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ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ACT MPIN	ACT Maternal Perinatal Information Network
AHMAC	Australian Health Ministers' Advisory Council
AIHW	Australian Institute of Health and Welfare
ASCCSS	Australian Standard Classification of Countries for Social Statistics
ASGC	Australian Standard Geographical Classification
BOS	Birth Outcomes System
CMIP	Core Maternity Indicator Project
CNC	Centre for Newborn Care
EWG	Expert Working Group (Core Maternity Indicator Project)
HDSC	Health Data Standards Committee
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian modification
LSAC	Longitudinal Study of Australian Children
METeOR	Metadata online registry
NHDD	National Health Data Dictionary
NHIMPC	National Health Information Management Principal Committee
NICU	Neonatal Intensive Care Unit
NMDS	National Minimum Data Set
NPDC	National Perinatal Data Collection
NPDDC	National Perinatal Data Development Committee
NPSU	AIHW National Perinatal Statistics Unit
NSW	New South Wales
NT	Northern Territory
OBICARE	Obstetric Care Information Database
PANDA	Perinatal And Newborn Data Access
PSANZ-NDC	Perinatal Society of Australia and New Zealand Neonatal Death Classification
PSANZ-PDC	Perinatal Society of Australia and New Zealand Perinatal Death Classification
Qld	Queensland
SA	South Australia
SACC	Standard Australian Classification of Countries
SCN	Special Care Nursery
SIMC	Statistical Information Management Committee
Tas	Tasmania
TCH	The Canberra Hospital
UNSW	University of New South Wales
Vic	Victoria
WA	Western Australia
WHO	World Health Organization

TABLE OF CONTENTS

FIGURES

TABLES

EXECUTIVE SUMMARY

This report provides an overview of maternal and perinatal health in the ACT from 2000 to 2004. The data presented are primarily sourced from the ACT Maternal Perinatal Data Collection (ACT MPDC). A detailed description of the collection and methodology used is provided in Section 5.

This is the sixth report in a series on Maternal and Perinatal Health in the ACT produced by the Population Health Division, ACT Health, in consultation with the ACT Maternal Perinatal Information Network.

Summary measures and core indicators of maternal and perinatal health

Summary measures comparing the ACT with Australia indicate that the ACT was significantly less likely to have teenagers who gave birth and significantly more likely to have women aged 35 years and over giving birth for the first time. The percentage of women who reported smoking during pregnancy was significantly lower in the ACT. ACT resident women who gave birth in the ACT were significantly more likely to have a spontaneous onset of labour and an instrumental vaginal birth. They were significantly less likely to have a caesarean section. The percentage of episiotomies and induction of labour for primiparous women was also significantly lower in the ACT.

Women who gave birth and babies born in the ACT

The total number of women giving birth in the ACT increased by 2.5% between 2000 and 2004, with a similar trend observed nationally. There were 4,799 women who gave birth to 4,926 babies in the ACT in 2004, 1.9% of all births nationally.

Fertility and crude birth rates in the ACT

Changes in the age specific fertility rates over time suggest that women in the ACT are increasingly delaying child bearing. Fertility rates peaked among women aged 30 to 34 years in 2004, whereas in 1995 the peak occurred in the 25-29 year age group.

The total fertility rate for the ACT resident population has remained stable over time from 1.64 in 2000 to 1.61 in 2004. The total fertility rate for the Australian population has continued to decline over time from 2.95 in 1971, to 1.76 in 2000 and 1.77 in 2004.[1] The crude birth rate for ACT live births to ACT residents was 12.6 per 1,000 women in 2004.

Place of birth

Almost all women gave birth in a hospital or birth centre in 2004 (99.5%). The remaining women gave birth at home (0.5%). Almost all the women who intended to give birth in hospital did so (99.8%). A third of women chose to give birth in a private hospital during 2004 (36.0%).

Maternal characteristics

The majority of women who gave birth in the ACT in 2004 were ACT residents (83.7%), with almost all of the non-ACT residents being from NSW. Births to teenagers accounted for 2.8% of all births in the ACT in 2004. This was significantly lower than the Australian percentage in 2004 (4.6%).[2]

The average age of women who gave birth in the ACT increased from 28.6 years in 1991 to 30.5 years in 2004, a trend also observed nationally. There was a corresponding decrease in the percentage of women under 25 years who gave birth, and an increase in the percentage of women 35 years and over who gave birth in the ACT.

The birth

Six in ten women had a normal (vaginal) birth in 2004 (58.1%). Three in ten women had a caesarean section (27.0%). A normal birth was more likely to occur following a spontaneous onset of labour with a vertex presentation. A caesarean section was more likely to occur for a multiple birth, in a private hospital and for older women.

Multiple births

The ACT had the highest percentage of multiple births in Australia in 2004, 2.6% compared with 1.7% for Australia.[2] The Canberra Hospital accepts referrals for multiple births from the surrounding Australian Capital Region, which contributes to the higher rate of multiple births observed in the ACT. Four per cent (4.4%) of non-ACT residents had a multiple birth compared with 2.2% of ACT residents.

Baby characteristics

The ACT followed the national trend with male births (51.9%) slightly exceeding female births (48.1%). In 2004, 77.7% of live babies born in the ACT weighed between 2,500 and 3,999 grams, with an average birthweight of 3,383 grams. The majority (89.1%) of live babies born were between 37 and 41 weeks gestation, with an average gestational age of 39 weeks.

The percentage of live babies born in the ACT with a birthweight of less than 2,500 grams in 2004 (8.0%) was similar to the Australian percentage (6.4%).[2] Sixteen per cent (15.8%) of live babies born to women not usually resident in the ACT weighed less than 2,500 grams compared with 6.4% for ACT women. This reflects referrals for high-risk births to the Centre for Newborn Care at The Canberra Hospital from the surrounding region.

Congenital anomalies

Congenital anomalies were reported for 2.5% of all babies born in the ACT in 2004. The most frequently reported congenital anomalies during 2000 to 2004 were anomalies of the genital organs, urinary system, cardiovascular system or musculoskeletal system.

Perinatal deaths

The fetal, neonatal and infant death rates are important indicators of our community's health. There were 25 fetal deaths, 18 neonatal deaths and less than five post neonatal deaths reported for ACT residents in 2004. Among babies born to non-ACT residents during 2004, there were eight fetal deaths and five neonatal deaths.

In 2004, the ACT had a stillbirth rate of 6.1 per 1,000 for ACT residents' births, compared with an Australian rate of 5.3 per 1,000 births[3] and a neonatal death rate of 4.4 per 1,000 for ACT residents' births, compared with an Australian rate of 2.8 per 1,000 births.[3]

Aboriginal and Torres Strait Islander maternal characteristics

Aboriginal and Torres Strait Islander women accounted for 1.5% (73) of the women who gave birth in the ACT in 2004. They were more likely to have their babies at a younger age than their non-Aboriginal and Torres Strait Islander counterparts. Sixty four per cent (64.4%) of the Aboriginal and Torres Strait Islander women who gave birth were less than 30 years of age compared with 40.0% of non-Aboriginal and Torres Strait Islander women.

Three hundred and thirty eight babies were born to Aboriginal and Torres Strait Islander women between 2000 and 2004. Ninety-eight per cent (98.0%) of these babies were live born. The average birthweight for babies born to Aboriginal ACT resident women was significantly higher than the birthweight for babies of Aboriginal non-ACT resident women who gave birth in the ACT. Thirteen per cent of babies (13.4%) born to Aboriginal and Torres Strait Islander women who were ACT residents weighed less than 2,500 grams.

1 INTRODUCTION

This report provides information on fertility trends, maternal and perinatal health, and service utilisation in the ACT for the years 2000 to 2004. Where possible comparisons have been made with national figures and trends given over a five-year period. Comparisons have also been made between ACT residents and non-ACT residents, public and private hospitals.

This report is the sixth in the series on maternal and perinatal health produced by the Population Health Division, ACT Health, in consultation with the ACT Maternal Perinatal Information Network. The data presented in this report was primarily sourced from the ACT Maternal and Perinatal Data Collection, which are maintained by the Population Health Research Centre (PHRC). See Section 5 for more information on the collection.

This report examines the population of women who gave birth in the ACT. It includes information about women who do not reside in the ACT but gave birth within its geographic boundary. The report does not include information on ACT women who gave birth outside the ACT. However during 2004, 99.8% of ACT resident women who gave birth did so in the ACT. Seven women gave birth in other jurisdictions.[4]

Where population rates are presented, these represent ACT residents who have given birth in the ACT. Unless otherwise specified, all other statistics represent all births in the ACT, including those to usual residents of the surrounding Australian Capital Region. See the Methods Section (Section 5.2) for more information on the presentation of results in this report.

1.1 Women who gave birth and babies born in the ACT

ACT births accounted for 1.9% of all births nationally in 2004. Table 1 presents the total number of women who gave birth and babies born in the ACT from 2000 to 2004. The total number of babies born increased by 3.2% over this time period.

Table 1: Women who gave birth and babies born, 2000 - 2004

	2000	2001	2002	2003	2004
Number of women who gave birth	4,684	4,414	4,708	4,784	4,799
Number of babies born	4,774	4,513	4,804	4,876	4,926

Note: Babies born includes livebirths and fetal deaths to both ACT and non-ACT resident women.

Source: ACT Maternal Perinatal Data Collection, 2000 – 2004.

1.2 Summary measures of maternal and perinatal health

Summary perinatal health information for ACT residents who gave birth in the ACT and Australia in 2004 is presented in Table 2. The information includes measures of pregnancy related interventions, maternal risk factors and birth outcomes. Summary information for ACT residents from 2000 to 2004 is presented in Table 79. Key points identified include:

- The ACT was significantly less likely to have teenagers who gave birth and significantly more likely to have women aged 35 years and over giving birth for the first time.
- The percentage of women who reported smoking during pregnancy was significantly lower in the ACT.
- The percentage of women who identified as Aboriginal and Torres Strait Islander was also significantly lower in the ACT.
- ACT resident women who gave birth in the ACT were significantly more likely to have a spontaneous onset of labour and an instrumental vaginal birth. They were significantly less likely to have a caesarean section.

- There were no significant differences between the percentage of ACT and Australian resident babies who were preterm, low birthweight or had low Apgar scores at five minutes after birth.
- There was no difference in the perinatal death rate for the ACT and Australia.

Table 2: Summary measures of maternal and perinatal health, ACT residents and Australia, 2004

Variable	Description of measure	ACT	Australia
Maternal age	Percentage of teenagers who gave birth (less than 20 years)	2.7	4.6*
Maternal age	Percentage of women aged 35 years and over who gave birth for the first time	14.9	12.5*
Smoking	Percentage of women who smoked during pregnancy	15.3	16.7*
Aboriginal Status	Percentage of women who identified as Aboriginal or Torres Strait Islander	1.3	3.6*
Maternal country of birth	Percentage of women born in Australia	80.8	76.9*
Hospital sector	Percentage of women who gave birth in public hospitals	61.6	69.0*
Multiple pregnancy	Percentage of women who had a multiple pregnancy	2.2	1.7*
Onset of labour	Percentage of women who had a spontaneous onset of labour	67.2	57.6*
Induction of labour	Percentage of women who had an induced onset of labour	17.7	25.3*
Instrumental vaginal birth	Percentage of women who had an instrumental (forceps or vacuum extraction) birth	14.3	11.0*
Caesarean section	Percentage of women who had a caesarean section	26.0	29.4*
Maternal postnatal stay	Average length of hospital stay (days) for women who were discharged home	4.7	4.0
Preterm birth	Percentage of births that were less than 37 weeks gestation	8.1	8.2
Low birthweight	Percentage of liveborn babies weighing less than 2,500 grams at birth	6.4	6.4
Apgar scores	Percentage of liveborn babies with an Apgar score of less than 7 at 5 minutes	1.5	1.3
Perinatal death rate	Perinatal deaths per 1,000 births	10.5	10.5

Note: For multiple births, the method of birth of the first born baby was used. *Significantly different at $p<0.05$.
Data for 2000 to 2004 are contained in Table 79.

Source: ACT Maternal Perinatal Data Collection, 2004 and Australia's Mothers and Babies, 2004, AIHW.

1.2.1 Core Maternity Indicator Project

The development of a set of maternity indicators to enable comparative analyses and benchmarks for obstetric and gynaecological practice and outcomes across Australia was one recommendation of the Douglas Inquiry relating to maternity services at the King Edward Memorial Hospital in Western Australia.[2] Table 3 presents data for five of the recommended indicators. When interpreting the data in

this table it is important to refer to the table notes, which specify the criteria used to calculate percentages.

The percentage of caesarean sections for selected first births in the ACT (21.7%) was significantly lower than for Australia (25.3%, p<0.05). The percentage of episiotomies (ACT 25.2%) and induction of labour (ACT 20.0%) for primiparous women was also significantly lower than the Australian percentages (p<0.05). The rates of major perineal tears and infant low Apgar scores five minutes after birth were similar for the ACT and Australia.

Table 3: Core Maternity Indicator Project indicators, ACT residents and Australia, 2004

	ACT residents	Australia
Indicators	**%**	**%**
Caesarean sections for selected first births (a)	21.7	25.3*
Episiotomies performed during first births (b)	25.2	29.5*
Induction of labour for selected first births (a)	20.0	31.1*
Major perineal tears during first births (b)(c)	2.7	3.1
Infant wellbeing at birth (low Apgar score at 5 minutes) (d)	1.0	0.9

(a) Denominator includes women who were 20-34 years of age and gave birth for the first time to a singleton baby at 37-41 completed weeks gestation with a vertex presentation at birth.

(b) Denominator includes women who gave birth for the first time and gave birth vaginally.

(c) Numerator includes third and fourth degree tears.

(d) Numerator includes babies with an Apgar score of less than 7 at 5 minutes after birth. Denominator includes liveborn babies born at 37-41 completed weeks gestation.

Note: *Significantly different at p<0.05.

Data for 2000 to 2004 are contained in Table 80.

Source: ACT Maternal Perinatal Data Collection, 2004 and Australia's Mothers and Babies, 2004.

1.3 Fertility rates in the ACT

The total fertility rate for the ACT resident population has remained relatively stable over time with 1,641 births per 1,000 women in 2000 and 1,605 in 2004 (Table 4). The 2004 rates indicate that ACT women give birth to an average of 1.6 children during their lives. The total fertility rate for the Australian population has declined over time, from 2.95 in 1971, to 1.76 in 2000 and 1.77 in 2004.[1]

Table 4: Number of births, age specific fertility rates and total fertility rates for all live births, ACT residents, 2000 - 2004

	2000		2001		2002		2003		2004	
Age Groups	**No.**	**ASFR**	**No.**	**ASFR**	**No.**	**ASFR**	**No.**	**ASFR**	**No.**	**ASFR**
15 - 19	132	11.5	121	10.0	138	11.6	112	9.5	107	9.1
20 - 24	539	41.2	487	37.1	484	36.3	488	35.9	451	32.9
25 - 29	1,325	101.3	1,192	91.5	1,193	93.4	1,123	88.7	1,086	86.3
30 - 34	1,375	112.7	1,290	100.5	1,400	106.4	1,518	115.3	1,521	117.7
35 - 39	662	53.3	653	50.8	655	52.2	692	55.7	758	62.2
40 - 44	98	7.9	107	8.3	147	11.4	129	10.0	154	12.1
45 – 49	*	0.3	8	0.7	6	0.5	9	0.7	9	0.7
TFR Births per 1,000 women		**1,641**		**1,494**		**1,559**		**1,580**		**1,605**

Note: ASFR - Age Specific Fertility Rates per 1,000 women

TFR - Total Fertility Rates per 1,000 women

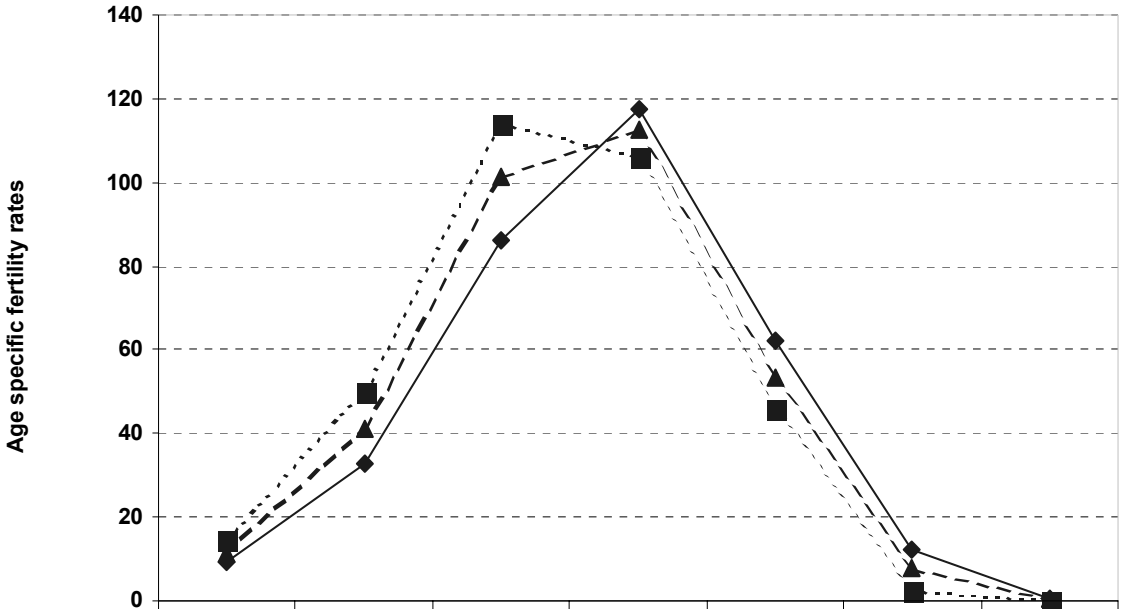
By definition, all births for women aged less than 15 years are included in the 15-19 age group.

*Less than five births for women aged 45 years or more have been suppressed for 2000 in this table, however they have been retained in the fertility rate calculations.

Source: ACT Maternal Perinatal Data Collection and Estimated Residential Population by sex and age, ABS Cat. No: 3201.0

Since 1995, there has been a small movement in the age specific fertility rate with a shift to higher fertility rates in the older age groups. Fertility rates peaked among women aged 25 to 29 years in 1995, whereas in 2000 and 2004 the peak occurs in the 30 to 34 year age group (Figure 1).

Figure 1: Age specific fertility rates for all live births, ACT residents, 1995, 2000 and 2004



	15 - 19*	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49**
2004	9.1	32.9	86.3	117.7	62.2	12.1	0.7
2000	11.5	41.2	101.3	112.7	53.3	7.9	0.3
1995	14.5	49.8	114.1	106.1	45.9	2.4	0.1

Note: ASFR means Age Specific Fertility Rates per 1,000 women

* By definition, all births for women aged less than 15 years are included in the 15-19 age group and

** All births for women aged more than 49 years are included in the 45-49 age group.

Source: ACT Maternal Perinatal Data Collection, 1995, 2001 and 2004 data; ABS Estimated Residential Population by sex and age, ABS Cat. No. 3201.0.

1.4 Crude birth rates in the ACT

Crude birth rates per 1,000 estimated resident population (ERP) show a decline from 13.1 in 2000 to 12.6 in 2004 (Table 5). The Australian Bureau of Statistics (ABS) crude birth rates differ from rates calculated from the ACT Maternal Perinatal Data Collection. The ABS rate for the ACT in 2004 was 12.9.[5] The Australian crude birth rate in 2004 was 12.7 per 1,000, with Northern Territory registering the highest crude birth rate (17.8 per 1,000) and South Australia registering the lowest crude birth rate (11.2 per 1,000).[5]

Table 5: Crude birth rates, ACT residents, 2000 - 2004

	2000	2001	2002	2003	2004
Livebirths in the ACT	4,736	4,478	4,769	4,821	4,893
Livebirths to ACT residents	4,135	3,858	4,023	4,071	4,086
Estimated resident population	315,215	319,317	321,512	323,363	324,119
Crude birth rate for ACT residents	**13.1**	**12.1**	**12.5**	**12.6**	**12.6**

Note: Livebirths reported refer to births occurring in the ACT for ACT residents.

The crude birth rate for 2000 differs from the previously published rate due to revised population figures.

Source: ACT Maternal Perinatal Data Collection and ABS: cat. no. 3105.0.65.001 Australian Historical Population Statistics

1.5 Place of birth

During 2004, 99.5% of women gave birth in a hospital or birth centre in the ACT, including women who gave birth before arrival at hospital (0.1%). The percentage of women who gave birth in a hospital or birth centre in the ACT has remained stable since 2000. Less than 1% of women (0.5%) gave birth at home (Table 6).

Table 6: Type of birth facility where women gave birth, ACT, 2000 - 2004

	2000		2001		2002		2003		2004	
Type of birth facility	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Hospital	4,366	93.2	4,112	93.2	4,441	94.3	4,533	94.8	4,506	93.9
Birth centre	296	6.3	286	6.5	253	5.4	245	5.1	268	5.6
Home	22	0.5	16	0.4	14	0.3	6	0.1	25	0.5
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: Babies 'born before arrival' at hospital have been included with hospital numbers.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2000 – 2004 data.

Almost all (99%) women who intended to give birth in a hospital, did so during 2002 to 2004. In 2004, 61.5% of the women who intended to give birth in a birth centre did so, while 36.2% gave birth in the hospital delivery suite and eight women gave birth at home (Table 7). The majority of women who transferred from the birth centre to the delivery suite did so for clinical reasons (eg pharmacological augmentation of labour, epidural, no progress in second stage, thick meconium stained liquor). A small number of transfers were due to staffing arrangements or the woman's choice.

Table 7: Actual place of birth by intended place of birth at onset of labour, ACT, 2002 - 2004

		Intended Birth Place at Onset of Labour					
		Hospital		Birth centre		Home	
Year	**Actual place of birth**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2004	Hospital	4,331	99.8	157	36.2	11	-
	Birth centre	0	0.0	267	61.5	<5	-
	Home	<5	-	8	-	13	52.0
	Born before arrival	5	-	<5	-	0	0.0
2003	Hospital	4,305	99.6	205	45.0	<5	-
	Birth centre	<5	-	243	53.3	0	0.0
	Home	<5	-	<5	-	<5	-
	Born before arrival	13	0.3	6	-	<5	-
2002	Hospital	4,090	99.1	260	53.1	<5	-
	Birth centre	25	0.6	226	46.1	0	0.0
	Home	<5	-	<5	-	9	-
	Born before arrival	13	-	<5	-	0	0.0

Note: Records where the intended place of birth at onset of labour was "not stated" and the actual place of birth was "hospital" have been excluded from this table.
The percentages for masked numbers and the next lowest numbers have been omitted as the masked numbers can be calculated from the percentages.

Source: ACT Maternal Perinatal Data Collection, 2002 – 2004 data.

Between 2000 and 2004, women in the ACT had the option of giving birth in one of four ACT hospitals (two public and two private hospitals), the Birth Centre or at home. Six in ten women (63.3%) who gave birth in the ACT during 2004, gave birth in public hospitals compared to seventy three per cent in 2000 (73.2%) (Table 8). Forty per cent (41.0%) gave birth at The Canberra Hospital (TCH) and almost a quarter at Calvary Public Hospital (22.4%) or at John James Memorial Hospital (22.5%). Less than one per cent of women gave birth at home or before arrival at hospital in 2004.

Table 8: Place of birth, ACT, 2000 - 2004

	2000		2001		2002		2003		2004	
Place of birth	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
TCH Delivery Suite	1,901	40.6	1,599	36.2	1,678	35.6	1,680	35.1	1,697	35.4
TCH Birth Centre	296	6.3	286	6.5	253	5.4	304	6.4	268	5.6
Calvary Public	1,230	26.3	1,045	23.7	1,057	22.5	1,096	22.9	1,073	22.4
Public Hospitals	**3,427**	**73.2**	**2,930**	**66.4**	**2,988**	**63.5**	**3,080**	**64.4**	**3,038**	**63.3**
Calvary Private	331	7.1	435	9.9	581	12.3	632	13.2	649	13.5
John James	894	19.1	1,015	23.0	1,111	23.6	1,052	22.0	1,080	22.5
Private Hospitals	**1,225**	**26.2**	**1,450**	**32.9**	**1,692**	**35.9**	**1,684**	**35.2**	**1,729**	**36.0**
Homebirths	**22**	**0.5**	**16**	**0.4**	**14**	**0.3**	**6**	**0.1**	**25**	**0.5**
Born before arrival	**10**	**0.2**	**18**	**0.4**	**14**	**0.3**	**14**	**0.3**	**7**	**0.1**
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: The medical records from 2000 to 2004 have been checked to verify the data for born before arrival.
Due to rounding of percentages, some totals may not equal 100.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data.

Women admitted to a public hospital can elect their accommodation status to be public or private. Table 9 shows small percentages of women choosing private accommodation at both The Canberra Hospital (5.9%) and at Calvary Public Hospital (2.4%) in 2004. The percentage of women who chose private accommodation at The Canberra Hospital increased slightly between 2002 (2.7%) and 2004 (5.9%).

Table 9: Accommodation status by hospital of birth, ACT public hospitals, 2002 - 2004

	2002		2003		2004	
Accommodation status	**No.**	**%**	**No.**	**%**	**No.**	**%**
The Canberra Hospital						
Public	1,879	97.3	1,890	95.3	1,849	94.1
Private	52	2.7	94	4.7	116	5.9
Total	**1,931**	**100.0**	**1,984**	**100.0**	**1,965**	**100.0**
Calvary Public Hospital						
Public	1,021	96.6	1,070	97.6	1,047	97.6
Private	36	3.4	26	2.4	26	2.4
Total	**1,057**	**100.0**	**1,096**	**100.0**	**1,073**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data.

Non-ACT resident women who gave birth in an ACT hospital were more likely to do so at The Canberra Hospital (48.7%) compared with ACT residents (39.8%). One third of non-ACT resident women who gave birth in the ACT attended private hospitals (36.9%) for their birth (Table 10).

Table 10: ACT hospitals where women gave birth in the ACT by state of residence, ACT, 2004

	ACT residents		Non ACT residents		Total	
ACT Hospitals	**No.**	**%**	**No.**	**%**	**No.**	**%**
The Canberra Hospital	1,585	39.8	380	48.7	1,965	41.2
Calvary Public	961	24.1	112	14.4	1,073	22.5
ACT Public Hospitals	**2,546**	**63.9**	**492**	**63.1**	**3,038**	**63.7**
Calvary Private	581	14.6	68	8.7	649	13.6
John James Memorial Hospital	860	21.6	220	28.2	1,080	22.7
ACT Private Hospitals	**1,441**	**36.1**	**288**	**36.9**	**1,729**	**36.3**
Total	**3,987**	**100.0**	**780**	**100.0**	**4,767**	**100.0**

Note: Women who did not give birth in an ACT Hospital have been excluded from this table.
Data for 2003 and 2002 are contained in Table 81 and Table 82.
Source: ACT Maternal Perinatal Data Collection, 2004 data

1.6 Seasonality of birth

Table 11 presents information on birth seasonality in the ACT for the years 2002 to 2004. There was an even spread of births throughout the year over 2002 to 2004, with births per month in 2004 ranging from 366 (7.4%) in February to 453 (9.2%) in August. This pattern has remained consistent over time.

