

PERINATAL STATISTICS IN WESTERN AUSTRALIA

Annual Report of the
Western Australian Midwives Notification System
1983

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Health Department of
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Perth,
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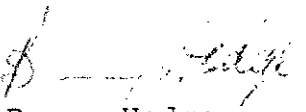
TYPIST: Miss H Lammle

FOREWORD

It is sometimes said, and quite validly, that maternal and child health is one of the pillars that supports the fortunate position of the developed countries in the world today. The Government of Western Australia recognises the importance of the health of mothers and children and has a continuing commitment to improve our standards, which are already very high.

As the first in a planned series of Annual Reports on Perinatal Statistics in Western Australia this document describes data collected through the Midwives' Notification System for the purpose of monitoring maternal and neonatal wellbeing and morbidity. The report also provides a unique source of information for the planning of obstetric and neonatal services and for research.

I therefore recommend that health professionals take the opportunity to read and use the information on Perinatal Statistics in Western Australia available in this report.


Barry Hodge

MINISTER FOR HEALTH

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1. PREGNANCIES AND BIRTHS IN WESTERN AUSTRALIA IN 1983
2. PLACE OF BIRTH OF ALL BABIES BORN IN WESTERN AUSTRALIA IN 1983

ACKNOWLEDGEMENTS

There have been many people involved with the Midwives Notification System since it was established in July 1974. Amongst those who have contributed are Dr Fiona Stanley, Dr Jim McNulty, Professor Michael Hobbs, Dr Marlene Lugg and Miss Joan Bedford. Their role in the development of maternal and child health statistics have enabled the collection to become a valuable and unique source of data for Western Australia.

The ongoing participation and co-operation of the Midwives throughout Western Australia in providing the high quality of information has made the Midwives collection and this report possible.

I would like to extend my appreciation and thanks to Dr D'Arcy Holman for the advice and consultation given during the planning and production of this report and also for the editing; and to Dr Declan O'Neill who willingly assisted with the figures included in this report. To Miss Helen Lammle go my thanks for the typing of this report.

Others who have participated in various ways are Mr Beress Brooks and Mr Mark Mottolini of the Planning and Research Branch of the Health Department of Western Australia for providing computing and other resources; the Health Systems Branch for the maintenance and ongoing revision of the computer programs.

My thanks also go to the Registrar General's Office for providing additional information on births and deaths which enables the data to be updated and validated;

I also thank the Western Australian Branch of the Australian Bureau of Statistics for providing population figures on a regular basis. Without the co-operation of all these people this Annual Report on Perinatal Statistics in Western Australia would not have been possible.

1. INTRODUCTION

This is the first annual report on Perinatal Statistics from the Western Australian Midwives Notification System which was established in July 1974. As a statutory requirement, a Notification of Case Attended (Form 2) is completed by the attending midwife for every livebirth and stillbirth which occurs in Western Australia (Appendix A). These notifications are the source of information on which the Midwives' Notification System is based.

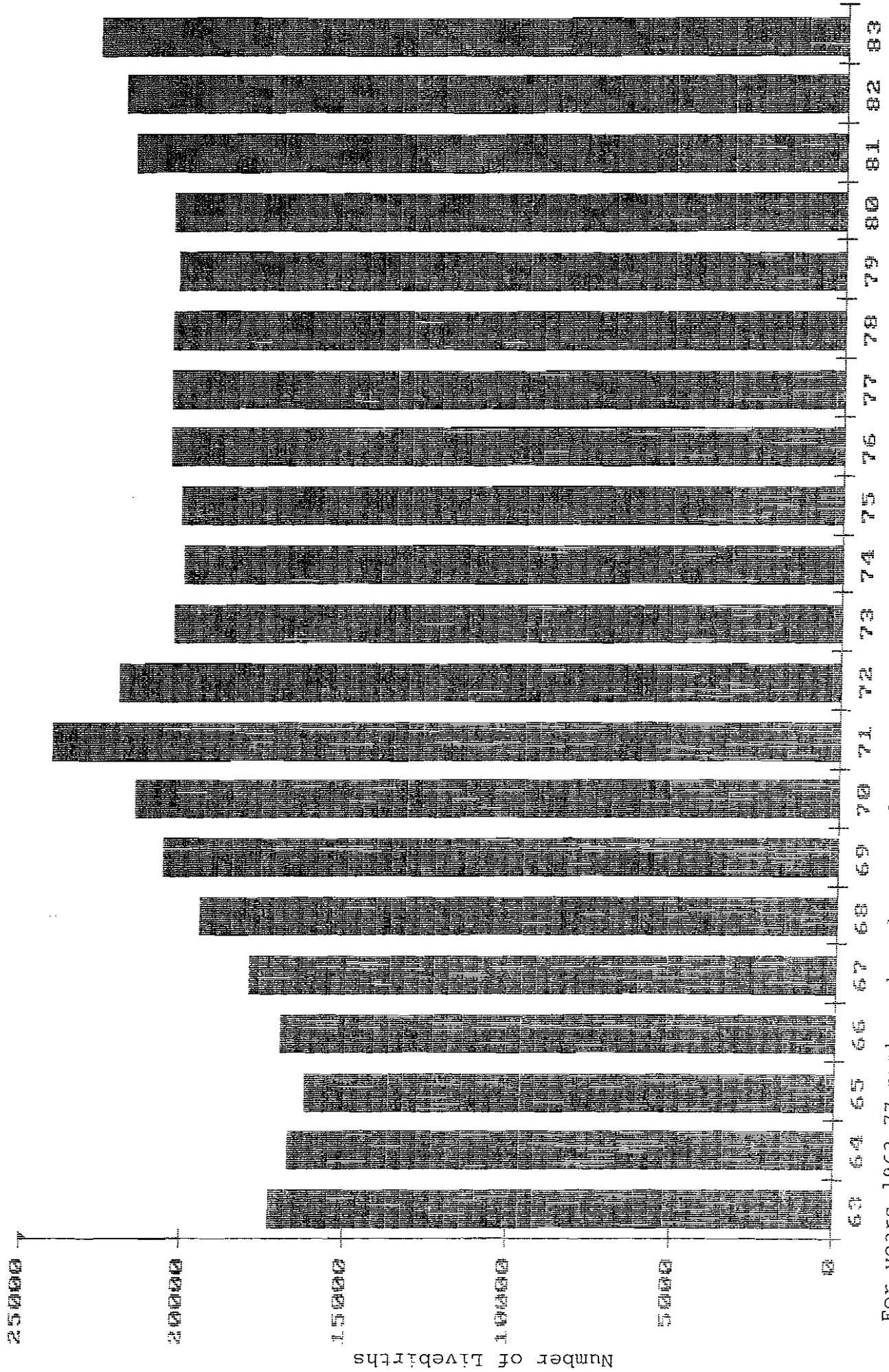
To the present time, the Midwives' Notification System has produced an Annual Report on Births, Infant and Perinatal Mortality which has been available since 1980 and several other ad hoc reports.

This report on Perinatal Statistics in Western Australia has been developed to provide a summary of perinatal events and outcomes which have occurred in Western Australia in 1983.

Further tabulations are available on request from Mrs Diane Moore, Epidemiology Branch.

Figure i refers to the number of livebirths in Western Australia from 1963 to 1983.

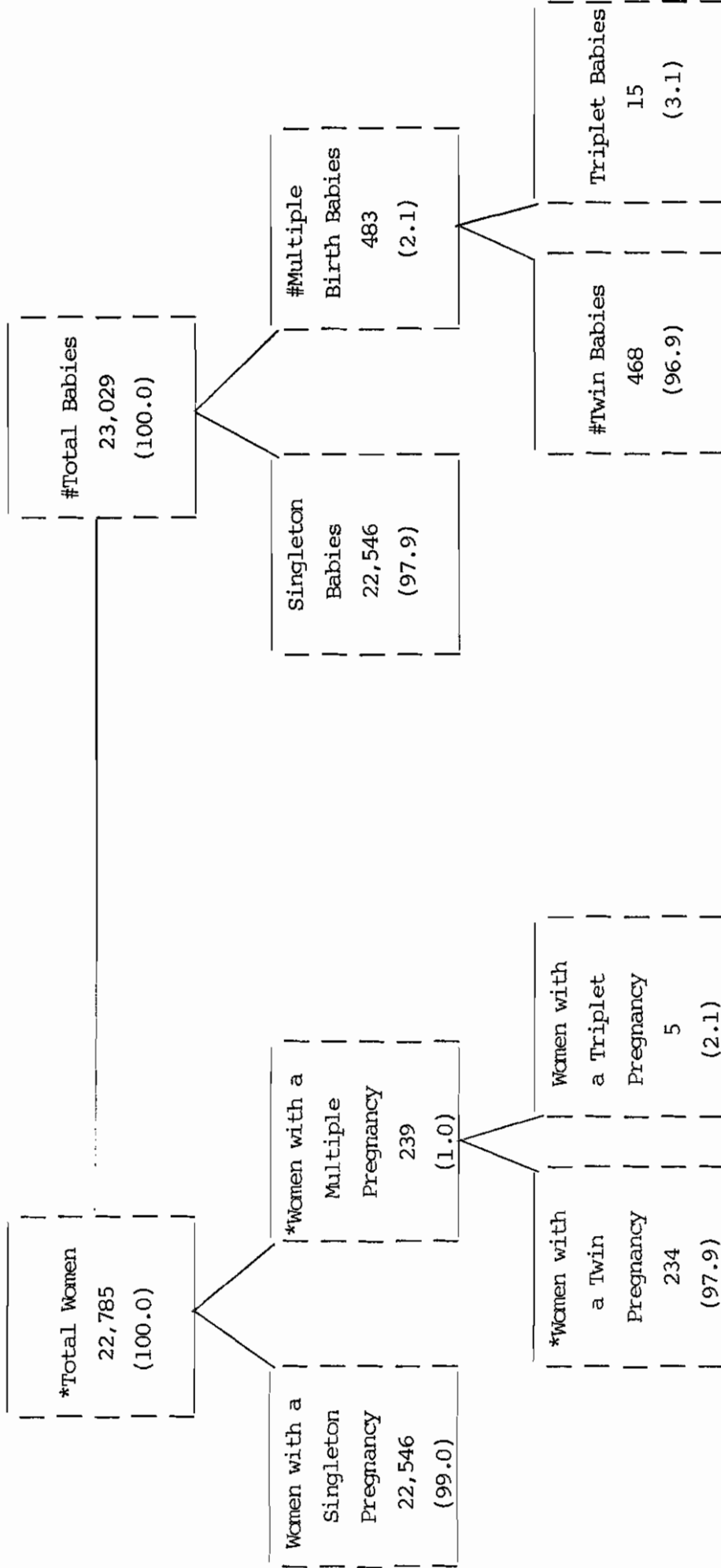
Figure i
 NUMBER OF LIVEBIRTHS IN WESTERN AUSTRALIA
 1963-1983



For years 1963-77 numbers based on usual residence.
 For years 1978-83 numbers based on state of residence.
 SOURCE: Australian Bureau of Statistics

TREE DIAGRAM 1

Pregnancies and Births in Western Australia in 1983



Excludes births less than 500 grams birthweight.

* Includes four women with a twin pregnancy where one twin weighed less than 500 grams birthweight.

Includes four twin babies whose birthweight was less than 500 grams birthweight.

SOURCE: Midwives' Notification System

2. THE DATA COLLECTION

A Notification of Case Attended (Form 2) is completed for every livebirth and every stillbirth of 400 grams or more birthweight or 20 or more weeks gestation born in Western Australia (Appendix A). These notification forms are the basis of the Midwives' Notification System.

The information is collected and analysed by calendar year and based on the date of birth of the baby. Using the International Classification of Diseases, Ninth Revision (ICD-9), the information is transcribed into a coded format for data processing.

The major part of this report includes only those pregnancies resulting in a final product of conception equal to or greater than 500 grams birthweight. However, there were four women who had a twin pregnancy where one twin baby weighed less than 500 grams. These women and their eight babies have been included in the data presented in this report.

The complete computer file of the 1983 Midwives' Notification System identified 22,826 women who delivered 23,072 babies. Of these, 22,785 women and 23,029 babies met the national criteria of 500 grams birthweight or 22 weeks gestation (see Tree Diagram 1). This report is based on the later totals. Some of the tables relate only to singleton pregnancies and births while others pertain to total pregnancies and births.

