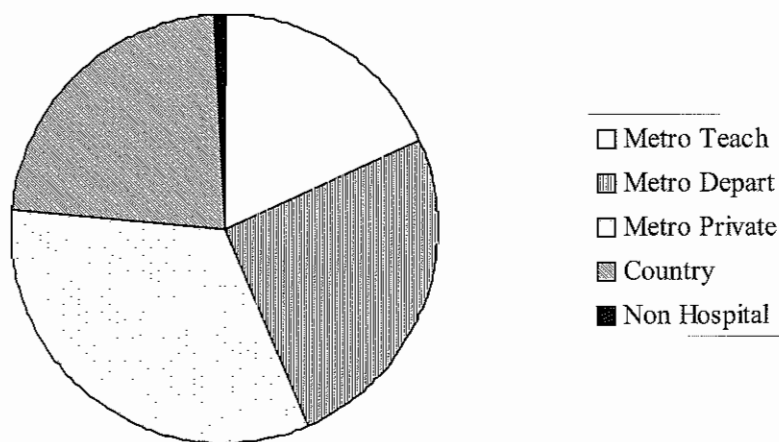
During 2000 there were 24,818 women confined in Western Australia. Of these, 99.2% gave birth in metropolitan or country hospitals. Non-hospital births included 79 babies born before arrival at hospital (BBA) and 122 babies born at home as planned (Table 9).

Of the total confinements, 76.7% were in metropolitan hospitals. This comprised 18.8% occurring in a metropolitan teaching hospital, 24.9% in metropolitan Departmental (Government) hospitals and 33.0% in private metropolitan hospitals.

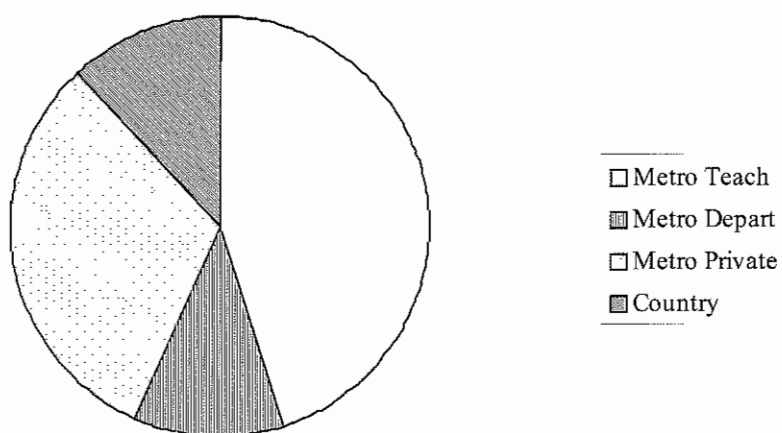
Trend data indicate that while the proportion of births at teaching hospitals remains relatively stable there has been an increase in births at private hospitals over the past five years. This may in part be explained by the care provided to public patients within some private hospitals (Table 10).

Plurality of pregnancy influenced the place of confinement. While 18.4% of women with a singleton pregnancy were confined in a teaching hospital, 44.9% of those with a multiple pregnancy were confined in a teaching hospital. All women with a multiple pregnancy were delivered within a hospital, 88.0% of multiple birth confinements in 2000 occurred in metropolitan hospitals and 12.0% in country hospitals (Table 9, Figures 8 and 9).

**Figure 8: Place of confinement for singleton births in Western Australia, 2000**



**Figure 9: Place of confinement for multiple births in Western Australia, 2000**



Homebirth as a planned birth option was experienced by 122 women (0.5% of total women confined). These confinements include births managed by midwives in private practice and midwives employed in either community or hospital based programs. The trend for homebirth has remained relatively stable representing between 0.4% and 0.7% of women confined annually over the past fifteen years (Table 10). The Department received notification that an additional 38 women had planned a homebirth but because of complications were either referred to hospital care or transferred during pregnancy (9 women) or labour (29 women). These women and their babies are included in hospital birth statistics.

Three other women who delivered at home received subsequent medical attention in hospital for management of difficulties with the third stage of labour and/or for postpartum haemorrhage.

## 4. PREGNANCY PROFILE - 2000

### 4.1 Previous Pregnancies

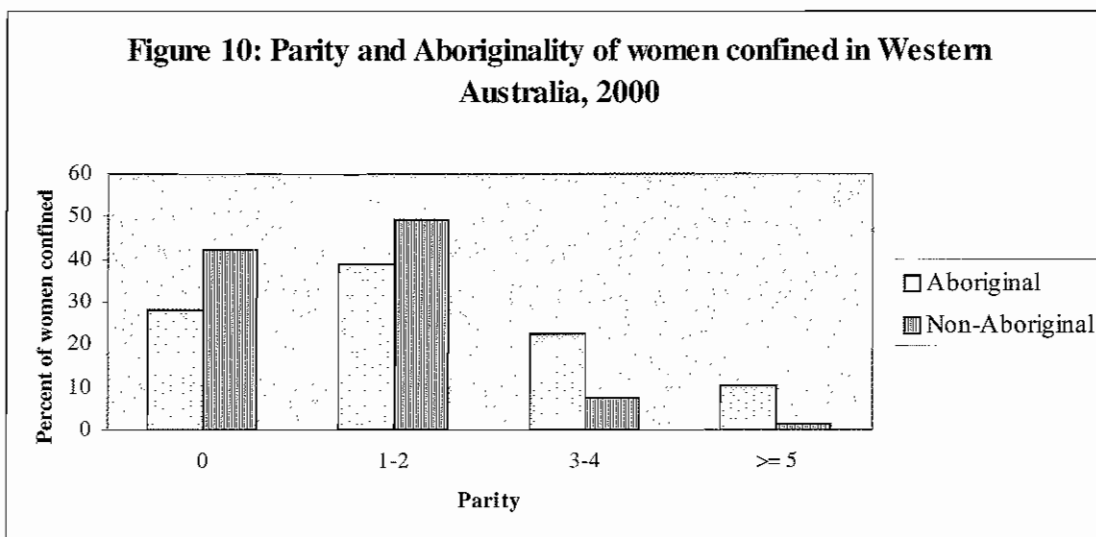
More than a third (41.2%) of women confined in 2000 were confined for the first time. The range of previous confinements extended to 12 with a mean of 1.03. The percentage of non-Aboriginal women confined for the first time (42.1%) was higher than for Aboriginal women confined for the first time (28.1%). However among women having their fifth or more child, the percentage of Aboriginal women (10.5%) was far greater than for non-Aboriginal women (1.3%) (Table 11, Figure 10).

The highest number of recorded previous pregnancies was seventeen, with a mean of 1.5 pregnancies.

Of the 10,225 nulliparous women, 1,218 (11.9%) were identified as teenagers (19 years or less) and 8,069 (78.9%) were aged 20 to 34 years. Among the 3,972 women aged thirty five years or more, 938 (23.6%) were having their first baby (Table 12).

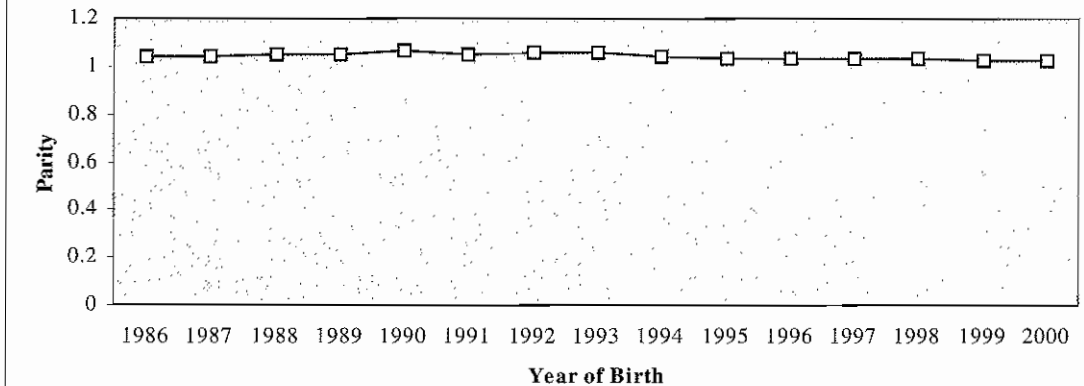
Multiparous women of either one or two previous births comprised 2.1% teenage women, 79.6% women aged 20-34 years and 18.2% women aged 35 or more years. Women whose parity was three or more previous births included five teenage women (0.2%), 67.0% women aged 20-34 years and 32.8% women aged 35 years or more (Table 12).

There has been a gradual increase in the proportion of women having their first confinement which is consistent with reduced family sizes and an increase in the population of women of childbearing age (Table 13).



The average parity remained consistent during the fifteen year period from 1986 to 2000 ranging between 1.02 and 1.06 (Table 13, Figure 11).

**Figure 11: Average parity for women confined in Western Australia, 1986-2000**



Trends in births by socioeconomic status can now be assessed for mothers living in the Perth metropolitan area of the state of Western Australia. Using Census data, postcodes have been allocated to four similarly sized groups, I being the highest and IV the lowest socioeconomic status. This is a fairly crude scale, but nevertheless demonstrates differences.

The numbers of births in the quartiles vary from 3,424 to 4,996. Differences in maternal age and parity were investigated. The percentage of young women, 17 years and below, in the lowest socioeconomic group (51.1%) was 13 times that for women of the same age in the highest socioeconomic group (3.9%). This trend was reversed for older women, 35 years and above, where the percentage of women in the highest socioeconomic group (28.1%) was greater than that for women in the lowest socioeconomic group (22.0%).

To investigate the trend in grand multiparity by socioeconomic status, the proportion of women of parity  $\geq 5$  was calculated. Of the grand multiparas, 9.3% were in the highest socioeconomic group and 37.0% were in the lowest (Table 14).

## 4.2 Age-Specific Birth Rates

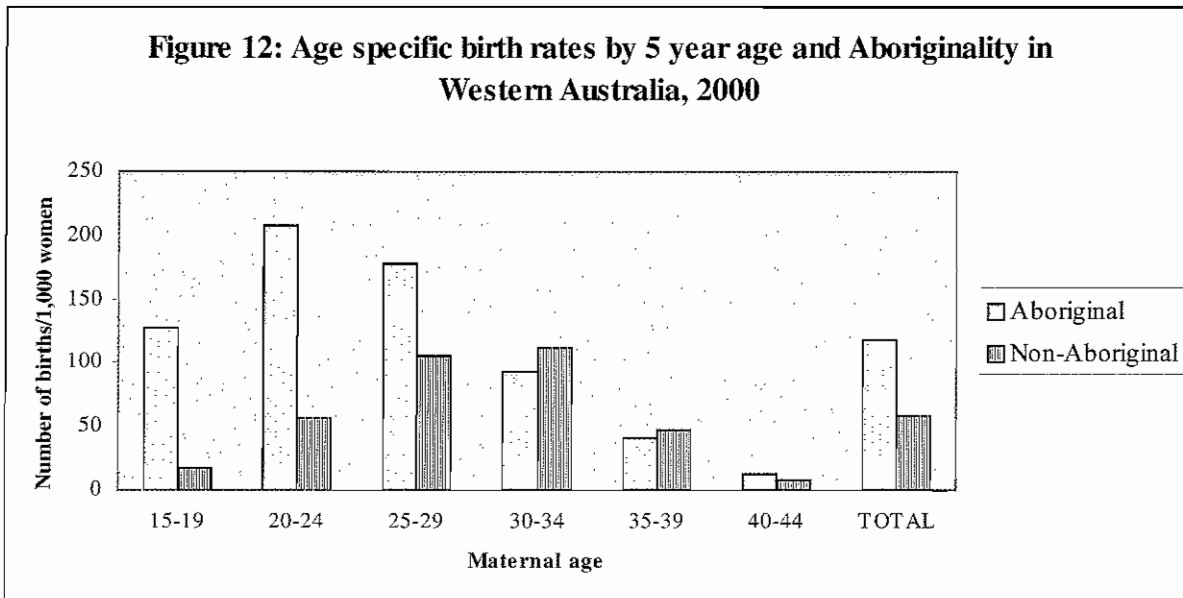
Age-specific birth rates in the Aboriginal and non-Aboriginal sub-populations and the total population are shown in Table 15. The population estimates used were derived from data from the 1996 census. Difficulties in estimation of Aboriginal populations are recognised where under enumeration may occur. Therefore the reader may wish to adjust the denominators in accord with the directive of Hicks.<sup>3</sup>

Overall, the age-specific birth rate among Aboriginal women (117.8 per 1000) was double that of non-Aboriginal women (57.5 per 1000). Among the 15 to 19 year age group the birth rate of Aboriginal women (126.8 per 1000) was 7 times the rate for non-Aboriginal women (17.0 per 1000). For those women in the 20 to 34 year age group the rate for Aboriginal women (160.3 per 1000) was far greater than that for non-Aboriginal women (91.6 per 1000). The rate for Aboriginal women (28.0 per 1000) was marginally higher than for non-Aboriginal women (27.5 per 1000) in the 35 to 44 year age group (Table 15, Figure 12).

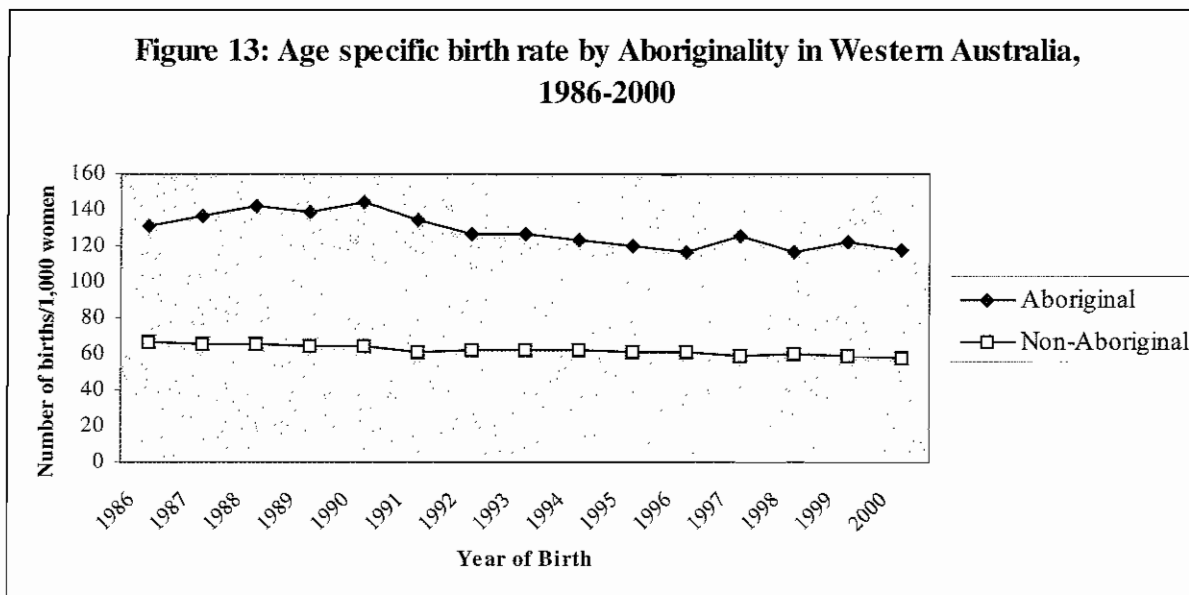


Examination of differences in age-specific birth rates and Aboriginality through time shows that there has been a gradual reduction in the rates for both Aboriginal and non-Aboriginal women in the age groups of 15-19 years. This trend is more pronounced among Aboriginal teenage women where the rate reduced from 156.4 per 1000 in 1986 to 126.8 per 1000 in 2000. Among women aged 35-45 years the trend for later childbearing has increased the rate from 16.9 per 1000 in 1986 to 27.5 per 1000 in 2000 (Table 16, Figure 13).

**Figure 12: Age specific birth rates by 5 year age and Aboriginality in Western Australia, 2000**



**Figure 13: Age specific birth rate by Aboriginality in Western Australia, 1986-2000**



### **4.3 Complications of Pregnancy**

Over half (60.8%) of all women confined during 2000 were recorded as having no complications of pregnancy.

Pre-eclampsia was reported in 1,449 (5.8%) women and threatened abortion before 20 weeks gestation was reported for 1,438 (5.8%) women. The incidence of urinary tract infection during pregnancy was reported for 1067 (4.3%) women and 878 (3.5%) women were recorded as having gestational diabetes. Of the women with multiple pregnancy, the proportion with pre-eclampsia (15.8%) was three times that for women with singleton pregnancies (5.7%). Among 'other' complications there were 419 (1.6%) women recorded as having unspecified hypertension, 1033 (4.2%) with anaemia of pregnancy, 765 (3.1%) with a viral or bacterial genito-urinary tract infection, 388 (1.6%) with retarded fetal growth, and 381 (1.5%) with hyperemesis gravidarum (Table 17).

Although in the past, it was thought that 'other' complications of pregnancy may be under-reported by midwives, the Validation Study<sup>4</sup> of 1992 data undertaken in 1994 showed that they were well reported, being 89% accurate.

### **4.4 Medical Conditions**

There were 7,848 reported instances of pre-existing medical complications recorded among the 24,818 women confined during 2000. Of these, 2,505 (10.1%) of women confined were reported as asthmatic, 1,023 (4.1%) with psychological disorders, 474 (1.9%) with genital herpes, 208 (1.1%) with a known thyroid disorder, 236 (1.0%) with cervical dysplasia<sup>1</sup>, 144 (0.6%) as suffering from epilepsy, 159 (0.6%) with spinal deformities/disorders and 159 (0.6%) with vaginal infection (Table 18).

### **4.5 Procedures and Treatments**

Assessment of procedures and treatments recorded during 2000 showed that 38,773 recordings were made among the 24,818 women confined. The majority of these recordings were for ultrasound examination (23,851 or 96.1% of women confined), antepartum cardiotocographs (6,733 or 27.1% of women confined) or intrapartum cardiotocographs (6,541 or 26.4% of women confined). Other reported procedures/treatments were 1,026 (4.1%) amniocentesis, 433 (1.7%) fertility treatments, 107 (0.4%) women for whom a cervical suture was inserted and 82 (0.3%) women confined who underwent CVS/placental biopsy procedures.