Table 11: Month of birth, ACT, 2002 - 2004

	2002		2003		2004	
Month of birth	**No.**	**%**	**No.**	**%**	**No.**	**%**
January	401	8.3	373	7.6	438	8.9
February	366	7.6	360	7.4	366	7.4
March	401	8.3	422	8.7	433	8.8
April	392	8.2	365	7.5	386	7.8
May	404	8.4	389	8.0	378	7.7
June	397	8.3	416	8.5	390	7.9
July	403	8.4	419	8.6	429	8.7
August	423	8.8	384	7.9	453	9.2
September	421	8.8	467	9.6	411	8.3
October	431	9.0	451	9.2	428	8.7
November	382	8.0	416	8.5	410	8.3
December	383	8.0	414	8.5	404	8.2
Total	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**

Note: Due to the rounding of percentages, some totals may not equal 100.0.
Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data.

2 MATERNAL CHARACTERISTICS

2.1 ACT maternal demographic characteristics

Maternal demographic characteristics are presented in Table 12 for all women who gave birth in the ACT, including ACT and non-ACT residents in 2004. Data from 2000 to 2004 are provided in the Appendix.

The majority of women who gave birth in the ACT in 2004 were ACT residents (83.7%) (Table 12). The percentage of non-ACT residents giving birth in the ACT increased from 12.4% in 2000 to 16.3% in 2004. Women residing in NSW accounted for over 99.5% (776) of non-ACT resident women who gave birth in the ACT.

Table 12: Maternal demographic characteristics, ACT, 2004

		2004	
		No.	%
Age group	Less than 20 years	132	2.8
	20 - 24 years	528	11.0
	25 - 29 years	1,278	26.6
	30 - 34 years	1,774	37.0
	35 - 39 years	896	18.7
	40 years or more	191	4.0
	Total	**4,799**	**100.0**
Country of birth	Australia	3,945	82.2
	Other Oceania	102	2.1
	Europe	237	4.9
	Africa including the Middle East	86	1.8
	Asia	348	7.3
	America	76	1.6
	Not stated	5	0.1
	Total	**4,799**	**100.0**
Aboriginal and Torres Strait Islander identification	Aboriginal and Torres Strait Women	73	1.5
	Non-Aboriginal and Torres Strait Women	4,711	98.2
	Not stated	15	0.3
	Total	**4,799**	**100.0**
Usual place of residence	North Canberra	432	9.0
	Belconnen	1,077	22.4
	Gungahlin-Hall	552	11.5
	North Side	**2,061**	**42.9**
	Woden Valley	355	7.4
	Weston Creek	265	5.5
	Tuggeranong	1,095	22.8
	South Canberra	243	5.1
	South Side	**1,958**	**40.8**
	ACT residents	**4,019**	**83.7**
	Non-ACT residents	**780**	**16.3**
	Total	**4,799**	**100.0**
Marital status	Married/de facto	4,380	91.3
	Never married	363	7.6
	Other	56	1.2
	Total	**4,799**	**100.0**

Note: Data presented include all women who gave birth in the ACT, including women who normally reside interstate or overseas.

Data for 2000 - 2004 are presented in Table 83.

Other marital status includes Widowed, Divorced or Separated.

Due to the rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Forty per cent (40.8%) of women who gave birth resided on the South side of Canberra while women residing on the North side of Canberra accounted for 42.9% of women. In Gungahlin-Hall the percentage has risen from 8.1% of women giving birth in the ACT in 1997 to 11.5% in 2004 and in Tuggeranong the percentage has dropped from 31.8% in 1997 to 22.8% in 2004.

There has been a slight reduction in the percentage of births to teenagers in the ACT in recent years. Three per cent of all births in the ACT were to teenagers in 2000 (3.5%), compared with 2.8% of all births in 2004 (95% CI 2.3 – 3.2). This was significantly lower than the Australian percentage (4.6%; 95% CI 4.5 – 4.7) in 2004.[2] During 2000 to 2004, there were 23 reported births to women aged 15 years or less, including five in 2004.

Women in the ACT are choosing to delay childbirth with a reduction in the percentage of ACT women under 25 years who gave birth (16.5% in 2000 compared with 13.8% in 2004), and a rise in the percentage of ACT women 35 years and over who gave birth (18.7% in 2000 compared with 22.7% in 2004).

Table 13 highlights differences in age groupings between birth facilities in the ACT. Women giving birth in private hospitals during 2004 were more likely to be aged over 30 years (74.1%) than women giving birth in public hospitals (51.4%). The average age of women giving birth in public hospitals (29.5 years) was significantly lower (p=0.00) than those in private hospitals (32.2 years).[13]

Table 13: Maternal age by hospital of birth, ACT, 2004

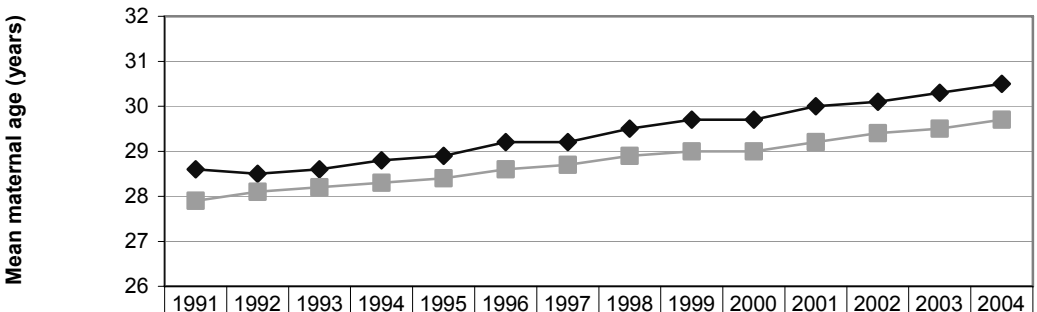
	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
Age groups	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Less than 20 years	89	4.5	37	3.4	*		*	
20 – 24 years	296	15.1	173	16.1	25	3.8	38	3.5
25 – 29 years	538	27.4	344	32.1	157	24.2	228	21.1
30 – 34 years	621	31.6	348	32.4	308	47.5	486	45.0
35 – 39 years	339	17.3	149	13.9	138	21.3	263	24.4
40 years or more	82	4.2	22	2.1	21	3.2	65	6.0
Total	**1,965**	**100.0**	**1,073**	**100.0**	**649**	**100.0**	**1,080**	**100.0**
Average age	**29.7 years**		**29.3 years**		**31.8 years**		**32.4 years**	

Note: *There were less than five women aged less than 20 years who gave birth in Calvary Private Hospital and John James Memorial Hospital, these have been included in the 20-24 year age group. Due to the rounding of percentages some totals may not equal 100.0. Data for 2002 and 2003 are contained in Table 84 and Table 85.

Source: ACT Maternal Perinatal Data Collection, 2004 data

The average age of women who gave birth in the ACT has increased over time from 28.6 years in 1991 to 30.5 years in 2004. The average age of women in the ACT having their first child was 28.9 years in 2004. Figure 2 compares the differences in average maternal age between the ACT and Australia from 1991 to 2004, illustrating an ongoing increase in maternal age for both the ACT and Australian populations.

Figure 2: Average maternal age, ACT and Australia, 1991 - 2004

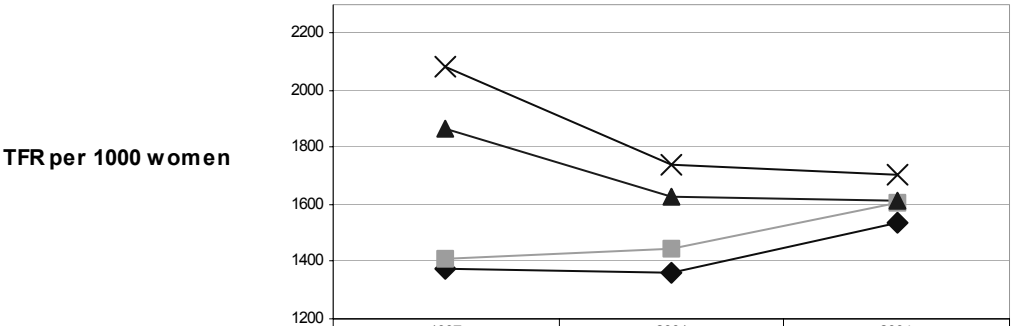


	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
ACT	28.6	28.5	28.6	28.8	28.9	29.2	29.2	29.5	29.7	29.7	30.0	30.1	30.3	30.5
Australia	27.9	28.1	28.2	28.3	28.4	28.6	28.7	28.9	29.0	29.0	29.2	29.4	29.5	29.7

Source: AIHW, NPSU Perinatal Series, Australia's Mothers and Babies, 1991 - 2004

Geographical changes in fertility patterns are monitored as they have important implications for service planning. Total fertility rates (TFR) for ACT subdivisions are presented in Figure 3. The TFR for the older subdivisions of North Canberra/Belconnen and Woden/Weston Creek/South Canberra have increased from around 1,400 births per 1,000 women in 1997 and 2001 to 1,539 and 1,609 per 1,000 women respectively in 2004. The newer subdivisions of Tuggeranong and Gungahlin consistently experienced higher TFR than the older subdivisions, until the decrease during 2001 to 2004. The TFR for all subdivisions across Canberra were similar in 2004.

Figure 3: Total fertility rates for ACT subdivisions, 1997 - 2004



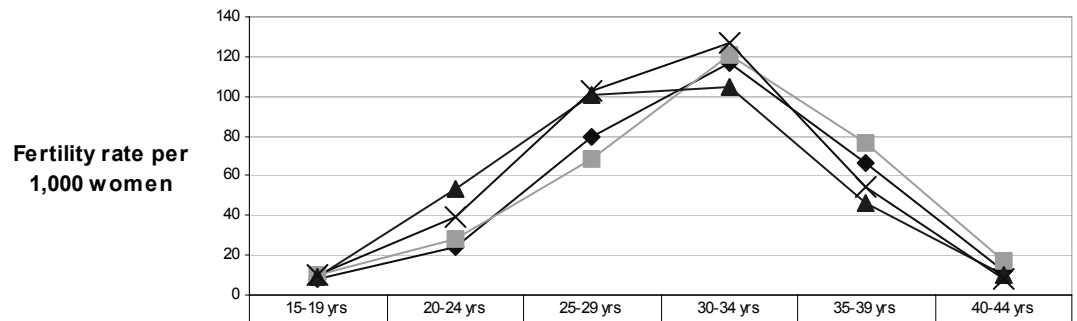
	1997	2001	2004
North Canberra/Belconnen	1,376.9	1,357.7	1,539.4
Woden/Weston Creek/South Canberra	1,411.0	1,444.0	1,608.7
Tuggeranong	1,863.4	1,628.2	1,615.3
Gungahlin/Hall	2,084.6	1,740.8	1,704.4

Note: TFR means Total Fertility Rates per 1,000 women.

Source: ACT Maternal Perinatal Data Collection 1997, 2001 and 2004; and ABS Cat. No. 3235.8.55.001, Population By Age and Sex, ACT, 1997, 2001 and 2004.

Figure 4 presents age specific fertility rates (ASFR) by ACT subdivision for 2004. In 2001, the ASFR for the subdivisions of Tuggeranong and Gungahlin reflected a peak in fertility in the 25-29 year age whereas in the Woden/Weston Creek and North Canberra/Belconnen subdivisions the peak occurred in the 30–34 year age group. However in 2004, the peak in fertility for all subdivisions occurred in the 30-34 year age group. The distribution still reflects higher fertility rates in younger age groups for the Tuggeranong and Gungahlin subdivisions and lower fertility in older age groups when compared with the Woden/Weston Creek and North Canberra/Belconnen subdivisions. Age specific fertility rates for 2004 by subdivisions are presented in Table 86 in the Appendix.

Figure 4: Age specific fertility rates for all live births by subdivision, ACT residents, 2004



	15-19 yrs	20-24 yrs	25-29 yrs	30-34 yrs	35-39 yrs	40-44 yrs
North Canberra/Belconnen	8.5	24.3	79.3	116.4	66.6	11.9
Woden/Weston Creek/Sth Canberra	10.3	28.1	68.2	120.6	76.6	16.9
Tuggeranong	8.9	53.0	100.3	104.8	46.5	9.7
Gungahlin-Hall	10.0	39.0	103.0	127.0	54.3	7.6

Note: By definition, all births for women aged less than 15 years are included in the 15-19 year age group. All births for women aged 45 years or more have been removed due to small numbers.

Source: ACT Maternal Perinatal Data Collection and ABS Cat. No. 3235.8.55.001, Population by age and sex, Australia, 2004.

2.2 Smoking during pregnancy

Smoking during pregnancy is an important risk factor for adverse perinatal outcomes. Self reported data on cigarette smoking were collected from women who gave birth in the ACT. Fifteen per cent of ACT resident women who gave birth in the ACT during 2004 smoked during their pregnancy. Six per cent of women smoked ten or more cigarettes per day during their pregnancy in 2004 (Table 14).

Table 14: Smoking status and number of cigarettes smoked during pregnancy, ACT residents, 2002 - 2004

	2002		2003		2004	
Smoking status	**No.**	**%**	**No.**	**%**	**No.**	**%**
Less than 10 cigarettes per day	223	5.6	191	4.7	245	6.1
10 or more cigarettes per day	321	8.1	261	6.4	227	5.6
No. of cigarettes not stated	26	0.7	34	0.9	142	3.5
Smokers	**570**	**14.3**	**486**	**12.0**	**614**	**15.3**
Non smoker	**3,312**	**83.2**	**3,564**	**87.9**	**3,370**	**83.9**
Not stated	**100**	**2.5**	**4**	**0.1**	**35**	**0.9**
Total	**3,982**	**100.0**	**4,054**	**100.0**	**4,019**	**100.0**

Note: Includes ACT resident women who gave birth in the ACT to provide a population based estimate for this risk factor.

Self reported smoking status is attained from both the ACT Admitted Patient Care Data and the ACT Maternal Perinatal Data Collection. The increase in women for whom the number of cigarettes is not stated in 2004 is likely to be due to an increase in the recording of smoking status in the Admitted Patient Care Data as the number of cigarettes smoked per day is not recorded in this collection.

Due to the rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 – 2004 data.

Smoking status during pregnancy by maternal age group is shown in Table 15. Almost half (47.7%) of women aged less than 20 years smoked during pregnancy, compared to only 12.3% of women aged 35 years or more. Women who smoked during pregnancy in 2004 (average age 28.0 years) were significantly younger than women who did not smoke (average age 30.9 years, p=0.00).[13]

Table 15: Smoking status during pregnancy by maternal age, ACT residents, 2004

	Less than 20 years		20-24 years		25-29 years		30-34 years		35 years or more	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Smoker	51	47.7	147	32.7	165	15.4	140	9.4	111	12.3
Non smoker	56	52.3	301	67.0	900	84.0	1,336	89.7	777	86.2
Not stated	0	0.0	1	0.2	7	0.7	14	0.9	13	1.4
Total	**107**	**100.0**	**449**	**100.0**	**1,072**	**100.0**	**1,490**	**100.0**	**901**	**100.0**

Note: Thirty-five records for whom smoking status was not stated have been excluded from this table.

Due to the rounding of percentages, some totals may not equal 100.0.

Data for 2002 to 2003 are contained in Table 87.

Source: ACT Maternal Perinatal Data Collection, 2004.

Women who smoked during pregnancy were significantly (p=0.00) more likely to give birth to lower birthweight babies than women who did not smoke during pregnancy. The average birthweight of infants born to smokers was 3,197 grams compared with non-smokers 3,462 grams (Table 16). The proportion of babies weighing less than 2,500 grams was significantly higher for women who smoked (10.7%; 95% CI 8.3 – 13.2) than for women who did not smoke (4.8%; 95% CI 4.1 – 5.6).

Table 16: Birthweight by smoking status during pregnancy, ACT residents, 2004

	Smoker		Non smoker	
Birthweight	**No.**	**%**	**No.**	**%**
Less than 2,500 grams	66	10.7	164	4.8
2,500 grams or more	548	89.3	3,206	95.1
Total	**614**	**100.0**	**3,369**	**100.0**
Average birthweight		**3,197 grams**		**3,462 grams**

Note: Thirty-five records where smoking status and one record where birthweight was not stated have been excluded.
Due to rounding of percentages, some totals may not equal 100.
Data for 2002 to 2003 are contained in Table 89.

Source: ACT Maternal Perinatal Data Collection, 2004 data

2.3 Pregnancy profile

When a pregnancy history is taken and recorded at an antenatal visit or birth admission, the woman reports information about previous pregnancies, parity and previous pregnancy outcome.

The majority of women who gave birth in the ACT during 2004 had either no previous pregnancies (32.8%) or one previous pregnancy (32.5%) (Table 17). Almost half of women (45.0%) had no previous births. As not all pregnancies progress to 20 weeks gestation, a woman may have one or more pregnancies before a birth outcome of either a live birth or a stillbirth is achieved, thus adding to the woman's parity.

Table 17: Pregnancy profile characteristics, ACT, 2002 - 2004

	2002		2003		2004	
	No.	**%**	**No.**	**%**	**No.**	**%**
Previous pregnancies						
No previous pregnancy	1,769	37.6	1,644	34.4	1,575	32.8
One previous pregnancy	1,530	32.5	1,416	29.6	1,558	32.5
Two previous pregnancies	827	17.6	875	18.3	854	17.8
Three previous pregnancies	331	7.0	437	9.1	412	8.6
Four or more previous pregnancies	251	5.3	412	8.6	400	8.3
Total	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**
Parity						
No previous births	2,130	45.2	2,176	45.5	2,160	45.0
One previous birth	1,602	34.0	1,565	32.7	1,659	34.6
Two previous births	650	13.8	679	14.2	646	13.5
Three previous births	214	4.5	245	5.1	217	4.5
Four or more previous births	112	2.4	119	2.5	117	2.4
Total	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: The number of pregnancies and a woman's parity may differ depending on the birth outcome for each pregnancy. Parity refers to the number of children a woman has borne that are either live births or fetal deaths.
Due to the rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 – 2004 data

Parity of women was relatively evenly spread across hospital of birth (Table 18). In 2004, women giving birth in ACT hospitals were more likely to choose a public hospital for their fourth (ie. three or more previous births) or subsequent birth (8.7%) when compared with the private hospitals (3.6%).

Table 18: Parity by hospital of birth, ACT, 2004

	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
Parity	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
No previous births	887	45.1	464	43.2	297	45.8	507	46.9
One previous birth	611	31.1	372	34.7	256	39.4	407	37.7
Two previous births	281	14.3	158	14.7	74	11.4	125	11.6
Three previous births	111	5.6	58	5.4	22	3.4	29	2.7
Four or more previous births	75	3.8	21	2.0	*	*	12	1.1
Total	**1,965**	**100.0**	**1,073**	**100.0**	**649**	**100.0**	**1,080**	**100.0**

Note: *There were less than five records, which have been added to the 'Three previous births' category.
Parity refers to the number of children a woman has borne that are either live births or fetal deaths; it does not include pregnancies where the fetus is born before 20 weeks gestation.
Due to the rounding of percentages some totals may not equal 100.0.
Data for 2002 to 2003 are contained in Table 89.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Maternal age, usual place of residence and marital status by pregnancy status are presented in Table 19. Primigravida refers to a woman who is pregnant for the first time and multigravida refers to a woman who has been pregnant more than once. As would be expected higher percentages of primigravida women are less than 30 years old, while higher percentages of multigravida women are 30 years or older. Women who had never been married were more likely to be primigravida (11.1%) than multigravida (5.8%) in 2004.

Table 19: Selected maternal characteristics by pregnancy status, ACT, 2004

		Primigravida		Multigravida	
Selected maternal characteristics		**No.**	**%**	**No.**	**%**
Age groups	Less than 20 years	101	6.4	31	1.0
	20 - 24 years	257	16.3	271	8.4
	25 - 29 years	512	32.5	766	23.8
	30 - 34 years	490	31.1	1,284	39.8
	35 - 39 years	192	12.2	704	21.8
	40 years or more	23	1.5	168	5.2
	Total	**1,575**	**100.0**	**3,224**	**100.0**
Usual place of residence	North Side	686	43.6	1,375	42.6
	South Side	619	39.3	1,339	41.5
	ACT residents	**1,305**	**82.9**	**2,714**	**84.2**
	Non-ACT residents	**270**	**17.1**	**510**	**15.8**
	Total	**1,575**	**100.0**	**3,224**	**100.0**
Marital status	Married (inc. de facto)	1,394	88.5	2,986	92.6
	Never married	175	11.1	188	5.8
	Widowed, Divorced or Separated	6	0.4	50	1.6
	Total	**1,575**	**100.0**	**3,224**	**100.0**

Note: Due to the rounding of percentages some totals may not equal 100.0.
Data for 2002 to 2003 are contained in Table 90 and Table 91.

Source: ACT Maternal Perinatal Data Collection, 2004 data

A general overview of previous pregnancy outcomes for women in the ACT is presented in Table 20. It should be noted that as the previous pregnancy outcome information is self reported by the woman on the first antenatal visit or on admission to hospital there may be some inaccuracies due to recall omissions or the decision not to report for a variety of reasons.

In 2004, 18.7% of women who have had one or more previous pregnancies (multigravida) had not previously experienced a live birth during their reproductive life.

A small percentage of women who gave birth in 2004 had previously experienced a neonatal death (0.7%) or stillbirth (1.7%) during their reproductive life.

Fetal loss includes miscarriage (spontaneous abortion), termination of pregnancy (induced abortion) and ectopic pregnancies before 20 weeks gestation. Almost half of the women who gave birth in 2004 had previously experienced a fetal loss (47.5%) during their reproductive life.

Table 20: Previous pregnancy outcomes for multigravida women, ACT, 2002 - 2004

	2002		2003		2004	
Previous pregnancy outcomes	**No.**	**%**	**No.**	**%**	**No.**	**%**
Previous live births						
No previous live births	375	12.8	558	17.8	603	18.7
One previous live birth	1,618	55.1	1,570	50.0	1,663	51.6
Two previous live births	643	21.9	670	21.3	635	19.7
Three previous live births	205	7.0	230	7.3	220	6.8
Four or more previous live births	98	3.3	112	3.6	103	3.2
Total	**2,939**	**100.0**	**3,140**	**100.0**	**3,224**	**100.0**
Previous neonatal deaths						
No previous neonatal death	2,921	99.4	3,118	99.3	3,200	99.3
One or more previous neonatal deaths	18	0.6	22	0.7	24	0.7
Total	**2,939**	**100.0**	**3,140**	**100.0**	**3,224**	**100.0**
Previous fetal deaths						
No previous fetal deaths	2,873	97.8	3,074	97.9	3,170	98.3
One or more previous fetal deaths	66	2.2	66	2.1	54	1.7
Total	**2,939**	**100.0**	**3,140**	**100.0**	**3,224**	**100.0**
Previous fetal loss						
No previous fetal loss	2,041	69.4	1,641	52.3	1,690	52.4
One previous fetal loss	605	20.6	998	31.8	1,017	31.5
Two previous fetal losses	203	6.9	327	10.4	316	9.8
Three previous fetal losses	53	1.8	110	3.5	120	3.7
Four or more fetal losses	37	1.3	64	2.0	81	2.5
Total	**2,939**	**100.0**	**3,140**	**100.0**	**3,224**	**100.0**

Note: Previous fetal loss includes spontaneous abortions, induced abortions and ectopic pregnancies. The information contained in this table is reported to the midwife at the time of admission.

Due to the rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data.

2.4 Multiple births

ACT maternity services had the highest percentage of multiple births in Australia in 2004. This percentage includes all women who gave birth in the ACT (both ACT and non-ACT residents). Table 21 shows that there were 124 women having multiple births in the ACT in 2004, accounting for 2.6% of all ACT births, compared with the Australian percentage of 1.7%.[2] Nine women gave birth to triplets during 2002 to 2004.

Table 21: Women having a multiple birth, ACT, 2002 - 2004

	2002		2003		2004	
Plurality	**No.**	**%**	**No.**	**%**	**No.**	**%**
Singleton	4,614	98.0	4,696	98.2	4,675	97.4
Multiple birth	94	2.0	88	1.8	124	2.6
Total	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: There were less than five sets of triplets born in each of the years presented. The table includes births in the ACT to both ACT and Non-ACT residents accounting for the relatively high percentage of multiple births.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data.

Multiple births in the ACT with the Australian figures for a five-year period from 2000 to 2004 are presented in Table 22. Higher percentages of multiple births are evident in the non-ACT resident data. Four per cent (4.4%) of non-ACT residents who gave birth in the ACT in 2004 had a multiple birth compared with 2.2% of ACT residents. This reflects maternity service models in the surrounding NSW area, with more non-ACT residents accessing ACT services for multiple births. The annual percentage of ACT resident women having a multiple birth was significantly higher than the Australian percentage in 2001 and 2004, however there was no significant difference for the combined five year period 2000 to 2004.

Table 22: Women having a multiple birth, ACT and Australia, 2000 - 2004

	ACT residents		Non-ACT residents		Total - ACT		Australia	
Year	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2000	57	1.4	29	5.0	86	1.8	4,077	1.6
2001	76	2.0	22	3.6	98	2.2	4,157	1.7
2002	64	1.6	30	4.1	94	2.0	4,259	1.7
2003	55	1.4	33	4.5	88	1.8	4,259	1.7
2004	90	2.2	34	4.4	124	2.6	4,253	1.7

Note: Multiple birth includes twins and higher order multiples.

The ACT annual rates fluctuate due to the small numbers.

Source: ACT Maternal Perinatal Data Collection and AIHW, NPSU Perinatal Series, Australia's Mothers and Babies, 2000 - 2004.

The Canberra Hospital (TCH) had the highest number of women having a multiple birth (Table 23) in 2004. TCH accepts referrals from the ACT and surrounding regions for multiple birth pregnancies to the Fetal Medicine Unit and also provides care through the Centre for Newborn Care, which contributes to the higher rate of multiple births observed in the ACT.

Table 23: Women having a multiple birth by hospital of birth, ACT, 2004

	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
Plurality	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Singleton	1,894	96.4	1,061	98.9	635	97.8	1,053	97.5
Multiple birth	71	3.6	12	1.1	14	2.2	27	2.5
Total	**1,965**	**100.0**	**1,073**	**100.0**	**649**	**100.0**	**1,080**	**100.0**

Note: No multiple births were homebirths or born before arrival at hospital during 2004.
Data for 2002 to 2003 are contained in Table 92.

Source: ACT Maternal Perinatal Data Collection, 2004 data.

A clear association between multiple pregnancy and advanced maternal age has been reported each year in *Australia's Mothers and Babies* since 1991. This trend was also observed for the ACT in 2004 with the average age of women having a multiple birth (31.9 years) being significantly higher than the average age of women having a single birth (30.5 years, p = 0.00). Multiple birth numbers by maternal age for 2002 to 2004 are presented in Table 93 in the Appendix.