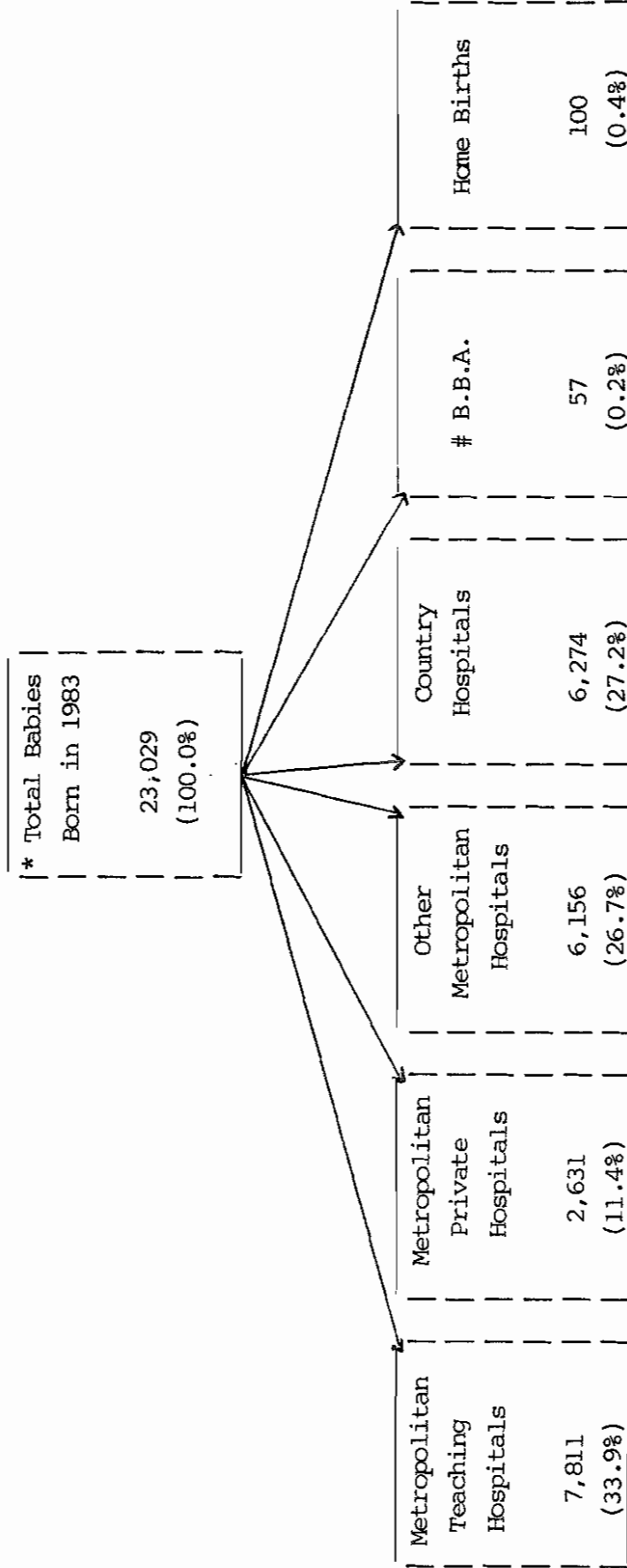
Of the 22,785 women confined during 1983, 22,546 or 99.0% had a singleton pregnancy and 239 or 1.0% had a multiple pregnancy; of the women with a multiple pregnancy, 234 had twins and five had triplets.

During 1983 there were 23,029 babies born and of these 22,872 were born in hospital, 100 were delivered as a planned home birth and another 57 (0.2%) were born before arrival at hospital, usually referred to as B.B.A. (Tree Diagram 2). Information relating to those women and their babies who were born before arrival at hospital was completed by either the first attending midwife or medical officer on admission to hospital.

There were 265 perinatal deaths which occurred in Western Australia amongst 1983 births, of which 157 were stillbirths and 108 neonatal deaths. There was also one maternal death notified. Mortality data are given in more detail in the section on Selected Perinatal Statistics in Western Australia in 1983 (page 7).

TREE DIAGRAM 2

Place of Birth of all Babies Born in Western Australia in 1983



* Includes four twins less than 500 grams birthweight where the first twin weighed more than 500 grams birthweight:
 # B.B.A. (born before arrival)

SOURCE: Midwives' Notification System

3. SELECTED PERINATAL STATISTICS IN WESTERN AUSTRALIA IN 1983

These perinatal statistics for 1983 are based on the Western Australian Midwives Notification System and population estimates of the Australian Bureau of Statistics.

Selected Data

Induction	- 256.88/1000 confinements
Caesarean Section	- 132.71/1000 confinements
Elective Caesarean	- 65.30/1000 confinements
Emergency Caesarean	- 67.41/1000 confinements

Low Birthweight

Low Birthweight	- 63.44/1000 total births
Singleton Births Low Birthweight	- 53.18/1000 singleton births
Multiple Births Low Birthweight	- 542.0/1000 multiple births

Perinatal Mortality

Stillbirths	- 6.81/1000 total births (> 500 grams birthweight)
Neonatal Mortality	4.72/1000 livebirths (> 500 grams birthweight)
Perinatal Mortality	- 11.51/1000 total births (> 500 grams birthweight)
Maternal Mortality	- 0.044/1000 livebirths

Fertility Rate

All Women	- 71.40/1000 women-years
Aboriginal	- 147.15/1000 women-years
Non-Aboriginal	- 69.73/1000 women-years

Crude Birth Rate - 16.9/1000 person-years

4. DEFINITIONS

Apgar Score

A numerical scoring system applied after birth to evaluate the condition of the baby. It is based on the heart rate, respiration, muscle tone, reflexes and colour. The score is recorded at five minutes only on the Midwives' Form 2. Low scores indicate poor condition.

Birthweight

Is the first weight, measured to the nearest five grams, of the newborn usually obtained within the first hour of birth.

Low Birthweight

Is a birthweight less than 2500 grams.

Caesarean Section

Is a delivery of the fetus through an incision in the abdominal wall.

Elective Caesarean Section

Is a planned procedure done prior to onset of labour and before spontaneous rupture of membranes or without any induction procedure.

Emergency Caesarean Section

Is the decision to perform a caesarean section less than 12 hours before the operation for a complication either before the onset of labour or during labour, whether the labour is of spontaneous onset or following induction.

Congenital Anomaly

Is any defect present at birth which is probably of developmental origin.

Crude Birth Rate

Is the number of livebirths per 1000 person-years of total population.

Fertility Rate

Is the total births per 1000 women-years between 15-44 years of age.

Livebirth

Is the complete expulsion or extraction from its mother of a product of conception, irrespective of duration of pregnancy, which after separation shows signs of life.

Mortality

Maternal Mortality - is the number of maternal deaths per 1000 livebirths in a year.

Neonatal Mortality - is the number of neonatal deaths per 1000 livebirths in a year.

Perinatal Mortality - is the number of stillbirths and neonatal deaths per 1000 total births in a year.

Stillbirth - is the number of stillbirths per 1000 total births in a year.

Neonatal Death

Is the death of a liveborn infant within 28 days of birth.

Plurality

Is the number of fetuses or babies resulting from the pregnancy. On this basis pregnancy may be classified as singleton or multiple.

Stillbirth

Is the complete expulsion or extraction from its mother of a product of conception of at least 20 weeks gestation or 400 grams in weight, which after separation did not shown any sign of life.

Race - refers to mother's racial group.

Caucasian - includes all persons of caucasoid (European) heritage and excludes Indian and Polynesian.

Aboriginal - includes persons of Australian-Aboriginal heritage (Australoid) or of mixed Aboriginal-caucasian heritage.

Other - includes American negroes, Asian, Indian, Polynesian, etc.

5. DEMOGRAPHIC INFORMATION

5.1 Maternal Age

When the age groupings of the women confined during 1983 were examined it showed the majority of women were aged between 25 and 34 years. Almost seven percent of all the women confined were teenagers and another 5.7% were 35 years of age or more. Only twelve women were aged more than 44 years (Table 1).

TABLE 1: DISTRIBUTION OF WOMEN CONFINED IN WESTERN AUSTRALIA IN 1983 ACCORDING TO MATERNAL AGE

Maternal Age	Total Women	
	No.	%
< 16	75	0.3
16 - 19	1,501	6.6
20 - 24	6,744	29.6
25 - 34	13,174	57.8
35 - 44	1,279	5.6
> 45	12	0.1
Total	22,785	100.0

Excludes births less than 500 grams birthweight

5.2 Maternal Race

The percentage of women whose race was recorded as caucasian was 90.1%. Aboriginal women were identified in 5% of all confinements and another 1,112 or 4.9% of women were of 'other races', e.g. Indian, Polynesian, etc. (Table 2).

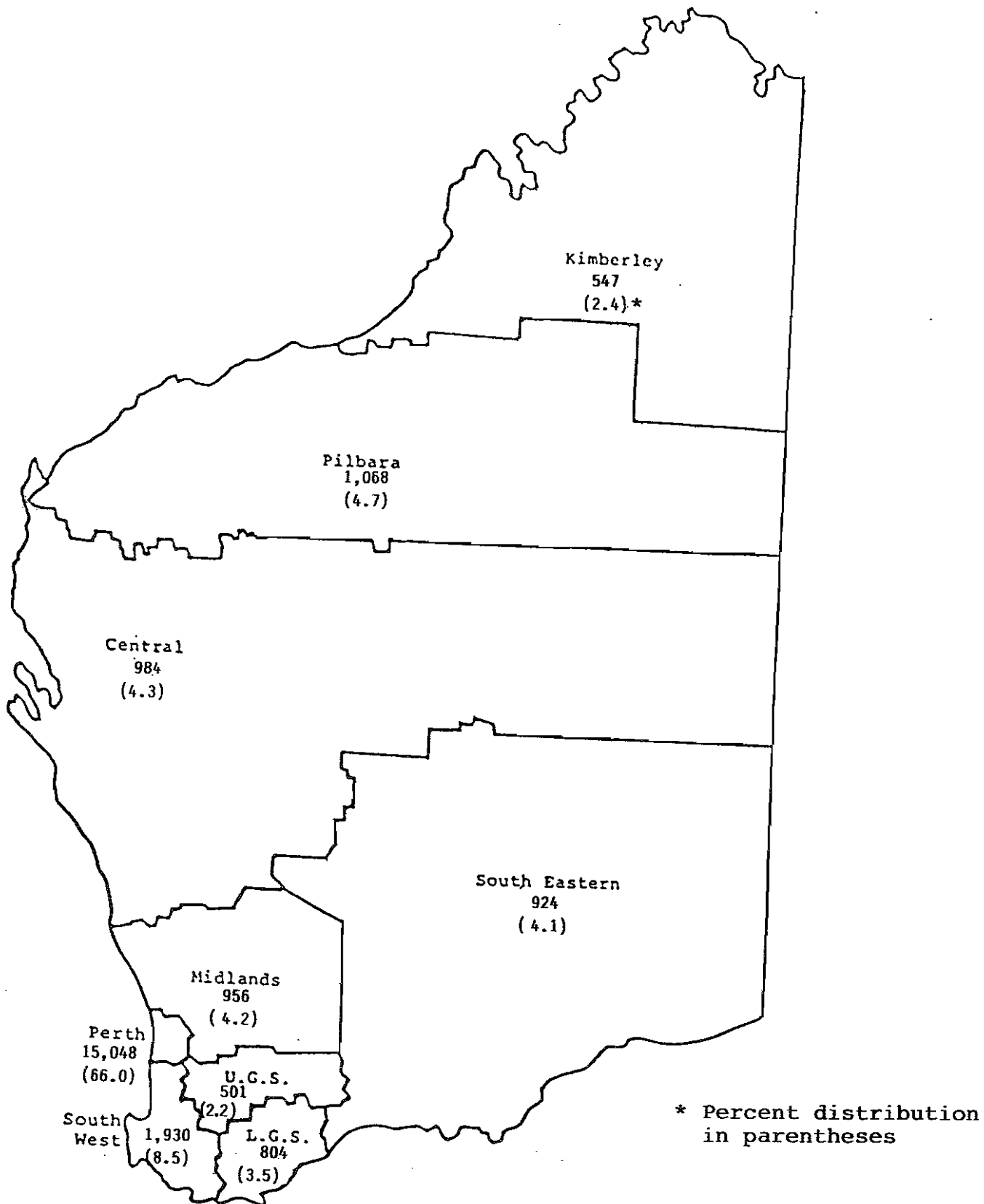
TABLE 2: DISTRIBUTION OF WOMEN CONFINED IN WESTERN AUSTRALIA IN 1983 ACCORDING TO MATERNAL RACE

Maternal Race	Total Women	
	No.	%
Caucasian	20,533	90.1
Aboriginal	1,140	5.0
Other	1,112	4.9
Total	22,785	100.0

Excludes births less than 500 grams birthweight

Figure ii

STATISTICAL DIVISION OF RESIDENCE OF WOMEN
CONFINED IN WESTERN AUSTRALIA IN 1983



Excludes births less than 500 grams birthweight

SOURCE: MIDWIVES' NOTIFICATION SYSTEM

5.3 Conjugal Status

One in ten women confined in 1983 was identified as single. This included those who were either unmarried, widowed, separated or divorced and not living in a defacto relationship (Table 3).