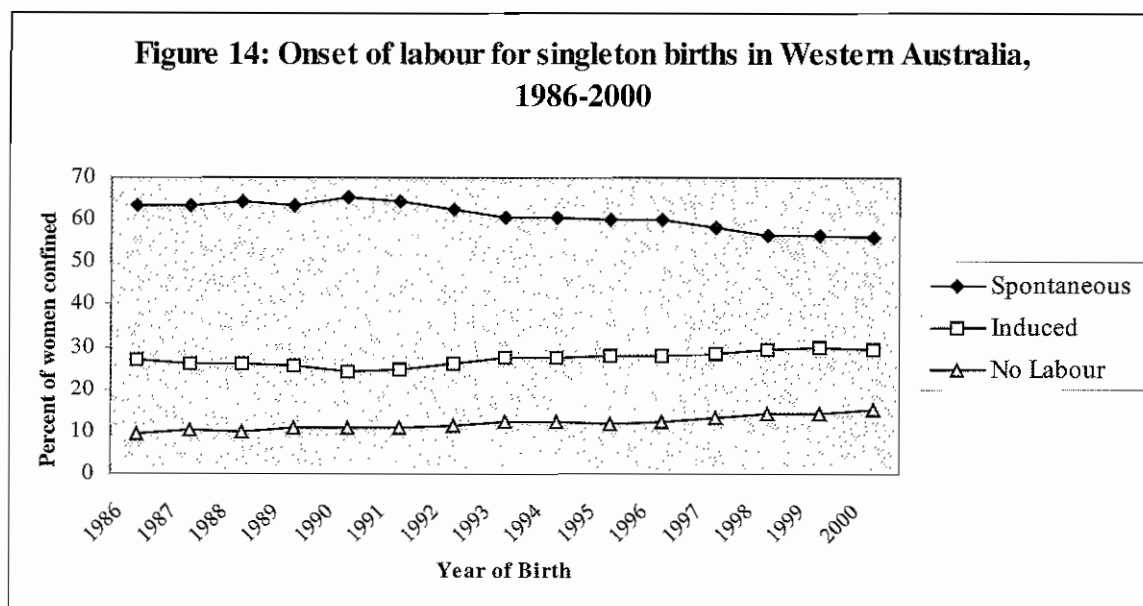
## 5. LABOUR AND DELIVERY - 2000

### 5.1 Onset of Labour

Over half (55.4%) of women confined during 2000 established labour spontaneously. Among women with multiple pregnancy 35.6% had a spontaneous onset of labour.

Induction of labour occurred for 29.3% of all women confined, while 24.3% of women with multiple pregnancy underwent induction of labour (Table 19).

An increasing trend in induction of labour for singleton births was evidenced over the past fifteen years, increasing from 26.9% in 1986 to 29.4% in 2000. A corresponding decrease in the proportion of women having a spontaneous onset of labour (63.5% in 1986 to 55.7% in 2000) was also shown. In addition, and as a consequence of a rising elective caesarean section rate the proportion of women giving birth without experiencing labour rose from 9.5% in 1986 to 14.9% in 2000 (Table 23, Figure 14).



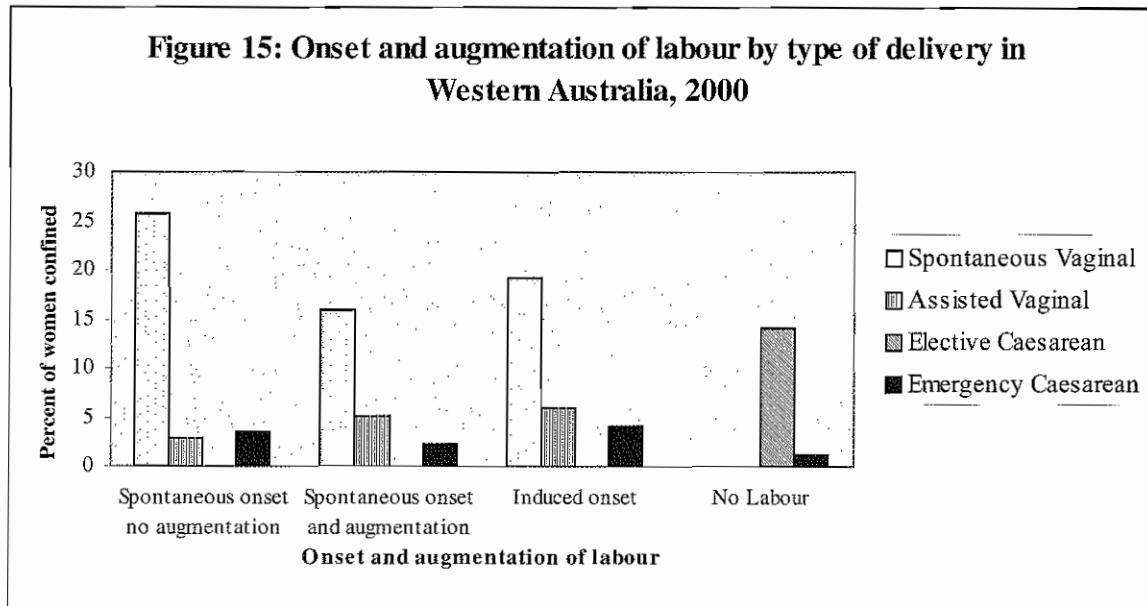
### 5.2 Augmentation of Labour

There were 13,745 women for whom onset of labour was spontaneous, 5,786 (42.1%) had labour augmented by surgical and/or medical intervention following spontaneous onset of the labour. The remaining 7,959 (57.9%) did not have their labour augmented.

Assessment of these cases showed that augmentation of labour for 3,955 (15.9%) women was followed by a spontaneous vaginal delivery, 1,260 (5.1%) women required an assisted vaginal delivery and 571 (2.3%) women an emergency caesarean section.

It is of interest to note that less than one third (6,386, 25.7%) of women established labour following spontaneous onset, received no augmentation of labour and achieved a spontaneous vaginal delivery (Table 20, Figure 15).

Among women with spontaneous onset of labour the type of augmentation of labour included artificial rupture of membranes 23.3%, oxytocin infusion 10.5%, a combination of artificial rupture of membranes and oxytocin infusion 8.1%. Comparison of hours of established labour between women whose labour was spontaneous in onset showed that 61.1% of women whose labour was 12 hours or less did not have intervention. Among women with labour of 13 hrs or more 29.7% laboured without augmentation (Table 21).



### 5.3 Induction of Labour

Among the 7,267 women for whom labour was induced in 2000 the most preferred methods/types were artificial rupture of membranes and oxytocin infusion 45.0%, prostaglandins, artificial rupture of membranes and oxytocin infusion 14.4% and prostaglandin alone 12.7%. The type of delivery for women with induced labour was proportionately spontaneous vaginal 65.5%, assisted vaginal 20.5% and emergency caesarean section 14.1% (Table 22).

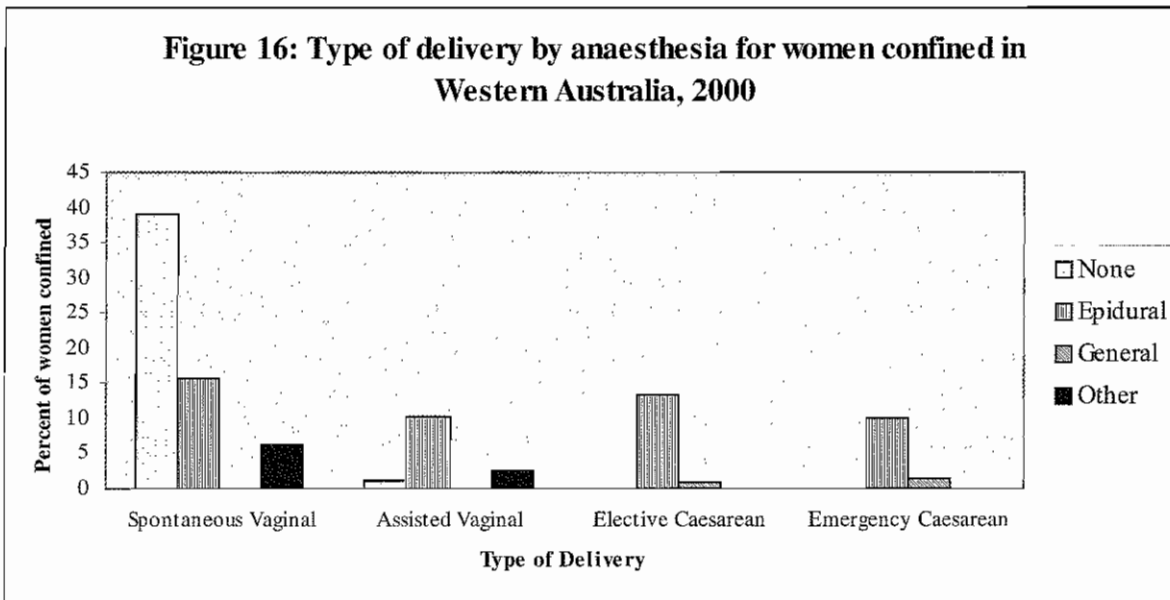
### 5.4 Analgesia

There were 8,117 (32.7%) women confined who received no pharmacological analgesia during labour. This includes 3,510 women who did not experience labour as they had elective caesarean section and a further 846 who had an emergency caesarean with no labour. Evaluation of the type of analgesia provided to women during labour showed that 7,675 (30.9%) received lumbar epidural analgesia, 524 (2.1%) spinal analgesia, 4,820 (19.4%) narcotic sedation with IM or IV and a further 3,509 (14.1%) of women used nitrous oxide and oxygen inhalation (Table 24).

## 5.5 Anaesthesia

At the time of delivery 9,921 (40.0%) women were not provided with pharmacological anaesthesia. Of the 14,897 women who were, 12,191 (49.1%) had lumbar epidural or spinal anaesthesia while 1,661 (6.7%) had only local anaesthesia to perineum. Anaesthesia for women undergoing elective caesarean section was predominantly lumbar epidural or spinal (n=3,289, 93.4%). Among women who had emergency caesarean section or assisted vaginal delivery the proportion of lumbar epidural or spinal anaesthesia administered were 88.4% and 74.4% respectively.

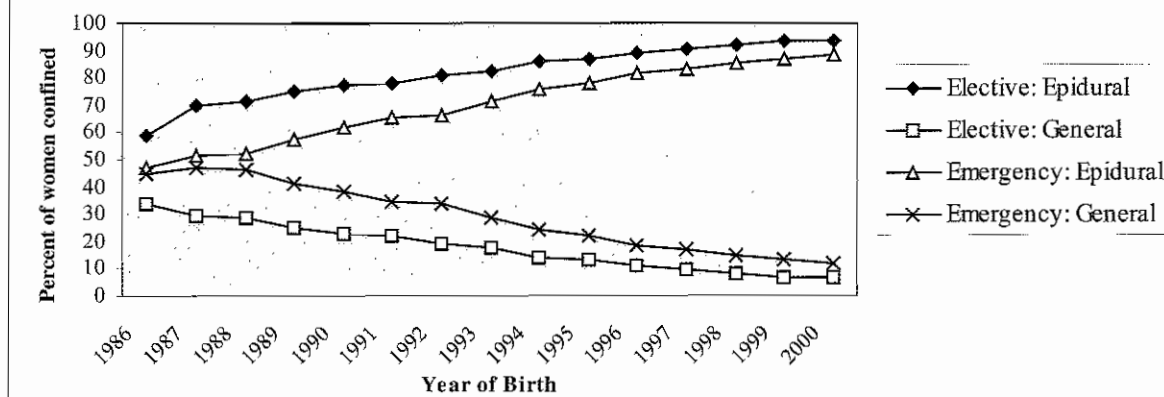
The recording of anaesthesia for delivery includes those procedures required for the third stage of labour. This explains in part the use of general anaesthesia for women with assisted or spontaneous vaginal deliveries (Table 25, Figure 16).



Trend data are presented using a combination of analgesia and anaesthesia during labour and delivery as historical data were collected in this form.

Over the fifteen year period (1986-2000), there has been a significant increase in the use of epidural anaesthesia for both elective and emergency caesarean sections with a corresponding decrease in general anaesthesia. The percentage of women having caesarean section under epidural anaesthesia increased to 93.4% elective and 88.4% emergency caesarean section in 2000 from 58.8% elective and 47.3% emergency caesarean section in 1986 (Table 26, Figure 17).

**Figure 17: Type of anaesthesia/analgesia for women delivered by caesarean section in Western Australia, 1986-2000**



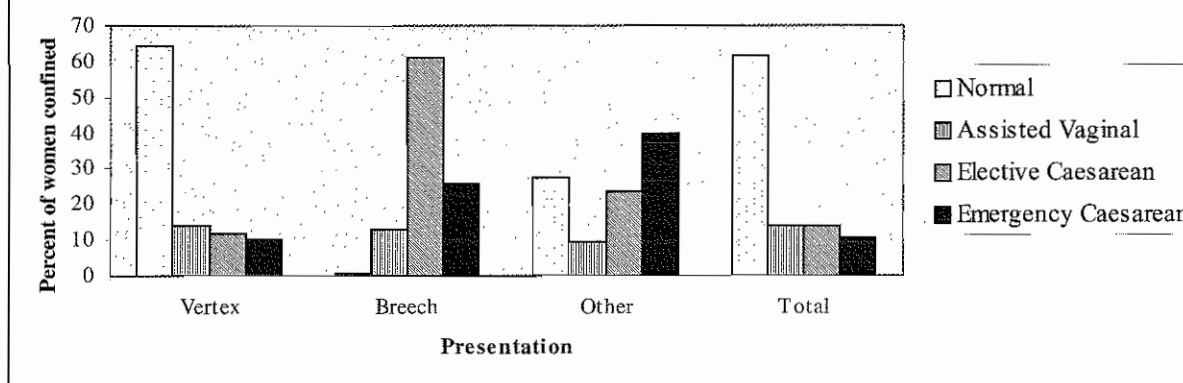
## 5.6 Presentation

The presentation for the 24,419 singleton confinements was identified as 23,234 (95.1%) vertex, 988 (4.0%) breech, and 197 (0.8%) 'other' presentations.

The majority of vertex presentations of singleton births were delivered vaginally (78.2%). Of vertex presentations 64.3% delivered spontaneously and 13.9% required assistance.

More than three quarters (86.7%) of total singleton births presenting by the breech were delivered by caesarean section (60.9% elective and 25.8% emergency caesarean section) (Table 27, Figure 18).

**Figure 18: Presentation by type of delivery for singleton births in Western Australia, 2000**

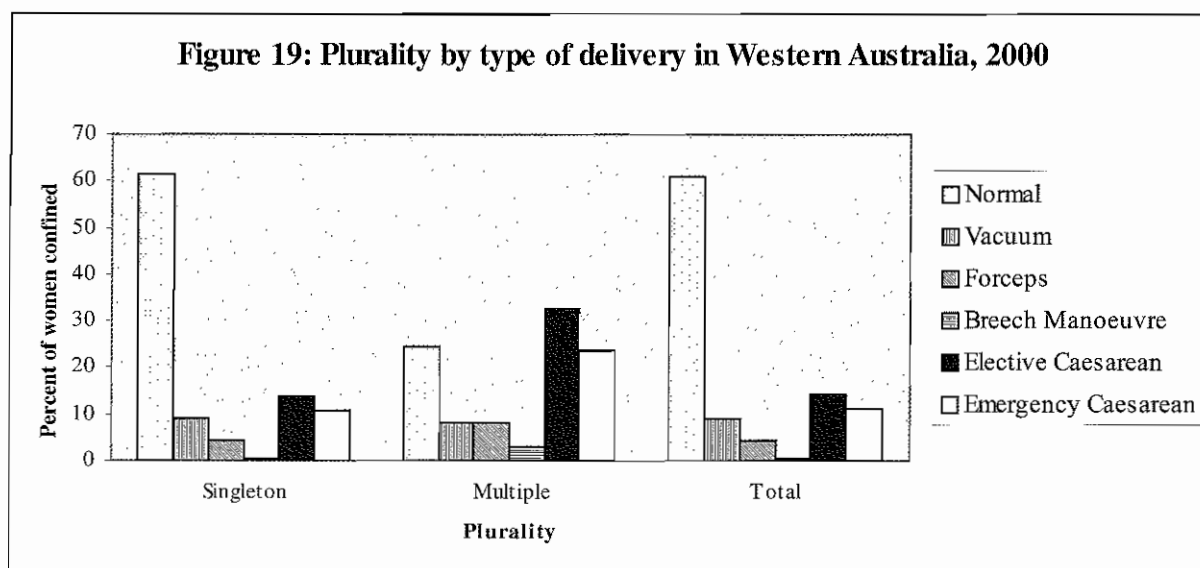


## 5.7 Type of Delivery

Less than two thirds (60.8%) of the total women confined in 2000 had a spontaneous vaginal delivery. Vaginal deliveries were assisted for approximately one in seven total confinements with 9.0% of women having a vacuum extraction and 4.3% a forceps delivery (Table 28, Figure 19).

The type of delivery for each woman with multiple pregnancy was classified according to features of labour and delivery for the first twin/triplet. Of the 12 women with triplet pregnancies 11 were delivered by caesarean section and there were 6 women for whom the first twin was delivered vaginally and the second by emergency caesarean section during 2000.

Among women with a twin pregnancy, 218 (56.3%) were delivered by caesarean section, 75 (19.4%) had assisted vaginal deliveries and 94 (24.3%) delivered spontaneously.



Of the 6,280 women who were delivered by caesarean section during 2000, over one third (2,461, 39.2%) were recorded to have had a previous caesarean section delivery or other uterine surgery (Table 30).

Although a previous caesarean section does not necessitate caesarean section for subsequent births the probability of repeat caesarean is high. Among the 3,073 women confined for whom previous caesarean section was recorded, 2,461 (80.1%) underwent repeat caesarean section, 150 (4.9%) had an assisted vaginal delivery and 462 (15.0%) delivered spontaneously. (Table 30)

The incidence of caesarean section in Western Australia<sup>5</sup> gradually increased over the past 15 years from 15.6% in 1986 to 25.3% in 2000 (Table 32). The caesarean section rate for Australia<sup>6</sup> overall was 21.9% in 1999, and caesarean section rates for individual States and Territories are as follows: Northern Territory<sup>6</sup> 21.2% in 1999, Tasmania<sup>6</sup> 21.0% in 1999, South Australia 25.2% in 2000, Victoria<sup>6</sup> 22.8% in 1999, New South Wales<sup>8</sup> 21.3% in 2000, Queensland<sup>6</sup> 23.4% in 1999 and Australian Capital Territory<sup>6</sup> 19.6% in 1999.

Consideration of the type of delivery of women confined and maternal parity shows that among nulliparous women, slightly less than half (48.6%) had a spontaneous vaginal delivery, 24.9% required an assisted vaginal delivery and 26.5% were delivered by caesarean

section. Among women with a parity of five or more, 76.2% delivered spontaneously and 21.0% had a caesarean section (Table 29).