2.5 Antenatal care

Antenatal care is the care that a woman receives during pregnancy. Focused antenatal care targets the specific physical, emotional, and cultural needs of each woman while providing comprehensive preventive care and promotion of normal pregnancy; detection and treatment of existing diseases; and early detection and management of complications within a system that provides for timely referral when necessary.[6]

2.5.1 Antenatal visits

The number of antenatal visits indicates the amount of care provided to a woman during a pregnancy and gives some indication about the accessibility of antenatal care in the ACT. The number of antenatal visits is recorded at the place and time of birth based on information provided by the woman, from the medical record or the antenatal record.

Over three quarters of ACT resident women who gave birth during 2004 presented for their first antenatal visit in the first 20 weeks of pregnancy (78.3%). Eighty five per cent of these women received six or more antenatal visits (85.1%). Sixteen per cent of women presented for their first antenatal visit at more than 20 weeks gestation. Almost two thirds of these women received more than six antenatal visits (64.4 %) (Table 24).

Table 24: Antenatal visits by duration of pregnancy at first visit, ACT residents, 2004

Duration of pregnancy at first visit	Antenatal visits	No.	%
20 weeks gestation or less	One to five visits	315	10.4
	Six or more visits	2,579	85.1
	Not stated	135	4.5
	Total	**3,030**	**100.0**
More than 20 weeks gestation	One to five visits	199	32.5
	Six or more visits	394	64.4
	Not stated	13	2.1
	Total	**612**	**100.0**
Not stated		229	100.0
Total		**3,871**	**100.0**

Note: There were seven records in 2004 where no antenatal visits were recorded. These records have been excluded. The number of antenatal visits is recorded at the place and time of birth and includes information provided by the woman, from the medical record or the antenatal record.

Source: ACT Maternal Perinatal Data Collection, 2004 data

2.5.2 Antenatal length of stay in hospital

The antenatal length of stay in hospital is calculated using the baby's date of birth minus the woman's date of admission for the birth event. An antenatal stay of one day or less indicates that women were most likely admitted to hospital for labour and birth and not for antenatal complications. The percentage of women with an antenatal length of stay in hospital of one day or less has remained stable over the past three years, varying from 91.9% in 2002 to 92.2% in 2004 (Table 25).

Table 25: Antenatal length of stay in hospital, ACT, 2002 - 2004

Antenatal length	2002		2003		2004	
of stay	No.	%	No.	%	No.	%
Less than 1 day	2,756	58.9	2,768	58.2	2,861	60.0
1 day	1,545	33.0	1,612	33.9	1,537	32.2
2 - 6 days	291	6.2	306	6.4	300	6.3
7 days or more	88	1.9	72	1.5	69	1.4
Total	**4,680**	**100.0**	**4,758**	**100.0**	**4,767**	**100.0**

Note: Antenatal length of stay only includes hospital births.
Due to the rounding of percentages some totals may not equal 100.0.
Source: ACT Maternal Perinatal Data Collection, 2002 – 2004 data

ACT residents were significantly more likely to have an antenatal length of stay in hospital of less than one day (61.0%; 95% CI 59.5 – 62.5) when compared with non-ACT residents (55.0%; 95% CI 51.5 - 58.5) (Table 26). Non-ACT residents were significantly more likely to stay in an ACT hospital for more than 2 days prior to the baby's date of birth (13.7%; 95% CI 11.3 – 16.1) than ACT residents (6.6%; 95% CI 5.8 – 7.3).

Table 26: Antenatal length of stay in hospital by state of residence, ACT, 2004

	ACT residents		Non-ACT residents	
Antenatal length of stay	No.	%	No.	%
Less than 1 day	2,432	61.0	429	55.0
1 day	1,293	32.4	244	31.3
2-6 days	222	5.6	78	10.0
7 or more days	40	1.0	29	3.7
Total	**3,987**	**100.0**	**780**	**100.0**

Note: Antenatal length of stay includes only hospital births.
Due to the rounding of percentages some totals may not equal 100.0.
Data for 2002 to 2003 are contained in Table 94.
Source: ACT Maternal Perinatal Data Collection, 2004 data

2.5.3 Antenatal procedures

A number of different antenatal diagnostic procedures are available for women in the ACT during their pregnancy. Data for 2002 to 2004 for all women having antenatal procedures during their pregnancy prior to giving birth in the ACT are presented in Table 27. A brief explanation about these procedures and why they are used is presented below. Note that these data could be subject to under reporting, as annual reported rates have been inconsistent between birth facilities since 1997.

Abdominal ultrasounds are widely used because a great deal of information can be obtained with no established risk to the woman or fetus. They may be used to confirm the pregnancy, detect multiple gestations, determine gestational age, confirm fetal viability, determine the position of the placenta or the fetus, or to check the amount of amniotic fluid.[7] Almost nine in ten women in the ACT (87.6%) reported that they had at least one ultrasound during their pregnancy in 2004 (Table 27).

Cardiotocography (CTG) measures uterine activity and the fetal heart rate. This procedure is used for both low-risk and high-risk women during labour. It supplies data about the fetus and provides a permanent printed record.[7] Just over half of women were monitored with cardiotocography (CTG) between 2002 and 2004.

Amniocentesis is used to assess fetal health and maturity. It can also be used to diagnose chromosomal or genetic abnormalities.[8] A needle is inserted through the abdominal wall, guided by ultrasound, to withdraw amniotic fluid.[9]

Chorionic villi sampling is used to diagnose genetic or chromosomal abnormalities. It is usually done between 10 –12 weeks gestation. A needle is inserted through the abdominal wall and into the uterus and a sample of placental tissue is aspirated. It is possible that this procedure is under-reported.

X-ray pelvimetry is done to determine whether the pelvis is adequate for a vaginal birth, with an X-ray taken of the pelvic region.[10] X-ray pelvimetry is rarely used because of the concerns of the use of X-rays in pregnancy.

Computerised tomography scanning (CT Scan) is used for assessment and management of women with breech presentations. However, as most breech births are now managed by caesarean section this technique is rarely used. CT scans are more accurate for assessing pelvic diameters than Xray pelvimetry. The exact flexion and extension of the fetal head can be determined using CT scans, and helps the decision making process regarding the safest birth method.[10]

A cervical suture is used for cervical incompetence (premature dilatation of the cervix associated with potential second trimester abortions). An operation is performed to reinforce the weakened cervix by encircling it with suture material. A suture is placed in the cervix at 12-14 weeks gestation as a prophylactic measure. In some cases a suture is inserted later as an emergency procedure if cervical dilatation has already begun (a 'rescue' suture or cerclage). This is generally only done up to 24 weeks gestation. This suture must be removed if the woman goes into labour.[10]

Table 27: Antenatal diagnostic procedures, ACT, 2002 - 2004

	2002		2003		2004	
Antenatal procedures	**No.**	**%**	**No.**	**%**	**No.**	**%**
Ultrasound	4,112	87.3	4,156	86.9	4,203	87.6
Cardiotocography	2,600	55.2	2,584	54.0	2,660	55.4
Amniocentesis < 20 weeks	21	0.4	14	0.3	12	0.3
Amniocentesis 20 weeks or more	137	2.9	113	2.4	97	2.0
CT-scan	9	0.2	7	0.1	9	0.2
Chorionic villi sampling	19	0.4	17	0.4	18	0.4
Cervical suture	8	0.2	6	0.1	6	0.1
X-ray	5	0.1	8	0.2	<5	*

Note: 2002 percentages for The Canberra Hospital have been used to calculate 2003 and 2004 figures due to issues with data extraction from the maternity services information system, PANDA.

Percentages for the specified antenatal procedures are for all women who gave birth in the ACT in a given year. A woman may have more than one procedure.

*Not for publication due to small numbers.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

2.6 Obstetric complications

Obstetric complications also add complexity to the obstetric management of the pregnancy. Obstetric complications were reported from three sources. These were the ACT Midwives Data Collection, PANDA database and ACT Admitted Patient Care (ACT APC) Data Collection. Almost half of women (46.3%) who gave birth in the ACT in 2004 had no reported obstetric complications, while one third (36.9%) had one reported complication (Table 28). Seventeen per cent (16.8%) had multiple reported complications with the maximum number of obstetric complications reported for a woman being seven. ACT resident women were more likely to have no obstetric complications (47.9%; 95% CI 46.4 – 49.5) than non-ACT residents who gave birth in the ACT (38.2%; 95% CI 34.8 - 41.6). Non-ACT resident women were more likely to have multiple complications (24.1%; 95% CI 21.1 – 27.1) than ACT resident women (15.3%; 95% CI 14.2 – 16.4).

Table 28: Obstetric complications for women who gave birth in the ACT by usual state of residence, ACT, 2004

	ACT residents		Non-ACT residents		Total	
Obstetric complications	**No.**	**%**	**No.**	**%**	**No.**	**%**
No complications	1,926	47.9	298	38.2	2,224	46.3
One complication	1,477	36.8	294	37.7	1,771	36.9
Multiple complications	616	15.3	188	24.1	804	16.8
Total	**4,019**	**100.0**	**780**	**100.0**	**4,799**	**100.0**

Note: Less than one per cent of women giving birth in the ACT gave birth outside of a hospital. Complications for these women are reported from a single source using the ACT Midwives Data Collection Form.

Data for 2002 to 2003 are contained in Table 95.

Source: ACT Maternal Perinatal Data Collection and ACT Admitted Patient Care Data, 2004 data

Table 29 presents obstetric complications in the ACT by diagnosis. The percentages are for all women giving birth in the ACT per year. The most commonly diagnosed obstetric complications were:

- premature (pre-labour) rupture of membranes (10.5%);
- prolonged pregnancy (10.4%);
- maternal care for uterine abnormality (9.5%);
- maternal care for malpresentation of fetus (6.7%);
- pre-eclampsia (6.7%);
- maternal care for other fetal problems (5.4%);
- false labour (3.8%); and
- diabetes mellitus arising in pregnancy (gestational diabetes) (3.7%).

Table 29: Obstetric complications, ACT, 2002 - 2004

	2002		2003		2004	
Obstetric Complications (ICD-10-AM)	**No.**	**%**	**No.**	**%**	**No.**	**%**
Superimposed pre-eclampsia and Gestational oedema proteinuria (O11 - O12)	24	0.5	24	0.5	15	0.3
Mild pre-eclampsia (O13)	166	3.5	178	3.7	174	3.6
Moderate and severe pre-eclampsia (O14)	133	2.8	154	3.2	150	3.1
Eclampsia (O15)	<5	0.0	<5	0.1	6	0.1
Unspecified maternal hypertension (O16)	93	2.0	43	0.9	56	1.2
Haemorrhage in early pregnancy (O20)	10	0.2	30	0.6	17	0.4
Excessive vomiting in pregnancy (O21)	51	1.1	80	1.7	78	1.6
Venous complications in pregnancy (O22)	17	0.4	22	0.5	39	0.8
Infections of genitourinary tract in pregnancy (O23)	53	1.1	63	1.3	65	1.4
Diabetes mellitus arising in pregnancy (gestational diabetes) (O24.4 & O24.8)	171	3.6	205	4.3	176	3.7
Maternal care for other conditions predominantly related to pregnancy (O26)	77	1.6	79	1.7	88	1.8
Abnormal findings on antenatal screening of mother (O28)	<5	0.0	<5	0.0	<5	0.0
Complications of anaesthesia during pregnancy (O29)	<5	0.0	<5	0.0	<5	0.0
Multiple gestation & Complications specific to multiple gestation (O30 - O31)	75	1.6	83	1.7	108	2.3
Maternal care for malpresentation of fetus (O32)	407	8.6	390	8.2	320	6.7
Maternal care for disproportion (O33)	76	1.6	64	1.3	64	1.3
Maternal care for congenital malformation of uterus (O34)	475	10.1	439	9.2	457	9.5
Maternal care for fetal abnormality and damage (O35)	27	0.6	19	0.4	48	1.0
Maternal care for other fetal problems (O36)	194	4.1	242	5.1	261	5.4
Disorders of amniotic fluid and membranes (O40 - O41)	110	2.3	93	1.9	123	2.6
Premature (pre-labour) rupture of membranes (O42)	497	10.6	503	10.5	505	10.5
Placental disorders (O43)	56	1.2	49	1.0	52	1.1
Placenta praevia (O44)	48	1.0	53	1.1	45	0.9
Abruptio placentae (O45)	26	0.6	31	0.6	24	0.5
Antepartum haemorrhage, not elsewhere classified (O46)	116	2.5	115	2.4	88	1.8
False labour (O47)	133	2.8	163	3.4	181	3.8
Prolonged pregnancy (O48)	494	10.5	543	11.4	501	10.4

Note: Percentages for the specified obstetric complications are for all women who gave birth in the ACT. Complications are reported from multiple sources. Reported figures from the ACT Admitted Patient Care Data Collection are based on women not admissions, if a woman has more than one admission for the same complication only one complication is counted. One woman may have more than one complication.

Definitions and standards as per the ICD-10-AM manuals.

Maternal care includes known or suspected complications.

There were five or less women with the following complications for each of the years 1999 to 2001 - Abnormal findings on antenatal screening of mother (O28); Complications of anaesthesia during pregnancy (O29); and Complications specific to multiple gestation (O31).

Source: ACT Maternal Perinatal Data Collection and ACT Admitted Patient Care Data, 2002 - 2004 data

2.7 Labour and birth

Labour onset may be spontaneous or induced, with the management of the labour being directly affected by the type of onset. In some cases there will be no labour if an elective caesarean section is planned. In most cases, the labour progress (or lack of progress) affects the level of intervention and method of birth.

The following section outlines the onset and type of labour as well as the method of birth experienced for women who gave birth in the ACT from 2002 to 2004. Table 96 in the Appendix presents five years of data on labour characteristics from 2000 to 2004.

Table 30 presents information on the onset of labour and the type of labour experienced by women who gave birth in the ACT from 2002 to 2004. In the ACT from 2002 to 2004 the induction rate reduced slightly from 22.2% to 18.2%. Approximately one in five women in 2004 were induced (18.2%; 95% CI 17.1 – 19.3) compared with the Australian population figure of approximately one in four women (25.3%; 95% CI 25.1 – 25.5).[2]

Table 30: Labour characteristics, ACT, 2002 - 2004

		2002		2003		2004	
Labour characteristics		**No.**	**%**	**No.**	**%**	**No.**	**%**
Onset of Labour	Spontaneous	3,034	64.4	3,060	64.0	3,163	65.9
	Induced	1,045	22.2	1,051	22.0	873	18.2
	No Labour	629	13.4	673	14.1	763	15.9
	Total	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**
Type of Labour	**Spontaneous**	**1,772**	**37.7**	**2,129**	**44.5**	**1,881**	**39.2**
	Augmentation - Medical	373	7.9	318	6.6	398	8.3
	Augmentation - Surgical	581	12.3	436	9.1	646	13.5
	Augmentation - Combined	308	6.5	177	3.7	238	5.0
	Total Augmentation	**1,262**	**26.8**	**931**	**19.5**	**1,282**	**26.7**
	Induction - Medical	354	7.5	382	8.0	232	4.8
	Induction - Surgical	152	3.2	106	2.2	78	1.6
	Induction - Combined	530	11.3	563	11.8	563	11.7
	Induction - Other	9	0.2	0	0.0	0	0.0
	Total Induction	**1,045**	**22.2**	**1,051**	**22.0**	**873**	**18.2**
	No Labour	629	13.4	673	14.1	763	15.9
	Total	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: In 2004, eight records where the 'type of labour' and eight records where the 'onset of labour' was 'Not stated' were recoded as 'Spontaneous'. ACT Admitted Patient Care data are used to improve 'type of labour' data.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

Seven in ten women (70.9%) who gave birth in an ACT public hospital had a spontaneous onset of labour compared with six in ten women (56.6%) who gave birth in an ACT private hospital (Table 31). Similar percentages of women had an augmented labour in public hospitals (27.5%) and private hospitals (25.7%).

Thirteen per cent of women (12.9%) who gave birth in a public hospital had no labour (they had an elective caesarean section) compared with twenty-one per cent of women (21.4%) who gave birth in a private hospital. Table 97 in the Appendix presents labour characteristics by hospital from 2002 to 2004.

Table 31: Labour characteristics by public or private hospital, ACT, 2004

		ACT Public Hospitals		ACT Private Hospitals	
Labour characteristics		**No.**	**%**	**No.**	**%**
Onset of labour	Spontaneous	2,152	70.9	979	56.6
	Induced	493	16.2	380	22.0
	No labour	393	12.9	370	21.4
	Total	**3,038**	**100.0**	**1,729**	**100.0**
Type of labour	Spontaneous	1,316	43.4	534	30.9
	Augmentation	836	27.5	445	25.7
	Induced	493	16.2	380	22.0
	No labour	393	12.9	370	21.4
	Total	**3,038**	**100.0**	**1,729**	**100.0**

Note: Eight records where 'Onset of labour' and 'Type of labour' were 'Not stated' have been recoded to 'Spontaneous'.

Source: ACT Maternal Perinatal Data Collection, 2004 data

The majority of women who gave birth in the ACT from 2000 to 2004 had a normal birth, varying from sixty-six per cent (65.7%) in 2000 to fifty-eight per cent (58.1%) in 2004 (Table 32). A caesarean section was performed for between twenty-two per cent (21.7%) and twenty-seven per cent (27.0%) of women with the rates steadily increasing each year. From 2000 to 2004, forceps as a method of birth decreased slightly (6.5% in 2000 to 4.9% in 2004) while vacuum extraction increased (5.7% in 2000 to 9.5% in 2004).

During 2004, 58.1% of women had a normal birth and 27% had a caesarean section, similar to the Australian population figures of 59.2% and 29.4% respectively.[2]

Table 32: Method of birth, ACT, 2000 - 2004

	2000		2001		2002		2003		2004	
Method of birth	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Normal birth	3,078	65.7	2,786	63.1	2,901	61.6	2,863	59.8	2,788	58.1
Caesarean section	1,016	21.7	1,024	23.2	1,132	24.0	1,206	25.2	1,294	27.0
Forceps	304	6.5	274	6.2	206	4.4	239	5.0	237	4.9
Vacuum extraction	267	5.7	322	7.3	453	9.6	430	9.0	457	9.5
Vaginal breech	19	0.4	8	0.2	16	0.3	46	1.0	23	0.5
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: The method of birth table above presents the number of women who gave birth; in the case of multiple births the method of birth of the first-born baby is reported.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

There was an increased likelihood of a normal birth when the onset of labour was spontaneous (81.5%; 95% CI 79.7 – 83.2) compared with a labour that was augmented (58.0%; 95% CI 55.3 - 60.7) or induced (61.3%; 95% CI 58.1 – 64.5) in 2004 (Table 33). Elective caesarean section can be identified where there was “no labour”. Sixteen per cent of women had an elective caesarean section (15.9%).

Table 33: Method of birth by type of labour, ACT, 2004

	Spontaneous		Augmentation		Induction		No Labour	
Method of birth	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Normal birth	1,533	81.5	743	58.0	535	61.3	0	0.0
Caesarean section	160	8.5	209	16.3	162	18.6	763	100.0
Forceps	59	3.2	123	9.6	55	6.3	0	0.0
Vacuum extraction	129	6.8	207	16.1	121	13.9	0	0.0
Total	**1,881**	**100.0**	**1,282**	**100.0**	**873**	**100.0**	**763**	**100.0**

Notes: Normal birth includes vaginal breech births due to small numbers of vaginal breech births.

Women who had no labour have had an elective caesarean section.

Eight records where onset of labour was ‘not stated’ have been recoded to ‘Spontaneous’.

Due to the rounding of percentages some totals may not equal 100.0.

Data for 2002 to 2003 are contained in Table 100.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Method of birth by hospital of birth in the ACT during 2004 is shown in Table 34. The highest percentage of women who gave birth at each hospital had a normal birth (TCH 64.3%, Calvary Public 63.1%, Calvary Private 50.1%, JJMH 47.6%). However there was variation in the caesarean rates between hospitals. The Canberra Hospital had the lowest caesarean section rate (23.9%), and John James Memorial Hospital had the highest rate (33.9%). The percentage of instrumental births performed in private hospitals (Calvary Private 18.8%, JJMH 18.5%) was higher than the percentage performed in public hospitals (TCH 11.8%, Calvary Public 13.0%).

Table 34: Method of birth by hospital of birth, ACT, 2004

	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
Method of birth	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Normal birth	1,263	64.3	677	63.1	325	50.1	514	47.6
Caesarean section	470	23.9	256	23.9	202	31.1	366	33.9
Forceps	94	4.8	38	3.5	26	4.0	79	7.3
Vacuum extraction	138	7.0	102	9.5	96	14.8	121	11.2
Total	**1,965**	**100.0**	**1,073**	**100.0**	**649**	**100.0**	**1,080**	**100.0**

Notes: Normal birth includes vaginal breech births for each group due to small numbers.
Women who did not give birth in an ACT hospital have been excluded from this table.
Due to the rounding of percentages some totals may not equal 100.0.
Data for 2002 to 2003 are contained in Table 101.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Method of birth also varied by maternal state of residence. Non-ACT residents (52.9%; 95% CI 49.4 – 56.5) were less likely than ACT residents (59.7%; 95% CI 58.1 – 61.2) to have normal births and were more likely to have a caesarean section during 2004 (non-ACT 31.8%; 95% CI 28.5 – 35.1; ACT 26.0%; 95% CI 24.7 – 27.4) (Table 35).

Table 35: Method of birth by state of residence, ACT, 2004

	ACT residents		Non-ACT residents	
Method of birth	**No.**	**%**	**No.**	**%**
Normal birth	2,398	59.7	413	52.9
Caesarean Section	1,046	26.0	248	31.8
Forceps	189	4.7	48	6.2
Vacuum Extraction	386	9.6	71	9.1
Total	**4,019**	**100.0**	**780**	**100.0**

Note: Normal birth includes vaginal breech births.
Data for 2002 to 2003 are contained in Table 102.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Women aged 35 years or more (53.1%) were significantly less likely to have a normal birth than women aged less than 30 years (63.2%; $p<0.05$). Women aged 35 years or more were also significantly more likely to have a caesarean section (34.0%) than women in each of the other age groups ($p<0.05$) (Table 36).

Table 36: Method of birth by maternal age, ACT, 2004

	Less than 20 years		20-24 years		25-29 years		30-34 years		35 years or more		Total	
Method of birth	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Normal birth	89	67.4	351	66.5	785	61.4	1,009	56.9	577	53.1	2,811	58.6
Instrumental birth	19	14.4	89	16.9	183	14.3	263	14.8	140	12.9	694	14.5
Caesarean Section	24	18.2	88	16.7	310	24.3	502	28.3	370	34.0	1,294	27.0
Total	**132**	**100.0**	**528**	**100.0**	**1,278**	**100.0**	**1,774**	**100.0**	**1,087**	**100.0**	**4,799**	**100.0**

Note: Normal birth includes vaginal breech births.
Data for 2000 to 2003 are contained in Table 103.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2004 data

2.8 Caesarean section

The caesarean section rate in Australia has increased from 23.3% in 2000[11] to 29.4% in 2004.[2] The ACT caesarean section rate has been lower than the Australian rate each year for this five-year period. In 2004, twenty-seven per cent (27.0%; 95% CI 25.7 – 28.2) of all births in the ACT were by caesarean section compared with the Australian national caesarean section rate of 29.4% (95% CI 29.2 – 29.6).

Table 37: Selected characteristics for caesarean section, ACT, 2004

Selected characteristics for caesarean section		No.	% of Caesareans	Rate per 1,000 births
Accommodation	Public	684	52.9	235.7
	Private	610	47.1	325.9
	Total	**1,294**	**100.0**	
Parity	Primipara	626	48.4	289.8
	Multipara	668	51.6	253.1
	Total	**1,294**	**100.0**	
Plurality	Singleton	1,225	94.7	262.0
	Multiple birth	69	5.3	556.5
	Total	**1,294**	**100.0**	
Maternal Aboriginal and	Aboriginal	16	1.2	219.2
Torres Strait Islander Status	Non Aboriginal	1,278	98.8	271.3
	Total	**1,294**	**100.0**	
Maternal age	Less than 20 years	24	1.9	181.8
	20-24 years	88	6.8	166.7
	25-29 years	310	24.0	242.6
	30-34 years	502	38.8	283.0
	35-39 years	285	22.0	318.1
	40 years or more	85	6.6	445.0
	Total	**1,294**	**100.0**	
Presentation (for first born)	Vertex	1,060	81.9	233.7
	Breech	203	15.7	898.2
	Other (including Face & Brow)	31	2.4	815.8
	Total	**1,294**	**100.0**	
Birthweight	Less than 1500 grams	43	3.3	581.1
	1500 to 2499 grams	116	9.0	429.6
	2500 to 3999 grams	915	70.7	243.7
	4000 grams and over	220	17.0	313.8
	Total	**1,294**	**100.0**	
Gestational age	20 to 36 weeks	193	14.9	463.9
	37 to 41 weeks	1,083	83.7	251.4
	42 weeks or more	18	1.4	243.2
	Total	**1,294**	**100.0**	

Note: Information that was "not stated" has been recoded to the group with the majority of records. The number of "not stated" records in any data item presented in this table was five or less. Rates per 1,000 births are calculated using the total number of births in the category as the denominator. Caesarean section rates may fluctuate from year to year. Data for 2002 to 2003 are contained in Table 104 and Table 105.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Selected characteristics for caesarean section in the ACT are shown in Table 37. Caesarean section rates per 1,000 births allow a comparison between characteristics, for example a multiple birth was significantly more likely to result in a caesarean section (556.5 per 1,000; 95% CI 469.0 – 643.9) compared with a singleton birth (262.0 per 1,000; 95% CI 249.4 – 274.6) (Table 37). Caesarean section rates were also significantly higher for private hospital accommodation (325.9 per 1,000; 95% CI 304.6 – 347.1) compared with public hospital accommodation (235.7 per 1,000; 95% CI 220.3 - 251.1). There was no significant difference between Aboriginal and Torres Strait Islander women and non-Aboriginal and Torres Strait Islander women or between primipara and multipara women.

Caesarean section rates increased with age from 181.8 per 1,000 for women aged 20 years or less to 445.0 per 1,000 for women aged over 40 years. As expected, the caesarean section rate for vertex presentations (233.7 per 1,000; 95% CI 221.4 – 246.1) was significantly lower than the rate for breech (898.2 per 1,000; 95% CI 858.8 – 937.6) or other presentations (815.8 per 1,000; 95% CI 692.5 - 939.0). Babies born at term were significantly less likely to be born by caesarean section (251.4 per 1,000; 95% CI 238.5 – 264.4) than those born preterm (463.9 per 1,000; 95% CI 416.0 – 511.9).

Caesarean sections can be categorised as either elective or emergency caesarean procedures. An elective caesarean section refers to an operative birth through an abdominal incision performed before the onset of labour. An emergency caesarean section refers to an operative birth through an abdominal incision performed after the onset of labour.