TABLE 3: DISTRIBUTION OF WOMEN CONFINED IN WESTERN AUSTRALIA
IN 1983 ACCORDING TO CURRENT CONJUGAL STATE

Conjugal Status	Total Women	
	No.	%
*Other	2,346	10.3
Married/defacto	20,439	89.7
Total	22,785	100.0

Excludes births less than 500 grams birthweight

* Other includes: unmarried, separated, divorced and widowed

5.4 Area of Residence

Two thirds of the women who gave birth during 1983 resided in the Perth Statistical Division. Of those with a multiple pregnancy almost 73% lived in the Perth Statistical Division and another 10.5% in the South West Statistical Division (Table 4). With respect to other statistical divisions in the State, 2.4% of the women confined lived in the Kimberley, 4.7% in the Pilbara and another 4.2% in the Midlands (see Figure ii).

Place of residence was not recorded for 13 women and another ten (0.1%) resided outside Western Australia.

TABLE 4: DISTRIBUTION OF WOMEN CONFINED IN WESTERN AUSTRALIA IN 1983 ACCORDING TO STATISTICAL DIVISION OF MOTHER'S RESIDENCE AND TYPE OF PREGNANCY

Statistical Division of Residence	Type of Pregnancy				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Perth	14,874	66.0	174	72.8	15,048	66.0
South West	1,905	8.4	25	10.5	1,930	8.5
Lower Great Southern	799	3.5	5	2.1	804	3.5
Upper Great Southern	499	2.2	2	0.8	501	2.2
Midlands	949	4.2	7	2.9	956	4.2
South Eastern	916	4.1	8	3.3	924	4.1
Central	975	4.3	9	3.8	984	4.3
Pilbara	1,060	4.7	8	3.3	1,068	4.7
Kimberley	546	2.4	1	0.4	547	2.4
W.A. unspecified	13	0.1	0	0.0	13	0.1
Outside W.A.	10	0.0	0	0.0	10	0.0
Total	22,546	100.0	239	100.0	22,785	100.0

TABLE 5: DISTRIBUTION OF BIRTHS IN WESTERN AUSTRALIA IN 1983 ACCORDING TO PLACE OF BIRTH AND TYPE OF PREGNANCY

Place of Birth	Type of Pregnancy				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
¹ Teaching	4,576	20.3	271	56.1	4,847	21.0
² Midwives Teaching	2,904	12.9	62	12.8	2,966	12.9
Metro Department	6,096	27.0	60	12.4	6,156	26.7
Metro Private	2,597	11.5	34	7.0	2,631	11.4
³ Country Regional	2,787	12.4	26	5.4	2,813	12.2
Country Private	506	2.2	10	2.1	516	2.2
⁴ Country Other	2,925	13.0	18	3.7	2,943	12.8
Non Hospital	155	0.7	2	0.4	157	0.7
Total	22,546	100.0	483	100.0	23,029	100.0

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

²Midwives Teaching Hospital - not defined as a teaching hospital but conducts education programs for trainee midwives.

³Country Regional Hospital - Government hospital with private and public beds.

⁴Country Other Hospital - includes government and board hospitals.

Both tables exclude births less than 500 grams birthweight

5.5 Place of Birth

More than one third of all births in 1983 occurred in teaching hospitals. When the places of birth for multiple births were examined 68.9% were delivered in a teaching hospital and another 19.4% in other hospitals in the metropolitan area (Table 5).

Of the total births 0.7% were non hospital births. One hundred babies were delivered as a result of planned home birth and another 57 (0.2%) were born before arrival at hospital.

All the triplets were born in a teaching hospital and one set of twins was delivered as a planned home birth.

5.6 *Crude Birth Rate

There were 23,087 livebirths registered in Western Australia in 1983, giving a crude birth rate of 16.9 livebirths per 1000 person-years.

* SOURCE: Australian Bureau of Statistics.

TABLE 6: PARITY OF ALL WOMEN CONFINED IN WESTERN AUSTRALIA
IN 1983 BY SINGLETON AND MULTIPLE PREGNANCIES

Parity	Type of Pregnancy				Total	
	Singleton		Multiple			
	No.	%	No.	%	No.	%
0	8,859	39.3	105	43.9	8,964	39.3
1 - 2	11,565	51.3	109	45.6	11,674	51.2
3 - 5	2,007	8.9	22	9.2	2,029	8.9
> 6	115	0.5	3	1.3	118	0.5
Total	22,546	100.0	239	100.0	22,785	100.0

Excludes births less than 500 grams birthweight

TABLE 7: MATERNAL AGE AND PARITY OF WOMEN WITH A SINGLETON
PREGNANCY CONFINED IN WESTERN AUSTRALIA IN 1983

Maternal Age	Parity								Total	
	0		1 - 2		3 - 5		> 6			
	No.	%	No.	%	No.	%	No.	%	No.	%
< 16	72	0.8	1	0.0	0	0.0	0	0.0	73	0.3
16 - 19	1,144	12.9	345	3.0	4	0.2	0	0.0	1,493	6.6
20 - 24	3,513	39.7	2,988	25.8	190	9.5	1	0.9	6,692	29.7
25 - 34	3,946	44.5	7,606	65.8	1,409	70.2	51	44.3	13,012	57.7
35 - 44	182	2.1	621	5.4	400	19.9	61	53.0	1,264	5.6
> 45	2	0.0	4	0.0	4	0.2	2	1.7	12	0.1
Total	8,859	100.0	11,565	100.0	2,007	100.0	115	100.0	22,546	100.0

Excludes births less than 500 grams birthweight

6. PREGNANCY PROFILE

6.1 Previous Pregnancies

When previous pregnancies were examined for the 22,785 women who were confined during 1983, it showed that one in four were nulliparous and almost one in ten had a parity of three or more (Table 6).

Among mothers with a singleton pregnancy, 13.7% of the nulliparous women were teenagers; one mother aged less than 16 had at least one previous pregnancy. Of the women with six or more previous pregnancies 97.3% were aged 25 to 44 years (Table 7).

6.2 Fertility Rates

Age-specific fertility rates in the aboriginal, non-aboriginal subpopulations and the total population are shown in Figure iii. These results are based on the total births in 1983 (Table 8).

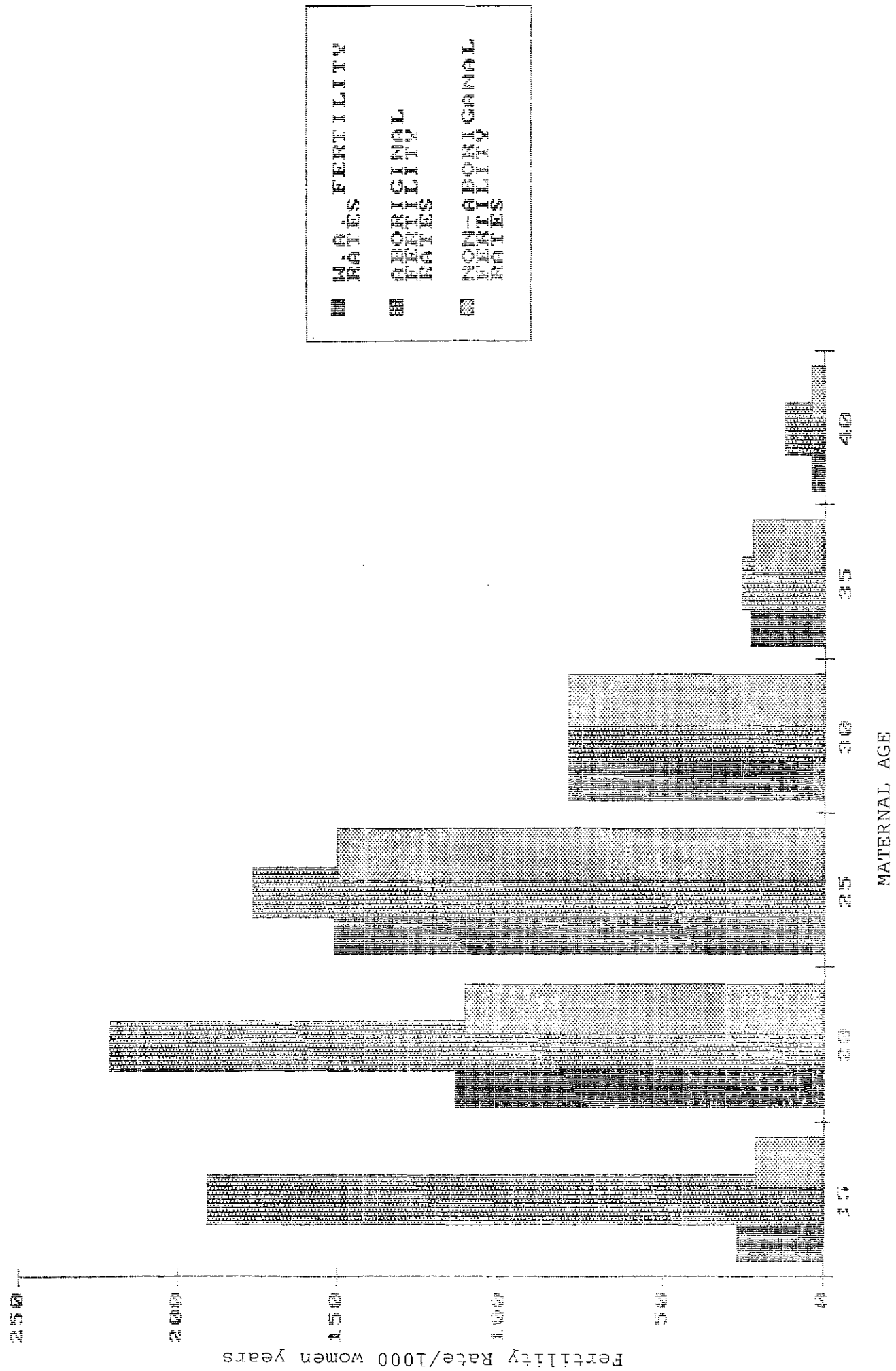
The overall aboriginal fertility rate was more than double that of the non-aboriginals. For females aged less than 20 years the fertility rate of the aboriginals was eight times greater than for the non-aboriginal population (see section on Selected Perinatal Statistics, page 7).

TABLE 8: FERTILITY RATES FOR ABORIGINAL, NON-ABORIGINAL AND TOTAL WOMEN IN WESTERN AUSTRALIA IN 1983

Maternal Age	FERTILITY RATES		
	Aboriginal	Non-Aboriginal	Total
15 - 19	190.07	21.36	27.20
20 - 24	221.33	110.85	114.04
25 - 29	176.17	150.13	150.75
30 - 34	78.95	78.93	78.93
35 - 39	25.96	22.77	22.82
40 - 44	12.38	3.96	4.10
Overall	147.15	69.73	71.40

Figure iii

FERTILITY RATES FOR ABORIGINAL, NON-ABORIGINAL
AND TOTAL WOMEN IN WESTERN AUSTRALIA IN 1983



SOURCE: MIDWIVES NOTIFICATION SYSTEM
AUSTRALIAN BUREAU OF STATISTICS

6.3 Complications of Pregnancy

Of the total 22,785 women, 70% were recorded as having no complication of pregnancy. For those who had a complication identified, the most common was pre eclampsia recorded in 1,669 (7.3%) of cases. Three percent of all women had a threatened abortion during their pregnancy and another 803 (3.5%) had an antepartum haemorrhage (Table 9). Other complications which were recorded for women with a singleton pregnancy included 684 (3.0%) with unspecified hypertension. This was in addition to those already identified as having pre eclampsia. Because of difficulties in analysing the complications listed as 'other' in the multiple pregnancies, it was not possible to measure the true occurrence of pregnancy associated hypertension. Based on what information was available it was estimated that at least one in every ten women confined in Western Australia in 1983 had hypertension of pregnancy.

Poor fetal growth was recorded in 528 (2.3%) of singleton pregnancies, and preterm delivery (prior to 37 weeks of gestation) was recorded in 4.6% of singleton pregnancies.