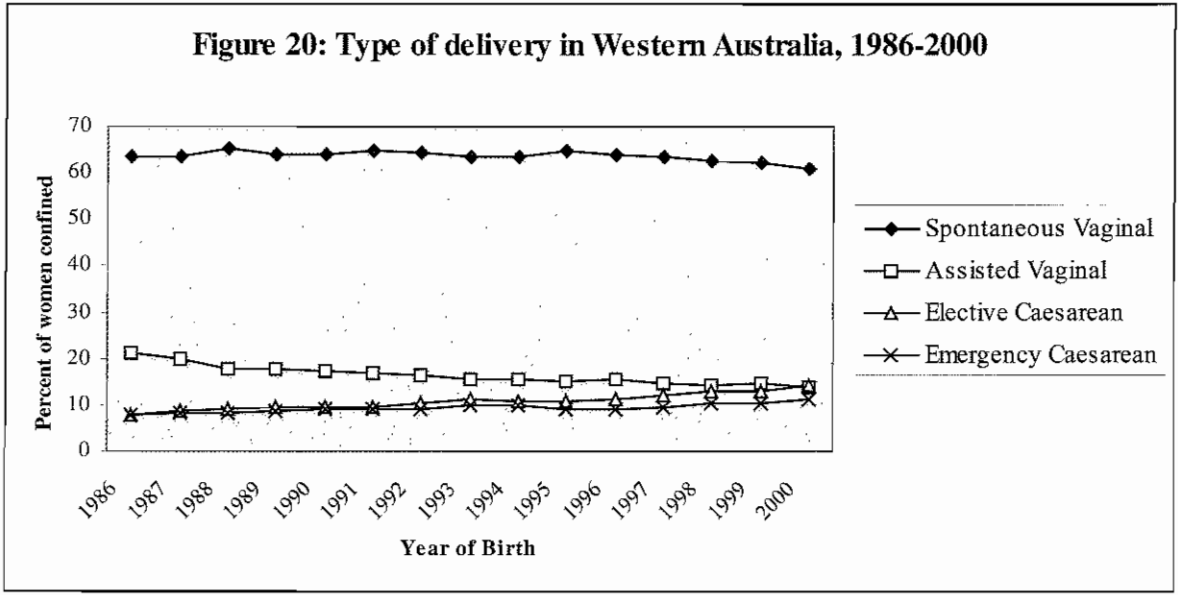
Examination of the type of delivery through time indicates that there has been little alteration in the percentage of women who had a spontaneous vaginal delivery (63.3% in 1986 and 60.8% in 2000). However, a decrease in the proportion of women having assisted vaginal deliveries (21.1% in 1986 to 13.9% in 2000) corresponded to an increase in the percentage of caesarean sections. The elective caesarean sections proportion almost doubled from 7.8% in 1986 to 14.2% in 2000 while emergency caesarean section proportions increased from 7.8% in 1986 to 11.1% in 2000 (Table 32, Figure 20).

All women delivered by caesarean section had at least one complication of labour and delivery recorded and 34.7% had more than one complication recorded (Table 33).

The indications for caesarean section were assessed by examination of complications of labour and delivery. For the 6,280 women confined by caesarean section, 9,844 complications of labour and delivery were recorded. The distribution of complications is shown in Table 33. Assessment of complications of labour and delivery for women confined by caesarean section showed previous caesarean section or other uterine surgery (26.1%), breech and other malpresentation (11.7%), fetal distress (10.7%), obstruction or delayed labour (10.2%) placental disorders and/or haemorrhage (8.9%) and cephalopelvic disproportion (7.3%) as the principal indications for caesarean section confinement (Table 34).

Of those women confined by caesarean section the highest proportion were at metropolitan private hospitals (31.9%) and metropolitan teaching hospitals (26.7%). However at the metropolitan private hospitals elective caesarean sections (62.4%) were predominant. At the metropolitan teaching hospitals this was reversed with the majority (58.8%) being emergency caesarean sections (Table 31).

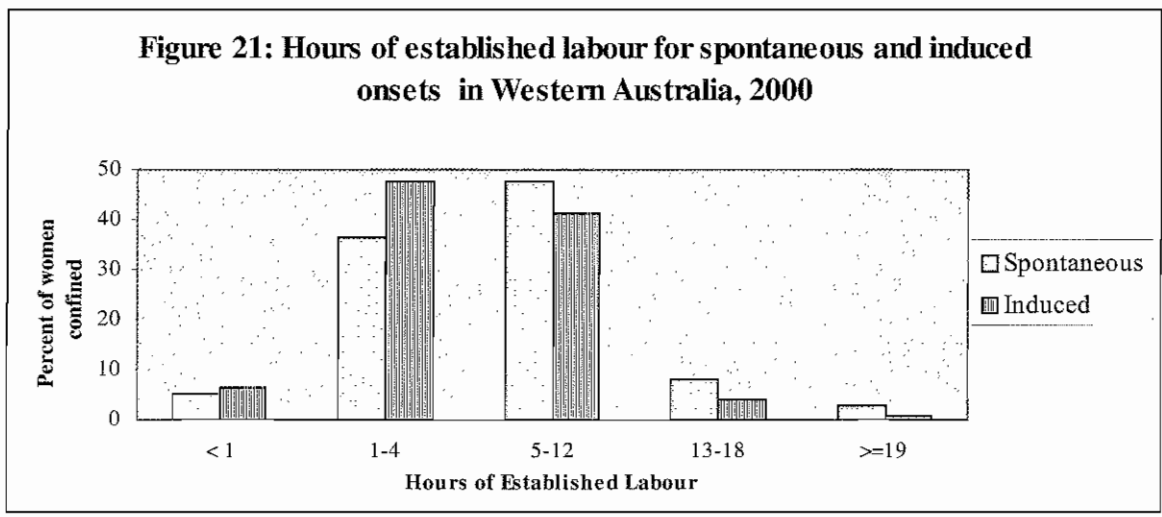




**5.8 Hours of Established Labour**

The recorded length of labour varied amongst women who had a spontaneous onset and those whose labour was induced. Less than half (41.4%) the women who had an induction of labour experienced between five and twelve hours of labour and almost half (47.7%) of the women with a spontaneous onset had between 5 and 12 hours of labour. There were 96 women (0.5%) of the total whose labour was recorded as more than 24 hours duration (Table 35, Figure 21).

Examination of type of delivery and hours of established labour showed that less than half (38.5%) of women confined had a labour lasting between 5 and 12 hours and of these 69.0% resulted in spontaneous vaginal delivery. Fifteen percent of women did not establish in labour, being confined by either elective or emergency caesarean section (Table 36).



## 5.9 Complications of Labour and Delivery

There were no complications of labour and delivery recorded for almost half (40.8%) of the women confined in 2000. However, for women with multiple pregnancies 11.5% of women were reported to have had no complications.

Among those women identified as having had a complication, fetal distress was recorded for 14.1% of singleton pregnancies and 6.5% of multiple pregnancies. Cephalopelvic disproportion was identified for 2.5% and post partum haemorrhage for 7.0% of all women confined (Table 37).

Other complications included 177 (0.7%) women with hypertension and 235 (0.9%) women with moderate to severe pre-eclampsia.

The second stage of labour was reported to be prolonged for 714 women (3.4% of women with established labour or 2.9% of total women confined). There were 116 additional women reported to have had prolonged labour with unspecified stage (0.6% of women with established labour or 0.5% of total women confined).

Uterine inertia was reported for 1097 women (5.2% of women with established labour) and deep transverse arrest or persistent occipito-posterior position for 544 (2.6% of women with established labour). Shoulder dystocia was recorded for 363 women (2.0% of women who delivered per vaginam) and problems with cord compression or entanglement for 218 (1.2% of women who delivered per vaginam).

These data suggest significant morbidity in childbearing women. Furthermore, the Validation Study of the Midwives' Notification System<sup>4</sup> data indicated that complications of labour and delivery tend to be under-reported.

## 5.10 Accoucheur

Analysis of accoucheur at birth indicated that 9,631 (38.8%) women confined or 63.5% of women delivering spontaneously per vaginam were assisted by midwives. Obstetricians delivered 8,508 (34.3%) women and other medical officers attended 5,773 (23.3%) women at confinement. The proportion of elective caesarean section deliveries by obstetricians was 75.2% with the remaining (24.8%) being performed by other medical officers (Table 38).

## 5.11 Repair of Perineum and/or Vagina

There were 13,473 or 54.3% of all women confined, 7,219 (38.9%) of women delivered per vaginam who did not require any form of perineal or vaginal repair following delivery. Among women whose vaginal delivery incurred perineal and/or vaginal damage, 4,143 (22.3%) had an episiotomy repaired, 6,329 (34.1%) a first or second degree tear and for 181 (1.0%) a third or fourth degree tear needed repair. A further 692 (3.7%) women who delivered per vaginam were reported to have had repair of other vaginal and/or labial trauma (Table 39).

## 6. BABY CHARACTERISTICS - 2000

### 6.1 Births

A Notification of Case Attended Form 2 (Appendix B) was received for 25,229 births of 20 weeks or more gestation or 400 grams or greater birthweight in 2000. This represents a 2% decrease from the number of births in 1999.

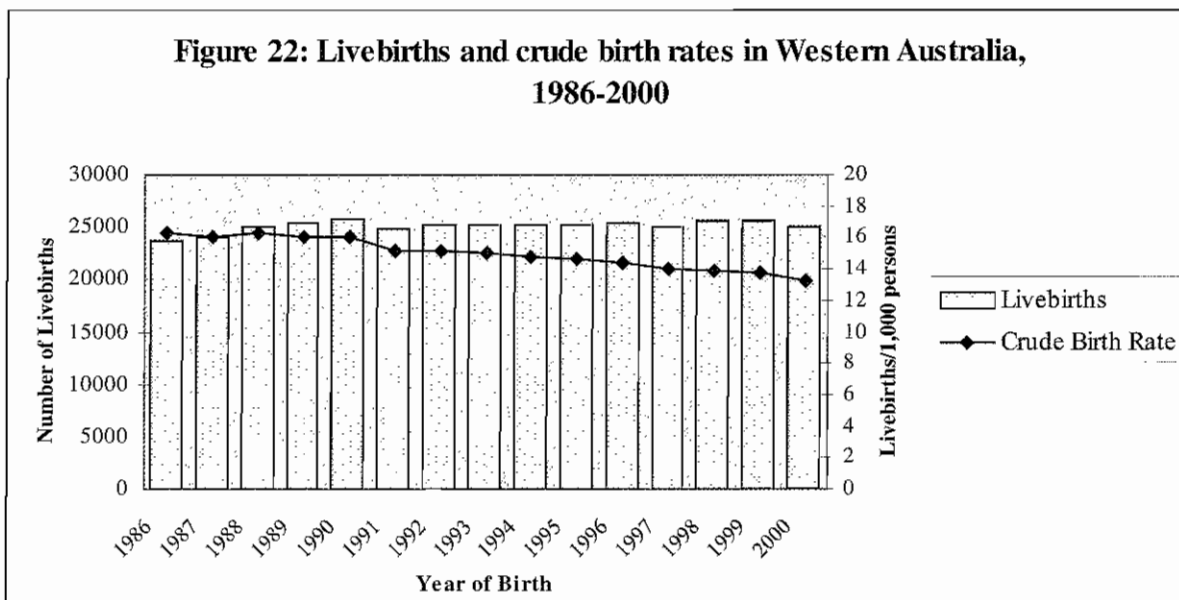
### 6.2 Livebirths

The number of livebirths per annum has remained relatively stable since 1988 as has the percentage that livebirths represent of total births ranging between 99.2% and 99.4% for the period (Table 40, Figure 22).

### 6.3 Crude Birth Rate

The crude birth rate was 13.3 per 1000 population in 2000. This calculation is based on livebirth numbers from the Midwives' Notification System and population data from the Australian Bureau of Statistics, Cat. No 3101.0 June quarter 2000.

Trend data indicate that the crude birth rate in Western Australia has steadily declined in recent years from 16.2 per 1000 in 1986 to 13.3 per 1000 in 2000 (Table 40, Figure 22).



### 6.4 Gender

There were 12,767 (50.6%) male births and 12,462 (49.4%) female births during 2000 (Table 41) (male:female ratio of 1.02).

The assessment of condition at birth showed that 49.0% of fetal deaths and 50.6% of livebirths were male.

## 6.5 Condition at Birth

Of the total 25,229 births, 25,023 were liveborn and 206 (8.2 per 1000) were fetal deaths.

There were significant differences in fetal death rates based on the Aboriginality of their mothers. Among babies born to women recorded as non-Aboriginal the fetal death rate (7.6 per 1000) was lower than the fetal death rate for babies of Aboriginal mothers (16.7 per 1000) (Table 42).

More than half of the fetal deaths (58.7%) were delivered in a metropolitan obstetric teaching hospital where one-fifth (19.3%) of all births occurred. This reflects the referral for delivery to a tertiary centre of mothers with high risk pregnancies and/or with fetal death in utero. This is also reflected in the rural sector where 55.6% of the deliveries occurred in the regional hospitals while 64.7% of the stillbirths were delivered in these hospitals. (Table 43).

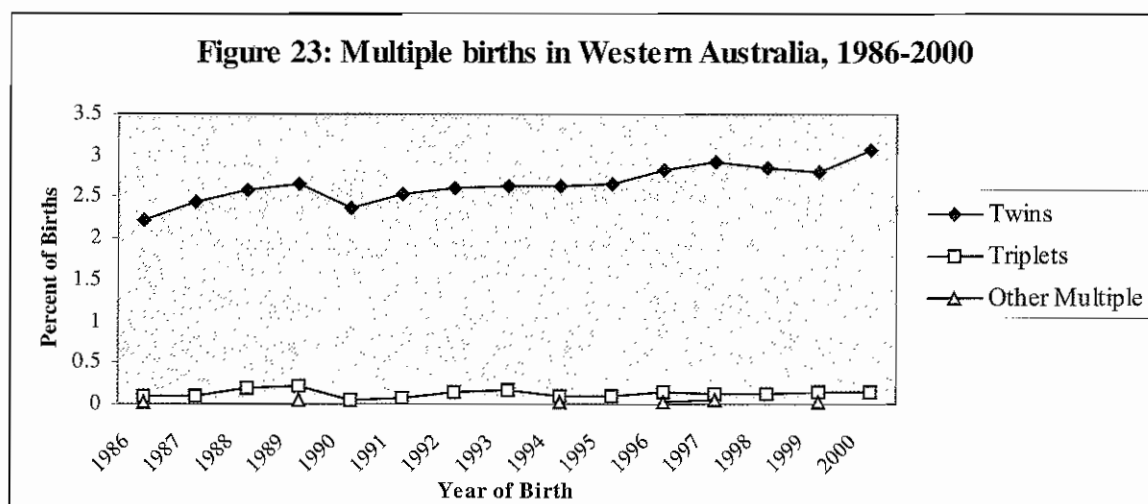
Consideration of condition at birth showed that livebirths represented 99.2% and fetal deaths 0.8% of total births. This proportion of fetal deaths births varied between 0.6% and 0.8% since 1986 (Table 40).

## 6.6 Plurality of Birth

Singleton births accounted for 24,419 (96.8%) and multiple births 810 (3.2%) in 2000. The multiple births comprised 774 twin babies, 36 triplet babies with no higher multiple birth babies.

The proportion of multiple births has increased over the past fifteen years with the proportion of twin births rising from 2.2% in 1986 to 3.1% in 2000.

The rate of triplet births increased from 24 (0.1%) babies in 1986 to 57 (0.2%) in 1989. Although, from 1992 the number has stabilised and varied between 27 (0.1%) in 1995 and 42 (0.2%) in 1993. Much of the variation in the multiple birth rates may be attributed to fertility treatments (Table 44, Figure 23).



## **6.7 Apgar Score at One Minute and Five Minutes**

More than three quarters of livebirths (78.5%) had a recorded Apgar Score at one minute of 8-10, while 398 (1.6%) livebirths had an Apgar Score of three or less at one minute of life (Table 45).

The majority of livebirths, (97.2%) had a recorded Apgar Score at five minutes of 8-10, and 697 (2.8%) livebirths had an Apgar Score of seven or less at five minutes of life (Table 46).

## **6.8 Time to Spontaneous Respiration**

Eighty nine percent of all livebirths were recorded as having established spontaneous respiration within the first minute of life. A further 2,350 (9.4%) of livebirths required between two and six minutes to establish respiration and 63 (0.3%) babies needed seven minutes or more. There were 357 (1.4%) livebirths who were intubated following delivery and therefore for these babies the time to establish spontaneous respiration is unknown (Table 45).

## **6.9 Resuscitation**

More than half (51.3%) of the 25,023 liveborn babies in 2000 received some form of resuscitation at birth. Those babies who received no resuscitation numbered 12,197 (48.7%). Resuscitation procedures of intubation (342, 1.4%) and bag and mask (1478, 5.9%) were used and a further 4,641 (18.5%) babies received oxygen therapy only (Table 48).

When resuscitation and Apgar Scores at 5 minutes were examined it was found that 34.5% of the babies with an Apgar Score of 1-3 and 25.3% of those with an Apgar Score of 4-7 were intubated (Table 47).