The elective caesarean section rate for the ACT in 2004 was 15.9% (95% CI 14.9 – 16.9, 763 women) significantly lower than the Australian elective caesarean section rate of 17.1%[2] (95% CI 17.0 – 17.2). The emergency caesarean section rate for the ACT was 11.1% (95% CI 10.2 – 12.0; 531 women) also significantly lower than the 2004 Australian emergency caesarean section rate of 12.3% (95% CI 12.2 - 12.4).[2] Elective caesarean section rates at ACT public and private hospitals increased slightly between 2000 and 2004 (Table 39).

Table 38: Caesarean section by public & private hospitals, ACT, 2000 - 2004

	2000		2001		2002		2003		2004	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
ACT Public Hospitals										
Elective Caesarean	350	10.2	296	10.1	299	10.0	351	11.4	393	12.9
Emergency Caesarean	307	9.0	295	10.1	296	9.9	323	10.5	333	11.0
Total	**657**	**19.2**	**591**	**20.2**	**595**	**19.9**	**674**	**21.9**	**726**	**23.9**
ACT Private Hospitals										
Elective Caesarean	218	17.8	272	18.7	329	19.4	322	19.1	370	21.4
Emergency Caesarean	141	11.5	161	11.1	208	12.3	210	12.5	198	11.5
Total	**359**	**29.3**	**433**	**29.9**	**537**	**31.7**	**532**	**31.6**	**568**	**32.9**

Note: Percentages are for total hospital births.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

Table 39 shows the caesarean section rate by hospitals in the ACT in 2004. The elective caesarean section rate for John James Memorial Hospital (23.6%; 95% CI 18.4 – 28.8) is significantly higher than The Canberra Hospital (13.3%; 95% CI 9.2 – 17.4) and Calvary Public Hospital (12.2%; 95% CI 6.6 - 17.8). No significant difference was found between Calvary Public or Private hospitals and TCH.

Table 39: Caesarean section by ACT hospitals, ACT, 2004

	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Caesarean section	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Elective Caesarean	262	13.3	131	12.2	115	17.7	255	23.6
Emergency Caesarean	208	10.6	125	11.6	87	13.4	111	10.3
Total Caesarean	**470**	**23.9**	**256**	**23.9**	**202**	**31.1**	**366**	**33.9**

Note: Percentages are for total births for each hospital.
Data for 2002 to 2003 are contained in Table 106.
Source: ACT Maternal Perinatal Data Collection, 2004 data

2.9 Perineal status

The following section outlines the perineal outcomes of women who gave birth vaginally in the ACT from 2002 to 2004. Perineal lacerations can cause problems for some time after birth as evident in the results of an Australian study, in which twenty-one per cent of women who experienced a perineal laceration reported perineal pain in the first six postnatal months.[12]

The episiotomy rate decreased from 18.0% in 2002 to 15.6% in 2004, with a corresponding increase in all perineal lacerations from 49.6% in 2002 to 54.7% in 2004 (Table 40).

Table 40: Perineal status for vaginal births, ACT, 2002 - 2004

	2002		2003		2004	
Perineal Status	**No.**	**%**	**No.**	**%**	**No.**	**%**
Intact	1,249	34.9	1,176	32.9	1,153	32.9
First degree laceration	621	17.4	613	17.1	577	16.5
Second degree laceration	1,029	28.8	1,103	30.8	1,162	33.2
Third or fourth degree laceration	34	0.9	33	0.9	66	1.9
Episiotomy	555	15.5	551	15.4	438	12.5
Episiotomy & laceration	88	2.5	96	2.7	108	3.1
Not stated	0	0.0	5	0.1	1	0.0
Total	**3,576**	**100.0**	**3,578**	**100.0**	**3,505**	**100.0**

Note: In 2002 and 2003 there were less than five fourth degree lacerations and in 2004 there were seven.
ACT Admitted Patient Care data is used to improve perineal status data.
Due to the rounding of percentages some totals may not equal 100.0.
Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

In 2004, less than five women had both an episiotomy (or sutured laceration) and an emergency caesarean section.[13]

Women who gave birth in 2004 were more likely to have an intact perineum following a normal vaginal birth (38.5%; 95% CI 36.7 – 40.3; Table 41) compared to all women who gave birth vaginally (normal vaginal and instrumental births) (32.9%; 95% CI 31.3 – 34.5). The episiotomy rate for normal births (8.2%) was much less than for instrumental birth (45.5%; Table 41).

Table 41: Perineal status for vaginal births by method of birth, ACT, 2004

	Normal birth		Instrumental birth	
Perineal status	**No.**	**%**	**No.**	**%**
Intact	1,082	38.5	72	10.4
1st degree laceration	523	18.6	54	7.8
2nd degree laceration	936	33.3	226	32.6
3rd or 4th degree laceration	40	1.4	26	3.7
Episiotomy	188	6.7	250	36.0
Laceration and episiotomy	42	1.5	66	9.5
Total	**2,811**	**100.0**	**694**	**100.0**

Note: Normal birth includes 23 vaginal breech births in 2004.
Instrumental births include forceps and vacuum extraction assisted births.
There were seven fourth degree lacerations in 2004.
One record where perineal status was 'not stated' has been included in 'Intact'.
Data for 2002 to 2003 are contained in Table 107.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Perineal status for vaginal births by hospital of birth is presented in Table 42. Thirty-eight per cent (38.1%) of women who gave birth vaginally at The Canberra Hospital and 36.8% at Calvary Public Hospital had an intact perineum, compared with between 17.7 to 25.8% of women who delivered at either Calvary Private or John James Memorial Hospital. Episiotomy rates ranged from 8.7% (TCH) to 29.8% (JJMH). No episiotomies and six perineal lacerations were reported following homebirths in 2004.

Table 42: Perineal status for vaginal births by hospital of birth, ACT, 2004

	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
Perineal status	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Intact	570	38.1	301	36.8	79	17.7	184	25.8
1st degree laceration	276	18.5	111	13.6	59	13.2	125	17.5
2nd degree laceration	483	32.3	284	34.8	207	46.3	182	25.5
3rd or 4th degree laceration	37	2.5	16	2.0	<5	*	10	1.4
Episiotomy	92	6.2	77	9.4	79	17.7	190	26.6
Laceration & episiotomy	37	2.5	28	3.4	20	4.5	23	3.2
Not stated	0	0.0	0	0.0	<5	*	0	0.0
Total	**1,495**	**100.0**	**817**	**100.0**	**447**	**100.0**	**714**	**100.0**

Note: Data for 2002 to 2003 are contained in Table 108.

Source: ACT Maternal Perinatal Data Collection, 2004 data

2.10 Retained placenta

Retained placenta is potentially life threatening due to associated risk of haemorrhage or infections, and complications related to its removal.[14] Management of the third stage of labour (when the placenta is delivered) can directly affect maternal blood loss, the need for manual removal of the placenta and postpartum haemorrhage. Methods used to manage the third stage of labour include active (the use of cord traction and uterotonics) or expectant management (watchful waiting).[15] A properly conducted birth and third stage management can reduce the incidence of retained placenta. If retention occurs, timely appropriate treatment can save a life.[14]

Retained placenta was reported for 1.3% (45 of 3,505) in 2004 and 1.6% (53 of 3,390) in 2001 of the women who had a vaginal birth in the ACT. There may be some under-reporting of retained placenta when compared with numbers for manual removal of a retained placenta from the Admitted Patient Care data.

Manual removal of a retained placenta was performed for 2.4% of vaginal births in 2004 (Table 43). Table 43 shows details of postpartum evacuation of the uterus by dilation and curettage and by suction curettage that were performed for women who had a vaginal birth in the ACT between 2001 and 2004.

Table 43: Postpartum evacuation of the uterus following vaginal delivery, ACT, 2001 - 2004

	Vaginal births	Manual removal of a retained placenta		Dilation and curettage		Suction curettage	
Year	**No.**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2001	3390	70	2.1	9	0.3	11	0.3
2002	3576	93	2.6	10	0.3	7	0.2
2003	3578	99	2.8	17	0.5	8	0.2
2004	3505	83	2.4	8	0.2	<5	0.1

Note: Data has been restricted to a six -week period following a vaginal birth.

Source: ACT Admitted Patient Care, 2000 -2004

2.11 Complications of labour, birth and puerperium

Complications that occur during labour, birth or the puerperium (see Glossary) affect the management and level of intervention experienced by women. Seven in ten women (68.9%) who gave birth in the ACT had one or more complications of labour and birth. The types of complications among women who gave birth in the ACT from 2002 to 2004 are shown in Table 44.

Table 44: Complications of labour and birth reported during a hospital birth, ACT, 2002 - 2004

	2002		2003		2004	
Complications of labour and birth (ICD-10-AM)	**No.**	**%**	**No.**	**%**	**No.**	**%**
Preterm birth (O60)	268	5.7	245	5.1	323	6.7
Failed induction of labour (O61)	38	0.8	27	0.6	46	1.0
Abnormal forces of labour (O62)	565	12.0	563	11.8	520	10.8
Long labour (O63)	441	9.4	321	6.7	346	7.2
Obstructed labour (O64 – O66)	302	6.4	417	8.7	563	11.7
Intrapartum haemorrhage (O67)	7	0.1	9	0.2	15	0.3
Fetal stress [distress] (O68)	646	13.7	615	12.9	644	13.4
Umbilical cord complications (O69)	304	6.5	421	8.8	207	4.3
Perineal laceration while giving birth (O70)	1,721	36.6	1,777	37.1	1,819	37.9
Other obstetric trauma (O71)	202	4.3	229	4.8	250	5.2
Postpartum haemorrhage (O72)	510	10.8	495	10.3	473	9.9
Retained placenta or membranes, without haemorrhage (O73)	36	0.8	31	0.6	37	0.8
Complications of the administration of anaesthetic or other sedation in labour and birth (O74)	28	0.6	26	0.5	29	0.6
Other complications of labour and birth, NEC (O75)	251	5.3	238	5.0	267	5.6

Note: Percentages for the specified complications of labour are for all women who gave birth in the ACT.

Reported figures are based on women not admissions, if a woman has more than one admission for the same complication only one complication is counted. One woman may have more than one complication.

Definitions and standards are as per the ICD-10-AM manual. NEC refers to “not elsewhere classified”.

Source: ACT Admitted Patient Care Data and ACT Maternal Perinatal Data Collection, 2002 - 2004 data

The most commonly reported complications in 2004 were: perineal laceration (37.9%); fetal distress (13.4%); abnormal forces of labour (10.8%); long labour (7.2%); and postpartum haemorrhage (9.9%).

One out of every four women (23.6%) who gave birth in the ACT had one or more complications of the puerperium reported. The most commonly reported complications were 'other disorders of breast and lactation' (8.0%), venous complications (3.2%), puerperal infections (2.3%) and anaemia (2.1%). More details on the complications of the puerperium are provided in Table 45.

The ACT APC data has been coded using ICD-10 codes since July 1998. From 1999 the data has been extracted from the ACT APC using the ICD-10-AM codes for complication of labour, birth and puerperium. The changes to the criteria for extracting the data are broader than the ICD-9-CM codes used in previous years, therefore data from previous years may not be directly comparable.

Table 45: Complications of puerperium reported during a hospital birth, ACT, 2002 - 2004

	2002		2003		2004	
Complications of puerperium (ICD-10-AM)	**No.**	**%**	**No.**	**%**	**No.**	**%**
Puerperal sepsis (O85)	20	0.4	20	0.4	37	0.8
Other puerperal infections (O86)	95	2.0	69	1.4	73	1.5
Venous complication in the puerperium (O87)	171	3.6	194	4.1	153	3.2
Obstetric embolism (O88)	5	0.1	4	0.1	3	0.1
Complications of anaesthesia during the puerperium (O89)	16	0.3	13	0.3	11	0.2
Complications of the puerperium, NEC (O90)	76	1.6	56	1.2	54	1.1
Infections of breast associated with childbirth (O91)	34	0.7	27	0.6	32	0.7
Other disorders of breast and lactation assoc. with childbirth (O92)	252	5.4	244	5.1	385	8.0
Obstetric death (O95 –O97)		0.0		0.0		0.0
Maternal infectious and parasitic diseases (O98)	26	0.6	24	0.5	36	0.8
Other maternal diseases and conditions NEC (O99)						
(excludes Anaemia - O.99.0)	775	16.5	622	13.0	584	12.2
Anaemia (O99.0)	178	3.8	145	3.0	100	2.1

Note: Percentages for the specified complications of puerperium are for all women who gave birth in the ACT. Reported figures are based on women not admissions, if a woman has more than one admission for the same complication only one complication is counted. One woman may have more than one complication. Data in the six months following the birth are also included where directly related to the birth occurring in the previous year.

Definitions and standards as per the ICD-10-AM manual.

Source: ACT Admitted Patient Care Data and ACT Maternal Perinatal Data Collection, 2002 - 2004 data

2.12 Postnatal length of stay in hospital

The postnatal length of stay in hospital is calculated using the woman's date of discharge minus the baby's date of birth for the birth event. In 2004, 46.7% of women who gave birth in ACT hospitals stayed for three days or less after the birth, compared with 44.9% in 1997. The average length of postnatal stay has decreased slightly over time (Table 46).

Table 46: Postnatal length of stay in hospital, ACT, 2002 - 2004

	2002		2003		2004	
Postnatal length of stay	**No.**	**%**	**No.**	**%**	**No.**	**%**
Less than 1 day	170	3.7	198	4.3	162	3.5
1 day	456	10.0	500	10.8	462	9.9
2 days	646	14.2	672	14.5	706	15.2
3 days	818	17.9	782	16.9	841	18.1
4 days	798	17.5	841	18.2	933	20.0
5 days	804	17.6	818	17.7	796	17.1
6 days	471	10.3	458	9.9	424	9.1
7 days or more	396	8.7	358	7.7	332	7.1
Total	**4,559**	**100.0**	**4,627**	**100.0**	**4,656**	**100.0**
Average postnatal stay	**3.82 days**		**3.75 days**		**3.70 days**	

Note: Postnatal length of stay includes only hospital admissions not transferred for further care to another hospital.
Due to the rounding of percentages, some total may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

Women who gave birth by caesarean section during 2002 to 2004 had a longer average length of stay than women who had a normal birth (Table 47). The average postnatal length of stay in hospital also increased slightly with age from 3.2 days for women aged less than 20 years to 4.1 days for women aged 35 years or more in 2004. Average length of stay was also slightly longer for primipara women (4.2 days) compared with multipara women (3.3 days).

Table 47: Average length of postnatal stay in hospital by method of birth and maternal age, ACT, 2002 - 2004

		2002 Average (days)	2003 Average (days)	2004 Average (days)
Method of birth	Normal birth	3.06	2.98	2.95
	Vaginal Breech	4.25	3.64	3.64
	Instrumental birth	4.40	4.33	4.09
	Caesarean Section	5.27	5.17	5.07
Maternal age	Less than 20 years	2.96	2.83	3.21
	20-24 years	3.09	2.91	3.03
	25-29 years	3.58	3.44	3.50
	30-34 years	4.01	3.97	3.88
	35 years or more	4.31	4.31	4.07

Source: ACT Maternal Perinatal Data Collection, 2004 data

On average, women who gave birth in private hospitals stayed longer (5.0 days) than those who gave birth in public hospitals (2.96 days). The majority of women giving birth in the public hospitals stayed three days or less in hospital (TCH with 63.4% and Calvary Public with 73.4%), whereas the majority of women giving birth in private hospitals stayed between four and six days (Calvary Private with 72.1% and JJMH with 76.8%) (Table 48).

Table 48: Postnatal length of stay by hospital of birth, ACT, 2004

	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
Postnatal length of stay	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
3 days or less	1,214	63.4	757	73.4	76	11.9	124	11.6
4 to 6 days	608	31.7	262	25.4	460	72.1	823	76.8
7 days or more	93	4.9	12	1.2	102	16.0	125	11.7
Total	**1,915**	**100**	**1,031**	**100**	**638**	**100**	**1,072**	**100**
Average postnatal stay	**3.04 days**		**2.80 days**		**5.09 days**		**4.95 days**	

Note: Due to the rounding of percentages some totals may not equal 100.0.
Postnatal length of stay includes only hospital admissions not transferred for further care to another hospital.
Data for 2002 to 2003 are contained in Table 110.

Source: ACT Maternal Perinatal Data Collection, 2004 data

2.13 Maternal discharge status from hospital

A range of support services is available to assist families after leaving hospital following the birth of a baby or babies. The maternity support services offered in the ACT include Midcall (an early discharge program for women) and the Canberra Midwifery Program (CMP).

Just over half of women who gave birth (51.6%) were referred to Midcall or Canberra Midwifery Program (CMP) for additional midwifery care at home following a birth admission in hospital during 2004 (Table 49). One per cent (0.8%) of women were transferred to an ACT hospital, and 1.5% were transferred to an interstate hospital. Two maternal deaths occurred in the ACT in the three-year period 2002 to 2004.

Table 49: Maternal discharge status from hospital, ACT, 2002 - 2004

	2002		2003		2004	
Maternal discharge	**No.**	**%**	**No.**	**%**	**No.**	**%**
Discharged home	2,424	51.8	2,343	49.2	2,196	46.1
Discharged home on Midcall or CMP	2,134	45.6	2,284	48.0	2,460	51.6
Transferred to ACT hospital	54	1.2	69	1.5	40	0.8
Transferred to interstate hospital or died	68	1.4	62	1.3	71	1.5
Total	**4,680**	**100**	**4,758**	**100**	**4,767**	**100**

Note: Midcall is an early discharge program with follow up at home by a registered midwife for antenatal or postnatal care. CMP means Canberra Midwifery Program.
Homebirths have been excluded.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

Women who gave birth in an ACT public hospital in 2004 were more likely to go home from hospital on Midcall, or the CMP (TCH with 86.9% and Calvary Public with 62.3%) when compared with women who gave birth in an ACT private hospital (Calvary Private with 7.6% and JJMH with 3.2%) (Table 50).

Table 50: Maternal discharge status by hospital of birth, ACT, 2004

	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Maternal discharge status	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Discharged home	207	10.5	363	33.8	589	90.8	1,037	96.0
Discharged on Midcall / CMP	1,708	86.9	668	62.3	49	7.6	35	3.2
Transferred or died	50	2.5	42	3.9	11	1.7	8	0.7
Total	**1,965**	**100**	**1,073**	**100**	**649**	**100**	**1,080**	**100**

Note: Midcall is an early discharge program with follow up at home by a registered midwife for antenatal or postnatal care. CMP means Canberra Midwifery Program.

Homebirths have been excluded.

Due to the rounding of percentages some totals may not equal 100.0.

Data for 2002 to 2003 are contained in Table 111.

Source: ACT Maternal Perinatal Data Collection, 2004 data

2.14 Breastfeeding

The benefits of breastfeeding for infants and mothers are well established. The National Health and Medical Research Council (NHMRC) recommends exclusive breastfeeding for at least the first six months of life. Breast milk is most appropriate nutritionally. Breastfeeding is hygienic and provides immunoglobulins that help protect the infant against infection and disease. It is also convenient, inexpensive and has no environmental cost. The NHMRC has suggested a goal of a 90% initiation rate, with 80% of infants being breastfed at six months of age. Breastfeeding outcomes are improved if promoted and supported by family members including the father, community health, hospitals and workplaces.[16]

Breastfeeding information was not available for The Canberra Hospital at the time of publication, due to difficulties with the data extraction process from the information management system. Data for The Canberra Hospital will be available for births occurring from 2005.

Breastfeeding information is available for Calvary Public and Private Hospitals, John James Memorial Hospital and for homebirths. Most babies born at these facilities or at home were breastfed at least once (96.9% to 99.0%). Breastfeeding status by place of birth for 2004 is presented in Table 51. Breastfeeding status by place of birth for 2000 to 2004 is presented in Table 112.

Table 51: Breastfeeding status by place of birth, ACT, 2004

	Calvary Public		Calvary Private		John James Memorial Hospital	
Breastfeeding	**No.**	**%**	**No.**	**%**	**No.**	**%**
Ever breastfed	957	96.9	612	99.0	1,062	98.2
Not breastfed	31	3.1	6	1.0	19	1.8
Total	**988**	**100.0**	**618**	**100.0**	**1,081**	**100.0**

Note: There were 97 records from Calvary Public, 45 records from Calvary Private and 27 records from John James Memorial Hospital where breastfeeding was not stated in 2004. These data have been excluded from the calculation of percentages.
Data for 2000 to 2004 are contained in Table 112.

Data for homebirths was also excluded, as 84% were not stated in 2004.

Data for The Canberra Hospital were not available due to difficulties with the data extract process.

Source: ACT Maternal Perinatal Data Collection, 2004 data

The data presented in Table 51 are consistent with ACT results from Wave 1 of the Longitudinal Study of Australian Children (LSAC) in which 91.2% of infants and 94.9% of four year olds were reported to have been breastfed at least once.[17] Almost two thirds of infants aged six to nine months were still being breastfed at the time of the LSAC interview.

The average duration of breastfeeding for ACT respondents was 10.5 months, significantly longer than the duration of breastfeeding reported by respondents from other States and Territories (8.2 months, $p<0.05$). The percentage of ACT respondents who reported that breastfeeding ceased at less than six months of age was significantly lower (35.0%) compared to respondents from other States and Territories (45.6%, $p<0.05$) (Table 52).

Table 52: Duration of breastfeeding, LSAC child sample, ACT and Australia, 2004

	ACT	Australia
Age at which breastfeeding ceased	**%**	**%**
Less than six months	35.0	45.6*
Seven to eleven months	30.7	26.4
Twelve months or older	34.3	28.0
Total	**100.0**	**100.0**

Note: *Significantly different at $p<0.05$.

Source: LSAC confidentialised unit record file, child sample, 2004

2.15 Antenatal and Postnatal Depression

Antenatal and postnatal depression is a serious public health issue with figures estimating that one in seven women who experience pregnancy, childbirth and new parenthood will experience some level of antenatal or postnatal depression.[18] Access to appropriate counselling and health care is essential to address the needs of women and families who have been affected by this illness.

PANDSI (Post and Ante Natal Depression Support and Information) was formed through the amalgamation of two support groups in the ACT. PANDSI provides support and information to those women and their families who are experiencing depression either in pregnancy or in the postnatal period. During 2000 to 2004, PANDSI provided the following support to women and their families:

- 88 to 110 support groups were held each year with an average of five to nine attendees at each group;
- 25 to 30 information presentations each year; and
- telephone support provided by volunteers or PANDSI support workers.

3 BABIES' CHARACTERISTICS

Babies' characteristics, including place of birth, birth condition, plurality, sex, presentation, birthweight and gestational age are presented in this section.

3.1 All babies born in the ACT

Ninety-nine per cent (99.3%) of babies were born alive in the ACT in 2004, and 0.7% were fetal deaths (Table 53).

Ninety-five per cent (94.9%) of babies were singleton births in the ACT in 2004, and 5.1% were multiple births.

The ACT followed the national trend with male births (51.9%) exceeding female births (48.1%).

Table 53: Babies' characteristics, ACT, 2004

Babies' characteristics		No.	%
Birth condition	Live born	4,893	99.3
	Stillborn	33	0.7
	Total	**4,926**	**100.0**
Plurality	Singleton	4,675	94.9
	Twins	242	4.9
	Triplets	9	0.2
	Total	**4,926**	**100.0**
Sex	Male	2,559	51.9
	Female	2,367	48.1
	Total	**4,926**	**100.0**
Presentation	Vertex (crown of head)	4,608	93.5
	Breech	273	5.5
	Other including face and brow	45	0.9
	Total	**4,926**	**100.0**
Birthweight	Less than 500 grams	13	0.3
	500 to 999 grams	32	0.6
	1,000 to 1,499 grams	42	0.9
	1,500 to 1,999 grams	98	2.0
	2,000 to 2,499 grams	232	4.7
	2,500 to 2,999 grams	677	13.7
	3,000 to 3,499 grams	1,550	31.5
	3,500 to 3,999 grams	1,581	32.1
	4,000 to 4,499 grams	584	11.9
	4,500 or more grams	117	2.4
	Total	**4,926**	**100.0**
Gestational age	20 to 27 weeks	47	1.0
	28 to 31 weeks	56	1.1
	32 to 36 weeks	384	7.8
	37 to 41 weeks	4,364	88.6
	42 or more weeks	74	1.5
	Not stated	1	0.0
	Total	**4,926**	**100.0**

Note: Due to the rounding of percentages some totals may not equal 100.0.
Data for 2000 to 2004 are contained in Table 113.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Ninety-four per cent (93.5%) of the babies born in the ACT in 2004 were vertex presentation (the first presenting part was the crown of the head), 5.5% were breech (the first presenting part was the buttocks) and the remainder (0.9%) were face, brow, other (usually compound presentation eg. hand and head or cord and head) (Table 53).

In 2004, 92.0% of live babies born in the ACT weighed over 2,500 grams at birth (Table 54), with an average birthweight of 3,383 grams. Eight per cent of live babies born in the ACT (8.0%) had a birthweight of less than 2,500 grams in 2004 (Australia 6.4%).[2] Sixteen per cent (15.8%) of babies born to women not usually resident in the ACT weighed less than 2,500 grams compared with 6.4% for ACT women. This reflects referrals for high-risk births to the Centre for Newborn Care at The Canberra Hospital from the surrounding region (Table 54).

Eighty-nine per cent (89.1%) of live babies born in the ACT in 2004 were between 37 and 41 weeks gestation, with an average gestational age of 39 weeks, and 9.4% were classified as preterm babies (less than 37 weeks gestation at birth) (Table 53). Nineteen per cent (18.5%) of live births among women not usually resident in ACT were preterm, compared with 7.6% of births among women from the ACT (Table 54). The percentage of preterm babies born to ACT residents was similar to the rate for the Australian population (8.2%).[2]

Two per cent (2.4%) of babies born in the ACT weighed more than 4,500 grams.

Table 54: Birthweight and gestational age for live births by maternal usual state of residence, ACT, 2004

		ACT residents		Non-ACT residents		Total	
		No.	%	No.	%	No.	%
Birthweight	Less than 1,500 grams	42	1.0	20	2.5	62	1.3
	1,500 to 2,499 grams	219	5.4	107	13.3	326	6.7
	2,500 to 3,999 grams	3,238	79.2	566	70.1	3,804	77.7
	4,000 grams and over	587	14.4	114	14.1	701	14.3
	Total	**4,086**	**100.0**	**807**	**100.0**	**4,893**	**100.0**
	Average birthweight	**3,411 grams**		**3,239 grams**		**3,383 grams**	
Gestational age	20 to 27 weeks	16	0.4	7	0.9	23	0.5
	28 to 31 weeks	32	0.8	23	2.9	55	1.1
	32 to 36 weeks	262	6.4	119	14.7	381	7.8
	37 to 41 weeks	3,704	90.7	655	81.2	4,359	89.1
	42 weeks or more	71	1.7	3	0.4	74	1.5
	Not stated	1	0.0	0	0.0	1	0.0
	Total	**4,086**	**100.0**	**807**	**100.0**	**4,893**	**100.0**
	Average gestational age	**39.0 weeks**		**38.1 weeks**		**38.9 weeks**	

Note: Due to the rounding of percentages some totals may not equal 100.0.
Data for 2002 and 2003 are contained in Table 114 and Table 115.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Fourteen per cent of babies born at The Canberra Hospital (13.5%) weighed less than 2,500 grams compared with 3.7% to 4.5% of babies born at other ACT hospitals in 2004 (Table 55). Three per cent (2.9%) of babies born at The Canberra Hospital weighed less than 1,500 grams.