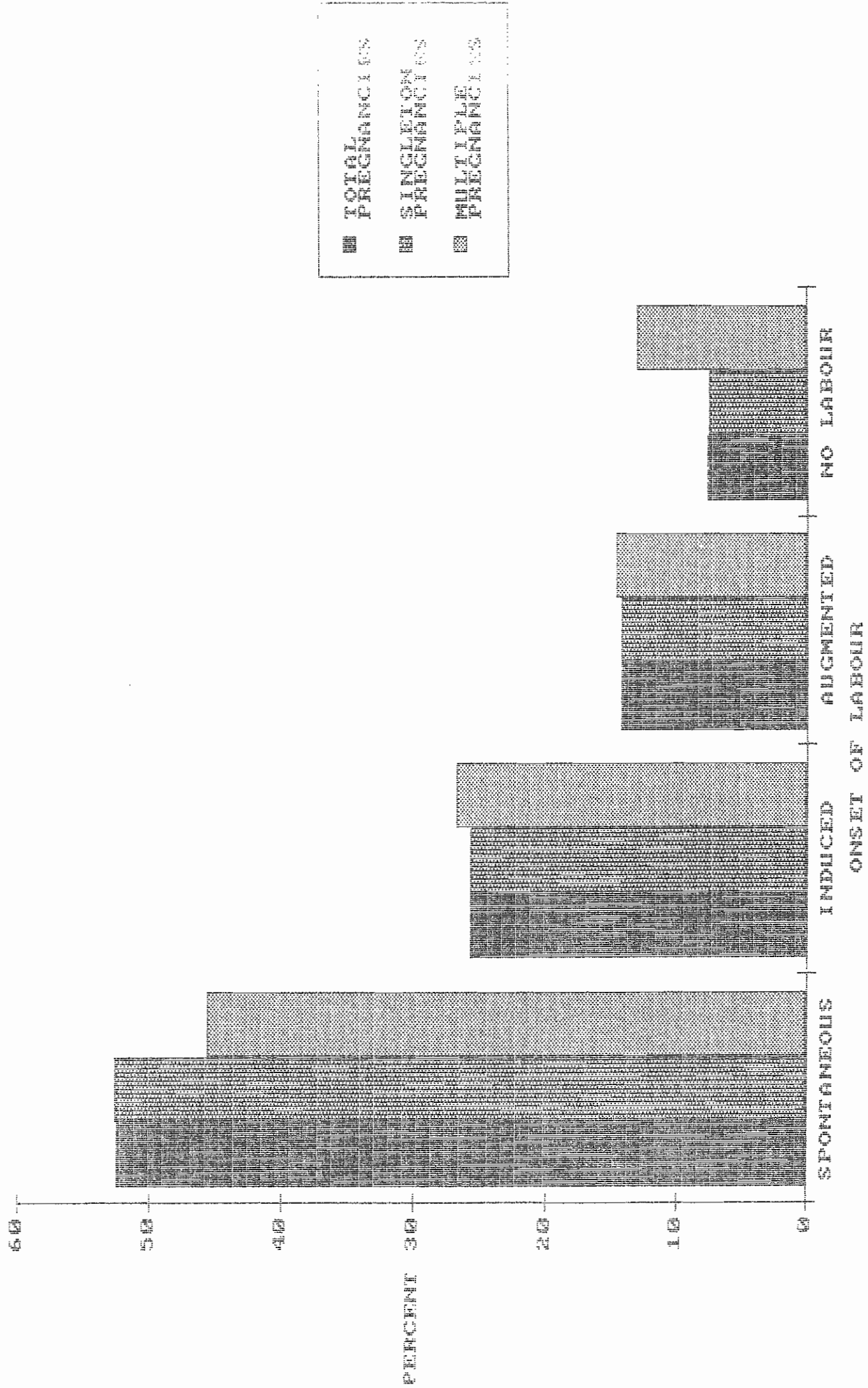
The data which has been presented may have been under-reported but it is a reflection of the true level of major morbidity.

TABLE 9: SELECTED COMPLICATIONS OF PREGNANCY FOR ALL WOMEN CONFINED IN WESTERN AUSTRALIA IN 1983

	No.	% of all Women
None	15,974	70.1
<u>Complication</u>		
Threatened abortion	749	3.3
Urinary Tract Infection	842	3.7
Pre eclampsia	1,669	7.3
A.P.H. - placenta praevia	147	0.6
- abruptio	198	0.9
- other	458	2.0
Premature rupture of membranes	536	2.4
Other	3,739	16.4

Excludes births less than 500 grams birthweight

Figure iv
 ONSET OF LABOUR BY TYPE OF PREGNANCY FOR ALL WOMEN
 CONFINED IN WESTERN AUSTRALIA IN 1983



Excludes births less than 500 grams birthweight

SOURCE: MIDWIVES' NOTIFICATION SYSTEM

7. LABOUR AND DELIVERY

7.1 Onset of Labour

Spontaneous onset of labour occurred in 15,041 (66.7%) of women with a singleton pregnancy and 144 (60.3%) of those with a multiple pregnancy. Augmentation of labour, either by oxytocics or artificial rupture of membranes was necessary in 14.2% of women who commenced labour spontaneously (Table 10).

One in every four women began labour with an induction and almost 8% of those women with a singleton pregnancy and 13.0% with a multiple pregnancy did not experience labour at all (Figure iv).

Failed induction was recorded for 74 (0.3%) women with a singleton pregnancy.

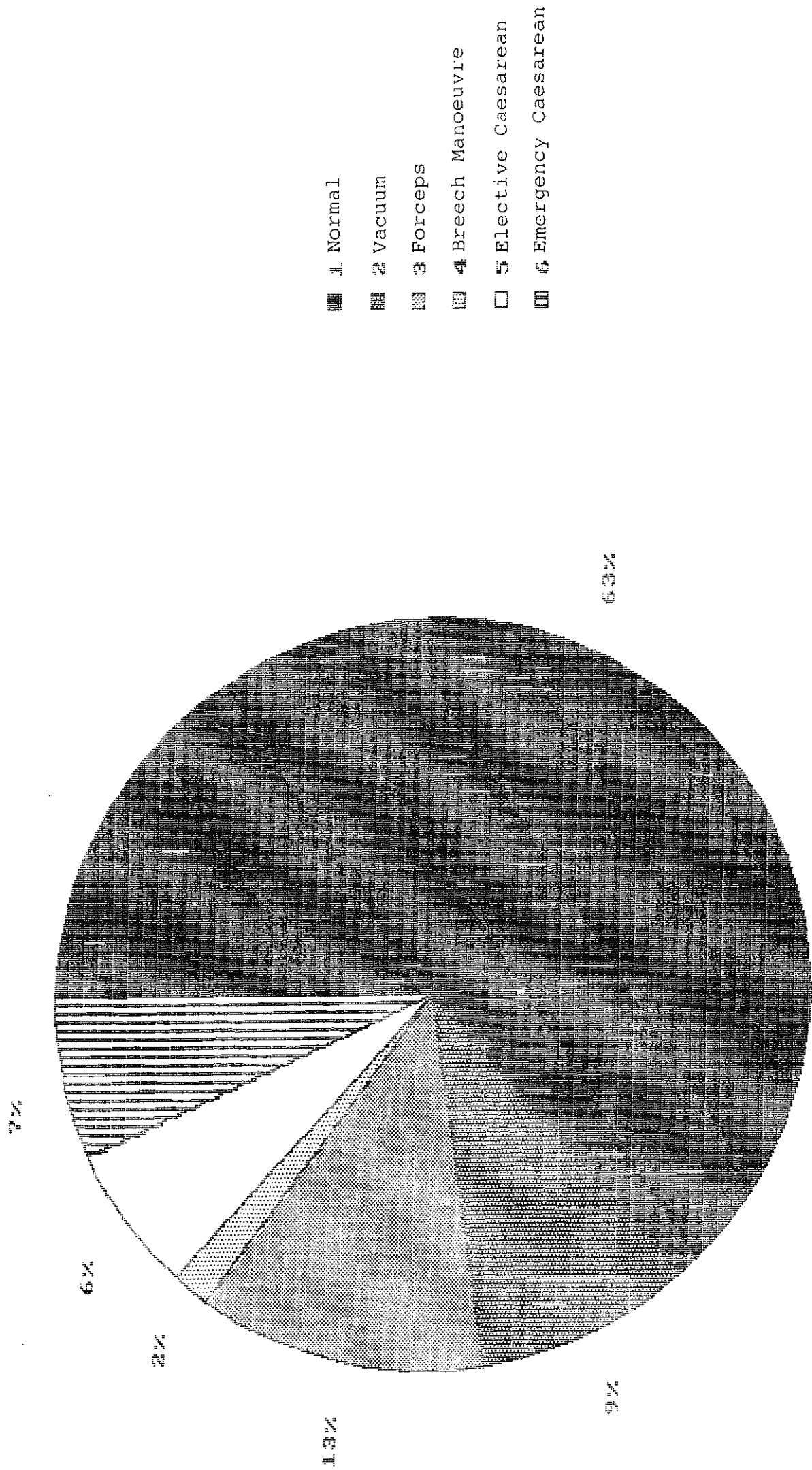
TABLE 10: ONSET OF LABOUR BY TYPE OF PREGNANCY FOR ALL WOMEN CONFINED IN WESTERN AUSTRALIA IN 1983

Onset of Labour	Type of Pregnancy				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Spontaneous	11,833	52.5	109	45.6	11,942	52.4
Augmented	3,208	14.2	35	14.6	3,243	14.2
Induced	5,789	25.7	64	26.8	5,853	25.7
No Labour	1,716	7.6	31	13.0	1,747	7.7
Total	22,546	100.0	239	100.0	22,785	100.0

Excludes births less than 500 grams birthweight

Figure v

TYPE OF DELIVERY FOR ALL WOMEN CONFINED
IN WESTERN AUSTRALIA IN 1983



Excludes births less than 500 grams birthweight

SOURCE: Midwives Notification System

7.2 Type of Delivery

A normal spontaneous delivery occurred in 63% of all women, and another 21.8% had a vaginal instrumental delivery (See Figure v).

Thirteen percent of the singleton pregnancies resulted in a caesarean section, 6.5% had an elective caesarean section and another 6.7% had an emergency caesarean section.

For those with a multiple pregnancy 23% of the total had a caesarean section, 8.8% had an elective caesarean section and another 14.2% had an emergency caesarean section (Table 11).

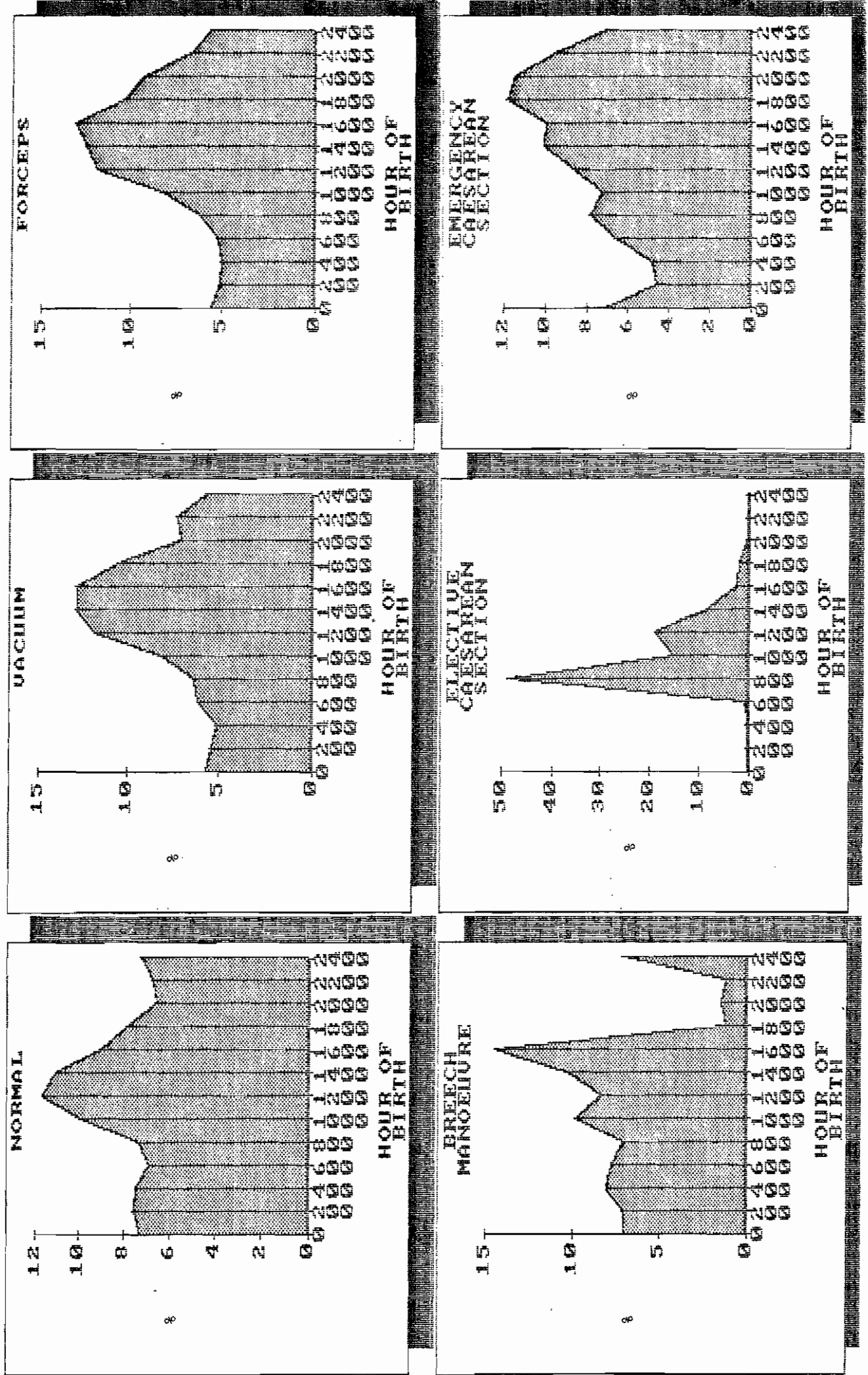
During 1983 there were 289 or 1.3% women who were recorded as having had a failed vacuum extraction and another 95 women or 0.4% who were identified as having had a failed forcep delivery.