## **6.10 Birthweight**

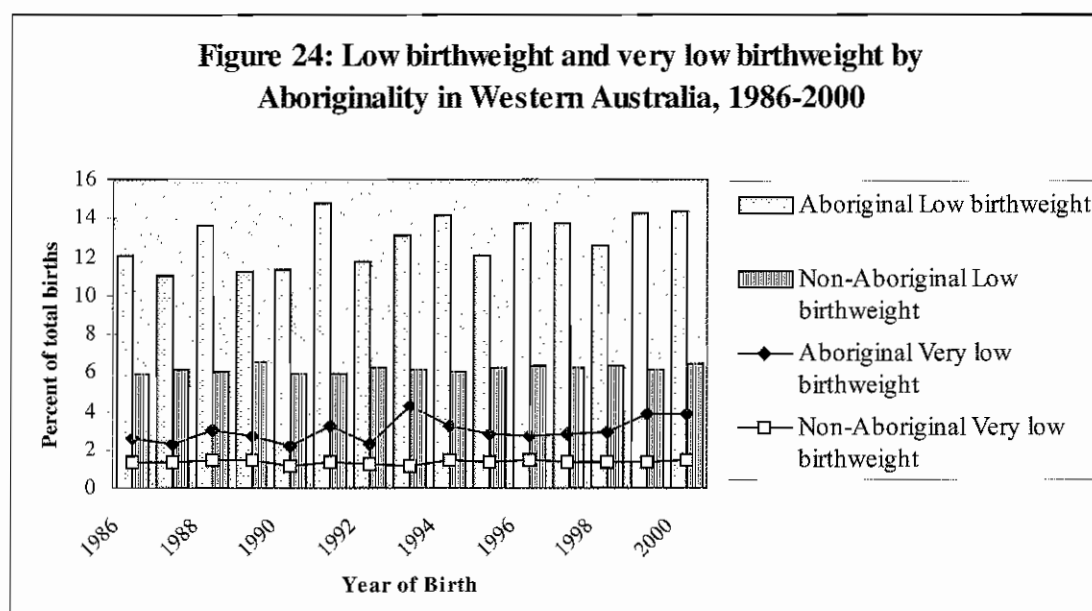
Two thirds (66.4%) of all babies born weighed between 3000 and 3999 grams at birth with an average birthweight of 3343 grams. The percentage of low birthweight babies (less than 2500 grams) was 6.9% and those of very low birthweight (less than 1500 grams) was 1.6% of the total births. Low birthweight among babies of Aboriginal mothers was 14.4%, more than twice that of non-Aboriginal births of whom only 6.4% were in the low birthweight category (Table 49).

Among the 1,753 low birthweight babies (less than 2500 grams), 1,593 (90.9%) were liveborn and 160 (9.1%) were fetal deaths. This meant that while 77.7% of fetal deaths were of low birthweight only 6.4% of livebirths were in the low birthweight category (Table 51).

Singleton births showed similar birthweight distribution to total births. Among singleton births of low birthweight babies there were 1,178 livebirths and 141 fetal deaths. For fetal deaths 75.4% were low birthweight and of the livebirths 4.9% were in this category (Table 52).

Of multiple births, there were 415 liveborn and 19 fetal deaths in the low birthweight group. None of the 19 fetal death multiple births had a birthweight greater than or equal to 2500 grams (Table 53).

Trend data from 1986 to 2000 on low birthweight (less than 2500 grams) and very low birthweight (less than 1500 grams) for babies of Aboriginal and non-Aboriginal women show marked differences. Among babies of Aboriginal women the low birthweight percentage ranged between 11.0% and 14.8% and the very low birthweight percentage between 2.2% and 4.3%. For babies of non-Aboriginal women the low birthweight proportions were much lower ranging between 5.9% and 6.5% while the very low birthweight was also lower ranging from 1.1% to 1.5% (Table 50, Figure 24).



### 6.11 Gestational Age

Preterm birth (less than 37 weeks gestation) occurred for 2,098 (8.3%) of the total births in 2000 (Table 54). When examined for singleton births only, 1,629 (6.7%) babies were preterm (Table 55). Of the 810 multiple births, more than half, 469 babies (57.9%) were preterm (Table 56).

Gestational age was estimated by clinical assessment of each newborn infant by the attending midwife.

### 6.12 Birth Defects

Data on selected birth defects included in this report are made available by the Western Australian Birth Defects Registry<sup>9</sup> (Table 57).

Recording of a birth defect on the Notification of Case Attended (Midwives') Form 2, provides an initial data source for the Birth Defects Registry. Reports and further details on birth defects in Western Australia are available upon request to the Registry.

### 6.13 Special Care

Although there are difficulties relating to the definition of special care units in Western Australia, data from the Midwives' Notification System indicating special care have been included to identify the need of services for newborn babies. It is not possible from the current data to differentiate those babies who received neonatal intensive care.

In an attempt to resolve this difficulty, data on Special Care provided in this report relate only to babies admitted to Level 2 or Level 3 Special Care nurseries.

Among the 25,023 livebirths, a total of 1,982 (7.9%) babies were reported to have received special care for one day or more. Of these, 1,657 (83.6%) were singleton births and 325 (16.4%) were multiple births. The rates for these babies were 68.4 per 1000 singleton livebirths and 410.9 per 1000 multiple livebirths.

Eleven per cent of babies admitted to special care nurseries stayed more than 28 days and 91 (4.6%) babies stayed longer than 60 days. Multiple birth babies stayed longer in special care units, with 207 (63.7%) staying 8 days or more. Babies whose length of stay in Special Care Nurseries was less than one day are not recorded (Table 58).

### **6.14 Neonatal Transfers**

Among the 25,023 livebirths, 961 (3.8%) babies were transferred to another hospital after birth. The overall length of hospital stay following a baby's transfer from the hospital of birth is not recorded on the Midwives' Notification System.

These data include emergency inter-hospital transfers to special care units in tertiary hospitals following birth, 378 (39.3%) and those babies who were transferred to another hospital prior to being discharged home.

### **6.15 Length of Stay**

The majority of liveborn babies (19,832, 79.3%) stayed in their hospital of birth from two to seven days and another 2,154 (8.6%) stayed between 8 and 28 days. A further 278 (1.1%) babies stayed longer than 28 days (Table 59).

The length of stay of those babies who were neither transferred from nor died in the hospital of birth is shown on Table 60. Among these surviving liveborn babies, 1,975 (8.2%) stayed 8 to 28 days and 203 (0.8%) stayed for longer than 28 days.

### **6.16 Perinatal Mortality**

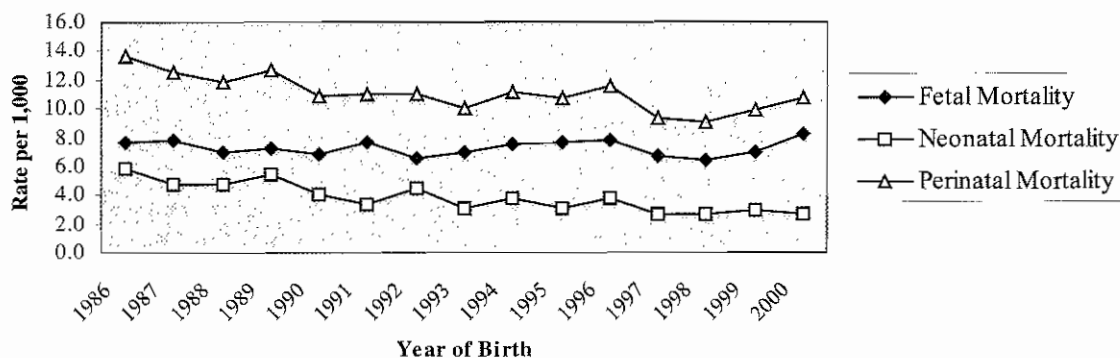
There were 206 fetal deaths and 65 neonatal deaths of babies born during 2000. The perinatal mortality rate for Western Australia was 10.7 per 1000 total births of 20 weeks or more gestation or 400 grams birthweight. A comparative rate for births equal to or greater than 500 grams regardless of gestation was 6.8 per 1000 total births (Table 63).

Perinatal mortality rates considered on the basis of gestational age without reference to birthweight were 10.7 per 1000 for 20 weeks or more and 8.0 per 1000 for 22 weeks or more in 2000 (Table 64).

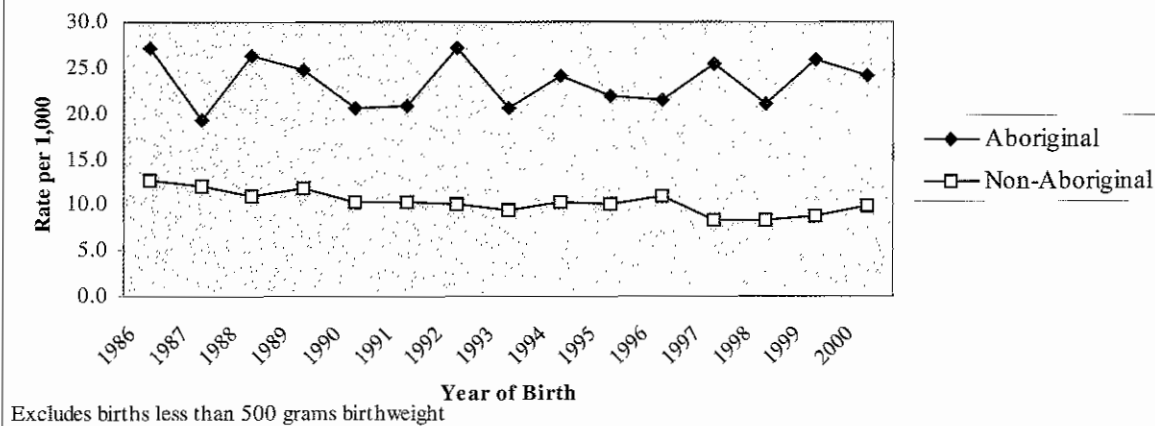
The perinatal mortality rate in Western Australia reduced by one fifth over the past fifteen years from 13.6 per 1000 in 1986 to 10.7 per 1000 in 2000. This decrease has mainly been due to the marked reduction in neonatal mortality. (Table 66, Table 67, Figure 25)

In the fifteen years from 1986 to 2000 the perinatal mortality rate for babies of Aboriginal mothers ranged between 19.3 in 1997 and 27.2 per 1000 in 1992. These rates remain more than twice those for babies of non-Aboriginal mothers (Table 68, Figure 26).

**Figure 25: Fetal, neonatal and perinatal mortality rates in Western Australia, 1986-2000**



**Figure 26: Perinatal mortality by Aboriginality in Western Australia, 1986-2000**



Three quarters (78.2%) of the perinatal deaths were of low birthweight. Overall 77.7% of fetal deaths and 80.0% of neonatal deaths weighed less than 2500 grams at birth. Over half (58.0%) of the perinatal deaths had a birthweight of less than 1000 grams (Table 69).

Among the 810 multiple births, there were 30 perinatal deaths. Of these, 19 were fetal deaths and 11 were neonatal deaths. The fetal death rate for multiple births (23.5 per 1000) was three times the rate for singleton births (7.7 per 1000). The neonatal mortality rate for multiple births (13.9 per 1000) was far greater than that of the rate for singleton births (2.2 per 1000) (Table 70).



When fetal deaths were examined by time of death, 112 (54.4%) occurred antepartum, 73 (35.4%) were intrapartum deaths and timing of fetal death was unknown in 21 (10.2%) cases. More than one half (39, 60.0%) of neonatal deaths occurred within the first day of life (Table 71).

The causes of death for fetal deaths include contributing factors relating to extremely low birthweight (less than 1000 grams) (35.0%), intrauterine asphyxia (17.0%), problems with placenta and cord (10.7%) and birth defects incompatible with life (28.2%).

The principal causes contributing to death of neonates were reported to be of low birthweight (55.4%) and lethal birth defects (20.0%) (Table 72).

It is known that autopsies were requested for 122 (59.2%) fetal deaths and 28 (43.1%) neonatal deaths. In the case of 17 (6.3%) perinatal deaths it is unknown whether an autopsy was requested (Table 73).

## Maternal Demographic Information

**Table 1: Age and Aboriginality of women confined in Western Australia, 2000**

Maternal Age	Aboriginality of Mother				Total	
	Aboriginal		Non-Aboriginal		No.	%
	No.	%	No.	%		
<= 14	21	1.3	3	0.0	24	0.1
15	26	1.6	18	0.1	44	0.2
16	47	2.9	83	0.4	130	0.5
17	92	5.8	191	0.8	283	1.1
18	107	6.7	331	1.4	438	1.8
19	96	6.0	464	2.0	560	2.3
<b>&lt;= 19</b>	<b>389</b>	<b>24.3</b>	<b>1090</b>	<b>4.7</b>	<b>1479</b>	<b>6.0</b>
20-24	486	30.4	3666	15.8	4152	16.7
25-29	413	25.8	7222	31.1	7635	30.8
30-34	210	13.1	7370	31.7	7580	30.5
35-39	80	5.0	3299	14.2	3379	13.6
40-44	20	1.3	557	2.4	577	2.3
>= 45	-	-	16	0.1	16	0.1
<b>TOTAL</b>	<b>1598</b>	<b>100.0</b>	<b>23220</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

Mean = 29 years. Standard deviation = 6 years.

**Table 2: Age of women confined in Western Australia, 1986-2000**

Year of Birth	Maternal Age						Total	
	<= 19		20-34		>= 35		No.	%
	No.	%	No.	%	No.	%		
1986	1535	6.5	20344	86.2	1724	7.3	23603	100.0
1987	1494	6.3	20600	86.2	1801	7.5	23895	100.0
1988	1635	6.6	21085	85.0	2081	8.4	24801	100.0
1989	1586	6.3	21372	85.0	2199	8.7	25157	100.0
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

**Table 3: Country of birth and age of women confined in Western Australia, 2000**

Country of birth	Maternal Age						Total	
	<= 19		20-34		>= 35		No.	%
	No.	%	No.	%	No.	%		
Australia	1264	90.4	13697	74.6	2266	57.0	17227	73.3
New Zealand	42	3.0	608	3.3	160	4.0	810	3.4
Other Pacific	1	0.1	53	0.3	9	0.2	63	0.3
United Kingdom and Ireland	39	2.8	1512	8.2	602	15.2	2153	9.2
Other Europe	12	0.9	659	3.6	202	5.1	873	3.7
Vietnam	7	0.5	290	1.6	48	1.2	345	1.5
Malaysia	3	0.2	169	0.9	51	1.3	223	0.9
Other SE Asia	10	0.7	420	2.3	121	3.0	551	2.3
Other Asia	5	0.4	318	1.7	138	3.5	461	2.0
North America	2	0.1	102	0.6	30	0.8	134	0.6
South and Central America	1	0.1	57	0.3	17	0.4	75	0.3
South Africa and Zimbabwe	3	0.2	173	0.9	37	0.9	213	0.9
Other Africa and Middle East	10	0.7	295	1.6	83	2.1	388	1.6
<b>TOTAL</b>	<b>1399</b>	<b>100.0</b>	<b>18353</b>	<b>100.0</b>	<b>3972</b>	<b>100.0</b>	<b>23516</b>	<b>100.0</b>

Excludes 1302 women whose country of birth is unknown.

**Table 4: Conjugal state and plurality of women confined in Western Australia, 2000**

Conjugal State	Plurality				TOTAL	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Single	2002	8.2	19	4.8	2021	8.1
Married/De facto	22037	90.2	376	94.2	22413	90.3
Other <sup>1</sup>	380	1.6	4	1.0	384	1.5
<b>TOTAL</b>	<b>24419</b>	<b>100.0</b>	<b>399</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

<sup>1</sup> Other includes separated, divorced and widowed.

**Table 5: Health zone of residence and Aboriginality of women confined in Western Australia, 2000**

Health Zone of Residence	Aboriginality of Mother				TOTAL	
	Aboriginal		Non-Aboriginal		No.	%
	No.	%	No.	%	No.	%
<b>Metropolitan</b>						
North	121	7.6	5797	25.0	5918	23.8
East	115	7.2	3504	15.1	3619	14.6
South West	100	6.3	4059	17.5	4159	16.8
South East	166	10.4	4146	17.9	4312	17.4
<b>Total Metro</b>	<b>502</b>	<b>31.4</b>	<b>17506</b>	<b>75.4</b>	<b>18008</b>	<b>72.6</b>
<b>Country</b>						
Kimberley	446	27.9	269	1.2	715	2.9
Pilbara	146	9.1	531	2.3	677	2.7
Mid West	191	12.0	796	3.4	987	4.0
Midlands	53	3.3	637	2.7	690	2.8
Goldfields	138	8.6	858	3.7	996	4.0
South West	66	4.1	1625	7.0	1691	6.8
Great Southern	52	3.3	962	4.1	1014	4.1
<b>Total Country</b>	<b>1092</b>	<b>68.3</b>	<b>5678</b>	<b>24.5</b>	<b>6770</b>	<b>27.3</b>
Outside WA	4	0.3	36	0.2	40	0.2
<b>TOTAL</b>	<b>1598</b>	<b>100.0</b>	<b>23220</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

**Table 6: Place of confinement for women resident in metropolitan health zones in Western Australia, 2000**

Health Zone of Residence	Birth Hospital in Health Zone						Non Hospital	TOTAL
	Teaching	North Metro	East Metro	SW Metro	SE Metro	Country		
	No.	No.	No.	No.	No.	No.	No.	No.
North	1240	4381	184	54	21	5	33	5918
East	986	846	1637	53	50	7	40	3619
South West	547	158	18	3292	36	52	56	4159
South East	1373	258	211	826	1608	6	30	4312
<b>TOTAL</b>	<b>4146</b>	<b>5643</b>	<b>2050</b>	<b>4225</b>	<b>1715</b>	<b>70</b>	<b>159</b>	<b>18008</b>
	%	%	%	%	%	%	%	%
North	21.0	74.0	3.1	0.9	0.4	0.1	0.6	100.0
East	27.2	23.4	45.2	1.5	1.4	0.2	1.1	100.0
South West	13.2	3.8	0.4	79.2	0.9	1.3	1.3	100.0
South East	31.8	6.0	4.9	19.2	37.3	0.1	0.7	100.0
<b>TOTAL</b>	<b>23.0</b>	<b>31.3</b>	<b>11.4</b>	<b>23.5</b>	<b>9.5</b>	<b>0.4</b>	<b>0.9</b>	<b>100.0</b>

**Table 7: Place of confinement for women resident in country health zones in Western Australia, 2000**

Health Zone of Residence	Birth Hospital in Health Zone				Non Hospital	TOTAL
	Internal	Metro		Other Country		
		Teaching	Other			
No.	No.	No.	No.	No.	No.	
Kimberley	676	21	11	3	4	715
Pilbara	497	61	106	10	3	677
Mid West	785	107	73	17	5	987
Midlands	206	136	308	35	5	690
Goldfields	898	50	36	8	4	996
South West	1533	75	56	14	13	1691
Grt Southern	802	58	128	18	8	1014
<b>TOTAL</b>	<b>5397</b>	<b>508</b>	<b>718</b>	<b>105</b>	<b>42</b>	<b>6770</b>
	%	%	%	%	%	%
Kimberley	94.5	2.9	1.5	-	0.6	100.0
Pilbara	73.4	9.0	15.7	1.5	0.4	100.0
Mid West	79.5	10.8	7.4	1.7	0.5	100.0
Midlands	29.9	19.7	44.6	5.1	0.7	100.0
Goldfields	90.2	5.0	3.6	0.8	0.4	100.0
South West	90.7	4.4	3.3	0.8	0.8	100.0
Grt Southern	79.1	5.7	12.6	1.8	0.8	100.0
<b>TOTAL</b>	<b>79.7</b>	<b>7.5</b>	<b>10.6</b>	<b>1.6</b>	<b>0.6</b>	<b>100.0</b>

**Table 8: Actual place of confinement and intended place of confinement for women confined in Western Australia, 2000**

Actual Place of Confinement	Intended Place of Confinement				TOTAL
	Hospital	Birth Centre	Home	Other	
No.	No.	No.	No.	No.	No.
Teaching	4185	139	5	6	4335
Public Hospital	11284	17	9	3	11313
Private Hospital	8617	11	4	1	8633
Birth Centre	2	334	-	-	336
Home	3	1	118	-	122
BBA	72	4	-	3	79
<b>TOTAL</b>	<b>24163</b>	<b>506</b>	<b>136</b>	<b>13</b>	<b>24818</b>
	%	%	%	%	%
Teaching	96.5	3.2	0.1	0.1	100.0
Public Hospital	99.7	0.2	0.1	0.0	100.0
Private Hospital	99.8	0.1	0.0	0.0	100.0
Birth Centre	0.6	99.4	-	-	100.0
Home	2.5	0.8	96.7	-	100.0
BBA	91.1	5.1	-	3.8	100.0
<b>TOTAL</b>	<b>97.4</b>	<b>2.0</b>	<b>0.5</b>	<b>0.1</b>	<b>100.0</b>

**Table 9: Place of confinement and plurality of women confined in Western Australia, 2000**

Place of Birth	Plurality				TOTAL	
	Singleton No.	%	Multiple No.	%	No.	%
<b>Metropolitan</b>						
Teaching <sup>1</sup>	4492	18.4	179	44.9	4671	18.8
Department	6132	25.1	47	11.8	6179	24.9
Private <sup>2</sup>	8063	33.0	125	31.3	8188	33.0
<b>Country</b>						
Regional <sup>3</sup>	3054	12.5	36	9.0	3090	12.5
Private	433	1.8	12	3.0	445	1.8
Other <sup>4</sup>	2044	8.4	-	-	2044	8.2
<b>Non Hospital</b>						
Homebirths	122	0.5	-	-	122	0.5
BBA <sup>5</sup>	79	0.3	-	-	79	0.3
<b>TOTAL</b>	<b>24419</b>	<b>100.0</b>	<b>399</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

<sup>1</sup> Teaching Hospital - University Medical School (Teaching Hospitals Act 1955).