In 2004, The Canberra Hospital which provides specialist facilities through the Centre for Newborn Care had the highest percentage of preterm babies (14.4%) with one quarter (25.5%) of these babies being 31 weeks gestation or less. Less than five babies were born at 31 weeks gestation or less at the other ACT hospitals.

Table 55: Birthweight and gestational age for live births by hospital of birth, ACT, 2004

	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Birthweight								
Less than 2,500 grams	271	13.5	44	4.1	30	4.5	41	3.7
2,500 to 4,499 grams	1,692	84.2	1,009	93.2	622	93.8	1,036	93.8
4,500 grams and over	47	2.3	30	2.8	11	1.7	28	2.5
Total	**2,010**	**100.0**	**1,083**	**100.0**	**663**	**100.0**	**1,105**	**100.0**
Gestational age								
20 to 36 weeks	290	14.4	52	4.8	46	6.9	71	6.4
37 to 41 weeks	1,697	84.4	998	92.2	605	91.3	1,028	93.0
42 weeks or more	23	1.1	32	3.0	12	1.8	6	0.5
Not Stated	0	0.0	1	0.1	0	0.0	0	0.0
Total	**2,010**	**100.0**	**1,083**	**100.0**	**663**	**100.0**	**1,105**	**100.0**

Note: Less than five live births where the birthweight was less than 1,500 grams occurred in an ACT non-tertiary hospital.
Due to the rounding of percentages some totals may not equal 100.0.
Data for 2002 and 2003 are contained in Table 116 and Table 117.

Source: ACT Maternal Perinatal Data Collection, 2004 data

3.1.1 Place of birth

Almost two thirds (63.4%) of babies were born in an ACT public hospital in 2004 compared with seventy-three per cent (73.3%) in 2000. Thirty-six per cent of babies were born in an ACT private hospital in 2004 compared with twenty-six per cent in 2000 (Table 56).

Table 56: Place of birth, ACT, 2000 - 2004

	2000		2001		2002		2003		2004	
Babies born at:	No.	%	No.	%	No.	%	No.	%	No.	%
TCH-Delivery suite	1,956	41.0	1,657	36.7	1,724	35.9	1,741	35.7	1,770	35.9
TCH-Birth Centre	300	6.3	286	6.3	253	5.3	304	6.2	268	5.4
Calvary Public	1,244	26.1	1,055	23.4	1,070	22.3	1,107	22.7	1,085	22.0
Public Hospitals	**3,500**	**73.3**	**2,998**	**66.4**	**3,047**	**63.4**	**3,152**	**64.6**	**3,123**	**63.4**
Calvary Private	335	7.0	441	9.8	589	12.3	637	13.1	663	13.5
John James Memorial	907	19.0	1,038	23.0	1,140	23.7	1,067	21.9	1,108	22.5
Private Hospitals	**1,242**	**26.0**	**1,479**	**32.8**	**1,729**	**36.0**	**1,704**	**34.9**	**1,771**	**36.0**
Homebirth	**22**	**0.5**	**17**	**0.4**	**14**	**0.3**	**6**	**0.1**	**25**	**0.5**
Born before arrival	**10**	**0.2**	**19**	**0.4**	**14**	**0.3**	**14**	**0.3**	**7**	**0.1**
Total	**4,774**	**100.0**	**4,513**	**100.0**	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**

Note: Born before arrival refers to babies born before the mother arrives at the planned birth facility, where the mother and baby are subsequently admitted to that facility.
Due to rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

3.1.2 Usual area of residence

The majority of babies born to ACT women from 2003 to 2004 were to women normally residing on the North side of Canberra (51.6% and 51.3%) (Table 57). The percentages of babies born in the ACT to women normally residing outside of the ACT ranged from 15.7% to 16.5% between 2002 and 2004. The majority of babies born to non-ACT residents were from New South Wales (99.2% to 99.5%). The numbers of residents from other states, external territories or overseas were less than ten in any one year.

Table 57: Babies born by maternal usual place of residence, ACT, 2002 - 2004

	2002		2003		2004	
Maternal usual place of residence	**No.**	**%**	**No.**	**%**	**No.**	**%**
North Canberra	423	10.5	425	10.3	442	10.8
Belconnen	1068	26.4	1113	27.1	1100	26.8
Gungahlin - Hall	516	12.8	585	14.2	567	13.8
North Side	**2,007**	**49.6**	**2,123**	**51.6**	**2,109**	**51.3**
Woden Valley	316	7.8	344	8.4	363	8.8
Weston Creek	279	6.9	254	6.2	271	6.6
Tuggeranong	1,213	30.0	1,130	27.5	1,122	27.3
South Canberra	232	5.7	260	6.3	246	6.0
South Side	**2,040**	**50.4**	**1,988**	**48.4**	**2,002**	**48.7**
Total Births to ACT residents	**4,047**	**100.0**	**4,111**	**100.0**	**4,111**	**100.0**
ACT residents	4,047	84.2	4,112	84.3	4,111	83.5
Non-ACT residents	757	15.8	765	15.7	815	16.5
Total births occurring in the ACT	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

3.2 Apgar scores and resuscitation

The apgar score is a measure of the condition of a baby at birth (a detailed definition is in the Glossary). The closer the apgar score is to 10 the better the baby's condition. The majority of babies born in 2002 to 2004 had apgar scores between 7 and 10 at one minute after birth (85.6% to 86.6%), with 98.2% attaining those scores at five minutes after birth (Table 58).

Table 58: Apgar scores for live births, ACT, 2002 - 2004

		2002		2003		2004	
Apgar scores		**No.**	**%**	**No.**	**%**	**No.**	**%**
Apgar scores	0 to 3	145	3.0	123	2.6	162	3.3
at 1 minute	4 to 6	541	11.3	548	11.4	486	9.9
	7 to 10	4,080	85.6	4,143	85.9	4,235	86.6
	Not stated	3	0.1	7	0.1	10	0.2
	Total	**4,769**	**100.0**	**4,821**	**100.0**	**4,893**	**100.0**
Apgar scores	0 to 3	24	0.5	20	0.4	18	0.4
at 5 minutes	4 to 6	59	1.2	60	1.2	59	1.2
	7 to 10	4,684	98.2	4,733	98.2	4,807	98.2
	Not stated	2	0.0	8	0.2	9	0.2
	Total	**4,769**	**100.0**	**4,821**	**100.0**	**4,893**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

An apgar score between 7 and 10 at one minute after birth corresponds with approximately three quarters of babies (70.5% to 82.8%) requiring no resuscitation or suction only at birth (Table 59). An apgar score of less than 7 at one minute after birth indicates that the baby needs some assistance with breathing. The decrease in the number of babies with scores of less than 7 at five minutes indicates successful resuscitation in the majority of these babies.

Narcotic antagonists were administered to between 0.7% and 1.4% of babies to reverse the effects of narcotic drugs given to women during labour from 2002 to 2004 (Table 59).

Table 59: Resuscitation procedures for live births, ACT, 2002 - 2004

		2002		2003		2004	
Resuscitation procedures		No.	%	No.	%	No.	%
Method of resuscitation	No resuscitation method used	2,496	52.3	2,567	53.2	2,640	54.0
	Suction only	1,454	30.5	833	17.3	867	17.7
	Oxygen	579	12.1	977	20.3	920	18.8
	IPPR - bag & mask	183	3.8	370	7.7	370	7.6
	IPPR - endotracheal intubation	50	1.0	66	1.4	70	1.4
	External cardiac massage & ventilation	7	0.1	8	0.2	26	0.5
	Total	**4,769**	**100.0**	**4,821**	**100.0**	**4,893**	**100.0**
Resuscitation using drug therapy	No resuscitation using drug therapy	4,685	98.2	4,767	98.9	4,819	98.5
	Narcotic antagonist	68	1.4	36	0.7	47	1.0
	Other drugs or drug combinations	16	0.3	18	0.4	27	0.6
	Total	**4,769**	**100.0**	**4,821**	**100.0**	**4,893**	**100.0**

Note: The oxygen category in the resuscitation section appears high which may be due to babies receiving very small amounts of facial oxygen. Other methods of resuscitation have been included with "No resuscitation method used" following a review of the medical records where the majority of records coded as “Other” were documented as "warmth and stimulation". Methods of resuscitation that were "Not stated" (1.2% in 2002 only) have been included with " No resuscitation method used ".

Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

3.3 Congenital anomalies

Congenital anomalies are structural or anatomical defects that are present at or existing from the time of birth, usually resulting from abnormal development in the first trimester of pregnancy.

During 2000 to 2004, 3.8% of all babies born in the ACT were reported to have a congenital anomaly, with 4.8% for non-ACT resident babies and 3.6% for ACT resident babies (Table 60). The percentage of congenital anomalies for ACT resident babies varied from a high of 4.5% in 2001 to a low of 3.0% of all ACT resident births in 2004. The percentage of congenital anomalies for non-ACT resident babies was slightly higher than that for ACT residents for most years between 2000 and 2004, varying from 6.9% in 2000 to 3.7% in 2004.

Table 60: Babies born with congenital anomalies by state of residence, ACT, 2000 - 2004

	2000		2001		2002		2003		2004		2000-2004	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
ACT residents	137	3.3	173	4.5	162	4.0	136	3.3	125	3.0	733	3.6
Non-ACT residents	42	6.9	34	5.4	31	4.1	35	4.6	30	3.7	172	4.8
Total	**179**	**3.7**	**207**	**4.6**	**193**	**4.0**	**171**	**3.5**	**155**	**3.0**	**905**	**3.8**

Note: Data includes fetal deaths of at least 20 completed weeks gestation or a birthweight of at least 400 grams.
Percentages represent the proportion of babies born in the ACT with at least one congenital anomaly.
Information on congenital anomalies was reported to the ACT Maternal Perinatal Data Collection (ACT MPDC) from the ACT Admitted Patient Care data collection, the ACT Midwives Data Collection and The Canberra Hospital maternity information systems (OBICARE 1997-2002 and PANDA 2002-2004).
Cases from the ACT Admitted Patient Care Data Collection were based on babies not admissions; if a baby has more than one admission for the same anomaly only one anomaly was counted. A baby may have more than one anomaly.

Source: ACT Admitted Patient Care Data Collection and ACT Maternal and Perinatal Data Collection, 2000 - 2004 data

In the five-year period from 2000 to 2004, the ACT residents' congenital anomaly rate was four per 10,000 births (Table 61). The three most commonly reported congenital anomalies were congenital anomalies of genital organs and urinary system and reportable musculoskeletal anomalies.

The congenital anomaly rates presented in Table 61 are not comparable to the previous reported congenital anomalies for 1997 - 2001 as those congenital anomaly rates included non-ACT residents who gave birth in the ACT.

Table 61: Congenital anomalies, ACT residents, 2000 - 2004

	2000 - 2004	
Congenital anomalies (ICD-10-AM)	**No.**	**Rate per 10,000**
Anencephaly and similar congenital anomalies (Q00)	0	0.0
Encephalocele (Q01)	3	1.5
Other congenital anomalies of brain (Q02 - Q04)	21	10.3
Spina bifida (Q05)	5	2.5
Other congenital anomalies of spinal cord & nervous system (Q06 - Q07)	5	2.5
Congenital anomalies of eye (Q10 - Q15)	7	3.4
Congenital anomalies of ear, face and neck (Q16 - Q18)	11	5.4
Congenital anomalies of cardiac chambers, connections and septa (Q20 - Q21)	72	35.4
Other congenital anomalies of heart including cardiac valves (Q22 - Q24)	27	13.3
Other congenital anomalies of circulatory system (Q25 - Q28)	22	10.8
Congenital anomalies of respiratory system (Q30 - Q34)	28	13.8
Cleft palate and/or cleft lip (Q35 - Q37)	44	21.7
Other Congenital anomalies of upper alimentary tract (Q38 - Q40)	12	5.9
Other congenital anomalies of digestive system (Q41 - Q45)	29	14.3
Congenital anomalies of genital organs (Q50 - Q56)	210	103.4
Congenital anomalies of urinary system (Q60 - Q64)	92	45.3
Reportable musculoskeletal congenital anomalies (Q65 - Q68 see exclusions)	80	39.4
Other reportable congenital anomalies of limb(s) (Q69 - Q74 see exclusions)	61	30.0
Other reportable congenital anomalies of musculoskeletal system (Q75 - Q79)	23	11.3
Reportable congenital anomalies of skin (see exclusions) (Q80 - Q84)	5	2.5
Other congenital anomalies, not elsewhere classified (Q85 - Q89)	23	11.3
Chromosome congenital anomalies (Q90 - Q99)	39	19.2
Down's syndrome (Q90)	28	13.8
Edwards' syndrome and Patau's syndrome (Q91)	6	3.0
Other chromosome congenital anomalies (Q92 - Q99)	5	2.5
Total congenital anomalies	**819**	**4.0**

Note: Data includes fetal deaths of at least 20 completed weeks gestation or a birthweight of at least 400 grams.

Data are reported for a five-year period to avoid the marked fluctuation of rates due to the small number of babies born each year with at least one congenital anomaly.

Cases from the ACT Admitted Patient Care Data Collection are based on babies not admissions; if a baby has more than one admission for the same anomaly only one anomaly is counted. A baby may have more than one anomaly.

Definitions and standards as per the ICD-10-AM manual, codes are provided.

Additional exclusions of minor congenital anomalies have reduced the number of reportable musculoskeletal congenital anomalies and reportable congenital anomalies of skin from the last report.

Figures are not directly comparable with previous publications.

Source: ACT Admitted Patient Care Data Collection and ACT Maternal Perinatal Data Collection, 2000 - 2004 data

There are some congenital anomalies reported in the ACT APC that were not presented in Table 61. The following have been excluded because they are considered to be either minor congenital anomalies or physiological conditions related to gestational age. These exclusions are not reportable nationally to the National Perinatal Statistical Unit. The majority of these exclusions are:

- patent ductus arteriosus (Q25.0) where the gestational age is less than 37 weeks or the birthweight is less than 2,500 grams;
- undescended testicles (Q53.1 – Q53.9) where the gestational age is less than 37 weeks or the birthweight is less than 2,500 grams;
- tongue tie (Q38.1);
- other specified anomalies of the skin (Q82.5 – Q82.9); and
- talipes equinovarus (Q66.0), calcaneovarus and unspecified talipes (Q66.1 – Q66.6), and other deformities of the feet (Q66.8 – Q66.9).

3.4 Perinatal deaths

Perinatal death rates are important indicators of our community's health. However, the very small numbers of perinatal deaths in the ACT, gives large annual fluctuations in death rate, therefore annual rates must be interpreted with caution.

3.4.1 Perinatal deaths by birth cohort

Perinatal deaths include fetal deaths and neonatal deaths. In 2004, 25 fetal deaths (0.6%) and 18 neonatal deaths (0.4%) were reported for ACT residents. For all births that occurred in the ACT to both ACT and non-ACT residents, there were 33 fetal deaths (0.7%) and 23 neonatal deaths (0.5%) reported (Table 62).

Table 62: Perinatal deaths by maternal usual residence, ACT, 2004

	ACT residents		Non-ACT residents		Total	
Perinatal deaths	**No.**	**%**	**No.**	**%**	**No.**	**%**
Live births survived to 28 days	4,086	99.0	802	98.4	4,870	98.9
Fetal death (Stillbirth)	25	0.6	8	1.0	33	0.7
Neonatal death	18	0.4	5	0.6	23	0.5
All births	**4,111**	**100.0**	**815**	**100.0**	**4,926**	**100.0**

Note: Data for 2002 to 2003 are contained in Table 118.

Source: ACT Maternal Perinatal Data Collection, 2004 data

The perinatal death (neonatal deaths and fetal deaths), fetal death, and infant death (neonatal deaths and post-neonatal deaths) rates reported below are based on the birth cohort of ACT residents for births that occurred in the ACT by calendar year. These figures will vary from those published by Australian Bureau of Statistics (ABS)(Section 3.4.3) due to the differences in methods of collection.

In 2004, the ACT had a fetal death rate of 6.1 per 1,000 for ACT residents' births, compared with an Australian rate of 5.3 per 1,000 births.[3] The neonatal death rate was 4.4 per 1,000 for ACT residents' births, compared with an Australian rate of 2.8 per 1,000 births.[3] There were less than five post neonatal deaths report in the ACT for 2004.

No significant difference was observed between the ACT and Australia for fetal death or neonatal death rates.

Table 63: Birth status and survival, ACT residents' births, 2000 - 2004

	2000		2001		2002		2003		2004	
ACT residents	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**
Births	**4,163**		**3,887**		**4,047**		**4,111**		**4,111**	
Livebirths	4,135	993.3	3,858	992.5	4,023	994.1	4,071	990.3	4,086	993.9
Survived to one year	4,118	995.9	3,849	997.7	4015	998.0	4056	996.3	4067	995.3
Infant deaths	**17**	**4.1**	**9**	**2.3**	**8**	**2.0**	**15**	**3.7**	**19**	**4.7**
Post neonatal deaths	**5**	**1.2**	**<5**	**0.5**	**0**	**0.0**	**0**	**0.0**	**<5**	**0.2**
Neonatal deaths	12	2.9	7	1.8	8	2.0	15	3.7	18	4.4
Fetal deaths	28	6.7	29	7.5	24	5.9	40	9.7	25	6.1
Perinatal deaths	**40**	**9.6**	**36**	**9.3**	**32**	**7.9**	**55**	**13.4**	**43**	**10.5**

Note: 2000 to 2004 Birth cohort data includes reported deaths for ACT residents' births only.

This table does not include ACT residents that have given birth in another jurisdiction, or non-ACT residents that have given birth in the ACT.

Refer to the glossary for definitions.

Rate per 1,000 ACT residents' livebirths for neonatal, post neonatal and infant deaths.

Rate per 1,000 ACT residents' births for perinatal and fetal deaths.

Annual rates fluctuate due to small numbers.

Data corrections account for slight differences from previously reported deaths.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

During 2000 to 2004, the perinatal death rate fluctuated from a low of 7.9 deaths per 1,000 births in 2002 to a high of 13.4 in 2003. This difference was not statistically significant and demonstrates the large fluctuations that can occur due to the small number of perinatal deaths in the ACT each year.

3.4.2 Reporting differences in perinatal death rates

Differences in published perinatal death rates occur because of different reporting methods. The methods used by the ABS and ACT MPDC are compared below:

- The ABS reports deaths by their year of death registration, while the ACT MPDC reports deaths by year of birth.
- The ABS uses different inclusion and exclusion criteria for birthweight and gestational age to the ACT MPDC. Fetuses or infants weighing less than 400 grams in birthweight that had completed 20 weeks of gestation would not be included in the ABS figures whereas these would be included in the ACT MPDC figures.
- The ABS reports perinatal deaths according to the usual state of residence of the mother irrespective of the place of birth, so the ABS collection may include deaths where the birth occurred outside of the ACT. The ACT MPDC only reports perinatal deaths to ACT residents who gave birth in the ACT.

3.4.3 ABS perinatal deaths for ACT and Australia

Overall, the average perinatal death rate in the ACT (8.5 per 1,000 births; 95% CI 7.3 – 9.8) between the years 2000-2004 was not statistically different to the average Australian perinatal death rate (8.1 per 1,000 births; 95% CI 8.0 – 8.3). The perinatal death rate was not significantly different from the Australian rate for any individual year between 2000 and 2004.

Table 64: ABS perinatal deaths by year of death registration, ACT and Australia, 2000 - 2004

	ACT rates		Australian rates	
Year of death registration	**Rate**	**95% CI***	**Rate**	**95% CI***
2000	8.3	5.5 – 11.1	8.3	7.9 – 8.6
2001	8.3	5.5 – 11.2	8.4	8.1 – 8.8
2002	5.6	3.3 – 7.8	8.0	7.7 – 8.4
2003	9.4	6.5 – 12.3	8.0	7.7 – 8.4
2004	11.0	7.8 – 14.1	8.0	7.7 – 8.4
2000-2004	**8.5**	**7.3 – 9.8**	**8.1**	**8.0 – 8.3**

Note: The confidence intervals have been calculated for this table using the number of registered births provided by the ABS. Rates refer to perinatal death rates per 1,000 births.

Source: ABS Causes of Death 2004 (March 2006) Catalogue no: 3303.0.

3.5 Length of stay in hospital

Almost half (45.9%) of babies born in ACT hospitals during 2004 stayed in hospital for three days or less after birth, 43.5% stayed in hospital for between 4 to 6 days and 10.6% stayed in hospital for a week or more after birth (Table 65).

Table 65: Babies' length of stay in hospital for live births, ACT, 2002 - 2004

	2002		2003		2004	
Babies' length of stay in hospital	**No.**	**%**	**No.**	**%**	**No.**	**%**
3 days or less	1,986	45.5	2,046	46.1	2,052	45.9
4 to 6 days	1,910	43.7	1,933	43.6	1,946	43.5
7 days or more	473	10.8	457	10.3	475	10.6
Total	**4,369**	**100.0**	**4,436**	**100.0**	**4,473**	**100.0**
Average stay in hospital	**4.4 days**		**4.2 days**		**4.5 days**	

Note: Babies' length of stay for hospital births with transfers excluded.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

Babies' average length of stay in hospital by selected characteristics for 2002 to 2004 is shown in Table 66. The average length of stay for babies in hospital in 2004 was 4.5 days. Babies with a low birthweight were more likely to have a longer stay in hospital with babies born weighing less than 1,500 grams having an average length of stay of 73.9 days compared with 3.8 days for babies born weighing more than 2,500 grams (Table 66). Similarly, babies with a gestational age of 31 weeks or less had a longer average length of stay (62.0 days) compared with babies with a gestational age of more than 37 weeks (3.7 days).

The average length of hospital stay for private hospitals (Calvary Private 5.0 days, JJMH 5.4 days) was slightly longer than for public hospitals (TCH 4.4 days, Calvary Public 3.3 days). Babies born to non-ACT residents had a significantly longer average length of stay (5.4 days) than babies born to ACT residents (4.3 days; p = 0.00). Average length of stay for babies increased with maternal age with babies born to mothers aged 30 years or over having a significantly longer length of stay (4.7 days) than babies born to mothers aged less than 30 years (4.1 days; p = 0.00). However, length of stay for babies born to mothers aged less than 20 years had the longest length of stay (5.5 days).

Table 66: Babies' average length of stay by selected characteristics, ACT, 2002 - 2004

Selected characteristics		Babies' average length of stay in hospital (Days) 2002	2003	2004
Birthweight	Less than 1500 grams	53.5	74.6	73.9
	1500 to 2499 grams	14.0	13.7	13.5
	Greater than 2500 grams	3.9	3.8	3.8
	Total	**4.4**	**4.2**	**4.5**
Gestational age	31 weeks or less	54.2	64.0	62.0
	32 to 36 weeks	11.7	12.5	12.4
	37 weeks or more	3.8	3.7	3.7
	Total	**4.4**	**4.2**	**4.5**
Place of birth (hospital)	The Canberra Hospital	4.1	4.0	4.4
	Calvary Public Hospital	3.2	3.2	3.3
	Calvary Private Hospital	5.0	4.9	5.0
	John James Memorial Hospital	5.6	5.4	5.4
	Total	**4.4**	**4.2**	**4.5**
Area of residence	ACT residents	4.3	4.1	4.3
	Non-ACT residents	4.6	4.9	5.4
	Total	**4.4**	**4.2**	**4.5**
Maternal age	Less than 20 years	4.0	3.5	5.5
	20-24 years	3.9	3.3	4.1
	25-29 years	4.3	4.1	3.9
	30-34 years	4.3	4.4	4.5
	35 years and over	4.9	4.8	5.1
	Total	**4.4**	**4.2**	**4.5**

Note: Babies' length of stay for hospital births with transfers excluded.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

3.6 Discharge status from hospital

Ninety-two per cent (92.0%) of babies were discharged home; eight per cent (7.5%) were transferred to an ACT (4.8%) or interstate (2.7%) hospital and less than one per cent (0.5%) died following a hospital birth admission in 2004 (Table 67).

Table 67: Babies' discharge status for live hospital births, ACT, 2002 - 2004

	2002		2003		2004	
Babies' discharge	**No.**	**%**	**No.**	**%**	**No.**	**%**
Discharged home	4,369	92.1	4,436	92.5	4,472	92.0
Transferred to an ACT or interstate hospital	350	7.4	334	6.9	365	7.5
Died	23	0.5	25	0.5	22	0.5
Not stated	0	0.0	0	0.0	2	0.0
Total	**4,742**	**100.0**	**4,795**	**100.0**	**4,861**	**100.0**

Note: Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

4 ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

4.1 Maternal characteristics

The reported numbers of Aboriginal and Torres Strait Islander women who gave birth in the ACT from 2000 to 2004 were 53, 52, 72, 80 and 73 respectively. This accounted for between 1.1% and 1.7% of the total women who gave birth in the ACT each year between 2000 to 2004.

Aboriginal and Torres Strait Islander women who gave birth in the ACT in 2004, were more likely to have their babies at a younger age, with 64.4% less than 30 years of age at the time of the birth compared with 40% of non-Aboriginal and Torres Strait Islander women (Table 68).

The Aboriginal and Torres Strait Islander women who gave birth in 2004 tended to be dispersed throughout the ACT geographical subdivisions, with equal proportions of residents on the south side (37%) and on the north side (37%) (Table 68).

Table 68: Age and usual place of residence by Aboriginal and Torres Strait Islander identification, ACT, 2004

		Aboriginal and Torres Strait Islander		Non Aboriginal and Torres Strait Islander	
		No.	%	No.	%
Age groups	Less than 20 years	8	11.0	124	2.6
	20-24 years	23	31.5	503	10.7
	25-29 years	16	21.9	1,258	26.7
	30-34 years	19	26.0	1,750	37.1
	35 years or more	7	9.6	1,076	22.8
	Total	**73**	**100.0**	**4,711**	**100.0**
Usual place of residence	North Side	27	37.0	2,022	42.9
	South Side	27	37.0	1,930	41.0
	ACT residents	**54**	**74.0**	**3,952**	**83.9**
	Non ACT residents	**19**	**26.0**	**759**	**16.1**
	Total	**73**	**100.0**	**4,711**	**100.0**

Note: Fifteen records where Aboriginal and Torres Strait Islander identification was 'not stated' have been excluded.

Aboriginal and Torres Strait Islander status is based on the identified status of the mother. Status of the father is not recorded at this time.