TABLE 11: TYPE OF DELIVERY AND PREGNANCY FOR ALL WOMEN
CONFINED IN WESTERN AUSTRALIA IN 1983

Type of Delivery	Type of Pregnancy				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Normal	14,351	63.7	71	29.7	14,422	63.3
Vacuum	2,132	9.5	16	6.7	2,148	9.4
Forceps	2,749	12.2	75	31.4	2,824	12.4
Breech Manoeuvre	345	1.5	22	9.2	367	1.6
Caesarean Section						
Elective	1,467	6.5	21	8.8	1,488	6.5
Emergency	1,502	6.7	34	14.2	1,536	6.7
Total	22,546	100.0	239	100.0	22,785	100.0

Excludes births less than 500 grams birthweight

Figure vi
 TYPE OF DELIVERY AND HOUR OF BIRTH FOR ALL SINGLETON
 BIRTHS IN WESTERN AUSTRALIA IN 1983



Excludes births less than 500 grams birthweight

SOURCE: MIDWIVES' NOTIFICATION SYSTEM

When the type of delivery and hour of delivery for singleton births were examined, it was found that one in three women had a normal spontaneous delivery between the hours of 1000 and 1600 and the peak time for vaginal instrumental delivery was between 1200 to 1800 hours. Almost half the elective caesarean sections occurred between 0800 and 1000 hours and the highest number of emergency caesarean sections were carried out between the hours of 1800-2000 (Figure vi).

The percentages of caesarean sections in relation to the number of deliveries were examined from 1975 to 1983. In 1975, 4.8% of all confinements resulted in a caesarean section and this steadily increased to 13.2% in 1983. Figure vii clearly demonstrates the annual increase in caesarean sections undertaken in Western Australia.

7.3 Hours of Established Labour

Of those women with a singleton pregnancy 8% did not experience labour, either because of an elective caesarean section or failed induction of labour.

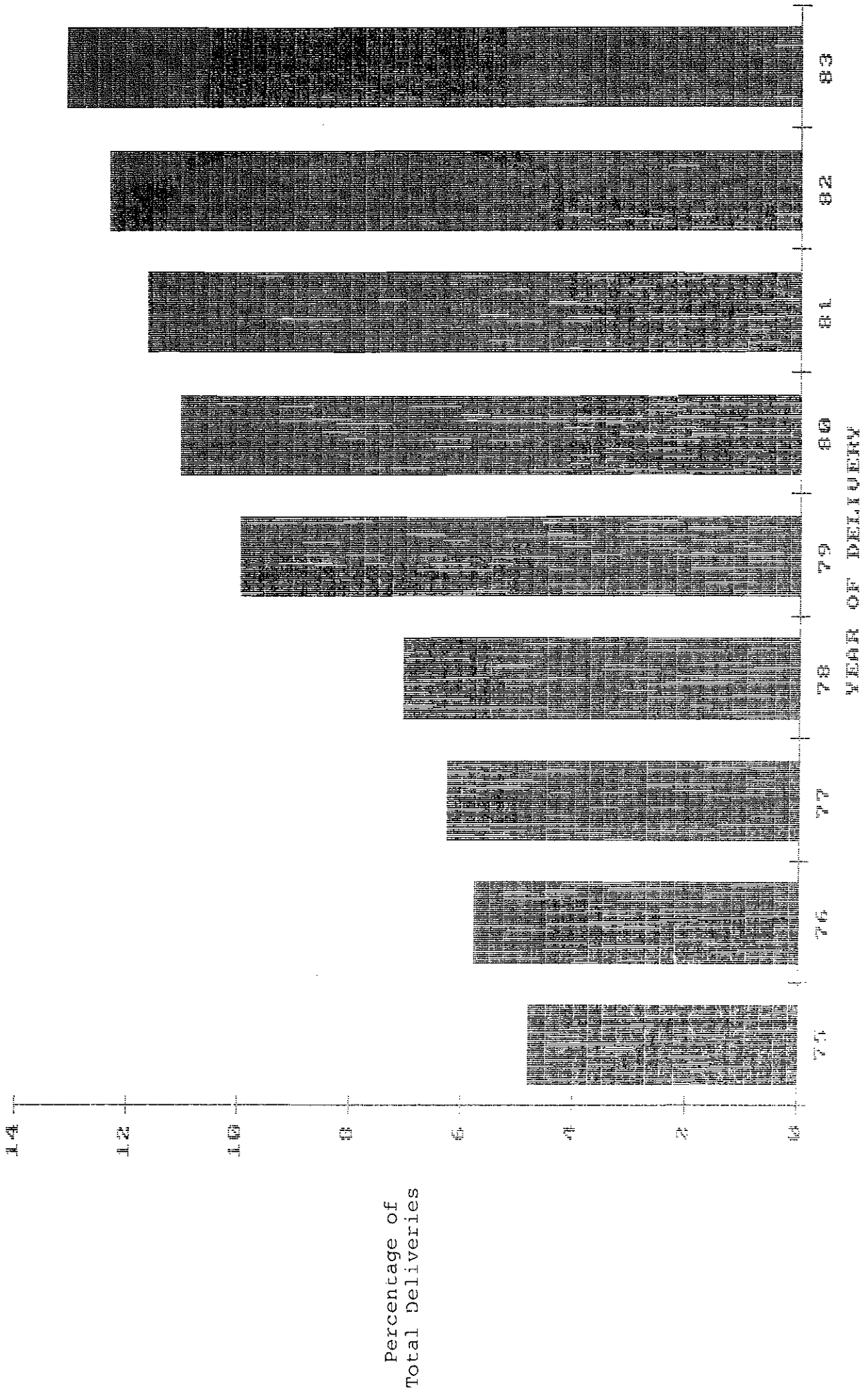
Ninety five percent of those women who had a normal spontaneous delivery had an established length of labour of 12 hours or less.

One in five women who had an emergency caesarean section had a length of established labour of more than 12 hours, and another 354 or 1.7% were identified as having had a failed vaginal instrumental delivery.

Ninety seven women or 0.5% of the singleton pregnancies had an established labour or more than 24 hours duration. (Table 12).

Figure vii

CEASAREAN SECTIONS IN WESTERN AUSTRALIA
1975-1983



SOURCE: Midwives Notification System

TABLE 1.2: HOURS OF ESTABLISHED LABOUR BY TYPE OF DELIVERY FOR SINGLETON CONFINEMENTS IN WESTERN AUSTRALIA IN 1983

Hours of Labour	Type of Delivery										Total	
	Normal		Instrumental		Vaginal Breech		Non Elective Caesarean Section		Failed Vaginal Instrumental		No.	%
	No.	%	No.	%	No.	%	No.	%	No.	%		
1 - 4	6,580	45.9	869	18.8	147	42.6	259	24.9	27	7.6	7,882	38.1
5 - 12	7,083	49.4	3,009	64.9	183	53.0	552	53.1	237	66.9	11,064	53.4
13 - 24	641	4.5	713	15.4	15	4.3	210	20.2	84	23.7	1,663	8.0
> 25	31	0.2	42	0.9	0	0.0	18	1.7	6	1.7	97	0.5
Total	14,335	100.0	4,633	100.0	345	100.0	1,039	100.0	354	100.0	20,706	100.0

Excludes births less than 500 grams birthweight and also 1,839 elective caesarean sections and one unknown

7.4 Complications of Labour and Delivery

Of the 22,785 total women confined, 13,957 or 61.3% had no complication of labour or delivery recorded.

For those with a complication, in 9.4% there was evidence of fetal distress and another 1,210 or 5.3% had cephalopelvic disproportion (Table 13).

Due to difficulties in the analyses of 'other' complications of labour and delivery for multiple pregnancies it is not possible to give an overall total of other complications for all confinements.

When the other complications for singleton pregnancies were examined, 911 or 4.0% of the women had a history of a previous caesarean section. Prolonged rupture of membranes occurred in 119 (0.5%) and unspecified prolonged labour in 470 or 2.1%. Another 204 (0.9%) women had a prolonged second stage of labour.

A retained placenta occurred in 281 or 1.2% of confinements and post partum haemorrhage in 290 or 1.3% of women with a singleton pregnancy. It is thought that the number of post partum haemorrhages were underenumerated.

TABLE 13: SELECTED COMPLICATIONS OF LABOUR AND DELIVERY FOR ALL WOMEN CONFINED IN WESTERN AUSTRALIA IN 1983

	No.	% of all Women
None	13,957	61.3
<u>Complication</u>		
Precipitate delivery	1,253	5.5
Fetal distress	2,146	9.4
Prolapsed cord	53	0.2
Cord tightly around neck	1,501	6.6
Cephalopelvic disproportion	1,210	5.3
Other	4,517	19.8

Excludes births less than 500 grams birthweight

8. SELECTED TOPICS

8.1 Teenage Pregnancies

Seven percent of all the women confined in Western Australia in 1983 were less than twenty years of age.

Of the 1,576 teenage mothers, 1,566 had a singleton pregnancy and ten teenagers had a multiple pregnancy; nine had twins and one teenager had a set of triplets (Table 14).

TABLE 14: TYPE OF PREGNANCY FOR ALL TEENAGERS
CONFINED IN WESTERN AUSTRALIA IN 1983

Maternal Age	Type of Pregnancy				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
< 14	22	1.4	0	0.0	22	1.4
15	51	3.3	1	10.0	52	3.3
16	145	9.3	1	10.0	146	9.3
17	302	19.3	3	30.0	305	19.4
18	399	25.5	3	30.0	402	25.5
19	647	41.3	2	20.0	649	41.2
Total	1,566	100.0	10	100.0	1,576	100.0

Excludes births less than 500 grams birthweight

The areas of residence of teenagers with singleton pregnancies were examined. Fifty five percent of the 1,566 teenage mothers resided in the metropolitan area. The majority of those whose age was less than 16 were non metropolitan residents. (Table 15).

Of all the women confined who were less than 20 years of age, one in four were identified as aboriginal (Table 16).

TABLE 15: AREA OF RESIDENCE OF TEENAGE WOMEN WITH A SINGLETON PREGNANCY CONFINED IN WESTERN AUSTRALIA IN 1983

Age	Area of Residence				Total	
	Metropolitan		Non-Metropolitan		No.	%
	No.	%	No.	%		
< 14	5	0.6	17	2.4	22	1.4
15	22	2.6	29	4.1	51	3.3
16	74	8.6	71	10.0	145	9.3
17	177	20.7	125	17.6	302	19.3
18	214	25.0	185	26.1	399	25.5
19	364	42.5	283	39.9	647	41.3
Total	856	100.0	710	100.0	1,566	100.0

Excludes births less than 500 grams birthweight

TABLE 16: RACIAL GROUPINGS OF TEENAGE WOMEN WITH A SINGLETON PREGNANCY CONFINED IN WESTERN AUSTRALIA IN 1983

Maternal Age	Racial Groupings				Total	
	Aboriginal		Other		No.	%
	No.	%	No.	%		
< 14	15	3.8	7	0.6	22	1.4
15	29	7.3	22	2.0	51	3.3
16	54	13.6	91	7.8	145	9.3
17	85	21.4	217	18.6	302	19.3
18	102	25.6	297	25.4	399	25.5
19	113	28.4	534	45.7	647	41.3
Total	398	100.0	1,168	100.0	1,566	100.0

Excludes births less than 500 grams birthweight

When the current conjugal status of teenagers was examined, it showed that 51.4% were single. This included conjugal status recorded as either unmarried, separated, divorced or widowed. Of those teenagers whose age was 17 years or less, only 8.4% were identified as married or living in a defacto relationship (Table 17).

TABLE 17: CURRENT CONJUGAL STATUS OF TEENAGE WOMEN CONFINED IN WESTERN AUSTRALIA IN 1983

Maternal Age	Conjugal Status				Total	
	Married/Defacto		*Other		No.	%
	No.	%	No.	%		
< 14	3	13.6	19	86.4	22	100.0
15	3	5.8	49	94.2	52	100.0
16	26	17.8	120	82.2	146	100.0
17	109	35.7	196	64.3	305	100.0
18	199	49.5	203	50.5	402	100.0
19	426	65.6	223	34.4	649	100.0
Total	766	48.6	810	51.4	1,576	100.0

Excludes births less than 500 grams birthweight

* Other includes unmarried, separated, divorced and widowed

8.2 Aboriginal Pregnancies

Five percent of all confinements in Western Australia in 1983 were of aboriginal women.

Of the total of 1,140 aboriginal women, 1,132 99.3% had a singleton pregnancy and eight women had a multiple pregnancy; seven had twins and one women had a set of triplets.

Thirty five percent of the aboriginal women with a singleton pregnancy were teenagers (less than 20 years of age) and almost eight out of every ten were resident outside the metropolitan area (Table 18).