<sup>2</sup> Private Hospital - includes some Private Hospitals with both private and public beds.

<sup>3</sup> Country Regional Hospital - Government Hospital in regional centres.

<sup>4</sup> Other Country Hospital - Government and Board Hospitals.

<sup>5</sup> BBA - born before arrival at hospital.

**Table 10: Place of confinement of women confined in Western Australia, 1986-2000**

Year of Birth	Place of Birth									
	Teaching		Public		Private		Home Birth		BBA	
	No.	%	No.	%	No.	%	No.	%	No.	%
1986	4921	20.8	11977	50.7	6483	27.5	174	0.7	48	0.2
1987	4625	19.4	12008	50.3	7053	29.5	144	0.6	65	0.3
1988	4766	19.2	12361	49.8	7420	29.9	175	0.7	79	0.3
1989	4675	18.6	12751	50.7	7478	29.7	176	0.7	77	0.3
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	45.6	8633	34.8	122	0.5	79	0.3

## Pregnancy Profile

**Table 11: Parity and Aboriginality of women confined in Western Australia, 2000**

Parity	Aboriginality of Mother				TOTAL	
	Aboriginal		Non-Aboriginal		No.	%
	No.	%	No.	%	No.	%
0	449	28.1	9776	42.1	10225	41.2
1-2	622	38.9	11404	49.1	12026	48.5
3-4	359	22.5	1746	7.5	2105	8.5
>= 5	168	10.5	294	1.3	462	1.9
<b>TOTAL</b>	<b>1598</b>	<b>100.0</b>	<b>23220</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

**Table 12: Parity and age of women confined in Western Australia, 2000**

Parity	Maternal Age						TOTAL	
	<= 19		20-34		>= 35		No.	%
	No.	%	No.	%	No.	%	No.	%
0	1218	82.4	8069	41.7	938	23.6	10225	41.2
1-2	256	17.3	9578	49.5	2192	55.2	12026	48.5
3-4	5	0.3	1455	7.5	645	16.2	2105	8.5
>= 5	-	-	265	1.4	197	5.0	462	1.9
<b>TOTAL</b>	<b>1479</b>	<b>100.0</b>	<b>19367</b>	<b>100.0</b>	<b>3972</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

**Table 13: Parity of women confined in Western Australia, 1986-2000**

Year of Birth	Number of Women	Parity				Average Parity
		0 %	1-2 %	3-4 %	>= 5 %	
1986	23603	38.9	51.4	8.5	1.2	1.04
1987	23895	38.9	51.3	8.5	1.3	1.04
1988	24801	38.6	51.4	8.7	1.3	1.05
1989	25157	39.5	50.2	8.9	1.4	1.05
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

**Table 14: Socioeconomic status and age of women resident in metropolitan Health Services confined in Western Australia, 2000**

Socio-economic Status <sup>1</sup>	Women Confined		Maternal Age						Parity ≥ 5	
			≤ 17		18-34		≥ 35			
	No.	%	No.	%	No.	%	No.	%	No.	%
I	3424	19.1	11	0.1	2525	14.1	888	5.0	25	0.1
II	4608	25.7	53	0.3	3680	20.5	875	4.9	66	0.4
III	4894	27.3	73	0.4	4120	23.0	701	3.9	79	0.4
IV	4996	27.9	143	0.8	4158	23.2	695	3.9	100	0.6
<b>TOTAL</b>	<b>17922</b>	<b>100.0</b>	<b>280</b>	<b>1.6</b>	<b>14483</b>	<b>80.8</b>	<b>3159</b>	<b>17.6</b>	<b>270</b>	<b>1.5</b>

<sup>1</sup> Socioeconomic status is in accord with the socioeconomic indices for areas, a postcode-based indicator constructed by the Australian Bureau of Statistics using 1996 Census data. Postcodes were allocated to four groups based on the socioeconomic status. Group I has the highest socioeconomic status and group IV has the lowest.

**Table 15: Age-specific birth rates and Aboriginality for women confined in Western Australia, 2000**

Age	Aboriginality of Mother						TOTAL		
	Aboriginal			Non-Aboriginal			Births	Population	Birth Rate <sup>1</sup>
	Births	Population	Birth Rate <sup>1</sup>	Births	Population	Birth Rate <sup>1</sup>			
15-19	370	2917	126.8	1094	64468	17.0	1464	67385	21.7
20-24	492	2370	207.6	3733	66020	56.5	4225	68390	61.8
25-29	416	2336	178.1	7329	69134	106.0	7745	71470	108.4
30-34	215	2301	93.4	7488	67335	111.2	7703	69636	110.6
35-39	81	1953	41.5	3380	72309	46.7	3461	74262	46.6
40-44	20	1651	12.1	569	71141	8.0	589	72792	8.1
<b>TOTAL</b>	<b>1594</b>	<b>13528</b>	<b>117.8</b>	<b>23593</b>	<b>410407</b>	<b>57.5</b>	<b>25187</b>	<b>423935</b>	<b>59.4</b>

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

SOURCE: Estimated resident population, Health Information Centre, HDWA 2000.



**Table 16: Age-specific birth rates<sup>1</sup> by age and Aboriginality of mother in Western Australia, 1986-2000**

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			
1986	156.4	158.6	17.6	19.3	110.4	16.9	24.9	111.7	16.9
1987	159.1	166.7	23.3	17.9	109.2	16.8	23.5	110.9	16.9
1988	181.6	167.7	19.3	18.9	109.9	18.5	25.2	111.6	18.5
1989	165.2	169.4	20.8	18.7	108.6	18.6	24.4	110.4	18.7
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

<sup>1</sup> 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 confined in Western Australia, 2000**

Complications of Pregnancy <sup>1</sup>	Plurality				TOTAL	
	Singleton		Multiple		No.	% <sup>4</sup>
	No.	% <sup>2</sup>	No.	% <sup>3</sup>		
Threatened abortion	1399	5.7	39	9.8	1438	5.8
Threatened preterm labour	658	2.7	40	10.0	698	2.8
Urinary tract infection	1054	4.3	13	3.3	1067	4.3
Pre-eclampsia	1386	5.7	63	15.8	1449	5.8
Antepartum haemorrhage						
- placenta praevia	164	0.7	4	1.0	168	0.7
- abruptio	138	0.6	1	0.3	139	0.6
- other	625	2.6	13	3.3	638	2.6
Premature rupture of membranes	1229	5.0	40	10.0	1269	5.1
Gestational diabetes	856	3.5	22	5.5	878	3.5
Other	4215	17.3	249	62.4	4464	18.0
<b>No complications of pregnancy</b>	15000	61.4	78	19.5	15078	60.8

<sup>1</sup> A woman may have more than one complication of pregnancy.

<sup>2</sup> Percentage of women with a singleton pregnancy.

<sup>3</sup> Percentage of women with a multiple pregnancy.

<sup>4</sup> Percentage of women confined.

**Table 18: Selected pre-existing medical conditions for women confined in Western Australia, 2000**

Medical Conditions <sup>1</sup>	% of women	
	No.	confined
Asthma	2505	10.1
Cardiac murmurs	194	0.8
Genital herpes	474	1.9
Essential hypertension	199	0.8
Thyroid disorders	280	1.1
Epilepsy	144	0.6
Urinary tract infection	78	0.3
Anaemia	88	0.4
Bronchial disorders	42	0.2
Cervical dysplasia	236	1.0
Vaginal infections	159	0.6
Spinal deformities/disorders	159	0.6
Pre-existing diabetes	119	0.5
Psychological disorders	1023	4.1
Other	2148	8.7
<b>No medical conditions</b>	<b>18163</b>	<b>73.2</b>

<sup>1</sup> A woman may have more than one medical condition.

### Labour and Delivery

**Table 19: Onset of labour and plurality of women confined in Western Australia, 2000**

Onset of Labour	Plurality				TOTAL	
	Singleton		Multiple		No	%
	No.	%	No	%		
Spontaneous	13603	55.7	142	35.6	13745	55.4
Induced	7170	29.4	97	24.3	7267	29.3
No Labour	3646	14.9	160	40.1	3806	15.3
<b>TOTAL</b>	<b>24419</b>	<b>100.0</b>	<b>399</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

**Table 20: Onset and augmentation of labour and type of delivery for women confined in Western Australia, 2000**

Onset and Augmentation of Labour	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%	No.	%
Spontaneous onset no augmentation	6386	25.7	693	2.8	-	-	880	3.5	7959	32.1
Spontaneous onset and augmentation	3955	15.9	1260	5.1	-	-	571	2.3	5786	23.3
Induced onset	4757	19.2	1487	6.0	-	-	1023	4.1	7267	29.3
No Labour	-	-	-	-	3520	14.2	286	1.2	3806	15.3
<b>TOTAL</b>	<b>15098</b>	<b>60.8</b>	<b>3440</b>	<b>13.9</b>	<b>3520</b>	<b>14.2</b>	<b>2760</b>	<b>11.1</b>	<b>24818</b>	<b>100.0</b>

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 confined in Western Australia, 2000**

Type of Augmentation	Hours of Established Labour						TOTAL
	< 1	1-4	5-12	13-18	19-24	> 24	No.
	No.	No.	No.	No.	No.	No.	No.
None	556	3526	3415	328	75	27	7927
Oxytocin	61	323	759	235	49	19	1446
Artificial rupture of membranes	58	981	1793	289	55	14	3190
Oxytocin and ARM	25	173	557	237	90	28	1110
Other	6	14	15	3	-	-	38
<b>TOTAL</b>	<b>706</b>	<b>5017</b>	<b>6539</b>	<b>1092</b>	<b>269</b>	<b>88</b>	<b>13711</b>
	%	%	%	%	%	%	%
None	78.8	70.3	52.2	30.0	27.9	30.7	57.8
Oxytocin	8.6	6.4	11.6	21.5	18.2	21.6	10.5
Artificial rupture of membranes	8.2	19.6	27.4	26.5	20.4	15.9	23.3
Oxytocin and ARM	3.5	3.4	8.5	21.7	33.5	31.8	8.1
Other	0.8	0.3	0.2	0.3	-	-	0.3
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Excludes 24 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, 2000**

Type of Induction	Type of Delivery						TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%		
Oxytocin	315	61.9	106	20.8	88	17.3	509	100.0
Prostaglandin	543	58.8	175	18.9	206	22.3	924	100.0
Artificial rupture of membrane	560	81.0	76	11.0	55	8.0	691	100.0
Oxytocin and ARM	2294	70.2	670	20.5	303	9.3	3267	100.0
Prostaglandin and ARM	402	69.1	109	18.7	71	12.2	582	100.0
Prostaglandin and Oxytocin	85	37.9	80	35.7	59	26.3	224	100.0
Prostaglandin, Oxytocin and ARM	539	51.5	270	25.8	237	22.7	1046	100.0
Other	19	79.2	1	4.2	4	16.7	24	100.0
<b>TOTAL</b>	<b>4757</b>	<b>65.5</b>	<b>1487</b>	<b>20.5</b>	<b>1023</b>	<b>14.1</b>	<b>7267</b>	<b>100.0</b>

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 confined in Western Australia, 1986-2000**

Year of Birth	Onset of Labour						TOTAL	
	Spontaneous		Induced		No Labour		No.	%
	No.	%	No.	%	No.	%		
1986	14824	63.5	6280	26.9	2224	9.5	23328	100.0
1987	14959	63.4	6183	26.2	2450	10.4	23592	100.0
1988	15688	64.1	6330	25.9	2443	10.0	24461	100.0
1989	15758	63.5	6386	25.8	2653	10.7	24797	100.0
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	24744	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

**Table 24: Analgesia and type of delivery for women confined in Western Australia, 2000**

Type of Analgesia	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
None	3589	14.5	162	0.7	3520	14.2	846	3.4	8117	32.7
Nitrous oxide	3202	12.9	242	1.0	-	-	65	0.3	3509	14.1
Intra-muscular narcotics	4115	16.6	497	2.0	-	-	208	0.8	4820	19.4
Epidural	3852	15.5	2416	9.7	-	-	1407	5.7	7675	30.9
Spinal	181	0.7	116	0.5	-	-	227	0.9	524	2.1
Other	159	0.6	7	0.0	-	-	7	0.0	173	0.7
<b>TOTAL</b>	<b>15098</b>	<b>60.8</b>	<b>3440</b>	<b>13.9</b>	<b>3520</b>	<b>14.2</b>	<b>2760</b>	<b>11.1</b>	<b>24818</b>	<b>100.0</b>

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

**Table 25: Anaesthesia and type of delivery for women confined in Western Australia, 2000**

Type of Anaesthesia	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
None	9651	38.9	270	1.1	-	-	-	-	9921	40.0
Local anaesthesia to perineum	1301	5.2	360	1.5	-	-	-	-	1661	6.7
Pudendal	50	0.2	236	1.0	-	-	-	-	286	1.2
Epidural	3802	15.3	2477	10.0	1986	8.0	1743	7.0	10008	40.3
Spinal	100	0.4	84	0.3	1303	5.3	696	2.8	2183	8.8
General with Epidural or Spinal	2	0.0	-	-	37	0.1	69	0.3	108	0.4
General	18	0.1	4	0.0	194	0.8	252	1.0	468	1.9
Other	174	0.7	9	0.0	-	-	-	-	183	0.7
<b>TOTAL</b>	<b>15098</b>	<b>60.8</b>	<b>3440</b>	<b>13.9</b>	<b>3520</b>	<b>14.2</b>	<b>2760</b>	<b>11.1</b>	<b>24818</b>	<b>100.0</b>

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

**Table 26: Epidural and general anaesthesia/analgesia for women confined by caesarean section in Western Australia, 1986-2000**

Year of Birth	Type of Delivery								Number of Caesareans	
	Elective Caesarean				Emergency Caesarean				Elective No.	Emerg. No.
	Epidural		General		Epidural		General			
No.	%	No.	%	No.	%	No.	%	No.	No.	
1986	1089	58.8	622	33.6	868	47.3	823	44.9	1851	1835
1987	1436	69.6	610	29.6	1008	51.2	931	47.3	2063	1967
1988	1562	71.1	632	28.8	1047	52.5	929	46.5	2198	1996
1989	1774	75.3	582	24.7	1258	57.6	907	41.5	2357	2184
1990	1923	77.1	570	22.9	1436	61.4	902	38.6	2493	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

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, 2000**

Type of Delivery	Presentation						TOTAL	
	Vertex		Breech		Other		No.	%
	No.	%	No.	%	No.	%		
Normal	14944	64.3	6	0.6	54	27.4	15004	61.4
Vacuum	2202	9.5	-	-	8	4.1	2210	9.1
Forceps	1018	4.4	-	-	9	4.6	1027	4.2
Breech Manoeuvre	-	-	125	12.7	2	1.0	127	0.5
Elective Caesarean	2741	11.8	602	60.9	46	23.4	3389	13.9
Emergency Caesarean	2329	10.0	255	25.8	78	39.6	2662	10.9
<b>TOTAL</b>	<b>23234</b>	<b>100.0</b>	<b>988</b>	<b>100.0</b>	<b>197</b>	<b>100.0</b>	<b>24419</b>	<b>100.0</b>

**Table 28: Type of delivery and plurality of women confined in Western Australia, 2000**

Type of Delivery	Plurality						TOTAL	
	Singleton		Twin		Triplet		No.	%
	No.	%	No.	%	No.	%		
Normal	15004	61.4	94	24.3	-	-	15098	60.8
Vacuum	2210	9.1	31	8.0	-	-	2241	9.0
Forceps	1027	4.2	32	8.3	-	-	1059	4.3
Breech Manoeuvre	127	0.5	12	3.1	1	8.3	140	0.6
Elective Caesarean	3389	13.9	127	32.8	4	33.3	3520	14.2
Emergency Caesarean	2662	10.9	91	23.5	7	58.3	2760	11.1
<b>TOTAL</b>	<b>24419</b>	<b>100.0</b>	<b>387</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

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

**Table 29: Type of delivery and parity of women confined in Western Australia, 2000**

Type of Delivery	Parity								TOTAL	
	0		1-2		3-4		>= 5		No.	%
	No.	%	No.	%	No.	%	No.	%		
Spontaneous Vaginal	4967	48.6	8212	68.3	1567	74.4	352	76.2	15098	60.8
Assisted Vaginal	2547	24.9	800	6.7	80	3.8	13	2.8	3440	13.9
Elective Caesarean	970	9.5	2201	18.3	294	14.0	55	11.9	3520	14.2
Emergency Caesarean	1741	17.0	813	6.8	164	7.8	42	9.1	2760	11.1
<b>TOTAL</b>	<b>10225</b>	<b>100.0</b>	<b>12026</b>	<b>100.0</b>	<b>2105</b>	<b>100.0</b>	<b>462</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