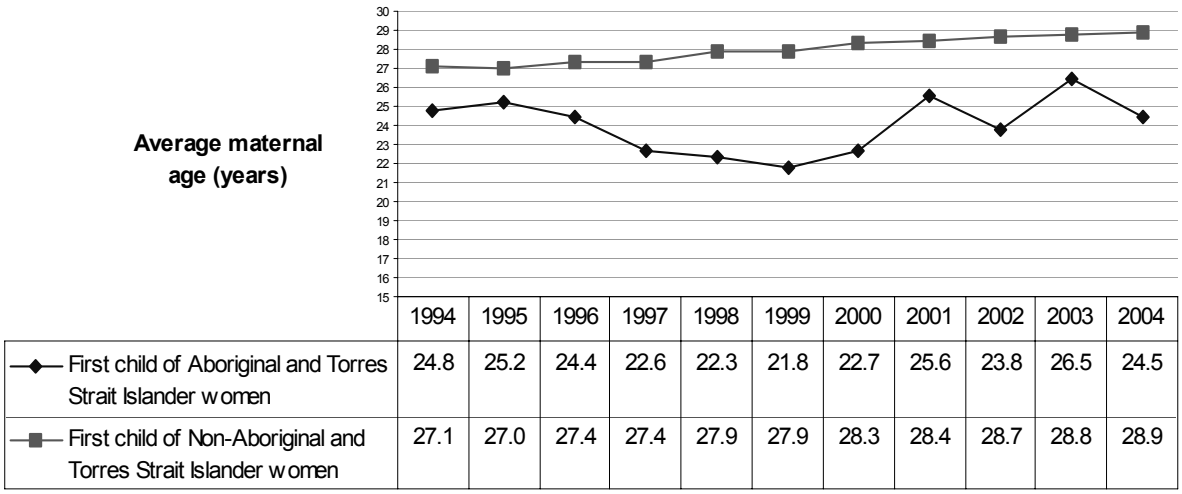
Data for 2002 to 2003 are contained in Table 119.

Source: ACT Maternal Perinatal Data Collection, 2004 data

The average age for Aboriginal and Torres Strait Islander women who gave birth to their first child decreased from 24.8 years in 1994 to 21.8 years in 1999 and then increased to 24.5 years in 2004 (Figure 5). Aboriginal and Torres Strait Islander women who gave birth to their first child in 2004 were significantly younger than non-Aboriginal and Torres Strait Islander women (28.9 years, p=0.00).

The average age of all Aboriginal and Torres Strait Islander women who gave birth during 1997 to 2004 was consistently lower than the average age of non-Aboriginal women. In 2004, the average age of Aboriginal and Torres Strait Islander women who gave birth (26.5 years) was significantly younger than non-Aboriginal and Torres Strait Islander women (30.6 years, p=0.00). The average age of Aboriginal women fluctuates from year to year due to the small number of Aboriginal women giving birth in the ACT.

Figure 5: Average maternal age for women giving birth to first baby by Aboriginal and Torres Strait Islander identification, ACT, 1994 – 2004



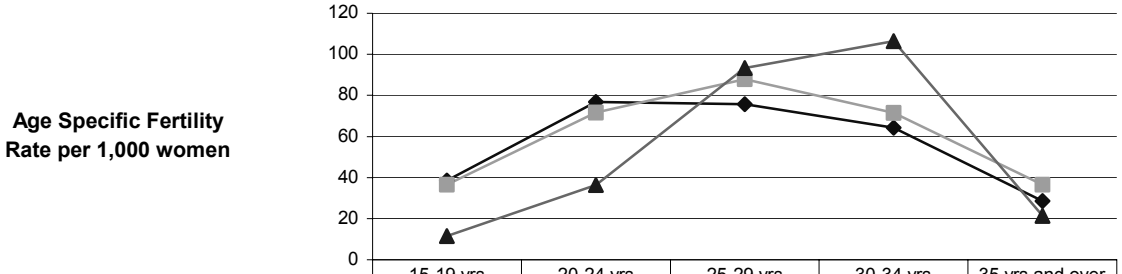
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
First child of Aboriginal and Torres Strait Islander women	24.8	25.2	24.4	22.6	22.3	21.8	22.7	25.6	23.8	26.5	24.5
First child of Non-Aboriginal and Torres Strait Islander women	27.1	27.0	27.4	27.4	27.9	27.9	28.3	28.4	28.7	28.8	28.9

Source: ACT Maternal Perinatal Data Collection, 1994 - 2004 data

The following analyses have used pooled data from 2000 to 2004, because of the small annual number of Aboriginal and Torres Strait Islander women giving birth in the ACT. During this period 330 Aboriginal and Torres Strait Islander women gave birth to 338 babies. Seventy-three per cent (72.7%; 240) of those Aboriginal and Torres Strait Islander women were residents of the ACT and the remaining twenty-seven per cent (27.3%; 90) were NSW residents.

Age specific fertility rates for Aboriginal and Torres Strait Islander women and non-Aboriginal and Torres Strait Islander women are presented in Figure 6. Aboriginal and Torres Strait Islander women are giving birth at younger ages, with the rates for women aged less than 25 years being approximately double the rates for non-Aboriginal and Torres Strait Islander women. The fertility rate for Aboriginal women aged over 25 years has increased between the five-year periods 1997-2001 and 2000-2004 and the fertility rate for Aboriginal women aged less than 25 years has decreased slightly.

Figure 6: Age specific fertility rates by Aboriginal and Torres Strait Islander identification, ACT resident women, 1997 - 2004



	15-19 yrs	20-24 yrs	25-29 yrs	30-34 yrs	35 yrs and over
Aboriginal and Torres Strait Islander (1997-2001)	38.5	76.7	75.7	64.3	28.6
Aboriginal and Torres Strait Islander (2000-2004)	36.5	71.7	87.8	71.4	36.5
Non Aboriginal and Torres Strait Islander (2002)	11.6	36.3	93.4	106.4	21.4

Note: 2001 population figures were used to calculate rates for Aboriginal and Torres Strait Islander women.
1997-2001 and 2000-2004 pooled data were used to calculate rates for Aboriginal and Torres Strait Islander women.
Non-Aboriginal and Torres Strait Islander rates are for 2002.

Source: ACT Maternal and Perinatal Data Collection, 1997 - 2004 data

Approximately nine out of ten Aboriginal and Torres Strait Islander women (87.9%; 95% CI 84.4 - 91.4) who gave birth in the ACT between 2000 and 2004 gave birth at a public hospital compared with just over six out of ten non-Aboriginal and Torres Strait Islander women (65.8%; 95% CI 65.2 – 66.4). Eleven per cent (11.2%; 95% CI 7.8 – 14.6) of Aboriginal and Torres Strait Islander women gave birth in an ACT private hospital compared with thirty-four per cent (33.6%; 95% CI 33.0 – 34.2) of non-Aboriginal and Torres Strait Islander women.

Table 69: Type of birth facility where women gave birth by Aboriginal and Torres Strait Islander identification by state of residence, ACT, 2000 - 2004

	Aboriginal and Torres Strait Islander women						Non-Aboriginal and Torres Strait Islander women	
	ACT resident		Non-ACT resident		Total		Total	
	No.	%	No.	%	No.	%	No.	%
ACT Public Hospital	208	86.7	82	91.1	290	87.9	15,127	65.8
ACT Private Hospital	29	12.1	8	8.9	37	11.2	7,714	33.6
Home birth/born before arrival	3	1.3	0	0.0	3	0.9	141	0.6
Total	**240**	**100.0**	**90**	**100.0**	**330**	**100.0**	**22,982**	**100.0**

Note: Excludes 77 women for whom Aboriginal and/or Torres Strait Islander identification was not stated.

Source: ACT Maternal and Perinatal Data Collection, 2000 – 2004 data

Six ACT resident Aboriginal and Torres Strait Islander women had a multiple birth between 2000 and 2004. This represents 2.5% of all ACT resident Aboriginal and Torres Strait Islander births and is similar to the percentage of multiple births for non-Aboriginal and Torres Strait Islander ACT resident women (1.7%) for the same period.[19]

The majority of Aboriginal and Torres Strait Islander women (64.5%) who gave birth in the ACT had a spontaneous onset of labour (Table 70). One in five women were induced in the ACT. There was no difference in the induction rate for Aboriginal and Torres Strait Islander women. Similar percentages of women had no labour, that is they had an elective caesarean section (Aboriginal and Torres Strait Islander women 13.9%; non-Aboriginal and Torres Strait Islander women 13.7%).

Table 70: Onset of labour by Aboriginal and Torres Strait Islander identification, ACT, 2000 - 2004

	Aboriginal and Torres Strait Islander women		Non-Aboriginal and Torres Strait Islander women	
	No.	%	No.	%
Spontaneous	213	64.5	14,968	65.1
Induced	71	21.5	4,870	21.2
No Labour	46	13.9	3,144	13.7
Total	**330**	**100.0**	**22,982**	**100.0**

Note: Excludes 77 women for whom Aboriginal and Torres Strait Islander identification was not stated.

Eight records for non-Aboriginal and Torres Strait Islander women where onset of labour was not stated have been included with 'Spontaneous'.

Source: ACT Maternal and Perinatal Data Collection, 2000 – 2004 data

Two thirds of Aboriginal and Torres Strait Islander women (66.1%) who gave birth in the ACT had a normal birth (Table 71) and a quarter (23.9%) had a caesarean section. These rates were similar to those for non-Aboriginal and Torres Strait Islander women. The number of instrumental births was significantly lower among Aboriginal and Torres Strait Islander women (10.0%; 95% CI 6.8 - 13.2) compared to non-Aboriginal and Torres Strait Islander women (13.7%; 95% CI 13.3 – 14.1). The percentage of caesarean section births for non-ACT resident Aboriginal women was significantly higher (37.8%; 95% CI 27.8 – 47.8) than for ACT resident Aboriginal women (18.8%; 95% CI 13.8 - 23.7).

Table 71: Method of birth by Aboriginal and Torres Strait Islander identification, ACT, 2000 - 2004

	Aboriginal and Torres Strait Islander women		Non-Aboriginal and Torres Strait Islander women	
	No.	**%**	**No.**	**%**
Normal birth	218	66.1	14,263	62.1
Caesarean Section	79	23.9	5,571	24.2
Instrumental birth	33	10.0	3,148	13.7
Total	**330**	**100.0**	**22,982**	**100.0**

Note: For method of birth "other" has been recoded to normal birth.

Excludes 77 women for whom Aboriginal and Torres Strait Islander identification was not stated.

There were less than five vaginal breech births for Aboriginal women during 2000-04, these were included in "Normal birth".

Source: ACT Maternal and Perinatal Data Collection, 2000 – 2004.

The average postnatal length of stay in hospital for Aboriginal and Torres Strait Islander women (3.4 days) was only slightly lower than that for non-Aboriginal and Torres Strait Islander women (3.7 days) in 2004.[13]

Four in ten (42.9%) of ACT resident Aboriginal and Torres Strait Islander women who gave birth during 2000 - 2004 reported that they smoked during pregnancy (Table 72). This was significantly higher than the percentage of non-Aboriginal ACT resident women (13.8%, $p<0.05$). Seven in ten Aboriginal women who smoked during pregnancy reported that they smoked 10 or more cigarettes per day (70.9%).

Table 72: Smoking status during pregnancy by Aboriginal and Torres Strait Islander identification, ACT residents, 2000 - 2004

	Aboriginal and Torres Strait Islander		Non-Aboriginal and Torres Strait Islander	
Smoked during pregnancy	**No.**	**%**	**No.**	**%**
Smokers	103	42.9	2,715	13.8
Non smokers	133	55.4	16,490	83.9
Not stated	4	1.7	455	2.3
Total	**240**	**100.0**	**19,660**	**100.0**

Note: Sixty-nine records for which Aboriginal and Torres Strait Islander identification was not stated are excluded.

Source: ACT Maternal and Perinatal Data Collection, 2000 – 2004

Two thirds of Aboriginal women aged less than 20 years who gave birth during 2000 - 2004 reported that they had smoked during pregnancy (Table 73). This reduced to four in ten women aged over 20 years.

Table 73: Smoking status during pregnancy by age group for Aboriginal and Torres Strait Islander women, ACT residents, 2000 - 2004

	Under 20 years		20-34 years		Over 35 years		Total	
Smoked during pregnancy	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Smokers	24	68.6	70	38.5	9	39.1	103	42.9
Non smokers	11	31.4	109	59.9	13	56.5	133	55.4
Not stated	0	0.0	3	1.6	1	4.3	4	1.7
Total	**35**	**100.0**	**182**	**100.0**	**23**	**100.0**	**240**	**100.0**

Note: Sixty-nine records for which Aboriginal and Torres Strait Islander identification was not stated are excluded. Due to rounding of percentages some totals may not equal 100%.

Source: ACT Maternal and Perinatal Data Collection, 2000 – 2004

The relationship between smoking during pregnancy and low birthweight has been well documented, with the proportion of low birthweight babies being higher among women who smoked during pregnancy compared with women who did not smoke.[20] As shown in Table 72, 42.9% of Aboriginal women who gave birth during 2000-04 reported that they smoked during pregnancy. The average birthweight for babies born during 2000-04 to Aboriginal ACT resident women who smoked during pregnancy was 3,004 grams, significantly less than for babies born to non-smokers (3,315 grams, p=0.00).[21]

4.2 Babies characteristics

Three hundred and thirty eight babies were born to Aboriginal and Torres Strait Islander women between 2000 and 2004. Ninety-eight per cent (97.9%) of these were live born and seven were fetal deaths.

Ninety-five per cent (95.3%) of births were singleton births with the remaining five per cent being multiple births (4.7%) (Table 74). Of the multiple births all were twins.

Over nine in ten babies were vertex presentation (the first presenting part was the crown of the head), five per cent (4.7%) were breech (the first presenting part was the buttocks) and the remainder (0.6%) were face, brow or other (usually compound presentation eg. hand and head).

Table 74: Babies' characteristics by Aboriginal and Torres Strait Islander identification, ACT, 2000 - 2004

		Aboriginal and Torres Strait Islander women		Non- Aboriginal and Torres Strait Islander women	
		No.	**%**	**No.**	**%**
Sex	Male	166	49.1	12,108	51.6
	Female	172	50.9	11,369	48.4
	Total	**338**	**100.0**	**23,477**	**100.0**
Plurality	Singleton	322	95.3	22,501	95.8
	Multiple births	16	4.7	976	4.2
	Total	**338**	**100.0**	**23,477**	**100.0**
Presentation	Vertex	320	94.7	21,963	93.6
	Breech	16	4.7	1,222	5.2
	Other (including Face & Brow)	2	0.6	221	0.9
	Not Stated	0	0.0	71	0.3
	Total	**338**	**100.0**	**23,477**	**100.0**
Birthweight	Less than 1,500 grams	31	9.2	414	1.8
	1,500 to 2,499 grams	43	12.7	1,330	5.7
	Greater than 2,500 grams	264	78.1	21,729	92.6
	Not stated	0	0.0	4	0.0
	Total	**338**	**100.0**	**23,477**	**100.0**
Gestational age	Less than 31 weeks	34	10.0	477	2.1
	32 to 36 weeks	41	12.1	1,606	6.8
	37 weeks or more	263	77.8	21,391	91.1
	Not stated	0	0.0	3	0.0
	Total	**338**	**100.0**	**23,477**	**100.0**

Note: The Maternal Perinatal Data Collection uses the mother's Aboriginal and Torres Strait Islander identification to identify babies who are Aboriginal and Torres Strait Islander. Therefore underreporting may occur.

Excludes babies born to 77 women for whom Aboriginal and/or Torres Strait Islander identification was not stated.

Source: ACT Maternal Perinatal Data Collection, 2000 – 2004 data

A significantly higher percentage of babies born to Aboriginal and Torres Strait Islander women in the ACT weighed less than 2,500 grams (21.9%; 95% CI 17.5 – 26.3) compared with babies born to non-Aboriginal and Torres Strait Islander women (7.5%; 95% CI 7.1 – 7.8). However, the majority of the low birthweight babies were born to non-ACT residents. Fifty-five per cent (55.4%) of babies weighing less than 2,500 grams born to Aboriginal and Torres Strait Islander women were for non-ACT residents.[19] The average birthweight for babies born to ACT residents who identified as Aboriginal was significantly higher (3,179 grams; p=0.00) than non-ACT residents (2,583 grams).

Thirteen per cent (13.4%; 95% CI 9.2 – 17.7) of babies born to Aboriginal and Torres Strait Islander women who were ACT residents weighed less than 2,500 grams. This rate was significantly higher than the rate for non-Aboriginal and Torres Strait Islander ACT resident women (5.9%; 95% CI 5.6 - 6.2).

Fourteen per cent (14.2%; 95% CI 9.9 – 18.6) of babies born to Aboriginal and Torres Strait Islander women who were ACT residents were born at less than 37 weeks gestation. This rate was significantly higher than the rate for babies of non-Aboriginal and Torres Strait Islander ACT resident women (7.3%; 95% CI 6.9 – 7.6).

The rate of low birthweight and pre-term babies being born to Aboriginal women increased slightly, but not significantly, since the 1997-2001 reporting period (less than 2,500 grams - 9.2%; 95% CI 5.4 - 12.9; less than 37 weeks - 11.4%; 95% CI 7.2 – 15.5).[22] Fluctuations in the percentage of low birthweight babies are expected given the small numbers of Aboriginal women giving birth in the ACT.

5 ACT MATERNAL PERINATAL DATA COLLECTION

The Population Health Research Centre (PHRC) is responsible for the data management, analysis and reporting of the ACT Maternal Perinatal Data Collection (ACT MPDC). The Centre is part of the Health Improvement Branch (HIB) within the Population Health Division of ACT Health.

The publication of reports in consultation with key stakeholders using data from the collection is a key performance indicator of the PHRC. “Maternal and perinatal health in the ACT” reports have been developed in consultation with the ACT Maternal Perinatal Information Network (ACT MPIN) and published by ACT Health in the Health Series since 1998.

Computerisation of the collection is a major goal of the PHRC and the network. There have been two information systems used in the ACT for the collection of the ACT MPDC over the last ten years. Two new information systems are to be implemented later this year.

The first information system was an Access database called “OBICARE” that was used to collect the information for the ACT MPDC and other clinical data at The Canberra Hospital (TCH) from October 1996 to October 2002 and the second was the Perinatal And Newborn Data Access (PANDA) information system that was used from November 2002 to November 2004.

Details of two information systems, Birthing Outcomes System and BirthPac that are being introduced into ACT Hospitals are presented below.

The Canberra Hospital (TCH) is currently planning for the implementation of the Birthing Outcomes System (BOS). BOS is a clinical management information system designed to capture details about babies born and the women who give birth. BOS includes information for the antenatal, birth and the postnatal periods. BOS will enable collection of local (ACT MPDC) and national data such as Australian Council on Healthcare Standards (ACHS) Clinical Indicators, Baby Friendly Hospital Initiative (BFHI) Indicators, Women's Hospitals Australasia (WHA) indicators as well as streamlining hospital reporting and research opportunities.

The Calvary Hospitals (Calvary Public, Calvary Private and Calvary John James) are currently implementing BirthPac. BirthPac is an obstetrics reporting package which enables an obstetric unit to easily and accurately collect, analyse and report on data covering mothers, births and infants. Bearing in mind the busy nature of obstetric units, BirthPac assists with the necessary recording of comprehensive medical information on obstetric events during the progression of the birth process. Using this information BirthPac produces statutory and administrative reports as well as extensive statistical reports to aid in improving the clinical services provided.

5.1 Scope of the data

The scope of the ACT MPDC includes data on all births, both live and fetal deaths, of at least 20 weeks gestation or at least 400 grams in birthweight, that occur in hospitals, birth centres and in the community within the ACT. Therefore the ACT MPDC includes births that occur in the ACT to both ACT residents and non-ACT residents. These data contain the Perinatal National Minimum Data Set[23] that is reported annually to the National Perinatal Statistics Unit.

5.1.1 Data completeness

The completeness of the records in the ACT MPDC is dependent on notification of births to the collection. To ensure that all hospital births are reported to the ACT MPDC, the collection is linked to the ACT Admitted Patient Care (ACT APC) data collection and missing hospital records are identified. A request is then made to each of the ACT hospitals to provide an ACT Midwives Data Collection Form (ACT MDCF) for those missing records. The PHRC also communicates with home birth midwives to maximise the collection of births that occur within the ACT community.

Comparisons between the Australian Bureau of Statistics (ABS) Birth reports and the figures obtained in this report provide an indication of the completeness of the ACT MPDC. The different methods of collection described in the follow paragraphs will account for small differences in the numbers between the two collections. The difference between ABS reported registered births (4,083) and the ACT MPDC reported births (4,111) for ACT residents in 2004 were 28 births.

The ABS reports on registered births in a calendar year to women whose usual area of residence is the ACT, irrespective of where the birth occurs. Therefore births occurring in 2002 (0.2%) or 2003 (9.8%) that are registered in 2004[1] are included, and births occurring in 2004 that are registered in the following year are not included. In the ACT, there were a total of 4,174 registered births with 2,156 registered male births and 2,018 registered female births in 2004.[1] Among these registered births there were 91 births to ACT residents where the births were registered in other states.[1] Therefore the ABS reports 4,083 registered births to ACT residents where the births occurred in the ACT.

The ACT MPDC aims to collect information for all births that occur in the ACT during a calendar year. The ACT MPDC showed that during 2004 there were a total of 4,111 births with 2,135 male births and 1,976 female births to ACT residents. A further 815 births to non-ACT residents were reported to the collection for 2004 with 425 males and 390 females. The ABS reports 842 ACT birth registrations to non-ACT residents for 2004.[1]

5.2 Methods

This methods section describes the processes used to analyse or test the data contained in this report and the conventions used to report on the statistics.

The analysis for this report was conducted using an SPSS 15.0 syntax file. Fertility rates and confidence intervals were calculated in Excel 2000.

Results described as statistically significant are significant at the $p<.05$ level and where appropriate, 95% confidence intervals are included in the text of the report. A confidence interval is a computed interval with a given probability (for example, 95%) that a true value of a variable, such as a rate, mean or proportion is contained within the interval. When the confidence intervals of two estimated values do not overlap, the values are statistically different.

Differences between means (averages) were assessed using t-tests. The t-test assesses whether the means of two groups are statistically different from each other. Results were evaluated at the $p<0.05$ level.

A high percentage of non-ACT residents give birth in the ACT (2004: 16.3%) therefore where population rates are presented, for example smoking during pregnancy rates, these rates include only ACT residents who have given birth in the ACT. It does not include ACT residents who have given birth in another jurisdiction. Unless otherwise specified, all other statistics represent all births that occur in the ACT, including those to non-ACT residents.

The number of Aboriginal and Torres Strait Islander mothers who give birth in the Australian Capital Territory is small, and the proportion fluctuates from year to year, making comparisons difficult. In 2004, 54 of the 73 Aboriginal or Torres Strait Islander women who gave birth in the Australian Capital Territory were Australian Capital Territory residents.

To protect confidentiality, it is ACT Health policy to suppress the value of cells where the number in a specific category is less than five. Where the suppressed number or percentage can be calculated from the totals the next lowest number is also suppressed. These practices have been implemented throughout the report. Categories may be aggregated or multiple years of data combined to avoid small numbers and to provide more reliable statistics.

Due to the rounding of percentages some percentage totals may not add up to 100.0%. However, the total is still displayed in the table as 100.0. The table will also have a note to indicate where this occurs.

Fetal, neonatal and perinatal death rates are calculated using the definitions provided in the glossary and the following methodology:

- Fetal death rate (per 1,000 total births)

  = Number of fetal deaths x 1,000/ (total live births + fetal deaths)

- Neonatal death rate (per 1,000 live births)

  = Number of neonatal deaths x 1,000/ total live births

- Perinatal death rate (per 1,000 total births)

  = (Number of neonatal deaths + fetal deaths) x 1,000/(total live births + fetal deaths)

It should be noted that differences in the perinatal death rates published by the Australian Bureau of Statistics (ABS) and the ACT MPDC reflect three important differences in the methods used by each organisation when reporting these rates:

1. The ABS reports deaths by the year of death registration, while the ACT MPDC reports deaths by year of birth.
2. The ABS applies a different interpretation of the birthweight and gestational age criteria than the ACT MPDC, such that fetuses or infants weighing less than 400 grams in birthweight that had reached 20 completed weeks of gestation would not be included in the ABS reports. The MPDC uses the Perinatal Minimum Data Set criteria of at least 20 weeks gestation or 400 grams in birthweight.
3. The ABS reports perinatal deaths irrespective of the place of birth according to the usual state of residence of the mother, so the ABS collection may include deaths to ACT residents where the birth occurred outside of the ACT. The ACT MPDC reports on perinatal deaths to ACT residents who gave birth in the ACT.

5.2.1 The data

The ACT Maternal Perinatal Data Collection (ACT MPDC) is initially managed in an Access database. All data linkage and data quality issues are managed in individual year databases. The current individual year Access database is considered to be the master copy, with data cleaning edits done only in the master copy. Records from the ACT MPDC are exported from Access and imported into an SPSS individual year data file. If late edits are required the changes are recorded in an Access table, then an SPSS syntax is generated for the specific edits and individual year SPSS data file is updated.

An overall SPSS data file contains records from multiple years to facilitate reporting on the data over time. Generally the files that are added to the multiple years SPSS data file have had the majority of edits completed before the data is combined. Any late data edits are updated in the multiple year SPSS data files using the SPSS “update” function.

The multiple years SPSS data file is analysed in SPSS for this report using an SPSS reporting syntax.

5.2.2 Data quality

Data quality is controlled at the data entry stage by the validation of each data item, using drop down boxes that contain the coded options.

Extensive data cleaning of both mothers’ and babies’ personal identifier numbers has improved data linkage between the ACT MPDC and the ACT Admitted Patient Care (ACT APC) data collection. The data cleaning is managed by a series of queries and reports from the database using the linked data. Where possible, missing data were obtained from ACT APC data collection or by direct request to the medical record departments or homebirth midwife.

The sources of death data used to validate information on perinatal deaths are the:

- ABS death data and tables for the same year as the birth and following year;
- ACT Admitted Patient Care data collection for the same year as the birth and either the following six months or twelve months depending on data availability;
- post mortem data from the ACT Anatomical Laboratory;
- Centre for Newborn Care database;
- OBICARE (1996-2002) or PANDA (2002-2004) databases for The Canberra Hospital births and the ACT Midwives Data Collection for other ACT hospitals;
- medical record by request to Medical Record Department where inconsistencies occur;
- de-identified list of perinatal deaths from the ACT Registrar General for Births and Deaths Registry, and
- request to ACT Registrar General for Births and Deaths Registry if unable to identify a previously reported infant death.

5.2.3 Record linkage

Record linkage of the ACT Maternal Perinatal Data Collection (ACT MPDC) and ACT Admitted Patient Care (ACT APC) data collection is managed in an Access database. The key linking data items are the Personal Identifying Number (PIN) and the Hospital Identification Number. The combined data items give a unique identifying number for linking to specific hospitals. Records cannot be tracked if the patient discharges and is readmitted to another hospital.