TABLE 18: DISTRIBUTION OF ABORIGINAL TEENAGE SINGLETON CONFINEMENTS ACCORDING TO MATERNAL AGE AND MOTHER'S PLACE OF RESIDENCE

Maternal Age	Place of Residence				Total	
	Metropolitan		Non-Metropolitan		No.	%
	No.	%	No.	%		
< 14	1	1.2	14	4.5	15	3.8
15	3	3.6	26	8.3	29	7.3
16	14	16.7	40	12.7	54	13.6
17	20	23.8	65	20.7	85	21.4
18	24	28.6	78	24.8	102	25.6
19	22	26.2	91	29.0	113	28.4
Total	84	100.0	314	100.0	398	100.0

Excludes births less than 500 grams birthweight

Perinatal deaths amongst the aboriginal babies included 14 stillbirths, a proportion of 12.2/1000 total births; and 11 neonatal deaths, a neonatal mortality proportion of 9.7/1000 livebirths. The total 25 perinatal deaths amongst the aboriginal births when expressed as a proportion, was 21.8/1000 total births. This was almost double the perinatal mortality of 11.51/1000 total births for the whole State. These mortality proportions have been calculated using the national criteria of 500 grams or more birthweight.

Amongst the liveborn aboriginal singleton babies 53.3% were identified as male and 46.7% female. In the multiple births, males represented 64.7% of the total and females 35.3% (Table 19).

TABLE 19: PLURALITY AND SEX OF LIVEBORN ABORIGINAL BABIES DELIVERED IN WESTERN AUSTRALIA IN 1983

Sex	Plurality				Total	
	Singleton		Multiple		No.	%
	No.	%	No.	%		
Male	594	53.1	11	64.7	605	53.3
Female	524	46.9	6	35.3	530	46.7
Total	1,118	100.0	17	100.0	1,135	100.0

Excludes births less than 500 grams birthweight

8.3 Home Births

There were 99 women and 100 babies who were delivered as a planned home birth during 1983. One woman gave birth to twins without any complication.

Lack of sufficient data prevents identification of the total number of women who had planned to have a home birth during 1983, but it is anticipated that more accurate information on this subgroup will be available in the future.

The statistical division of mother's residence for women who had a planned delivery at home showed that 71% lived in the metropolitan statistical division and another 24.2% resided in the South West Statistical Division (Table 20).

TABLE 20: STATISTICAL DIVISION OF RESIDENCE OF THE WOMEN
WITH A PLANNED HOME BIRTH IN WESTERN AUSTRALIA IN 1983

Statistical Division of Residence	No.	%
Metropolitan	70	70.7
South West	24	24.2
Lower Great Southern	2	2.0
Midlands	2	2.0
Central	1	1.0
Total	99	100.0

Excludes births less than 500 grams birthweight

When the current conjugal status of the women who had a planned home birth was examined it found that 95% were either married or living in a defacto relationship, and only 5% were recorded as being either unmarried, separated, divorced or widowed. This was half the percentage for the State.

The majority of women who had a planned home birth were aged between 25 and 34 years (69.4%). Another seven women were aged 35 or more.

Forty of the 98 women with a singleton pregnancy were nulliparous and another three had at least four previous pregnancies.

9. BABY CHARACTERISTICS

There were 23,029 babies who were delivered in Western Australia in 1983. Of these 22,546 were singleton births and 483 (2.1%) were multiple births. There were 468 twin babies, including four babies where only one weighed more than 500 grams. In these instances both the twins greater than 500 grams and less than 500 grams birthweight have been included in the data. In addition, there were fifteen triplet babies. (Tree Diagram 1).

9.1 Sex

Of the 22,546 singleton births, 11,703 or 51.9% were recorded as male and 10,843 or 48.1% were female.

9.2 Condition at Birth

There were 22,872 liveborn babies and 157 were stillborn. Further information on perinatal mortality is discussed later in this section of the report.

9.3 Apgar Score at Five Minutes

Of the 22,041 liveborn singleton babies, 86.4% had an Apgar Score of nine or ten at five minutes. Fifty three babies had an Apgar Score of one or two at five minutes and another 12.7% had a score of from three to eight recorded at five minutes.

When the Apgar Score at five minutes was tabulated against time to spontaneous respiration, 98.8% of those babies with a score of nine or ten had spontaneous respirations within one to two minutes. Only one percent of the singleton livebirths took six or more minutes to establish spontaneous respirations (Table 21).

TABLE 21: Apgar Score at Five Minutes and Time to Spontaneous Respiration for Singleton Livebirths in Western Australia in 1983

Apgar Score	Time to Spontaneous Respiration				Total
	Minutes			Unknown	
	1 - 2	3 - 5	6 - 60		
1 - 2	0 0.0	0 0.0	28 52.8	25 47.2	53 0.2
3 - 8	2,202 76.7	438 15.3	180 6.3	52 1.8	2,872 12.7
9 - 10	19,248 98.8	228 1.2	0 0.0	0 0.0	19,476 86.4
Total	21,450 95.8	666 3.0	208 0.9	77 0.3	22,401 100.0

Excludes births less than 500 grams birthweight and also 145 stillbirths

9.4 Resuscitation

Resuscitation at delivery was not required for 71.9% of the singleton livebirths. Four percent of singleton livebirths were intubated and one in five required oxygen at birth (Table 22).

TABLE 22: RESUSCITATION METHODS AND Apgar Score at Five Minutes for Singleton Livebirths in Western Australia in 1983

Resuscitation	Apgar Score						Total	
	1 - 2		3 - 6		7 - 10		No.	%
	No.	%	No.	%	No.	%		
None	6	11.3	16	3.8	16,092	73.4	16,114	71.9
Oxygen only	3	5.7	89	21.0	4,404	20.1	4,496	20.1
Intubation	36	67.9	238	56.3	580	2.6	854	3.9
Bag and Mask	1	1.9	32	7.6	255	1.2	288	1.3
Narcotic Antagonist	1	1.9	39	9.2	583	2.7	623	2.8
Other	6	11.3	9	2.1	11	0.1	26	0.1
Total	53	100.0	423	100.0	21,925	100.0	22,401	100.0

Excludes births less than 500 grams birthweight and also 145 stillbirths

9.5 Time to Spontaneous Respiration

Almost four percent of the singleton liveborn babies took three or more minutes to establish spontaneous respiration. Of these, 208 took six or more minutes to establish spontaneous respiration (Table 23).

TABLE 23: TIME TO SPONTANEOUS RESPIRATION AND RESUSCITATION METHODS FOR SINGLETON LIVEBIRTHS IN WESTERN AUSTRALIA IN 1983

Resuscitation	Time to Spontaneous Respiration								Total	
	1 - 2		3 - 5		> 6		Unknown			
	No.	%	No.	%	No.	%	No.	%	No.	%
None	16,096	75.0	11	1.7	1	0.5	6	7.8	16,114	71.9
Oxygen only	4,285	20.0	197	29.6	11	5.3	3	3.9	4,496	20.0
Intubation	333	1.6	295	44.3	161	77.4	65	84.4	854	3.8
Bag and Mask	192	0.9	82	12.3	14	6.7	0	0.0	288	1.3
Narcotic Antagonist	532	2.5	77	11.6	14	6.7	0	0.0	623	2.8
Other	12	0.1	4	0.6	7	3.4	3	3.9	26	0.1
Total	21,450	100.0	666	100.0	208	100.0	77	100.0	22,401	100.0

Excludes births less than 500 grams birthweight and also 145 stillbirths

9.6 Birthweight

Of the 23,029 babies who were delivered in Western Australia in 1983, 902 or 6.4% were considered to be of low birthweight (i.e. less than 2500 grams birthweight), and 1.2% were of very low birthweight (i.e. less than 1500 grams birthweight). Five percent of all the singleton births and more than half the multiple births were of low birthweight, (i.e. less than 2500 grams birthweight).

When maternal race and birthweight were examined, the low birthweight was a feature in the 13.1% of aboriginal babies. This was more than double that of the whole State, (6.4%). For caucasians low birthweight babies comprised of 5.9% and for other racial groups 7.7% (Table 24).

In contrast to the low birthweight group, there were 2,418 or one in ten babies born in Western Australia who had a birthweight of 4000 grams or more (Table 24).

TABLE 24: BIRTHWEIGHT DISTRIBUTION BY MATERNAL RACE FOR ALL BIRTHS OCCURRING IN WESTERN AUSTRALIA IN 1983

Birthweight (Grams)	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	%
	No.	%	No.	%	No.	%		
400 - 499	4	0.0	0	0.0	0	0.0	4	0.0
500 - 999	115	0.6	11	1.0	3	0.3	129	0.6
1000 - 1499	131	0.6	9	0.8	5	0.4	145	0.6
1500 - 1999	235	1.1	33	2.9	17	1.5	285	1.2
2000 - 2499	742	3.6	98	8.5	62	5.5	902	3.9
		5.9		13.1		7.7		6.4
2500 - 2999	3,069	14.8	276	24.0	243	21.4	3,588	15.6
3000 - 3499	7,699	37.1	412	35.9	467	41.2	8,578	37.2
3500 - 3999	6,499	31.3	228	19.8	253	22.3	6,980	30.3
4000 - 4499	1,955	9.4	70	6.1	72	6.4	2,097	9.1
> 4500	299	1.4	12	1.0	10	0.9	321	1.4
TOTAL	20,748	100.0	1,149	100.0	1,132	100.0	23,029	100.0

Excludes births less than 500 grams birthweight except four twin births where the other twin was greater than 500 grams birthweight

Seventy two percent of all the births in Western Australia occurred in metropolitan hospitals. Eight in every ten singleton low birthweight babies were delivered in a metropolitan hospital and almost fifty percent of these were born in a teaching hospital (Table 25).

TABLE 25: PLACE OF BIRTH AND BIRTHWEIGHT GROUPINGS FOR BIRTHS IN WESTERN AUSTRALIA IN 1983

	Birthweight Groupings								Total	
	Singleton Births				Multiple Births					
	< 2500		> 2500		< 2500		> 2500		No.	%
	No.	%	No.	%	No.	%	No.	%		
<u>Metropolitan</u>										
¹ Teaching	571	47.6	4,005	18.8	177	66.5	92	42.4	4,845	21.0
² Midwives Teaching Department	93	7.8	2,811	13.2	24	9.0	38	17.5	2,966	12.9
Private	207	17.3	5,889	27.6	27	10.2	33	15.2	6,156	26.7
<u>Country</u>										
³ Regional	111	9.2	2,676	12.5	14	5.3	13	6.0	2,814	12.2
Private	12	1.0	494	2.3	2	0.8	9	4.1	517	2.2
⁴ Other	112	9.3	2,813	13.2	8	3.0	10	4.6	2,943	12.8
Non Hospital	15	1.3	140	0.7	2	0.8	0	0.0	157	0.7
Total	1,199	100.0	21,347	100.0	266	100.0	217	100.0	23,029	100.0

Excludes births less than 500 grams birthweight

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

² Midwives Teaching Hospital - not defined as a teaching hospital but conducts education programs for trainee midwives.

³ Country Regional Hospital - Government hospital with private and public beds.

⁴ Country Other Hospital - includes government and board hospitals.

9.7 Congenital Anomalies

During 1983 there were 738 malformations identified, which represented 3.2% of all babies born.

The malformations diagnosed were grouped into major and minor categories based on a classification from the Centre for Disease Control, Atlanta, Georgia, USA (Table 26).

TABLE 26: CATEGORIES OF CONGENITAL MALFORMATIONS IDENTIFIED IN BABIES BORN IN WESTERN AUSTRALIA IN 1983

Category	No.	% of all babies
Single minor	45	0.2
Multiple minor	8	0.0
Single major + minor	539	2.3
Multiple major + minor	146	0.6
Total	738	3.2

SOURCE: Western Australian Congenital Malformations Register

When a congenital anomaly is identified on the Notification of Case Attended, Midwives' Form 2, it provides an initial source of information to the Western Australian Congenital Malformations Register. Criteria have been established for those malformations which are included in the Congenital Malformations Register (see Appendix B) and a list of exclusions also exists (See Appendix C).

A comprehensive list of selected malformations identified in babies born in 1983 has been included in this report (Table 27).