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 confined in Western Australia, 2000**

Previous delivery	Type of Delivery								TOTAL	
	Spontaneous		Assisted Vaginal		Elective		Emergency		No.	%
	No.	%	No.	%	No.	%	No.	%		
First delivery	4967	48.6	2547	24.9	970	9.5	1741	17.0	10225	100.0
Previous deliveries no caesareans	9669	83.9	743	6.4	569	4.9	539	4.7	11520	100.0
Previous caesarean, last delivery vaginal	210	66.7	26	8.3	51	16.2	28	8.9	315	100.0
Previous caesarean, last delivery caesarean	252	9.1	124	4.5	1930	70.0	452	16.4	2758	100.0
<b>TOTAL</b>	<b>15098</b>	<b>60.8</b>	<b>3440</b>	<b>13.9</b>	<b>3520</b>	<b>14.2</b>	<b>2760</b>	<b>11.1</b>	<b>24818</b>	<b>100.0</b>

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 confined in Western Australia, 2000**

Place of Birth	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
<b>Metropolitan</b>										
Teaching	2803	60.0	621	13.3	514	11.0	733	15.7	4671	100.0
Departmental	3946	63.9	737	11.9	874	14.1	622	10.1	6179	100.0
Private	4174	51.0	1402	17.1	1629	19.9	983	12.0	8188	100.0
<b>Country</b>										
Regional	2185	70.7	376	12.2	270	8.7	259	8.4	3090	100.0
Private	256	57.5	94	21.1	60	13.5	35	7.9	445	100.0
Other	1533	75.0	210	10.3	173	8.5	128	6.3	2044	100.0
<b>Non-hospital</b>	201	100.0	-	-	-	-	-	-	201	100.0
<b>TOTAL</b>	<b>15098</b>	<b>60.8</b>	<b>3440</b>	<b>13.9</b>	<b>3520</b>	<b>14.2</b>	<b>2760</b>	<b>11.1</b>	<b>24818</b>	<b>100.0</b>

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

**Table 32: Type of delivery for women confined in Western Australia, 1986-2000**

Year of Birth	Type of Delivery								TOTAL	
	Spontaneous Vaginal		Assisted Vaginal		Elective Caesarean		Emergency Caesarean		No.	%
	No.	%	No.	%	No.	%	No.	%		
1986	14944	63.3	4973	21.1	1851	7.8	1835	7.8	23603	100.0
1987	15135	63.3	4730	19.8	2063	8.6	1967	8.2	23895	100.0
1988	16160	65.2	4447	17.9	2198	8.9	1996	8.0	24801	100.0
1989	16133	64.1	4483	17.8	2357	9.4	2184	8.7	25157	100.0
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

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 confined by caesarean section in Western Australia, 2000**

Number of complications of labour and delivery	Elective Caesarean		Emergency Caesarean		TOTAL	
	No.	%	No.	%	No.	%
1	2775	78.8	1325	48.0	4100	65.3
2	600	17.0	750	27.2	1350	21.5
3	105	3.0	366	13.3	471	7.5
4	28	0.8	196	7.1	224	3.6
5	11	0.3	82	3.0	93	1.5
6	1	0.0	27	1.0	28	0.4
7	-	-	11	0.4	11	0.2
8	-	-	2	0.1	2	0.0
9	-	-	1	0.0	1	0.0
<b>TOTAL</b>	<b>3520</b>	<b>100.0</b>	<b>2760</b>	<b>100.0</b>	<b>6280</b>	<b>100.0</b>

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

**Table 34: Complications of labour and delivery for women confined by caesarean section in Western Australia, 2000**

Complications of labour and delivery <sup>1</sup>	Elective Caesarean		Emergency Caesarean		TOTAL	
	No.	%	No.	%	No.	%
Umbilical cord complications	30	0.7	133	2.5	163	1.7
Cephalopelvic disproportion	399	8.9	315	5.9	714	7.3
Breech and other malpresentation	752	16.8	404	7.5	1156	11.7
Previous caesarean section or other uterine surgery	2026	45.4	547	10.2	2573	26.1
Fetal distress	35	0.8	1019	18.9	1054	10.7
Multiple pregnancy	113	2.5	73	1.4	186	1.9
Pregnancy- induced disorders	253	5.7	318	5.9	571	5.8
Obstruction or delayed labour	-	-	1001	18.6	1001	10.2
Abnormal forces of labour	-	-	539	10.0	539	5.5
Placental disorders/haemorrhage	328	7.3	544	10.1	872	8.9
Medical/Physiological	56	1.3	31	0.6	87	0.9
Infection	27	0.6	120	2.2	147	1.5
Previous poor obstetric and/or reproductive history	134	3.0	10	0.2	144	1.5
Other	310	6.9	327	6.1	637	6.5
<b>TOTAL</b>	<b>4463</b>	<b>100.0</b>	<b>5381</b>	<b>100.0</b>	<b>9844</b>	<b>100.0</b>

<sup>1</sup> A woman may have more than one complication of labour and delivery.

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 confined in Western Australia, 2000**

Hours of Labour	Onset of Labour			
	Spontaneous		Induction	
	No.	%	No.	%
< 1	706	5.1	460	6.3
1-4	5017	36.6	3470	47.8
5-12	6539	47.7	3005	41.4
13-18	1092	8.0	277	3.8
19-24	269	2.0	45	0.6
> 24	88	0.6	8	0.1
<b>TOTAL</b>	<b>13711</b>	<b>100.0</b>	<b>7265</b>	<b>100.0</b>

Excludes 3,806 women who did not experience labour and 36 women for whom hours of established labour were not recorded.

**Table 36: Type of delivery and hours of established labour for women confined in Western Australia, 2000**

Type of Delivery	Hours of Established Labour							TOTAL No.
	No Labour No.	< 1 No.	1-4 No.	5-12 No.	13-18 No.	19-24 No.	> 24 No.	
Normal	-	227	7438	6583	646	126	46	15066
Vacuum	-	2	429	1425	313	55	16	2240
Forceps	-	2	177	685	136	47	12	1059
Breech Manoeuvre	-	3	65	56	10	3	-	137
Elective Caesarean	3520	-	-	-	-	-	-	3520
Emergency Caesarean	286	932	378	795	264	83	22	2760
<b>TOTAL</b>	<b>3806</b>	<b>1166</b>	<b>8487</b>	<b>9544</b>	<b>1369</b>	<b>314</b>	<b>96</b>	<b>24782</b>
	%	%	%	%	%	%	%	%
Normal	-	19.5	87.6	69.0	47.2	40.1	47.9	60.8
Vacuum	-	0.2	5.1	14.9	22.9	17.5	16.7	9.0
Forceps	-	0.2	2.1	7.2	9.9	15.0	12.5	4.3
Breech Manoeuvre	-	0.3	0.8	0.6	0.7	1.0	-	0.6
Elective Caesarean	92.5	-	-	-	-	-	-	14.2
Emergency Caesarean	7.5	79.9	4.5	8.3	19.3	26.4	22.9	11.1
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Excludes 36 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 confined in Western Australia, 2000**

Complications of Labour and Delivery <sup>1</sup>	Plurality				TOTAL	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Precipitate delivery	1335	5.5	3	0.8	1338	5.4
Fetal distress	3443	14.1	26	6.5	3469	14.0
Prolapsed cord	34	0.1	1	0.3	35	0.1
Cord tightly around neck	1421	5.8	3	0.8	1424	5.7
Cephalopelvic disproportion	627	2.6	1	0.3	628	2.5
Post partum haemorrhage	1664	6.8	82	20.6	1746	7.0
Retained placenta - manual removal	328	1.3	6	1.5	334	1.3
Persistent occipito posterior	538	2.2	6	1.5	544	2.2
Shoulder dystocia	363	1.5	0	0.0	363	1.5
Failure to progress <= 3cms	524	2.1	4	1.0	528	2.1
Failure to progress > 3cms	847	3.5	16	4.0	863	3.5
Previous caesarean section	2994	12.3	54	13.5	3048	12.3
Other	5547	22.7	310	77.7	5857	23.6
<b>No complications of labour and delivery</b>	<b>10075</b>	<b>41.3</b>	<b>46</b>	<b>11.5</b>	<b>10121</b>	<b>40.8</b>

<sup>1</sup> A woman may have more than one complication of labour and delivery.

**Table 38: Type of delivery and accoucheur of women confined in Western Australia, 2000**

Accoucheur	Type of Delivery								TOTAL	
	Spontaneous		Assisted Vaginal		Elective		Emergency		No.	%
	No.	%	No.	%	No.	%	No.	%		
Obstetrician	2339	15.5	1765	51.3	2647	75.2	1757	63.7	8508	34.3
Other Medical Officer	2271	15.0	1626	47.3	873	24.8	1003	36.3	5773	23.3
Midwife	9584	63.5	47	1.4	-	-	-	-	9631	38.8
Student	810	5.4	-	-	-	-	-	-	810	3.3
Self/no attendant	41	0.3	2	0.1	-	-	-	-	43	0.2
Other	53	0.4	-	-	-	-	-	-	53	0.2
<b>TOTAL</b>	<b>15098</b>	<b>100.0</b>	<b>3440</b>	<b>100.0</b>	<b>3520</b>	<b>100.0</b>	<b>2760</b>	<b>100.0</b>	<b>24818</b>	<b>100.0</b>

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 confined in Western Australia, 2000**

Type of Delivery	Repair of perineum and/or Vagina					TOTAL No.
	None No.	Episiotomy No.	1 or 2 degree tear No.	3 or 4 degree tear No.	Other No.	
Normal	6774	2061	5532	130	601	15098
Vacuum	294	1195	656	37	59	2241
Forceps	54	843	132	14	16	1059
Breech Manoeuvre	97	34	9	-	-	140
Elective Caesarean	3520	-	-	-	-	3520
Emergency Caesarean	2734	10	-	-	16	2760
<b>TOTAL</b>	<b>13473</b>	<b>4143</b>	<b>6329</b>	<b>181</b>	<b>692</b>	<b>24818</b>
	%	%	%	%	%	%
Normal	50.3	49.7	87.4	71.8	86.8	60.8
Vacuum	2.2	28.8	10.4	20.4	8.5	9.0
Forceps	0.4	20.3	2.1	7.7	2.3	4.3
Breech Manoeuvre	0.7	0.8	0.1	-	-	0.6
Elective Caesarean	26.1	-	-	-	-	14.2
Emergency Caesarean	20.3	0.2	-	-	2.3	11.1
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

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, 1986-2000**

Year of Birth	Condition at Birth				TOTAL No.	Crude Birth Rate <sup>1</sup>
	Livebirth		Fetal death			
	No.	%	No.	%		
1986	23703	99.2	185	0.8	23888	16.2
1987	24015	99.2	191	0.8	24206	16.1
1988	24980	99.3	177	0.7	25157	16.3
1989	25359	99.3	184	0.7	25543	16.1
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	25023	99.2	206	0.8	25229	13.3

<sup>1</sup> 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, 2000**

Gender	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	%
	No.	%	No.	%		
Male	12666	50.6	101	49.0	12767	50.6
Female	12357	49.4	105	51.0	12462	49.4
<b>TOTAL</b>	<b>25023</b>	<b>100.0</b>	<b>206</b>	<b>100.0</b>	<b>25229</b>	<b>100.0</b>

**Table 42: Condition at birth and Aboriginality of mother for births in Western Australia, 2000**

Aboriginality of Mother	Condition at Birth				TOTAL		Fetal death rate
	Livebirth		Fetal death		No.	%	
	No.	%	No.	%			
Aboriginal	1588	6.3	27	13.1	1615	6.4	16.7
Non-Aboriginal	23435	93.7	179	86.9	23614	93.6	7.6
<b>TOTAL</b>	<b>25023</b>	<b>100.0</b>	<b>206</b>	<b>100.0</b>	<b>25229</b>	<b>100.0</b>	<b>8.2</b>

**Table 43: Condition at birth and place of birth for births in Western Australia, 2000**

Place of Birth	Condition at Birth				TOTAL		Fetal death rate
	Livebirth		Fetal death		No.	%	
	No.	%	No.	%			
<b>Metropolitan</b>							
Teaching	4740	18.9	121	58.7	4861	19.3	24.9
Department	6212	24.8	14	6.8	6226	24.7	2.2
Private	8283	33.1	31	15.0	8314	33.0	3.7
<b>Country</b>							
Regional	3104	12.4	22	10.7	3126	12.4	7.0
Private	455	1.8	2	1.0	457	1.8	4.4
Other	2034	8.1	10	4.9	2044	8.1	4.9
<b>Non-Hospital</b>							
Homebirths	122	0.5	-	-	122	0.5	-
BBA	73	0.3	6	2.9	79	0.3	75.9
<b>TOTAL</b>	<b>25023</b>	<b>100.0</b>	<b>206</b>	<b>100.0</b>	<b>25229</b>	<b>100.0</b>	<b>8.2</b>

**Table 44: Plurality of all births in Western Australia, 1986-2000**

Year of Birth	Plurality							
	Singleton		Twins		Triplets		Other Multiple	
	No.	%	No.	%	No.	%	No.	%
1986	23328	97.7	532	2.2	24	0.1	4	0.0
1987	23592	97.5	590	2.4	24	0.1	-	-
1988	24461	97.2	648	2.6	48	0.2	-	-
1989	24797	97.1	676	2.6	57	0.2	13	0.1
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	-	-

**Table 45: Apgar score at one minute and time to spontaneous respiration of livebirths in Western Australia, 2000**

Time to Spontaneous Respiration	Apgar Score at 1 Minute								TOTAL	
	0		1-3		4-7		8-10			
	No.	%	No.	%	No.	%	No.	%	No.	%
<= 1	0	0.0	30	7.7	3034	61.0	19146	97.6	22210	88.9
2-3	-	-	66	16.9	1480	29.7	400	2.0	1946	7.8
4-6	-	-	114	29.2	256	5.1	34	0.2	404	1.6
7-10	1	12.5	19	4.9	34	0.7	2	-	56	0.2
> 10	-	-	4	1.0	3	0.1	-	-	7	0.0
Intubation <sup>1</sup>	7	87.5	157	40.3	168	3.4	25	0.1	357	1.4
<b>TOTAL</b>	<b>8</b>	<b>100.0</b>	<b>390</b>	<b>100.0</b>	<b>4975</b>	<b>100.0</b>	<b>19607</b>	<b>100.0</b>	<b>24980</b>	<b>100.0</b>

Excludes 43 livebirths for whom Apgar Score at 1 minute and/or T.S.R. were unknown.

<sup>1</sup> These babies were intubated at birth and T.S.R. was not recorded.

**Table 46: Apgar score at five minutes and time to spontaneous respiration of livebirths in Western Australia, 2000**

Time to Spontaneous Respiration	Apgar Score at 5 Minutes								TOTAL	
	0		1-3		4-7		8-10		No.	%
<= 1	3	60.0	11	20.4	171	26.8	22030	90.7	22215	88.9
2-3	-	-	-	-	120	18.8	1826	7.5	1946	7.8
4-6	-	-	3	5.6	135	21.2	266	1.1	404	1.6
7-10	-	-	9	16.7	42	6.6	5	0.0	56	0.2
> 10	-	-	1	1.9	6	0.9	-	-	7	0.0
Intubation <sup>1</sup>	2	40.0	30	55.6	164	25.7	161	0.7	357	1.4
<b>TOTAL</b>	<b>5</b>	<b>100.0</b>	<b>54</b>	<b>100.0</b>	<b>638</b>	<b>100.0</b>	<b>24288</b>	<b>100.0</b>	<b>24985</b>	<b>100.0</b>

Excludes 38 livebirths for whom Apgar Score at 5 minutes and/or T.S.R. were unknown.

<sup>1</sup> These babies were intubated at birth and T.S.R. was not recorded.

**Table 47: Apgar score at five minutes and resuscitation methods of livebirths in Western Australia, 2000**

Resuscitation	Apgar Score at 5 Minutes								TOTAL	
	0		1-3		4-7		8-10		No.	%
None	1	16.7	13	23.6	18	2.8	12147	50.0	12179	48.7
Suction Only	-	-	1	1.8	16	2.5	5907	24.3	5924	23.7
Oxygen	-	-	1	1.8	130	20.3	4509	18.6	4640	18.6
Therapy	-	-	8	14.5	279	43.6	1190	4.9	1477	5.9
Bag & Mask	-	-	19	34.5	162	25.3	159	0.7	340	1.4
Intubation	5	83.3	10	18.2	19	3.0	7	0.0	41	0.2
Ext Card Mass	-	-	3	5.5	16	2.5	375	1.5	394	1.6
Other	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>6</b>	<b>100.0</b>	<b>55</b>	<b>100.0</b>	<b>640</b>	<b>100.0</b>	<b>24294</b>	<b>100.0</b>	<b>24995</b>	<b>100.0</b>

Excludes 28 livebirths for whom Apgar Score at 5 minutes were unknown.

**Table 48: Birthweight and resuscitation methods of livebirths in Western Australia, 2000**

Resuscitation	Birthweight (grams)					TOTAL
	< 500 No.	500-1499 No.	1500-1999 No.	2000-2499 No.	> 2500 No.	No.
None	10	20	53	381	11733	12197
Suction Only	-	5	22	163	5736	5926
Oxygen Therapy	1	102	147	335	4056	4641
Bag & Mask	-	12	31	90	1345	1478
Intubation	1	105	31	37	168	342
Ext Card Mass	1	7	3	8	26	45
Other	-	1	5	22	365	393
<b>TOTAL</b>	<b>13</b>	<b>252</b>	<b>292</b>	<b>1036</b>	<b>23429</b>	<b>25022</b>
	%	%	%	%	%	%
None	76.9	7.9	18.2	36.8	50.1	48.7
Suction Only	-	2.0	7.5	15.7	24.5	23.7
Oxygen Therapy	-	40.5	50.3	32.3	17.3	18.5
Bag & Mask	-	4.8	10.6	8.7	5.7	5.9
Intubation	7.7	41.7	10.6	3.6	0.7	1.4
Ext Card Mass	-	2.8	-	-	0.1	0.2
Other	-	0.4	-	2.1	1.6	1.6
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Excludes 1 livebirth for whom birthweight was unknown.