The purposes of linking the data are fourfold:

- to correct Personal Identifier Numbers (PIN or UR Numbers) in the original ACT MPDC;
- to identify missing records in the collection (each hospital is requested to resubmit an ACT Midwives Data Collection Form for the missing records to ensure the collection is as complete as possible);
- to extract information on congenital anomalies, maternal and perinatal morbidity and mortality, and procedures occurring during hospitalisation; and
- to improve data completeness, by replacing missing or not stated data values in the collection with values in the same or similar data item from the ACT APC data collection.

Extensive checking and data cleaning on the PIN improves the accuracy of record linking on the available records. Homebirths for the mothers and babies records are excluded from the record linking process, as there are no hospital admissions for these births. The baby records for fetal deaths have also been excluded as the details of fetal deaths are held in the mother's record. In 2004, the proportion of linked mothers' and babies' records from the available records was 99.9% and 99.5% respectively.

5.2.4 Recoding of data items

Some data items require recoding if originally collected in more detail than required for provision of national data and reporting or if the collected codes differ from the data specifications. For example, place of birth is collected at the specific hospital level then recoded to provide the place of birth by the type of birth facility. The data item for the "responsibility for antenatal care" was collected with different descriptions in the ACT Midwives Data Collection Form and the OBICARE program. The details of the data recodes from OBICARE are presented in the following tables.

Table 75: Recodes from OBICARE for the responsibility of antenatal care, ACT, 1997 - 2001

OBICARE Description	Recoded for reporting
Public Hospital - high risk clinic	Antenatal clinic
Public Hospital - low risk clinic	Antenatal clinic
Birthing Centre protocols	Birthing Centre/Canberra midwifery program
Canberra midwifery program	Birthing Centre/Canberra midwifery program
Private GP obstetrician	GP
Public hospital midwives clinic	Midwife
Private midwifery practitioner	Midwife
Private specialist obstetrician	Obstetrician
Shared care with Birth Centre	Shared care
Shared care between high risk clinic and other	Shared care
Shared care between hospital and private obstetrician	Shared care
Shared care between hospital and GP	Shared care
Shared care between GP and midwife	Shared care
Private midwife and private medical practitioner	Shared care

Note: OBICARE is an Access database used to collect The Canberra Hospital Maternity Units data. Shared care with Birth Centre was recoded to Birth Centre / CMP for 1997 data. Recoding error corrected for the 1997 - 2001 report.

Source: ACT Maternal Perinatal Data Collection (ACT MPDC)

Table 76: Labels and descriptions from ACT MDCF for responsibility of antenatal care, ACT, 1997 - 2001

ACT MDCF Description	Label for reporting
Antenatal clinic	Antenatal clinic
General practitioner	GP
Midwife	Midwife
Obstetrician	Obstetrician
Shared care between two or more clinicians. For example obstetrician and GP ticked on the form	Shared care

Note: ACT MDCF stands for ACT Midwives Data Collection Form.

Source: ACT Maternal Perinatal Data Collection

All categorical data items from OBICARE or PANDA were recoded from the computer system's unique reference number to the NHDD codes and/or to more specific ACT Maternal Perinatal Data Collection (ACT MPDC) codes.

5.3 Data sources

The ACT MPDC presented in this report includes data from a variety of sources, including the:

- ACT Midwives Data Collection Form for both Calvary Public and Private Hospitals, John James Memorial Hospital and homebirth midwives;
- OBICARE, an Access database containing The Canberra Hospital (TCH) maternal and perinatal information from 1996 to 2002;
- PANDA, a web based application attached to an SQL database containing The Canberra Hospital (TCH) maternal and perinatal information from 2002 to 2004;
- ACT Admitted Patient Care Data Collection; and
- ACT Death Data from the ACT Death Registry and Australian Bureau of Statistics (ABS).

5.3.1 ACT Midwives Data Collection Form

Midwives complete the ACT Midwives Data Collection Form (ACT MDCF) in all ACT birth facilities, except TCH where data was entered directly into a database (see Section 5.3.2). The midwife caring for the mother and baby completes sections of the form at the initial admission, when the baby is born, and on discharge from the birth facility. Following discharge of the mother and baby, the forms are sent to the Medical Records Department, and then sent to the PHRC for data entry, collation, analysis and reporting.

The form was revised during 1998 and introduced in January 1999. The ACT Maternal Perinatal Information Network (MPIN) made two further revisions to the form in November 2000 and April 2002. In 2000, layout changes were made and the neonatal morbidity requiring treatment section was removed. Codes were changed for the method of induction and augmentation to comply with the National Health Data Dictionary (NHDD) Version 9. No other data items or codes were changed in the November 2000 revision.

In 2002 data item code changes to the onset of labour and the resuscitation of baby were introduced to comply with the NHDD Version 10. Alcohol consumption and substance use in pregnancy questions, and two questions relating to previous birth by caesarean section were also added to the form. Layout changes and the removal of the date of completion of last pregnancy were required to accommodate the new questions.

The form was also revised in 2004 to change the collection of breastfeeding data in the ACT MPDC. The implementation of the 2004 revision occurred in January 2005, which is outside the reporting period for this report.

The most recent form revision was in 2006 to change the options for method of birth to comply with national requirements and to add a new data item for the collection of the Edinburgh Depression Score. The implementation of the 2006 revision occurred in January 2007.

Figure 7: ACT Midwives Data Collection Form for 1999 and 2000 data

ACT Midwives Data Collection Form

MOTHER

PIN (Mother's)

Mother's Birthdate

Suburb

Postcode

Admission Date

Family Status Separated 4; Married/Defacto 5; Divorced 3; Never Married 1; Widowed 2

Country of birth

Indigenous Status Not Indigenous 4; Aust. Aboriginal 1; Torres Strait Islander 2

Class of Patient Public 1; Private 2

PREVIOUS PREGNANCIES

0 No previous pregnancies

1 Yes

	Number	Last pregnancy Outcome
Live Births		1
Neonatal Deaths		2
Stillbirths		3
Spontaneous Abortions		4
Induced Abortions		5
Ectopic Pregnancies		6
Other		7

Date of completion of last pregnancy

Plurality of last pregnancy: Single 1 Multiple 2

THIS PREGNANCY

Gravidity **Parity**

Date of Last Menstrual Period

Clinically estimated gestation (weeks)

Maternal medical conditions while pregnant

Diabetes Mellitus; Epilepsy; Chronic Renal Disease; Cardiac Disease; Essential Hypertension; Other Condition

Obstetric Complications

APH - Placenta Praevia; Abruptio Placenta; APH - Other; Pre-eclampsia; Prelabour Ruptured Membranes; Gestational Diabetes; Threatened Abortion; Threatened Preterm Labour

Procedures and Operations

Number of Ultrasounds

Cardiotocography; Assisted Conception; Chorionic Villus Sampling; X-Ray; Amniocentesis < 20 wks; CT Scan; Amniocentesis > 20 wks; Cervical Suture

Responsibility for Antenatal Care	**No of visits**
Obstetrician 1	None 1
General Practitioner 2	1 to 5 2
Midwife (with max 2 GP) 3	6 to 10 3
Antenatal Clinic 4	11 to 15 4
Antenatal Clinic & GP 5	16 to 20 5
Other shared care 6	More than 20 6

Duration of pregnancy at first visit (wks)

s7613 PPCh2496(3/99)

BABY'S PLACE OF BIRTH

The Canberra Hospital 1; John James Memorial 5

TCH Birth Centre 2; National Capital Private 6

Calvary Public 3; Homebirth 7

Calvary Private 4; Born before arrival 8

Intended place of birth at onset of labour

Hospital 1; Birth Centre 2; Home 4

Was mother transferred Antenatally?

No 1; Prior to labour 2; During labour 3

Transferred FROM

Planned Homebirth 1; Another ACT hospital 3

Birth Centre 2; Interstate hospital 4

Reason for transfer

Did mother smoke during pregnancy? No 2

Yes 1 Average number of cigarettes per day during the second half of pregnancy

LABOUR, BIRTH AND PUERPERIUM

Onset and type of Labour

No Labour 1

Spontaneous 2

Spontaneous + Augmented 3

Induction 4

Method:

A.R.M. 1; Oxytocin 2; Prostaglandins 3

Reason for augmentation or induction

Analgesia / Anaesthesia None 1

Local 2; Spinal 5; Nitrous Oxide 2

Pudendal 3; General 6; IMI Narcotic 3

Epidural 4; Other 8

Presentation

Vertex 1; Face 3; Other (compound) 8

Breech 2; Brow 4

Method of Birth

Spontaneous 1; Caesarean Section 4

Forceps 2; Vacuum Extraction 5

Vaginal Breech 3; Other 8

Perineal status

Intact 1; 3° Laceration 4

1° Laceration 2; 4° Laceration 7

2° Laceration 3; Episiotomy 5

Was the vulva, vagina or perineum sutured?

Yes 1; No 2

Complications of Labour & Birth None

PPH; Fetal Distress

Retained Placenta; Cord Prolapse

Major Infection; Obstructed Labour

TYPE OF FEEDING

	at birth	on discharge
Breast	1	1
EBM	2	2
Formula	3	3

Breast feeding problems: Yes 1; No 2

(tick more than one type of feeding if needed)

Return this page of the completed form to:
Clinical Health Outcomes Centre
The Canberra Hospital

BABY

PIN (Baby's)

Baby's Birthdate

Birth Condition Live Birth 1; Stillbirth 2

Sex Male 1; Female 2; Indeterminate 3

Plurality Single 1; Twins 2; Triplets 3

Birth order (enter 1 if singleton birth)

Birth weight (grams)

Head circumference (cm)

Length (cm)

APGAR: 1 minute 5 minutes

Resuscitation - Active Measures None 1

Suction 2; IPPV - bag & mask 4

O_2 Therapy 3; IPPV - intubation 5

Laryngoscopy 7; External cardiac massage + ventilation 6

Resuscitation - Drug Therapy None 1

Narcotic antagonist 2; Adrenalin 4

Sodium Bicarbonate 3; Other drugs related to resuscitation 5

Admission to SCN / NICU

No 2; Yes 1; length of stay in days

Neonatal morbidity requiring treatment

Nervous system; Circulatory system

Respiratory system; Digestive system

Musculoskeletal system; Skin & subcutaneous

Endocrine or Metabolic disease; Chromosomal

Does the baby have birth defect(s)?

Yes 1; Suspected 3; No 2

Describe briefly - Complete a more detailed form

Autopsy Yes 1; No 2; N/A 3

DISCHARGE STATUS

Mother's Discharge

Baby's Discharge

	Mother	Baby
Discharged home	1	1
Midcall	2	2
Neonatal & Parent Support Service	3	3
Canberra Midwifery Program	4	4
Died	5	5
Transferred to QEII	6	6
Transferred to ACT Hospital	7	7
Transferred to Interstate Hospital	8	8

Midwife completing the form at birth

(print surname & initial) (date)

Midwife completing the form on discharge

(print surname & initial) (date)

Figure 8: ACT Midwives Data Collection Form for 2001 data

ACT Midwives Data Collection Form

MOTHER

PIN (Mother's)

Mother's Birthdate

Suburb

Postcode

Admission Date

Family Status: Separated 4; Married/Defacto 5; Divorced 3; Never Married 1; Widowed 2

Country of birth _____

Indigenous Status: Not Indigenous 4; Aust. Aboriginal 1; Torres Strait Islander 2

Class of Patient: Public 1; Private 2

PREVIOUS PREGNANCIES

0 No previous pregnancies

1 Yes

	Number	Last pregnancy Outcome
Live Births		1
Neonatal Deaths		2
Stillbirths		3
Spontaneous Abortions		4
Induced Abortions		5
Ectopic Pregnancies		6

Date of completion of last pregnancy

Plurality of last pregnancy: Single 1 Multiple 2

THIS PREGNANCY

Gravidity Parity (exclude this preg)

Date of Last Menstrual Period

Clinically estimated gestation (weeks)

Maternal medical conditions while pregnant

Diabetes Mellitus; Epilepsy; Chronic Renal Disease; Cardiac Disease; Essential Hypertension; Other Condition

Obstetric Complications

APH - Placenta Praevia; Abruptio Placenta; APH - Other; Pre-eclampsia; Prelabour Ruptured Membranes; Gestational Diabetes; Threatened Abortion; Threatened Preterm Labour

Procedures and Operations

Number of Ultrasounds

Cardiotocography; Assisted Conception; Chorionic Villus Sampling; X-Ray; Amniocentesis < 20 wks; CT Scan; Amniocentesis > 20 wks; Cervical Suture

Responsibility for Antenatal Care — No of visits

Obstetrician	1	None	1
General Practitioner	2	1 to 5	2
Midwife (with max 2 GP)	3	6 to 10	3
Antenatal Clinic	4	11 to 15	4
Antenatal Clinic & GP	5	16 to 20	5
Other shared care	6	More than 20	6

Duration of pregnancy at first visit (wks)

F001031100) ST613 H2496

BABY'S PLACE OF BIRTH

The Canberra Hospital 1; John James Memorial 5

TCH Birth Centre 2; National Capital Private 6

Calvary Public 3; Home 7

Calvary Private 4; Born before arrival 8

Intended place of birth at onset of labour: Hospital 1; Birth Centre 2; Home 4

Was mother transferred Antenatally? No 1; Prior to labour 2; During labour 3

Transferred FROM: Planned Homebirth 1; Another ACT hospital 3; Birth Centre 2; Interstate hospital 4

Reason for transfer

Did mother smoke during pregnancy? No 2; Yes 1 Average number of cigarettes per day during the second half of pregnancy

LABOUR, BIRTH AND PUERPERIUM

Onset and type of Labour — Method:

No Labour 3; Oxytocin 1

Spontaneous 1; Prostaglandins 2

Spontaneous + Augmented 4; A.R.M. 3

Induction 2; Other 4

Reason for augmentation or induction

Analgesia		Anaesthesia	
None	1	None	1
Nitrous Oxide	2	Local	2
IMI Narcotic	3	Pudendal	3
Epidural	4	Epidural	4
Spinal	5	Spinal	5
Other	8	General	6
		Other	9

Presentation

Vertex 1; Face 3; Other (compound) 8

Breech 2; Brow 4

Method of Birth

Spontaneous 1; Caesarean Section 4

Forceps 2; Vacuum Extraction 5

Vaginal Breech 3; Other 6

Perineal status

Intact 1; 3° Laceration 4

1° Laceration 2; 4° Laceration 7

2° Laceration 3; Episiotomy 6

Was the vulva, vagina or perineum sutured?

Yes 1; No 2

Complications of Labour & Birth — None

PPH; Fetal Distress; Retained Placenta; Cord Prolapse; Major Infection; Obstructed Labour

Return this page of the completed form to:
Clinical Epidemiology and Health Outcomes Centre
The Canberra Hospital

BABY

PIN (Baby's)

Baby's Birthdate

Birth Condition: Live Birth 1; Stillbirth 2

Sex: Male 1; Female 2; Indeterminate 3

Plurality: Single 1; Twins 2; Triplets 3

Birth order (enter 1 if singleton birth)

Birth weight (grams)

Head circumference (cm)

Length (cm)

APGAR: 1 minute; 5 minutes

Resuscitation - Active Measures: None 1

Suction 2; IPPV - bag & mask 4

O_2 Therapy 3; IPPV - intubation 5

Laryngoscopy 7; External cardiac massage + ventilation 6

Resuscitation - Drug Therapy: None 1

Narcotic antagonist 2; Adrenalin 4

Sodium Bicarbonate 3; Other drugs related to resuscitation 5

Admission to SCN / NICU

No 2; Yes 1; length of stay in days

Does the baby have birth defect(s)?

Yes 1; Suspected 3; No 2

Describe briefly - Complete a more detailed form

TYPE OF FEEDING

	at birth	on discharge	
Breast	1	1	Breast feeding problems
EBM	2	2	Yes 1; No 2
Formula	3	3	

(tick more than one type of feeding if needed)

DISCHARGE STATUS

Mother's Discharge

Baby's Discharge

	Mother	Baby
Discharged home	1	1
Midcall	2	2
Neonatal & Parent Support Service	3	3
Canberra Midwifery Program	4	4
Transferred to QEII	6	6
Transferred to ACT Hospital	7	7
Transferred to Interstate Hospital	8	8
Died	5	5

Autopsy Yes 1; No 2; N/A 3

Midwife completing the form at birth

_____ ____/____/____

(print surname & initial) (date)

Midwife completing the form on discharge

_____ ____/____/____

(print surname & initial) (date)

Figure 9: ACT Midwives Data Collection Form from June 2002 to 2004

ACT Midwives Data Collection Form

MOTHER

PIN (Mother's)

Mother's Birthdate

Suburb

Postcode

Admission Date

Family Status: Separated 4; Married/Defacto 5; Divorced 3; Never Married 1; Widowed 2

Country of birth ____________

Indigenous Status: Not Indigenous 4; Aust. Aboriginal 1; Torres Strait Islander 2

Classification of Patient: Public 1; Private 2

PREVIOUS PREGNANCIES

0 No previous pregnancies

1 Yes

	Number	Last pregnancy Outcome
Live Births		1
Neonatal Deaths		2
Stillbirths		3
Spontaneous Abortions		4
Induced Abortions		5
Ectopic Pregnancies		6

Plurality of last pregnancy: Single 1; Multiple 2

Was the last birth a caesarean section? Yes 1; No 2

Number of previous caesarean sections:

THIS PREGNANCY

Gravidity

Parity (exclude this preg)

Date of Last Menstrual Period

Clinically estimated gestation (weeks)

Maternal medical conditions while pregnant

Diabetes Mellitus; Epilepsy; Chronic Renal Disease; Cardiac Disease; Essential Hypertension; Other Condition

Obstetric Complications

APH - Placenta Praevia 1; Abruptio Placenta 2; Other (unspecified) 3; Pre-eclampsia; Gestational Diabetes; Threatened Abortion; Threatened Preterm Labour; Prelabour Ruptured Membranes

Procedures and Operations

Number of Ultrasounds

Cardiotocography; Assisted Conception; Chorionic Villus Sampling; X-Ray; Amniocentesis < 20 wks; CT Scan; Amniocentesis > 20 wks; Cervical Suture

Responsibility for Antenatal Care

Obstetrician 1; General Practitioner 2; Midwife (with max 2 GP) 3; Antenatal Clinic 4; BC or CMP Protocols 7; Shared care 6

No of visits: None 1; 1 to 5 2; 6 to 10 3; 11 to 15 4; 16 to 20 5; More than 20 6

Duration of pregnancy at first visit (wks)

BABY'S PLACE OF BIRTH

The Canberra Hospital 1; TCH Birth Centre 2; Calvary Public 3; Calvary Private 4; John James Memorial 5; National Capital Private 6; Home 7; Born before arrival 8

Intended place of birth at onset of labour: Hospital 1; Birth Centre 2; Home 4

Was mother transferred Antenatally? No 1; Prior to labour 2; During labour 3

Transferred FROM: Planned Homebirth 1; Birth Centre 2; Another ACT hospital 3; Interstate hospital 4

Reason for transfer

Did mother smoke during pregnancy? No 2; Yes 1 Average number of cigarettes per day during the second half of pregnancy

Alcohol consumption during pregnancy: No 2; Yes 1 Number of standard drinks per week

Was substance abuse documented? Yes 1; No 2

LABOUR, BIRTH AND PUERPERIUM

Onset and type of Labour

Spontaneous 1; Augmented: Yes 1 No 2; Induction 2; No Labour 3

Method: Oxytocin 1; Prostaglandins 2; A.R.M. 3; Other 4

Reason for augmentation or induction

Analgesia: None 1; Nitrous Oxide 2; IMI Narcotic 3; Epidural 4; Spinal 5; Other 8

Anaesthesia: None 1; Local to perineum 2; Pudendal 3; Epidural 4; Spinal 5; General 6; Other 8

Presentation

Vertex 1; Face 3; Other (compound) 8; Breech 2; Brow 4

Method of Birth

Spontaneous cephalic 1; Forceps 2; Vaginal Breech 3; Caesarean Section 4; Vacuum Extraction 5; Other 8

Perineal status

Intact 1; 1° Laceration 2; 2° Laceration 3; 3° Laceration 4; 4° Laceration 7; Episiotomy 5

Was the vulva, vagina or perineum sutured? Yes 1; No 2

Complications of Labour & Birth: None; PPH; Retained Placenta; Major Infection; Fetal Distress; Cord Prolapse; Obstructed Labour

Return completed form to
Population Health Research Centre
The Canberra Hospital

BABY

PIN (Baby's)

Baby's Birthdate

Birth Condition: Live Birth 1; Stillbirth 2

Sex: Male 1; Female 2; Indeterminate 3

Plurality: Single 1; Twins 2; Triplets 3

Birth order (enter 1 if singleton birth)

Birth weight (grams)

Head circumference (cm)

Length (cm)

APGAR: 1 minute; 5 minutes

Resuscitation - Active Measures: None 1; Suction 2; IPPV - bag & mask 4; O_2 Therapy 3; IPPV - intubation 5; External cardiac massage + ventilation 6

Laryngoscopy: Yes 1; No 2

Resuscitation - Drug Therapy: None 1; Narcotic antagonist 2; Adrenalin 4; Sodium Bicarbonate 3; Other drugs related to resuscitation 5

Admission to SCN / NICU: Yes 1; length of stay in days; No 2

Does the baby have birth defect(s)? Yes 1; Suspected 3; No 2

Describe briefly - Complete a more detailed form

TYPE OF FEEDING

	at birth	on discharge
Breast	1	1
EBM	2	2
Formula	3	3

Breast feeding problems: Yes 1; No 2

(tick more than one type of feeding if needed)

DISCHARGE STATUS

Mother's Discharge

Baby's Discharge

	Mother	Baby
Discharged home	1	1
Midcall	2	2
Neonatal & Parent Support Service	3	3
Canberra Midwifery Program	4	4
Transferred to QEII	6	6
Transferred to ACT Hospital	7	7
Transferred to Interstate Hospital	8	8
Died or Stillborn	5	5

Autopsy: Yes 1; No 2; N/A 3

Midwife completing the form at birth
______________________ ___/___/___
(print surname & initial) (date)

Midwife completing the form on discharge
______________________ ___/___/___
(print surname & initial) (date)

F0010304 02) S7613 h2496

5.3.2 OBICARE Data

The OBICARE application was a Microsoft Access Version 2 database that was used to collect data at The Canberra Hospital's Maternity Unit from 1997 until November 2002. The midwives caring for a mother and baby entered the data into OBICARE as the woman progressed through the preadmission, antenatal clinic, delivery suite/birth centre and postnatal ward.

Data for the ACT Maternal Perinatal Data Collection was extracted from OBICARE and recoded. This task was the responsibility of the data manager from the Population Health Research Centre. Data from 1997 to 2001 were extracted from OBICARE and added to the ACT MPDC.

5.3.3 PANDA data

The information system at The Canberra Hospital's Maternity Unit was revised and upgraded during 2002. A new database, called Perinatal and Newborn Data Access (PANDA) was implemented in November 2002. Data for 2003 and 2004 were extracted from PANDA for the ACT MPDC. Due to significant problems, the PANDA information system was decommissioned in November 2004 and The Canberra Hospital's Maternity Unit reintroduced the ACT Midwives Data Collection Form for the collection of the data for the ACT MPDC.

5.3.4 ACT Deaths Data

Initially the Australian Bureau of Statistics' ACT Deaths data was the only death data used to identify and provide information on ACT infant deaths (neonatal and post neonatal deaths). New arrangements are now in place to receive limited de-identified data for all ACT registered perinatal and infant deaths, from the Registrar General's Office. The use of both ACT deaths data sources ensures full detection of perinatal and infant deaths for babies born in the ACT.

Deaths registered outside the ACT for babies born in the ACT are not identified from ACT deaths data sources. The ABS produces a table that gives the number of perinatal deaths that occur in Australia using the state of death registration by place of birth data. From this table the number of babies that are born in the ACT who die outside the ACT can be identified. Additional information on these deaths can be sought from the Death Registry in that state or territory. The ACT has a very small number of babies (between none and five) that are born in the ACT who die outside the ACT each year.

5.3.5 ACT Admitted Patient Care Data Collection

Data from the ACT Admitted Patient Care (ACT APC) data collection are obtained from Information Management in the Information Services Branch of ACT Health. These data are converted into an Access database and linked to the ACT Maternal Perinatal Data Collection (ACT MPDC).

The hospital medical record departments code the hospital episode data in the ACT APC data collection, using International Classification of Disease (ICD) Version 10 codes.

The change of coding system from ICD-9-CM to ICD-10-AM occurred in the ACT APC data collection as of 1 July 1998. The 1999 data were coded, extracted and reported using ICD-10-AM code criteria. The ICD-10-AM codes were converted to ICD-9-CM codes using the code mapping files available from the National Centre for Classification in Health's Internet site. The reason for the conversion to the older version was to structure the reporting of the 1999 data to allow for some comparison to the ICD-9-CM codes published in the 1998 report.

5.4 Data items

5.4.1 Perinatal National Minimum Data Set

A National Minimum Data Set (NMDS) is a core set of data elements endorsed by the National Health Information Management Principal Committee for mandatory collection and reporting at a national level.[23] The Perinatal NMDS is a data set that includes information on live births and fetal deaths, of at least 20 weeks gestation or 400 grams in birthweight, occurring within Australia in hospitals, birth centres and the community.

Perinatal data items are developed or revised by the National Perinatal Statistics Unit (NPSU) in consultation with the National Perinatal Data Development Committee (NPDDC). The Committee recommends changes to definitions for perinatal data items and submits new perinatal data items to the Health Data Standards Committee (HDSC) for inclusion on METeOR, and to the Statistical Information Management Committee (SIMC) for inclusion in the Perinatal NMDS.[2]

State and Territory health authorities provide calendar year data to the NPSU for national collation and reporting, on an annual basis. Current definitions for perinatal data items are available in the National Health Data Dictionary[23] (NHDD) Version 13 and on METeOR online at http://meteor.aihw.gov.au/. The current Perinatal NMDS data items are listed in Table 77.

Table 77: Perinatal National Minimum Data Set

Data item	Data type	METeOR identifier
Birth event—birth method	code N	295349
Birth event—birth plurality	code N	269994
Birth event—birth presentation	code N	269945
Birth event—labour onset type	code N	269942
Birth event—setting of birth (actual)	code N	269937
Birth event—state/territory of birth	code N	270151
Birth—Apgar score (at 5 minutes)	code NN	289360
Birth—birth order	code N	269992
Birth—birth status	code N	269949
Birth—birth weight	total grams NNNN	269938
Episode of admitted patient care—separation date	DDMMYYYY	270025
Establishment—organisation identifier (Australian)	NNX[X]NNNNN	269973
Female (pregnant)—estimated gestational age	total weeks NN	269965
Person—area of usual residence	geographical location code (ASGC 2005) NNNNN	329147
Person—country of birth	code (SACC 1998) NNNN	270277
Person—date of birth	DDMMYYYY	287007
Person—Indigenous identification	code N	291036
Person—person identifier	XXXXXX[X(14)]	290046
Person—sex	code N	287316

Source: Australia's mothers and babies, 2004[2]

State and Territory health authorities also provide a number of data items to the NPSU that are contained in the NHDD but have not been identified as part of the minimum data set as well as some data items that are not currently in the NHDD or METeOR.