TABLE 27: SELECTED CONGENITAL MALFORMATIONS IDENTIFIED IN BIRTHS WHICH OCCURRED IN WESTERN AUSTRALIA IN 1983

Malformation	No. of Cases	No. of Defects	Prevalence per 1000 Births
Nervous System	73	82	3.2
Neural Tube Defects	52	57	2.3
Microcephaly	4		
Hydrocephalus (not associated with neural tube defect)	10		
Cardiovascular System	123	190	5.3
Transposition of Great Vessels	10		
Tetralogy of Fallot	1		
Ventricular Septal Defect	69		2.9
Atrial Septal Defect	34		1.5
Hypoplastic Left Heart	2		
Coarctation of Aorta	4		
Patent Ductus Arteriosus	29		1.3
Respiratory System	17	17	0.7
Hypoplasia/Dysplasia Lung	4		
Gastro-Intestinal System	127	145	5.5
Cleft Lip	10		
Cleft Palate	12	12	
Cleft Lip and Palate	23		1.0
Tracheo-oesophageal Fistula			
Atresia			
Stenosis	5		
Stenosis/Atresia Anus	12		
Uro-Genital System	131	168	5.7
Undescended Testis	19		1.7
Hypospadias/Epidispadias	60		5.3
Renal Agenesis/Dysgenesis	14	14	
Ureteric Reflux	15		0.7
Musculo-Skeletal System	264	316	11.5
Congenital Dislocation of Hip	106		4.6
Talipes	59		2.6
Polydactyly	16	18	0.7
Syndactyly	16	19	0.7
Diaphragmatic Hernia	7		
Exomphalos	1		
Gastroschisis	2		
Achondroplasia	4		
Osteogenesis Imperfecta	3		
Reduction Deformities of Upper and Lower Limbs	12		
Chromosome Defects	36	36	1.6
Down's Syndrome	27		1.2
Trisomy 18	3		
Turners Syndrome	3		

SOURCE: Western Australian Congenital Malformations Register

9.8 Perinatal Mortality

Amongst the 23,029 total births which occurred in 1983, there were 265 perinatal deaths. The perinatal mortality proportion was 11.51/1000 total births in Western Australia, based on the national criteria of 500 grams or more birthweight.

There were 157 stillbirths, a proportion of 6.81/1000 total births and another 108 liveborn babies who died during the neonatal period. The neonatal mortality proportion for Western Australia was 4.72/1000 livebirths.

There has been a steady decline in perinatal deaths over the years. This decline is demonstrated from 1980 to 1983 in Figure viii (Table 28).

TABLE 28: STILLBIRTHS, NEONATAL AND PERINATAL MORTALITY IN WESTERN AUSTRALIA 1980-1983

Year	Perinatal Mortality				Total	
	Stillbirths		Neonatal Deaths		Proportion 1000 total births	
	No.	Proportion 1000 total births	No.	Proportion 1000 live births		
1980	155	7.5	125	6.1	280	13.5
1981	153	6.9	118	5.4	271	12.2
1982	155	6.9	118	5.3	273	12.2
1983	157	6.8	108	4.7	265	11.5

Excludes births less than 500 grams birthweight

When the birthweight and condition at birth of singleton babies were examined, it was found 69% of the singleton stillbirths were recorded as having low birthweight (i.e. less than 2500 grams), whereas of the liveborn singleton births, only 4.9% were of low birthweight (i.e. less than 2500 grams birthweight) (Table 29).

STILLBIRTHS, NEONATAL AND PERINATAL MORTALITY
IN WESTERN AUSTRALIA 1980-1983

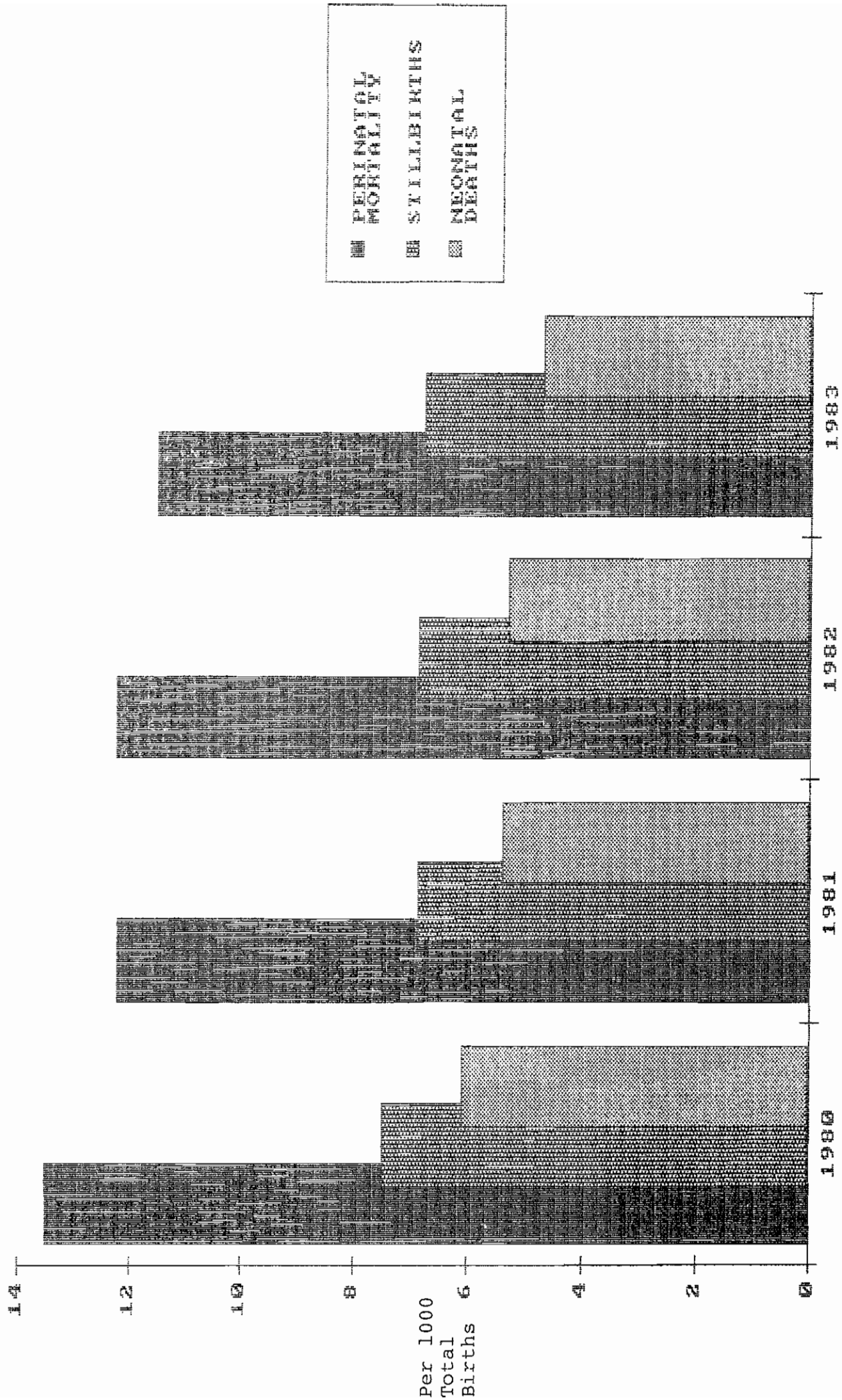


Figure viii

Excludes births less than 500 grams birthweight
SOURCE: MIDWIVES' NOTIFICATION SYSTEM
PERINATAL MORTALITY OFFICE

TABLE 29: CONDITION AT BIRTH AND BIRTHWEIGHT DISTRIBUTION FOR ALL SINGLETON BIRTHS IN WESTERN AUSTRALIA IN 1983

Birthweight (Grams)	Condition at Birth				Total	
	Stillborn		Liveborn		No.	%
	No.	%	No.	%		
500 - 999	43	29.7	62	0.3	105	0.5
1000 - 1499	22	15.2	96	0.4	118	0.5
1500 - 1999	24	16.6	191	0.9	215	1.0
2000 - 2499	11	7.6	750	3.3	761	3.4
2500 - 2999	19	13.1	3,420	15.3	3,439	15.3
3000 - 3499	13	9.0	8,505	38.0	8,518	37.8
3500 - 3999	9	6.2	6,963	31.1	6,972	30.9
4000 - 4499	4	2.8	2,093	9.3	2,097	9.3
> 4500	0	0.0	321	1.4	321	1.4
TOTAL	145	100.0	22,401	100.0	22,546	100.0

Excludes births less than 500 grams birthweight

More than six in every ten neonatal deaths occurred on the first day of life. Another 23.2% occurred within the first seven days (Table 30).

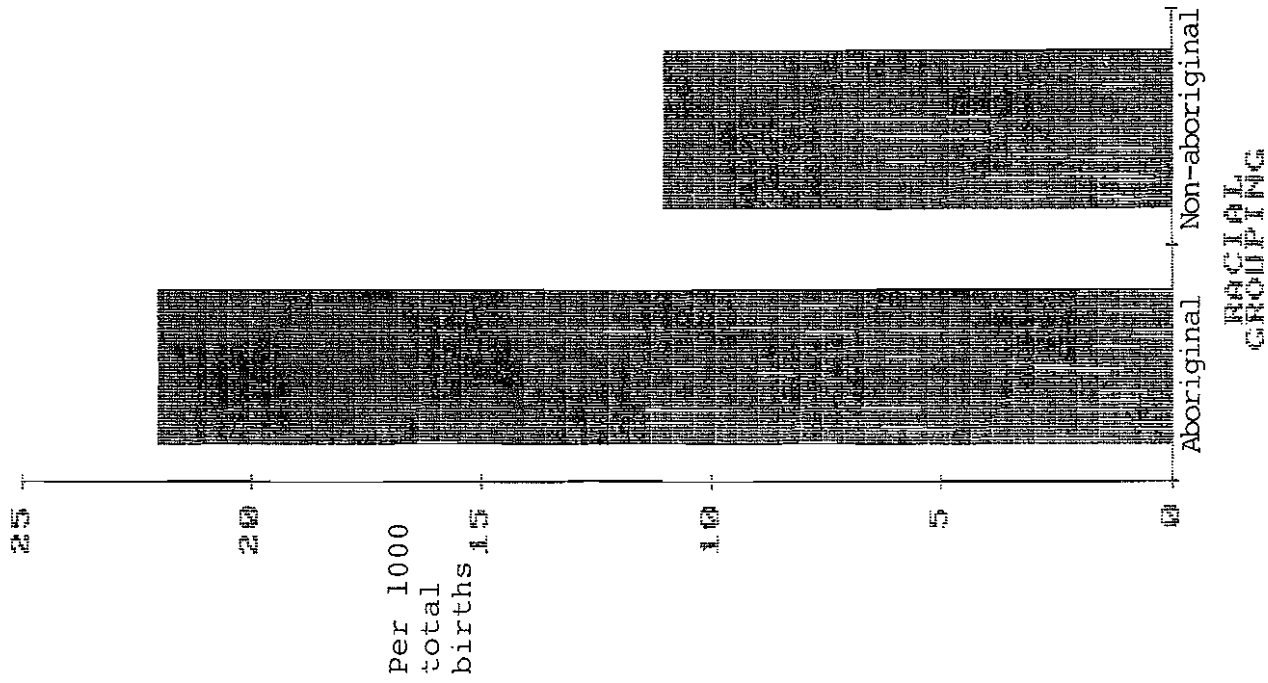
TABLE 30: AGE DISTRIBUTION OF THOSE LIVEBIRTHS WHICH RESULTED IN A NEONATAL DEATH IN 1983 IN WESTERN AUSTRALIA

Age at Neonatal Death	No.	%
< 24 hours	67	62.0
Day 2	9	8.3
Day 3	6	5.6
Day 4	3	2.8
Day 5	2	1.9
Day 6	4	3.7
Day 7	1	0.9
Day 8 - 14	13	12.0
Day 15 - 21	1	0.9
Day 22 - 28	2	1.9
Total	108	(100.0)

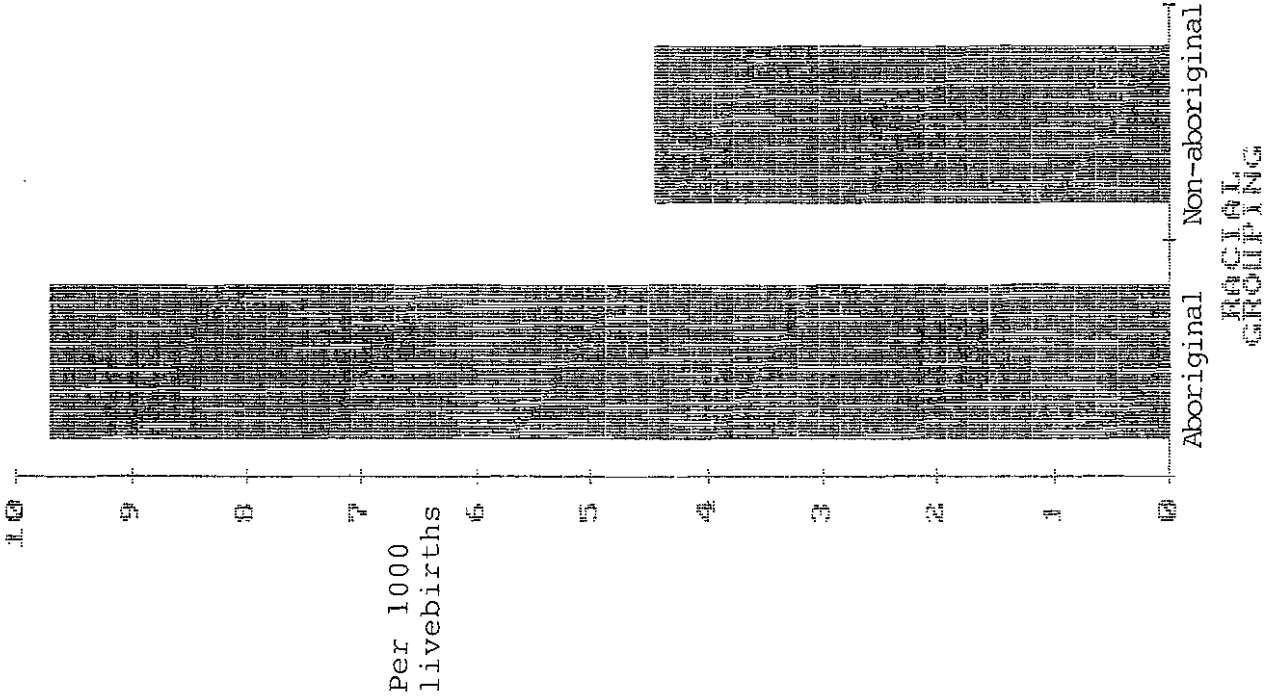
Excludes: Births less than 500 grams birthweight