**Table 49: Birthweight distribution and Aboriginality of mother for births in Western Australia, 2000**

Birthweight (grams)	Aboriginality of Mother				TOTAL	
	Aboriginal No.	%	Non-Aboriginal No.	%	No.	%
< 500	15	0.9	87	0.4	102	0.4
500-999	21	1.3	112	0.5	133	0.5
1000-1499	26	1.6	138	0.6	164	0.7
1500-1999	33	2.0	268	1.1	301	1.2
2000-2499	137	8.5	916	3.9	1053	4.2
<b>&lt; 2500</b>	<b>232</b>	<b>14.4</b>	<b>1521</b>	<b>6.4</b>	<b>1753</b>	<b>6.9</b>
2500-2999	384	23.8	3563	15.1	3947	15.6
3000-3499	567	35.1	8550	36.2	9117	36.1
3500-3999	305	18.9	7320	31.0	7625	30.2
4000-4499	101	6.3	2292	9.7	2393	9.5
>= 4500	26	1.6	367	1.6	393	1.6
<b>TOTAL</b>	<b>1615</b>	<b>100.0</b>	<b>23613</b>	<b>100.0</b>	<b>25228</b>	<b>100.0</b>

Excludes 1 birth for whom birthweight was unknown.

Mean = 3338.4 grams. Standard deviation = 616.4 grams.



**Table 50: Low birthweight and very low birthweight by Aboriginality of mother for births in Western Australia, 1986-2000**

Year of Birth	Aboriginality of Mother							
	Aboriginal				Non-Aboriginal			
	Low birthweight <sup>1</sup>		Very low birthweight <sup>2</sup>		Low birthweight <sup>1</sup>		Very low birthweight <sup>2</sup>	
	No.	%	No.	%	No.	%	No.	%
1986	151	12.1	32	2.6	1329	5.9	305	1.3
1987	148	11.0	31	2.3	1405	6.1	311	1.4
1988	197	13.6	44	3.0	1420	6.0	340	1.4
1989	163	11.2	40	2.8	1573	6.5	356	1.5
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

<sup>1</sup> Low birthweight - less than 2500 grams.

<sup>2</sup> Very low birthweight - less than 1500 grams.

**Table 51: Birthweight distribution and condition at birth for total births in Western Australia, 2000**

Birthweight (grams)	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	%
	No.	%	No.	%		
< 500	13	0.1	89	43.2	102	0.4
500-999	96	0.4	37	18.0	133	0.5
1000-1499	156	0.6	8	3.9	164	0.7
1500-1999	292	1.2	9	4.4	301	1.2
2000-2499	1036	4.1	17	8.3	1053	4.2
<b>&lt; 2500</b>	<b>1593</b>	<b>6.4</b>	<b>160</b>	<b>77.7</b>	<b>1753</b>	<b>6.9</b>
2500-2999	3932	15.7	15	7.3	3947	15.6
3000-3499	9098	36.4	19	9.2	9117	36.1
3500-3999	7617	30.4	8	3.9	7625	30.2
4000-4499	2389	9.5	4	1.9	2393	9.5
>= 4500	393	1.6	0	0.0	393	1.6
<b>TOTAL</b>	<b>25022</b>	<b>100.0</b>	<b>206</b>	<b>100.0</b>	<b>25228</b>	<b>100.0</b>

Excludes 1 birth for whom birthweight was unknown.

**Table 52: Birthweight distribution and condition at birth for singleton births in Western Australia, 2000**

Birthweight (grams)	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	%
	No.	%	No.	%		
< 500	13	0.1	74	39.6	87	0.4
500-999	69	0.3	36	19.3	105	0.4
1000-1499	108	0.4	7	3.7	115	0.5
1500-1999	184	0.8	9	4.8	193	0.8
2000-2499	804	3.3	15	8.0	819	3.4
<b>&lt; 2500</b>	<b>1178</b>	<b>4.9</b>	<b>141</b>	<b>75.4</b>	<b>1319</b>	<b>5.4</b>
2500-2999	3661	15.1	15	8.0	3676	15.1
3000-3499	9004	37.2	19	10.2	9023	37.0
3500-3999	7606	31.4	8	4.3	7614	31.2
4000-4499	2389	9.9	4	2.1	2393	9.8
>= 4500	393	1.6	-	-	393	1.6
<b>TOTAL</b>	<b>24231</b>	<b>100.0</b>	<b>187</b>	<b>100.0</b>	<b>24418</b>	<b>100.0</b>

Excludes 1 singleton birth for whom birthweight was unknown.

**Table 53: Birthweight distribution and condition at birth for multiple births in Western Australia, 2000**

Birthweight (grams)	Condition at Birth				TOTAL	
	Livebirth		Fetal death		No.	%
	No.	%	No.	%		
< 500	-	-	15	78.9	15	1.9
500-999	27	3.4	1	5.3	28	3.5
1000-1499	48	6.1	1	5.3	49	6.0
1500-1999	108	13.7	-	-	108	13.3
2000-2499	232	29.3	2	10.5	234	28.9
<b>&lt; 2500</b>	<b>415</b>	<b>52.5</b>	<b>19</b>	<b>100.0</b>	<b>434</b>	<b>53.6</b>
2500-2999	271	34.3	-	-	271	33.5
3000-3499	94	11.9	-	-	94	11.6
3500-3999	11	1.4	-	-	11	1.4
4000-4499	-	-	-	-	-	-
>= 4500	-	-	-	-	-	-
<b>TOTAL</b>	<b>791</b>	<b>100.0</b>	<b>19</b>	<b>100.0</b>	<b>810</b>	<b>100.0</b>

**Table 54: Birthweight distribution and gestation for total births in Western Australia, 2000**

Birthweight (grams)	Gestation (weeks)										TOTAL	
	20-27		28-32		33-36		37-42		≥ 43		No.	%
	No.	%	No.	%	No.	%	No.	%	No.	%		
< 500	97	45.1	5	1.6	-	-	-	-	-	-	102	0.4
500-999	98	45.6	34	10.7	1	0.1	-	-	-	-	133	0.5
1000-1499	20	9.3	125	39.2	19	1.2	18	0.1	-	-	182	0.7
1500-1999	-	-	120	37.6	163	10.4	465	2.0	-	-	748	3.0
2000-2499	-	-	30	9.4	558	35.7	3364	14.6	-	-	3952	15.7
<b>&lt; 2500</b>	<b>215</b>	<b>100.0</b>	<b>314</b>	<b>98.4</b>	<b>741</b>	<b>47.4</b>	<b>3847</b>	<b>16.6</b>	<b>-</b>	<b>-</b>	<b>5117</b>	<b>20.3</b>
2500-2999	-	-	1	0.3	580	37.1	8914	38.6	2	16.7	9497	37.6
3000-3499	-	-	3	0.9	196	12.5	7581	32.8	4	33.3	7784	30.9
3500-3999	-	-	1	0.3	40	2.6	2387	10.3	3	25.0	2431	9.6
4000-4499	-	-	-	-	3	0.2	389	1.7	3	25.0	395	1.6
≥ 4500	-	-	-	-	4	0.3	1	0.0	-	-	5	0.0
<b>TOTAL</b>	<b>215</b>	<b>100.0</b>	<b>319</b>	<b>100.0</b>	<b>1564</b>	<b>100.0</b>	<b>23119</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>25229</b>	<b>100.0</b>

Excludes 1 birth for whom birthweight was unknown.

**Table 55: Birthweight distribution and gestation for singleton births in Western Australia, 2000**

Birthweight (grams)	Gestation (weeks)										TOTAL	
	20-27		28-32		33-36		37-42		≥ 43		No.	%
	No.	%	No.	%	No.	%	No.	%	No.	%		
< 500	86	47.0	1	0.4	-	-	-	-	-	-	87	
500-999	80	43.7	25	11.0	-	-	-	-	-	-	105	0.4
1000-1499	17	9.3	84	37.0	14	1.1	-	-	-	-	115	0.5
1500-1999	-	-	86	37.9	94	7.7	13	0.1	-	-	193	0.8
2000-2499	-	-	27	11.9	395	32.4	397	1.7	-	-	819	3.4
<b>&lt; 2500</b>	<b>183</b>	<b>100.0</b>	<b>223</b>	<b>98.2</b>	<b>503</b>	<b>41.3</b>	<b>410</b>	<b>1.8</b>	<b>0</b>	<b>0.0</b>	<b>1319</b>	<b>5.4</b>
2500-2999	-	-	-	-	484	39.7	3190	14.0	2	16.7	3676	15.1
3000-3499	-	-	3	1.3	185	15.2	8831	38.8	4	33.3	9023	37.0
3500-3999	-	-	1	0.4	40	3.3	7570	33.2	3	25.0	7614	31.2
4000-4499	-	-	-	-	3	0.2	2387	10.5	3	25.0	2393	9.8
≥ 4500	-	-	-	-	4	0.3	389	1.7	-	-	393	1.6
<b>TOTAL</b>	<b>183</b>	<b>100.0</b>	<b>227</b>	<b>100.0</b>	<b>1219</b>	<b>100.0</b>	<b>22777</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>24418</b>	<b>100.0</b>

Excludes 1 singleton birth for whom birthweight was unknown.

**Table 56: Birthweight distribution and gestation for multiple births in Western Australia, 2000**

Birthweight (grams)	Gestation (weeks)										TOTAL	
	20-27		28-32		33-36		37-42		≥ 43		No.	%
	No.	%	No.	%	No.	%	No.	%	No.	%		
< 500	11	34.4	4	4.3	-	-	-	-	-	-	15	1.9
500-999	18	56.3	9	9.8	1	0.3	-	-	-	-	28	3.5
1000-1499	3	9.4	41	44.6	5	1.4	-	-	-	-	49	6.0
1500-1999	-	-	34	37.0	69	20.0	5	1.5	-	-	108	13.3
2000-2499	-	-	3	3.3	163	47.2	68	19.9	-	-	234	28.9
<b>&lt; 2500</b>	<b>32</b>	<b>100.0</b>	<b>91</b>	<b>98.9</b>	<b>238</b>	<b>69.0</b>	<b>73</b>	<b>21.4</b>	-	-	<b>434</b>	<b>53.6</b>
2500-2999	-	-	1	1.1	96	27.8	174	51.0	-	-	271	33.5
3000-3499	-	-	-	-	11	3.2	83	24.3	-	-	94	11.6
3500-3999	-	-	-	-	-	-	11	3.2	-	-	11	1.4
4000-4499	-	-	-	-	-	-	-	-	-	-	0	0.0
≥ 4500	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>32</b>	<b>100.0</b>	<b>92</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>	<b>341</b>	<b>100.0</b>	-	-	<b>810</b>	<b>100.0</b>

**Table 57: Births identified with birth defects in Western Australia, 1996-2000**

Diagnostic Category (and British Paediatric Association Code)	Year of Birth									
	1996		1997		1998		1999		2000	
	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>
Nervous System Defects (74000-74299)	95	3.7	103	4.1	105	4.1	92	3.6	93	3.7
Cardiovascular Defects (74500-74799)	330	12.9	317	12.6	292	11.4	322	12.9	311	12.3
Respiratory System Defects (74800-74899)	44	1.7	35	1.4	30	1.2	39	1.5	30	1.2
Gastro-Intestinal Defects (74900-75199)	155	6.1	193	7.6	149	5.8	161	6.3	134	5.3
Uro-Genital Defects (75200-75399)	462	18.1	443	17.5	409	15.9	353	13.7	320	12.7
Musculo-Skeletal Defects (75400-75699)	509	19.9	457	18.1	422	16.4	416	16.2	410	16.2
Chromosome Defects (75800-75899)	101	3.9	112	4.4	102	4.0	109	4.2	152	6.0

<sup>1</sup> Rate per 1000 births

SOURCE: Western Australian Birth Defects Registry.

**Table 58: Length of stay in special care and plurality for livebirths in Western Australia, 2000**

Length of Stay <sup>1</sup> (days)	Plurality				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
1	497	30.0	38	11.7	535	27.0
2	256	15.4	21	6.5	277	14.0
3	131	7.9	17	5.2	148	7.5
4	100	6.0	10	3.1	110	5.5
5	79	4.8	8	2.5	87	4.4
6	53	3.2	17	5.2	70	3.5
7	42	2.5	7	2.2	49	2.5
8-14	190	11.5	64	19.7	254	12.8
15-20	97	5.9	50	15.4	147	7.4
21-28	57	3.4	23	7.1	80	4.0
29-60	94	5.7	40	12.3	134	6.8
61-90	37	2.2	23	7.1	60	3.0
91-180	23	1.4	7	2.2	30	1.5
> 180	1	0.1	-	-	1	0.1
<b>TOTAL</b>	<b>1657</b>	<b>100.0</b>	<b>325</b>	<b>100.0</b>	<b>1982</b>	<b>100.0</b>

<sup>1</sup> Excludes births with less than 24 hours stay in Special Care Nurseries.

**Table 59: Length of stay in hospital of birth and birthweight distribution of livebirths in Western Australia, 2000**

Birthweight (grams)	Length of Stay (days)						TOTAL
	<=1 No.	2-7 No.	8-14 No.	15-20 No.	21-28 No.	>= 28 No.	No.
< 500	10	2	-	-	-	1	13
500-999	12	3	3	5	3	70	96
1000-1499	16	7	9	10	12	102	156
1500-1999	22	49	72	49	48	52	292
2000-2499	68	598	251	85	30	4	1036
<b>&lt; 2500</b>	<b>128</b>	<b>659</b>	<b>335</b>	<b>149</b>	<b>93</b>	<b>229</b>	<b>1593</b>
2500-2999	339	3131	407	32	10	13	3932
3000-3499	1085	7433	551	8	3	18	9098
3500-3999	870	6323	400	8	3	13	7617
4000-4499	299	1952	129	5	1	3	2389
>= 4500	37	334	16	4	-	2	393
<b>TOTAL</b>	<b>2758</b>	<b>19832</b>	<b>1838</b>	<b>206</b>	<b>110</b>	<b>278</b>	<b>25022</b>
	%	%	%	%	%	%	%
< 500	0.4	0.0	-	-	-	0.4	0.1
500-999	0.4	0.0	0.2	2.4	2.7	25.2	0.4
1000-1499	0.6	0.0	0.5	4.9	10.9	36.7	0.6
1500-1999	0.8	0.2	3.9	23.8	43.6	18.7	1.2
2000-2499	2.5	3.0	13.7	41.3	27.3	1.4	4.1
<b>&lt; 2500</b>	<b>4.6</b>	<b>3.3</b>	<b>18.2</b>	<b>72.3</b>	<b>84.5</b>	<b>82.4</b>	<b>6.4</b>
2500-2999	12.3	15.8	22.1	15.5	9.1	4.7	15.7
3000-3499	39.3	37.5	30.0	3.9	2.7	6.5	36.4
3500-3999	31.5	31.9	21.8	3.9	2.7	4.7	30.4
4000-4499	10.8	9.8	7.0	2.4	0.9	1.1	9.5
>= 4500	1.3	1.7	0.9	-	-	0.7	1.6
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Excludes 1 livebirth for whom birthweight was unknown.

Includes homebirths in midwife's care.

**Table 60: Length of stay in hospital of birth and birthweight distribution of surviving livebirths in Western Australia, 2000**

Birthweight (grams)	Length of Stay (days)						TOTAL
	<=1 No.	2-7 No.	8-14 No.	15-20 No.	21-28 No.	>= 28 No.	No.
< 500	-	-	-	-	-	1	1
500-999	-	-	1	1	-	47	49
1000-1499	-	2	2	4	5	60	73
1500-1999	3	29	34	36	35	47	184
2000-2499	20	515	209	74	27	2	847
<b>&lt; 2500</b>	<b>23</b>	<b>546</b>	<b>246</b>	<b>115</b>	<b>67</b>	<b>157</b>	<b>1154</b>
2500-2999	287	3065	395	28	9	12	3796
3000-3499	951	7345	545	6	3	17	8867
3500-3999	789	6269	397	8	3	13	7479
4000-4499	269	1929	129	5	1	3	2336
>= 4500	31	329	15	3	-	1	379
<b>TOTAL</b>	<b>2350</b>	<b>19483</b>	<b>1727</b>	<b>165</b>	<b>83</b>	<b>203</b>	<b>24011</b>
	%	%	%	%	%	%	%
< 500	-	-	-	-	-	0.5	0.0
500-999	-	-	0.1	0.6	-	23.2	0.2
1000-1499	-	0.0	0.1	2.4	6.0	29.6	0.3
1500-1999	0.1	0.1	2.0	21.8	42.2	23.2	0.8
2000-2499	0.9	2.6	12.1	44.8	32.5	1.0	3.5
<b>&lt; 2500</b>	<b>1.0</b>	<b>2.8</b>	<b>14.2</b>	<b>69.7</b>	<b>80.7</b>	<b>77.3</b>	<b>4.8</b>
2500-2999	12.2	15.7	22.9	17.0	10.8	5.9	15.8
3000-3499	40.5	37.7	31.6	3.6	3.6	8.4	36.9
3500-3999	33.6	32.2	23.0	4.8	3.6	6.4	31.1
4000-4499	11.4	9.9	7.5	3.0	1.2	1.5	9.7
>= 4500	1.3	1.7	0.9	1.8	-	0.5	1.6
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Includes homebirths in midwife's care.

Excludes 961 inter-hospital transfers and 51 deaths in hospital of birth.

**Table 61: Length of stay in hospital of birth and gestational age of livebirths in Western Australia, 2000**

Gestation (weeks)	Length of Stay (days)						TOTAL
	<=1	2-7	8-14	15-20	21-28	>= 28	No.
	No.	No.	No.	No.	No.	No.	No.
20-27	26	7	3	2	3	59	100
28-32	26	22	25	28	39	156	296
33-36	99	793	435	136	54	19	1536
37-42	2605	19003	1374	40	14	44	23080
>= 43	3	7	1	-	-	-	11
<b>TOTAL</b>	<b>2759</b>	<b>19832</b>	<b>1838</b>	<b>206</b>	<b>110</b>	<b>278</b>	<b>25023</b>
	%	%	%	%	%	%	%
20-27	0.9	0.0	0.2	1.0	2.7	21.2	0.4
28-32	0.9	0.1	1.4	13.6	35.5	56.1	1.2
33-36	3.6	4.0	23.7	66.0	49.1	6.8	6.1
37-42	94.4	95.8	74.8	19.4	12.7	15.8	92.2
>= 43	0.1	0.0	-	-	-	-	0.0
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Includes homebirths in midwife's care.

**Table 62: Length of stay in hospital of birth and gestational age of surviving livebirths in Western Australia, 2000**

Gestation (weeks)	Length of Stay (days)						TOTAL
	<=1	2-7	8-14	15-20	21-28	>= 28	No.
	No.	No.	No.	No.	No.	No.	No.
20-27	-	-	1	-	-	39	40
28-32	-	7	6	4	22	106	145
33-36	38	699	360	124	48	18	1287
37-42	2309	18771	1359	37	13	40	22529
>= 43	3	6	1	-	-	-	10
<b>TOTAL</b>	<b>2350</b>	<b>19483</b>	<b>1727</b>	<b>165</b>	<b>83</b>	<b>203</b>	<b>24011</b>
	%	%	%	%	%	%	%
20-27	-	-	0.1	-	-	19.2	0.2
28-32	-	0.0	0.3	2.4	26.5	52.2	0.6
33-36	1.6	3.6	20.8	75.2	57.8	8.9	5.4
37-42	98.3	96.3	78.7	22.4	15.7	19.7	93.8
>= 43	0.1	0.0	0.1	-	-	-	0.0
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Includes homebirths in midwife's care.

Excludes 961 inter-hospital transfers and 51 deaths in hospital of birth.



**Table 63: Perinatal mortality in Western Australia using birthweight criteria, 2000**

Birthweight	Fetal death rate	Neonatal death rate	Perinatal death rate
>= 400 grams	5.7	2.4	8.1
>= 500 grams	4.7	2.2	6.8

**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 64: Perinatal mortality in Western Australia using gestational age criteria, 2000**

Gestation	Fetal death rate	Neonatal death rate	Perinatal death rate
>= 20 weeks	8.2	2.6	10.7
>= 22 weeks	5.7	2.4	8.0

**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 65: Fetal, neonatal and perinatal mortality rates by Aboriginality of mother in Western Australia, 2000**

Type of Death	Aboriginality of Mother		TOTAL
	Aboriginal	Non-Aboriginal	
Fetal death rate	16.7	7.6	8.2
Neonatal death rate	7.6	2.3	2.6
Perinatal death rate	24.1	9.8	10.7

**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: Fetal mortality by Aboriginality of mother in Western Australia, 1986-2000**

Year of Birth	Aboriginality of Mother		Total Rate
	Aboriginal Rate	Non-Aboriginal Rate	
1986	16.0	7.3	7.7
1987	13.4	7.5	7.8
1988	14.5	6.6	7.0
1989	15.8	6.7	7.2
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

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

**Table 67: Neonatal mortality by Aboriginality of mother in Western Australia, 1986-2000**

Year of Birth	Aboriginality of Mother		Total Rate
	Aboriginal Rate	Non-Aboriginal Rate	
1986	11.4	5.6	5.9
1987	6.0	4.7	4.7
1988	11.9	4.4	4.8
1989	9.1	5.2	5.4
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

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

**Table 68: Perinatal mortality by Aboriginality of mother in Western Australia, 1986-2000**

Year of Birth	Aboriginality of Mother		Total Rate
	Aboriginal Rate	Non-Aboriginal Rate	
1986	27.2	12.8	13.6
1987	19.3	12.1	12.5
1988	26.2	10.9	11.8
1989	24.8	11.8	12.6
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

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

**Table 69: Birthweight distribution of fetal, neonatal and perinatal deaths in Western Australia, 2000**

Birthweight	Fetal deaths		Neonatal deaths		Perinatal deaths	
	No.	%	No.	%	No.	%
< 500	89	43.2	12	18.5	101	37.3
500-999	37	18.0	19	29.2	56	20.7
1000-1499	8	3.9	8	12.3	16	5.9
1500-1999	9	4.4	6	9.2	15	5.5
2000-2499	17	8.3	7	10.8	24	8.9
<b>&lt; 2500</b>	<b>160</b>	<b>77.7</b>	<b>52</b>	<b>80.0</b>	<b>212</b>	<b>78.2</b>
2500-2999	15	7.3	3	4.6	18	6.6
3000-3499	19	9.2	7	9.6	26	9.6
3500-3999	8	3.9	1	1.5	9	3.3
4000-4499	4	1.9	2	3.1	6	2.2
>= 4500	-	-	1	1.5	1	0.4
<b>TOTAL</b>	<b>206</b>	<b>100.0</b>	<b>65</b>	<b>100.0</b>	<b>271</b>	<b>100.0</b>

**Table 70: Plurality of fetal, neonatal and perinatal deaths in Western Australia, 2000**

Plurality	Fetal deaths		Neonatal deaths		Perinatal deaths	
	No.	Rate	No.	Rate	No.	Rate
Singleton	187	7.7	54	2.2	241	9.9
Multiple	19	23.5	11	13.9	30	37.0
<b>TOTAL</b>	<b>206</b>	<b>8.2</b>	<b>65</b>	<b>2.6</b>	<b>271</b>	<b>10.7</b>

**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 71: Age at death for neonatal deaths in Western Australia, 2000**

Age at Neonatal death	No.	% of neonatal deaths
< Day 1	26	40.0
Day 1	13	20.0
Day 2	4	6.2
Day 3	3	4.6
Day 4	-	-
Day 5	3	4.6
Day 6	1	1.5
Day 7	1	1.5
Day 8-14	8	12.3
Day 15-21	4	6.2
Day 22-28	2	3.1
<b>TOTAL</b>	<b>65</b>	<b>100.0</b>

**Table 72: Causes of fetal and neonatal deaths in Western Australia, 2000**

Causes of Death	Fetal deaths		Neonatal deaths	
	No.	%	No.	%
Lethal birth defects	58	28.2	13	20.0
Extremely low birthweight (< 1000 grams) <sup>1</sup>	72	35.0	11	16.9
Low birthweight (1000-2499 grams) <sup>2</sup>	6	2.9	25	38.5
Asphyxia	35	17.0	5	7.7
Maternal - Obstetric	3	1.5	-	-
Medical	6	2.9	1	1.5
Hypertension	-	-	-	-
Placenta and cord	22	10.7	-	-
Hydrops fetalis	-	-	1	1.5
Infection	-	-	4	6.2
Sudden Infant Death Syndrome	-	-	-	-
Other	4	1.9	-	-
Unknown	-	-	5	7.7
<b>TOTAL</b>	<b>206</b>	<b>100.0</b>	<b>65</b>	<b>100.0</b>

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

<sup>2</sup> 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 73: Autopsy requests for fetal, neonatal and perinatal deaths in Western Australia, 2000**

Autopsy Request	Fetal deaths		Neonatal deaths		Perinatal deaths	
	No.	%	No.	%	No.	%
Yes	122	59.2	28	43.1	150	55.4
No	73	35.4	31	47.7	104	38.4
Unknown	11	5.3	6	9.2	17	6.3
<b>TOTAL</b>	<b>206</b>	<b>100.0</b>	<b>65</b>	<b>100.0</b>	<b>271</b>	<b>100.0</b>

## REFERENCES

1. Gee V. Guidelines for Completion of the Notification of Case Attended Midwives' Form 2. Health Department of Western Australia, Perth, 2nd edn, 1990.
2. The International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> Revision, Australian Modification. National Centre for Classification in Health, Sydney, 1998.
3. Hicks DG. Aboriginal Mortality Rates in Western Australia, 1983. Health Department of Western Australia, Perth, 1985.
4. Gee V and Dawes VP. Validation Study of the Western Australia Midwives' Notification System 1992. Health Department of Western Australia, Perth, 1994.
5. Gee V and O'Neill MT. Perinatal Statistics in Western Australia: Seventeenth Annual Report of the Western Australian Midwives' Notification System for 1999, Health Department of Western Australia, Perth, 2001.
6. Nassar N and Sullivan EA 2001. Australia's Mothers and Babies 1999. AIHW Cat. No.PER 19. Sydney: AIHW National Perinatal Statistics Unit (Perinatal Statistics Series no.11).
7. Chan A, Scott J, Nguyen A, Keane R. Pregnancy Outcome in South Australia 2000, South Australian Health Commission, Adelaide, 2001.
8. Public Health Division. New South Wales Mothers and Babies 2000. Sydney: NSW Health Department, 2001.
9. Bower C, Ryan A, Rudy E, Cosgrove P. Report of the Birth Defects Registry in Western Australia 1980-1999, King Edward Memorial Hospital, No 7, 2000.

## APPENDIX A

<b>Age-Specific Birth Rate</b>	The total births (livebirths and stillbirths) per 1000 to women aged between 15-44 years.
<b>Apgar Score</b>	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.
<b>BBA</b>	A birth that occurs prior to arrival of the mother at the intended place of confinement.
<b>Birth Defects</b>	Any defect present at birth, probably of developmental origin.
<b>Birthweight</b>	The first weight, measured to the nearest five grams, of the newborn which is usually obtained within the first hour of birth.
<ul style="list-style-type: none"><li>• <b>Low Birthweight</b></li></ul>	A birthweight of less than 2500 grams.
<ul style="list-style-type: none"><li>• <b>Very Low Birthweight</b></li></ul>	A birthweight of less than 1500 grams.
<b>Caesarean Section</b>	<p>A delivery of the fetus through an incision in the abdominal wall.</p> <p>Elective Caesarean Section. A planned procedure prior to onset of labour and before spontaneous rupture of membranes or without any induction procedure.</p> <p>Emergency Caesarean Section. An unplanned procedure, performed because of a complication. May be performed before the onset of labour or during labour.</p>
<b>Crude Birth Rate</b>	The number of livebirths per 1000 person-years of total population.
<b>Fetal Death</b>	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.

<b>Length of Stay</b>	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.
<b>Livebirth</b>	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.
<b>Mortality Rates</b>	Fetal death rate - the number of fetal deaths per 1000 total births in a year.  Neonatal mortality - the number of neonatal deaths per 1000 livebirths in a year.  Perinatal mortality - the number of stillbirths and neonatal deaths per 1000 total births in a year.
<b>Neonatal Death</b>	The death of a liveborn infant within 28 days of birth.
<b>Parity</b>	The total number of livebirths and fetal deaths of the mother prior to the parturition under consideration.  Nulliparous - never having completed a pregnancy beyond 20 weeks gestation.
<b>Perinatal Death</b>	A fetal death or neonatal death.
<b>Plurality</b>	The number of fetuses or babies resulting from the pregnancy. On this basis pregnancy may be classified as singleton or multiple.



# APPENDIX B

Surname _____ Forenames _____ Address of usual residence Number and Street _____ _____ Town or City _____ Maiden name _____	Unit Record No <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Birth Date (Mother) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> State _____ Post Code <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Height (cms) <input type="text"/> <input type="text"/> <input type="text"/> Tel. No. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Hospital _____ Ward _____ Marital Status 1=never married 2=widowed 3=divorced <input type="checkbox"/> 4=separated 5=married (incl. defacto) <input type="checkbox"/> 6=unknown Ethnic Origin 1=Caucasian 2= Aboriginal / TSI <input type="checkbox"/> Other _____
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Pregnancy Details	Labour Details	Baby Details
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<b>Previous Pregnancies :</b> - total number (excluding this pregnancy) <input type="text"/> <input type="text"/> <b>Previous pregnancy outcomes:</b> - children now living: <input type="text"/> <input type="text"/> - born alive, now dead: <input type="text"/> <input type="text"/> - stillborn: <input type="text"/> <input type="text"/> Previous caesarean section: 1=yes 2=no <input type="checkbox"/> Caesarean last delivery: 1=yes 2=no <input type="checkbox"/> Previous multiple birth: 1=yes 2=no <input type="checkbox"/> <b>This Pregnancy:</b> Date of LMP: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> This date certain 1=yes 2=no <input type="checkbox"/> Expected due date: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> based on 1=clinical signs/dates <input type="checkbox"/> 2=ultrasound < 20 weeks <input type="checkbox"/> Smoking during Pregnancy: 1=yes 2=no <input type="checkbox"/> <b>Complications of Pregnancy:</b> 1 <input type="checkbox"/> threatened abortion (<20wks) 2 <input type="checkbox"/> threatened preterm labour (<37 wks) 3 <input type="checkbox"/> urinary tract infection 4 <input type="checkbox"/> pre-eclampsia 5 <input type="checkbox"/> APH - placenta praevia 6 <input type="checkbox"/> abruptio 7 <input type="checkbox"/> other 8 <input type="checkbox"/> pre-labour rupture of membranes 9 <input type="checkbox"/> gestational diabetes 10 <input type="checkbox"/> other (specify).....  <b>Medical Conditions:</b> 1 <input type="checkbox"/> essential hypertension 2 <input type="checkbox"/> pre-existing diabetes mellitus 3 <input type="checkbox"/> asthma 4 <input type="checkbox"/> genital herpes 8 <input type="checkbox"/> other (specify).....  <b>Procedures/treatments:</b> 1 <input type="checkbox"/> fertility treatments (include drugs) 2 <input type="checkbox"/> cervical suture 3 <input type="checkbox"/> CVS/placental biopsy 4 <input type="checkbox"/> amniocentesis 5 <input type="checkbox"/> ultrasound 6 <input type="checkbox"/> CTG antepartum 7 <input type="checkbox"/> CTG intrapartum  <b>Intended place of birth at onset of labour:</b> 1=hospital 2=birth centre attach. hospital <input type="checkbox"/> 3=birth centre free standing 4=home 8=other <input type="checkbox"/>	<b>Onset of Labour:</b> 1=spontaneous 2=induced 3=no labour <input type="checkbox"/> <b>Augmentation:</b> 1 <input type="checkbox"/> none 2 <input type="checkbox"/> oxytocin 3 <input type="checkbox"/> prostaglandins 4 <input type="checkbox"/> artificial rupture of membranes 8 <input type="checkbox"/> other <b>Induction:</b> 1 <input type="checkbox"/> none 2 <input type="checkbox"/> oxytocin 3 <input type="checkbox"/> prostaglandins 4 <input type="checkbox"/> artificial rupture of membranes 8 <input type="checkbox"/> other <b>Analgesia (during labour):</b> 1 <input type="checkbox"/> none 2 <input type="checkbox"/> nitrous oxide 3 <input type="checkbox"/> intra-muscular narcotics 4 <input type="checkbox"/> epidural / caudal 5 <input type="checkbox"/> spinal 8 <input type="checkbox"/> other <b>Duration of Labour:</b> hrs mins 1st stage (hours & mins): <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 2nd stage: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	(NB. separate form for each baby) <b>Adoption:</b> 1=yes 2=no <input type="checkbox"/> <b>Born Before Arrival:</b> 1=yes 2=no <input type="checkbox"/> Birth Date <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Birth Time (24 hr clock) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <b>Plurality:</b> number of babies this birth <input type="text"/> if multiple specify this baby number <input type="text"/> <b>Presentation:</b> 1=vertex 2=breech <input type="checkbox"/> 3=face 4=brow 8=other <input type="checkbox"/> <b>Method of Birth:</b> 1 <input type="checkbox"/> spontaneous 2 <input type="checkbox"/> vacuum successful 3 <input type="checkbox"/> unsuccessful 4 <input type="checkbox"/> forceps successful 5 <input type="checkbox"/> unsuccessful 6 <input type="checkbox"/> breech (vaginal) 7 <input type="checkbox"/> elective caesarean 8 <input type="checkbox"/> emergency caesarean <b>Accoucheur(s):</b> 1 <input type="checkbox"/> obstetrician 2 <input type="checkbox"/> other medical officer 3 <input type="checkbox"/> midwife 4 <input type="checkbox"/> student 5 <input type="checkbox"/> self / no attendant 8 <input type="checkbox"/> other <b>Gender:</b> 1=male 2=female <input type="checkbox"/> <b>Status of Baby at Birth:</b> 1=liveborn 2=stillborn <input type="checkbox"/> Infant Weight (grams): <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Length (cms): <input type="text"/> <input type="text"/> <input type="text"/> Head Circumference (cms): <input type="text"/> <input type="text"/> <input type="text"/> <b>Time to establish unassisted regular breathing (mins):</b> <input type="text"/> <input type="text"/> <b>Resuscitation:</b> 1=none 2=suction only 3=oxygen therapy <input type="checkbox"/> 4=bag & mask 5=endotracheal intubation <input type="checkbox"/> 6=ext.cardiac massage & vent. 8=other <input type="checkbox"/> <b>Apgar Score:</b> 1 minute <input type="text"/> <input type="text"/> 5 minutes <input type="text"/> <input type="text"/> <b>Estimated Gestation (weeks):</b> <input type="text"/> <input type="text"/>
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Delivery Details
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<b>Anaesthesia (during delivery):</b> 1 <input type="checkbox"/> none 2 <input type="checkbox"/> local anaesthesia to perineum 3 <input type="checkbox"/> pudendal 4 <input type="checkbox"/> epidural / caudal 5 <input type="checkbox"/> spinal 6 <input type="checkbox"/> general 8 <input type="checkbox"/> other <b>Complications of Labour and Delivery:</b> (include reason stated for operative delivery) 1 <input type="checkbox"/> precipitate delivery 2 <input type="checkbox"/> fetal distress 3 <input type="checkbox"/> prolapsed cord 4 <input type="checkbox"/> cord tight around neck 5 <input type="checkbox"/> cephalopelvic disproportion 6 <input type="checkbox"/> PPH (=>500mls) 7 <input type="checkbox"/> retained placenta - manual removal 8 <input type="checkbox"/> persistent occipito posterior 9 <input type="checkbox"/> shoulder dystocia 10 <input type="checkbox"/> failure to progress <=3cms 11 <input type="checkbox"/> failure to progress > 3cms 12 <input type="checkbox"/> previous caesarean section 13 <input type="checkbox"/> other (specify).....  <b>Perineal Status:</b> 1=intact 2=1st degree tear <input type="checkbox"/> 3=2nd degree tear 4=3rd degree tear <input type="checkbox"/> 5=episiotomy 6=episiotomy plus tear <input type="checkbox"/> 8=other	Please forward completed form to: Health Information Centre Health Dept of Western Australia. PO Box 8172 Stirling Street, Perth 6849.  NB: Guidelines for completion of this form are available from the above address
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<b>MIDWIFE:</b> Name..... Signature..... date...../...../..... Reg.No. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Coder ID <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Sep. Date <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Mode of separation: 1=transferred 8=died 9=disch. home <input type="checkbox"/> transferred to: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Special care (wholedays only): <input type="text"/> <input type="text"/>	Birth Defects (specify): ..... Birth Trauma (specify): ..... <b>Baby Separation Details:</b> Sep. Date <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Mode of separation: 1=transferred 8=died 9=disch. home <input type="checkbox"/> transferred to: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Special care (wholedays only): <input type="text"/> <input type="text"/>
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