RACE-SPECIFIC PERINATAL MORTALITY
IN WESTERN AUSTRALIA IN 1983

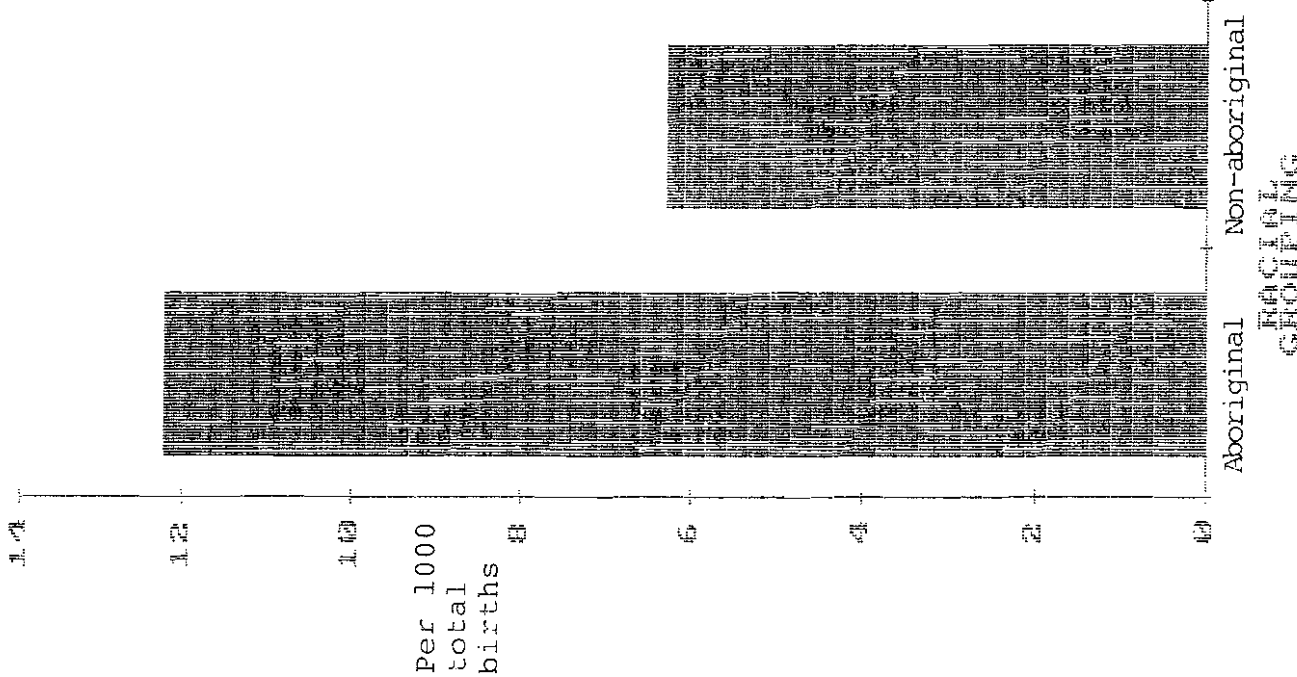
PERINATAL
MORTALITY



NEONATAL
MORTALITY



STILLBIRTH



SOURCE: Midwives' Notification System
Registrar General's Office

The race-specific perinatal mortality proportions showed that aboriginal mortality was more than twice that of other races combined. See Figure ix (Table 31).

TABLE 31: RACE-SPECIFIC PERINATAL MORTALITY IN WESTERN AUSTRALIA IN 1983

Race	Stillbirth	Neonatal Death	Perinatal Death
	Proportion 1000 total births	Proportion 1000 live births	Proportion 1000 total births
Aboriginal	12.2	9.7	21.8
Non-Aboriginal	6.3	4.5	11.0

Excludes births less than 500 grams birthweight

The causes of death varied between stillbirths and neonatal deaths. Asphyxia was the most common cause of stillbirth (31.8% of cases), placental abruption/haemorrhage caused 17.2%, and congenital anomalies 15.9%. Unknown cause of death was recorded in 18 or 11.5% of stillbirths. For neonatal deaths the most common causes were given as congenital anomalies in (38.8%) and prematurity in (36.1%) (Table 32).

TABLE 32: CAUSES OF PERINATAL MORTALITY IN WESTERN AUSTRALIA IN 1983

Cause of Death	Stillbirths		Neonatal Deaths		Perinatal Deaths	
	No.	%	No.	%	No.	%
Placental abruption and haemorrhage	27	17.2	2	1.9	29	10.9
Placental Insufficiency	10	6.4	2	1.9	12	4.5
Pre eclampsia	4	2.5	0	0.0	4	1.5
Other maternal Conditions	13	8.3	4	3.7	17	6.4
Asphyxia	50	31.8	7	6.5	57	21.5
Prematurity	10	6.4	39	36.1	49	18.5
Congenital Anomalies	25	15.9	42	38.9	67	25.3
Infection	0	0.0	5	4.6	5	1.9
S.I.D.S.	0	0.0	2	1.9	2	0.8
Unknown	18	11.5	5	4.6	23	8.7
Total	157	100.0	108	100.0	265	100.0

Excludes births less than 500 grams birthweight

SOURCE: Midwives' Notification System
Registrar General's Office

APPENDICES

NOTIFICATION OF CASE ATTENDED 1 Hospital

PARTICULARS RELATING TO MOTHER

PRINT
IN
BLOCK
LETTERS

2 SURNAME	6 UNIT RECORD No.
3 FORENAMES	7 BIRTH DATE
4 ADDRESS OF USUAL RESIDENCE	8 POSTCODE
5 MAIDEN NAME	

9 Current Conjugal State:

single () 1

married (incl. de facto) () 2

other () 3

10 Race:

Caucasian () 1

Aboriginal (full or part) () 2

Other () 3

11 Height (cms)

PREGNANCY

PREVIOUS PREGNANCIES (excluding this pregnancy)

Total number of: [] []

12 Previous Pregnancies [] []

13 Previous children - now living [] []

14 born alive, now dead [] []

15 stillborn [] []

THIS PREGNANCY

16 Date of LMP [] [] [] [] [] []

17 This date - certain () 1
- not certain () 2

18 Expected due date [] [] [] [] [] []

19 Complications of Pregnancy:

Threatened abortion (under 20 weeks) () A

urinary tract infection () B

pre eclampsia () C

APH - placenta praevia () D

- abruptio () E

- other () F

prem. rupture of membranes () G

20 other () H

21 Medical Conditions:

LABOUR AND DELIVERY

23 Onset of Labour:

spontaneous () A

induced () B

augmented () C

no labour () D

24 Presentation:

vertex () 1

breech () 2

other () 3

25 Type of Delivery:

normal () A

vacuum - successful () B

- failed () C

forceps - successful () D

- failed () E

breech manoeuvre () F

caesarean - elective () G

- emergency () H

26 Hours of established labour: [] []

27 Complications of Labour, Delivery: (Include reason for Caesarean)

precipitate delivery () A

foetal distress () B

prolapsed cord () C

cord tight around neck () D

cephalopelvic disproportion () E

28 other () F

BABY

Separate Form for each Baby

Adoption Yes () No ()

33 Birth Date: [] [] [] [] [] []

34 Time (24 hr. clock) [] [] [] []

35 Plurality:

single birth () 1

first twin () 2

second twin () 3

other multiple birth: () 4

36 (specify baby number ___ of ___)

37 Sex: male () 1
female () 2

38 Condition: liveborn () 1
stillborn () 2

39 Birthweight (grams) [] [] [] [] [] []

40 Length (cms) [] [] [] []

41 Time to Spontaneous Respiration (mins) [] []

42 Resuscitation:

none () 1

intubation () 2

oxygen only () 3

other () 4

43 Apgar Score (5 mins) [] [] [] []

Estimated Gestation (weeks) [] [] [] []

44 Congenital Anomalies

45 Birth Trauma (Eg. cephalhaematoma)

BABY'S SEPARATION DETAILS

Date of Discharge 29 Transfer or Death [] [] [] [] [] []

30 Type of Separation:

Discharged home () 1

Died () 2

Transferred to () 3

31 Special Care (whole days only) [] [] [] []

32 Separate HA22 for baby:

yes, attached () 1

COMPLETE SECTION ON SEPARATION

Attach to Mother and Baby's Inpatient Summaries (HA22). Forward to Health Statistics Branch after discharge of Mother and/or baby whichever is later.

MIDWIFE

Name [] [] [] [] [] []

Signature [] [] [] [] [] []

22 Reg. No. [] [] [] [] [] [] Date [] [] [] [] [] []

30995/1/84-15M Sets-S/7002

Conditions Which are Included in The
Western Australian Congenital Malformations Register

Nervous System

Anencephaly
Spina bifida
Encephalocoele
Congenital hydrocephalus
Microcephaly

Cardiovascular System

Congenital heart defects
(please specify)
Coarctation of the aorta
Patent ductus arteriosus
Dextrocardia

Gastro-Intestinal System

Cleft lip, palate
Tracheo-oesophageal fistula
Pyloric stenosis
Intestinal atresia
Hirschsprung's disease
Ectopic anus
Imperforate anus

Urinary System

Cystic kidney
Absent kidney
Ectopic kidney
Double ureter
Vesico-ureteric reflux

Blood

Thalassaemia
Sickle cell anaemia
Haemophilia

Metabolic Disorders - InbornErrors of Metabolism

Phenylketonuria
Cystic fibrosis
Congenital hypothyroidism
Adreno-genital Syndrome
Glycogen storage disorder
Lipid storage disorder
Albinism

Respiratory System

Pulmonary hypoplasia
Diaphragmatic hernia
Choanal atresia
Congenital lung cyst

Eye

Absence of eye
Microphthalmia
Congenital glaucoma
Congenital cataract

Genital System

Undescended testis
(requiring treatment)
Hypospadias
Indeterminate sex

Skin

Cystic hygroma
Birthmarks) please state size,
Haemangiomas) site and whether
Naevi) multiple or not

Musculo-Skeletal System

Congenital dislocation of hip
Talipes (requiring plasters
or surgery)
Polydactyly
Syndactyly
Absence of limbs
(complete or partial)
Craniosostenosis
Osteogenesis imperfecta
Exomphalos

Congenital Infections

Rubella
Toxoplasmosis
Cytomegalovirus
Herpes
Syphilis

Chromosomal Anomalies

Down's Syndrome
Trisomy 13
Trisomy 18
Turner's Syndrome
Klinefelter's Syndrome
Cri-du-chat Syndrome

SOURCE: Western Australian Congenital Malformations Register

Conditions Which are Excluded from the Western Australian
Congenital Malformations Register

Blocked tear duct	Low birthweight
Broncho-pulmonary Dysplasia	Meconium Ileus
Clicky Hips	Mental retardation
Congenital Pneumonia	Mongolian Blue Spot
Delayed Milestones	Motor Impairment
Epigastric Hernia	Naevus)
Epilepsy	Angioma)
Failure to Thrive	Haemangioma) (<4cm)
Hydrocele Testis	Lymphangioma)
Hypoglycaemia	Birthmark)
I.U.G.R.	Oesophageal Reflux
Imperforate hymen	Paroxysmal Atrial Tachycardia
Inguinal hernia	Persistent Fetal Circulation
Intussusception	Pilonidal Sinus
Labial Adhesion or fusion	Positional or Postural Foot Deformities
Large Fontanelles	Sacral Dimple/Sinus
Raynaud's Disease	Skin Tag
Single Palmar Crease	Small Anomalies of Toe
Small Anomalies of Ear	Submucous Retention Cyst
Strabismus	Tongue Tie, even if surgery
Tachycardia	Webbing 2nd & 3rd Toes
Umbilical Hernia	Undesended Testis - unless treated
Wide Suture Lines	

SOURCE: Western Australian Congenital Malformations Register