5.4.2 Current data items

Data items from the current ACT Midwives Data Collection Form are detailed below. Comparability with previous data items is discussed in the comments section of Table 78.

Data items that require ICD-10-AM coding on the forms are extracted where possible from the ACT Admitted Patient Care Data Collection. Examples of extracted ICD-10-AM data are the maternal conditions, the obstetric complications and congenital anomalies.

Table 78: List of data items from the current ACT Midwives Data Collection Form, 2007

No.	Data Item	Requested by NPSU	ACT Collection period	**Comments**
1	Form number – stamped on form in the Population Health Research Centre		1995 - ongoing	Filing number that is used to find the physical location of the form.
2	Mother's PIN (Personal Identifier Number)	✔	1991 - ongoing	
3	Mother's date of birth	✔	1991 - ongoing	
4	Mother's suburb of usual residence	✔	1991 - ongoing	
5	Mother's postcode of usual residence	✔	1991 - ongoing	
6	Admission date of mother	✔	1991 - ongoing	
7	Family status of mother	✔	1991 - ongoing	Previously collected as marital status (mother) using a different set of codes.
8	Country of birth of mother	✔	1991 - ongoing	Collected using 2 digit codes 1999 to 1993 (cob), ASCCSS codes from 1994 to 1998 (mcob) and SACC codes from 1999 (moth_cob).
9	Indigenous identification of mother	✔	1999-ongoing	From 1991 to 1993 collected as ethnic origin and from 1994 to 1998 collected as Aboriginal or non-Aboriginal. Since 1999 collected as Aboriginal and/or Torres Strait Islander identification of mother as per National Health Data Dictionary (NHDD) codes.
10	Accommodation status (Public/Private)	✔	1991 - ongoing	Previously collected as classification of patient (Public/Private)
11	Previous pregnancies (Yes/No)	✔	1991 – ongoing	
12	Total number of previous: Live births	✔	1991 – ongoing	
13	Neonatal deaths		1991 – ongoing	
14	Stillbirths (fetal deaths)	✔	1991 – ongoing	
15	Spontaneous abortions	✔	1991 – ongoing	
16	Induced abortions	✔	1991 – ongoing	
17	Ectopic pregnancies		1994 – ongoing	The total number of previous ectopic pregnancies was introduced in 1994. Other pregnancies was also added in 1994 but was discontinued in 2001.
18	Outcome of last pregnancy		1991 – ongoing	
19	Plurality of last pregnancy		1999 – ongoing	

No.	Data Item	Requested by NPSU	ACT Collection period	**Comments**
20	Was the last birth a caesarean section? (exclude this birth)		2002 - ongoing	The exclusion note was added in 2007.
21	Number of previous caesarean sections		2002 - ongoing	
22	Gravidity		1999 – ongoing	
24	Parity (exclude this preg.)	✔	1999 – ongoing	The “exclude current pregnancy” note was added in 2001.
25	Date of last menstrual period	✔	1991 – ongoing	
26	Maternal medical conditions while pregnant: Diabetes Mellitus	✔	1991 – ongoing	
27	Chronic Renal Disease	✔	1991 – ongoing	
28	Essential Hypertension	✔	1991 – ongoing	
29	Epilepsy	✔	1991 – ongoing	
30	Cardiac Disease	✔	1991 – ongoing	
31	Other conditions	✔	1991 – ongoing	
32	Edinburgh Depression Score		2007 – ongoing	Edinburgh Depression Score and the gestational age when tested.
33	Obstetric complications: APH	✔	1991 – ongoing	
34	Pre-eclampsia	✔	1991 – ongoing	Previously called Pregnancy Induced Hypertension changed in 1999.
35	Gestational Diabetes	✔	1991 – ongoing	
36	Threatened abortion	✔	1999 – ongoing	
37	Threatened preterm labour	✔	1999 – ongoing	
38	Prelabour ruptured membranes	✔	1991 – ongoing	Previously called Premature ruptured membranes (changed in 1999).
39	Procedures and operations: Number of ultrasounds		1999 – ongoing	Prior to 1999 ultrasound was collected as a yes or no field.
40	Cardiotocography (CTG)		1991 – ongoing	
41	Chorionic villus sampling (CVS)		1991 – ongoing	
42	Amniocentesis <20 weeks		1991 – ongoing	
43	Amniocentesis =>20 wks		1991 – ongoing	
44	Assisted conception		1999 – ongoing	
45	X-Ray		1991 – ongoing	
46	CT Scan		1991 – ongoing	
47	Cervical Suture		1991 – ongoing	
48	Responsibility for antenatal care		1991 – ongoing	A more extensive set of options was introduced in 1999.
49	Number of antenatal visits		1991 – ongoing	A more extensive set of options was introduced in 1999.
50	Duration of pregnancy at first visit		1991 – ongoing	
51	Place of baby's birth	✔	1991 – ongoing	

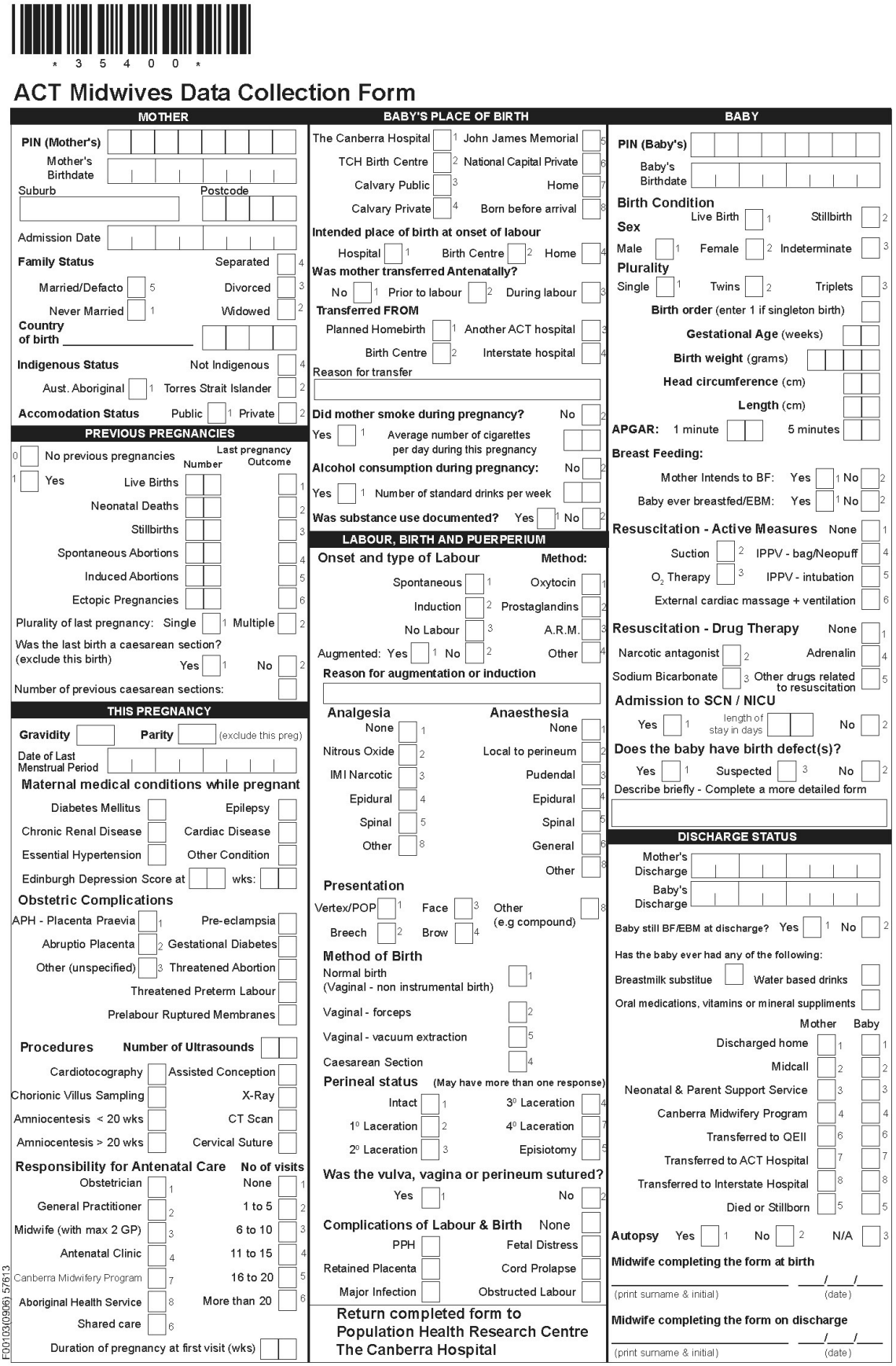
No.	Data Item	Requested by NPSU	ACT Collection period	**Comments**
52	Intended place of birth at onset of labour	✔	1999 – ongoing	Previously collected as emergency or intended admission.
53	Mother's transferred antenatally		1999 – ongoing	
54	Mother's transferred from		1999 – ongoing	
55	Mother smoked during pregnancy	✔	1999 – ongoing	
56	Average number smoked per day during this pregnancy	✔	1999 – ongoing	1999 to 2004 collected as average number smoked per day during the *second half of* pregnancy. Wording changed in 2005.
57	Alcohol consumption during pregnancy		2002 – ongoing	
58	Number of standard drinks per week		2002 – ongoing	
59	Was substance use documented?		2002 – ongoing	Substance abuse changed to substance use in 2005.
60	Onset of labour	✔	1991 – ongoing	Variety of changes in an attempt to improve data quality.
61	Augmented		1991 – ongoing	Variety of changes in an attempt to improve data quality.
62	Method of augmentation or induction (multiple data items)	✔	1991 – ongoing	Requested by the NPSU as two combined data items, one for method of augmentation and the other for method of induction.
63	Reason for augmentation or induction		1991 – ongoing	
64	Analgesia during labour	✔	1999 – ongoing	Epidural and pudendal blocks were collected earlier as part of the "other procedure' section. Requested by NPSU but as yet not provided due to data quality issues. Revision of data item in 2005-2007 to improve data quality.
65	Anaesthesia during labour	✔	1999 – ongoing	Requested by NPSU but as yet not provided due to data quality issues. Revision of data item in 2005-2007 to improve data quality.
66	Presentation	✔	1991 – ongoing	Changes to data options in 1999.
67	Method of birth	✔	1991 – ongoing	Changes to data options in 1999. Further changes to data options were introduced in 2007.
68	Perineal status	✔	1991 – ongoing	Changes to data options in 1999.
69	Vulva, vaginal or perineal sutures		1999 – ongoing	
70	Complications of labour and birth: None		1999 – ongoing	
71	PPH	✔	1991 – ongoing	
72	Retained placenta	✔	1999 – ongoing	
73	Major infection	✔	1999 – ongoing	
74	Fetal distress	✔	1999 – ongoing	
75	Cord prolapse	✔	1999 – ongoing	
76	Obstructed labour	✔	1999 – ongoing	

No.	Data Item	Requested by NPSU	ACT Collection period	**Comments**
77	Baby's PIN (Personal Identifier Number)	✔	1991 – ongoing	
78	Baby's birth date	✔	1991 – ongoing	
79	Birth condition	✔	1991 – ongoing	
80	Sex of baby	✔	1991 – ongoing	
81	Plurality	✔	1991 – ongoing	
82	Birth order (Rank)	✔	1991 – ongoing	
83	Gestational age (weeks)	✔	1991 – ongoing	Position of data item moved to the baby section of the form in 2005.
84	Birthweight	✔	1991 – ongoing	
85	Head circumference		1991 – ongoing	
86	Length		1999 – ongoing	
87	Apgar at 1 minute	✔	1991 – ongoing	
88	Apgar at 5 minutes	✔	1991 – ongoing	
89	Breast feeding: Mother intends to breast feed (yes/no) Baby ever breastfed/EBM (yes/no)		2005 – ongoing	Previously collected as type of feeding at birth (1999 – 2004).
90	Resuscitation: Active measures	✔	1991 – ongoing	Changes to data options in 1999. Laryngoscopy collected as a yes/no option from 1999 to 2004.
91	Drug therapy	✔	1991 – ongoing	Changes to data options in 1999.
92	Admission to SCN or NICU	✔	1999 – ongoing	
93	Length of stay in SCN or NICU	✔	1999 – ongoing	
94	Does the baby have birth defect(s)?	✔	1991 – ongoing	Collected as Congenital anomalies 1991-1998; the terminology changed in 1999.
95	Date of mother's discharge	✔	1991 – ongoing	
96	Date of baby's discharge	✔	1991 – ongoing	
97	Breast feeding: Baby still BF/EBM at discharge		2005 – ongoing	Previously collected as type of feeding on discharge (1999 – 2004).
98	Has the baby ever had any breastmilk substitutes; Water based drinks or oral medication, vitamins or mineral supplements.		2005 – ongoing	
99	Discharge status for mother	✔	1991 – ongoing	Changes to data options in 1999.
100	Discharge status for baby	✔	1991 – ongoing	Changes to data options in 1999.
101	Autopsy	✔	1999 – ongoing	

Note: NPSU is the National Perinatal Statistic Unit
Data items on the current ACT Midwives Data Collection Form (2007)

Source: ACT Maternal Perinatal Collection

Figure 10: ACT Midwives Data Collection Form for 2007 data



* 3 5 4 0 0 *

ACT Midwives Data Collection Form

MOTHER

PIN (Mother's)

Mother's Birthdate

Suburb

Postcode

Admission Date

Family Status
Married/Defacto 5 | Never Married 1 | Separated 4 | Divorced 3 | Widowed 2

Country of birth _____

Indigenous Status
Aust. Aboriginal 1 | Torres Strait Islander 2 | Not Indigenous 4

Accomodation Status
Public 1 | Private 2

PREVIOUS PREGNANCIES

0 No previous pregnancies

1 Yes

	Number	Last pregnancy Outcome
Live Births		1
Neonatal Deaths		2
Stillbirths		3
Spontaneous Abortions		4
Induced Abortions		5
Ectopic Pregnancies		6

Plurality of last pregnancy: Single 1 | Multiple 2

Was the last birth a caesarean section? (exclude this birth) Yes 1 | No 2

Number of previous caesarean sections:

THIS PREGNANCY

Gravidity **Parity** (exclude this preg)

Date of Last Menstrual Period

Maternal medical conditions while pregnant

Diabetes Mellitus | Epilepsy
Chronic Renal Disease | Cardiac Disease
Essential Hypertension | Other Condition
Edinburgh Depression Score at wks:

Obstetric Complications

APH - Placenta Praevia 1 | Pre-eclampsia
Abruptio Placenta 2 | Gestational Diabetes
Other (unspecified) 3 | Threatened Abortion
Threatened Preterm Labour
Prelabour Ruptured Membranes

Procedures **Number of Ultrasounds**

Cardiotocography | Assisted Conception
Chorionic Villus Sampling | X-Ray
Amniocentesis < 20 wks | CT Scan
Amniocentesis > 20 wks | Cervical Suture

Responsibility for Antenatal Care **No of visits**

Obstetrician	1	None	1
General Practitioner	2	1 to 5	2
Midwife (with max 2 GP)	3	6 to 10	3
Antenatal Clinic	4	11 to 15	4
Canberra Midwifery Program	7	16 to 20	5
Aboriginal Health Service	8	More than 20	6
Shared care	6		

Duration of pregnancy at first visit (wks)

F00103(09/06) 57613

BABY'S PLACE OF BIRTH

The Canberra Hospital 1 | John James Memorial 5
TCH Birth Centre 2 | National Capital Private 6
Calvary Public 3 | Home 7
Calvary Private 4 | Born before arrival 8

Intended place of birth at onset of labour
Hospital 1 | Birth Centre 2 | Home 4

Was mother transferred Antenatally?
No 1 | Prior to labour 2 | During labour 3

Transferred FROM
Planned Homebirth 1 | Another ACT hospital 3
Birth Centre 2 | Interstate hospital 4

Reason for transfer

Did mother smoke during pregnancy? No 2
Yes 1 Average number of cigarettes per day during this pregnancy

Alcohol consumption during pregnancy: No 2
Yes 1 Number of standard drinks per week

Was substance use documented? Yes 1 | No 2

LABOUR, BIRTH AND PUERPERIUM

Onset and type of Labour
Spontaneous 1 | Induction 2 | No Labour 3
Augmented: Yes 1 | No 2

Method:
Oxytocin 1 | Prostaglandins 2 | A.R.M. 3 | Other 4

Reason for augmentation or induction

Analgesia	Anaesthesia
None 1	None 1
Nitrous Oxide 2	Local to perineum 2
IMI Narcotic 3	Pudendal 3
Epidural 4	Epidural 4
Spinal 5	Spinal 5
Other 8	General 6
	Other 8

Presentation
Vertex/POP 1 | Face 3 | Other (e.g compound) 8
Breech 2 | Brow 4

Method of Birth
Normal birth (Vaginal - non instrumental birth) 1
Vaginal - forceps 2
Vaginal - vacuum extraction 5
Caesarean Section 4

Perineal status (May have more than one response)
Intact 1 | 3º Laceration 4
1º Laceration 2 | 4º Laceration 7
2º Laceration 3 | Episiotomy 5

Was the vulva, vagina or perineum sutured?
Yes 1 | No 2

Complications of Labour & Birth None
PPH | Fetal Distress
Retained Placenta | Cord Prolapse
Major Infection | Obstructed Labour

Return completed form to
Population Health Research Centre
The Canberra Hospital

BABY

PIN (Baby's)

Baby's Birthdate

Birth Condition
Live Birth 1 | Stillbirth 2

Sex
Male 1 | Female 2 | Indeterminate 3

Plurality
Single 1 | Twins 2 | Triplets 3

Birth order (enter 1 if singleton birth)

Gestational Age (weeks)

Birth weight (grams)

Head circumference (cm)

Length (cm)

APGAR: 1 minute 5 minutes

Breast Feeding:
Mother Intends to BF: Yes 1 No 2
Baby ever breastfed/EBM: Yes 1 No 2

Resuscitation - Active Measures None 1
Suction 2 | IPPV - bag/Neopuff 4
O_2 Therapy 3 | IPPV - intubation 5
External cardiac massage + ventilation 6

Resuscitation - Drug Therapy None 1
Narcotic antagonist 2 | Adrenalin 4
Sodium Bicarbonate 3 | Other drugs related to resuscitation 5

Admission to SCN / NICU
Yes 1 length of stay in days | No 2

Does the baby have birth defect(s)?
Yes 1 | Suspected 3 | No 2
Describe briefly - Complete a more detailed form

DISCHARGE STATUS

Mother's Discharge

Baby's Discharge

Baby still BF/EBM at discharge? Yes 1 | No 2

Has the baby ever had any of the following:
Breastmilk substitue | Water based drinks
Oral medications, vitamins or mineral suppliments

	Mother	Baby
Discharged home	1	1
Midcall	2	2
Neonatal & Parent Support Service	3	3
Canberra Midwifery Program	4	4
Transferred to QEII	6	6
Transferred to ACT Hospital	7	7
Transferred to Interstate Hospital	8	8
Died or Stillborn	5	5

Autopsy Yes 1 | No 2 | N/A 3

Midwife completing the form at birth
_____ (print surname & initial) ___/___/___ (date)

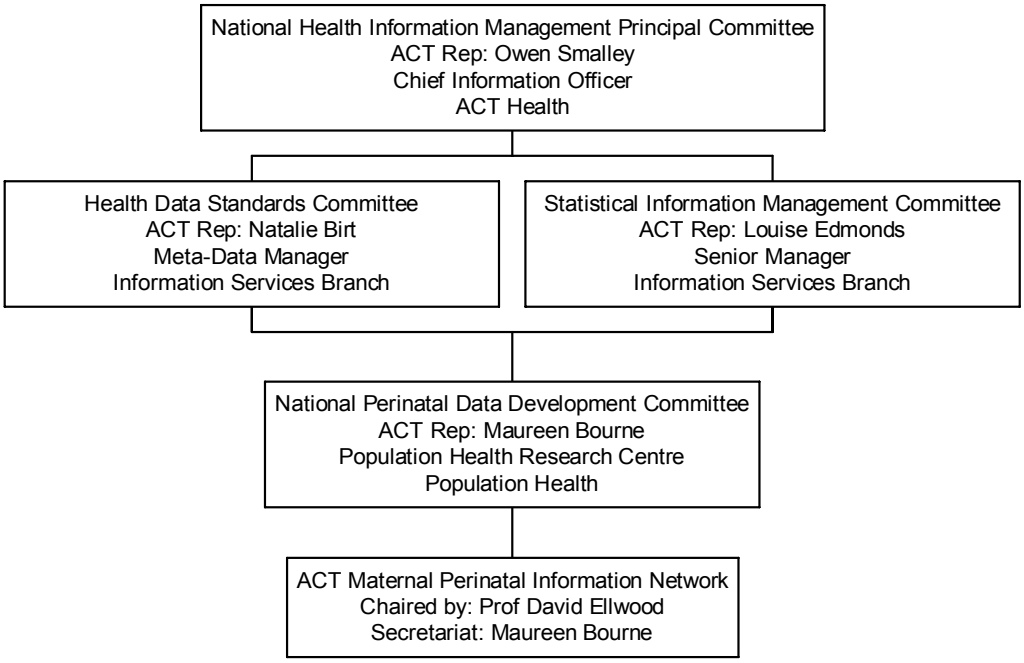
Midwife completing the form on discharge
_____ (print surname & initial) ___/___/___ (date)

5.5 Committees associated with Maternal Perinatal Health Information

5.5.1 Committee structure

The current structure of various committees and ACT representatives associated with Maternal Perinatal Health Information in the ACT are presented in Figure 11. There has been a reorganisation of the national committee structure with the National Health Management Information Group replaced by the National Health Information Management Principal Committee of Australian Health Ministers' Advisory Council (AHMAC). The Statistical Information Management Committee has been added to the committee structure and the National Health Data Committee has been replaced by the Health Data Standards Committee.

Figure 11: Committee structure for Maternal Perinatal Health Information, ACT, 2007



5.5.2 ACT Maternal Perinatal Information Network

The ACT Maternal Perinatal Information Network was formed in October 1998 following the successful work of the ACT Maternal Perinatal Status Working Group.

The membership includes a representative from each of the ACT birthing facilities, including the public and private ACT hospitals, Child, Family and Youth Health Services, the Information Management Unit, the Population Health Research Centre, the Health Policy unit, the Aboriginal and Torres Strait Islander Health Unit, a consumer representative and a homebirth midwife. The chairperson of the network is Professor David Ellwood.

The aims of the network are:

1. To encourage and facilitate communication about maternal and perinatal data information issues between service providers, policy makers, information managers, researchers and consumer representatives involved in Maternity and Perinatal Services in the ACT as well as nationally and internationally.

2. To improve the ACT Maternal and Perinatal Data Collection (ACT MPDC) and the reporting of the information from the collection within the ACT.

3. To promote the use of the ACT Maternal and Perinatal Data Collection for relevant research to guide policy development and underpin the development of evidence based policy and clinical decision making to improve Maternal and Perinatal outcomes in the ACT.

The objectives of the network are:

1. To contribute to the improvement of ACT Maternity and Perinatal Services based on sound evidence.

2. To improve the ACT Maternal and Perinatal Data Collection by:
   - using standardised definitions and codes that reflect clinical practice;
   - regular reviewing the relevance and coverage of data collected and the method of collection for the ACT Maternal Perinatal Data; and
   - computerising the ACT Maternal and Perinatal Data Collection using Australian standardised definitions and codes.
3. To have regular, timely and relevant publications on the Maternal and Perinatal Health in ACT, that includes:
   - Five yearly reports using the most currently available data;
   - Consultation with the network on the structure and content of reports; and
   - Relevant ad hoc reports by agreement with the Population Health Research Centre and the network.

The terms of reference of the network are:

- influence data collection and reporting issues in the ACT and nationally;
- set the scope of the information collected to include pregnancy to one year after birth. The time frame could be varied for specific subgroups, such as preterm infants or fetuses/infants with birth defects, to improve the collection of information;
- interact nationally through the National Perinatal Data Development Committee which is organised by the National Perinatal Statistic Unit;
- report to the Chief Health Officer through the Population Health Research Centre and have a reporting structure through the Chief Health Officer to the Portfolio Executive of ACT Health;
- report on the progress of the network and discuss data collection issues within each representative's area to both their supervisors and fellow workers.

5.5.3 National Perinatal Data Development Committee

The role of the National Perinatal Data Development Committee (NPDDC) is to undertake perinatal data development.[2] The NPDDC recommends changes to definitions for perinatal data items and submits new perinatal data items to the Health Data Standards Committee and to the Statistical Information Management Committee for inclusion in the Perinatal National Minimum Data Set. The membership of the NPDDC includes one representative from each State and Territory; the Australian Bureau of Statistics; the Perinatal Society of Australia and New Zealand; and the Director of the National Perinatal Statistics Unit.

5.5.4 Health Data Standards Committee

The Health Data Standards Committee (HDSC) is a standing committee of the National Health Information Management Principal Committee (NHIMPC). The HDSC was established under the Australian Health Ministers Advisory Council to oversee the development of health data standards.[24]

A major role of the Health Data Standards Committee is to assess data definitions proposed for inclusion in the National Health Data Dictionary (NHDD) and to make recommendations to the NHIMPC on revisions and additions to each successive version of the Dictionary. The National Health Data Dictionary, Version 13, 2006, contains the updated data definitions recommended for use in Australian health data collections. An online version of the dictionary is at http://www.aihw.gov.au/publications/index.cfm/title/10326.

5.5.5 Statistical Information Management Committee

The Statistical Information Management Committee (SIMC) advises on national health statistics such as data collection, storage, linkage and usage. The SIMC also develops and coordinates national minimum data sets. The SIMC develops the national health information development plan and oversees the direction development, review and implementation of the National Health Information Agreement. It also oversights METeOR, the electronic version of the National Health Data Dictionary. More information is available at http://www.aihw.gov.au/committees/simc/index.cfm.

5.5.6 National Health Information Management Principle Committee

The role of the National Health Information Management Principle Committee (NHIMPC) is to advise Australian Health Ministers Advisory Committee (AHMAC) on planning and management requirements and to manage and allocate resources to health information projects and working groups.

Key objectives of NHIMPC are to:

- advise AHMAC on national priorities in information management and technology;
- align the allocation of national resources with these national priorities and outcomes;
- accelerate development and adoption of information architectures and data standards;
- promote alignment of jurisdictional strategic plans and activities with agreed national priorities; and
- oversee national activities.

Additional information on this committee is available at http://www.ahmac.gov.au/site/membership.aspx#other.

6 NATIONAL AND STATE PUBLICATIONS

6.1 National publications

The **National Perinatal Statistics Unit** (NPSU), Australian Institute of Health and Welfare (AIHW), publishes national Australian data in a series of health reports. These series are:

- Perinatal Statistics Series
- Assisted Reproductive Technology (ART) Series
- Birth Anomalies Series
- Maternal Death Series
- Other publications

The most recent publications in these series are:

- Australia's mothers and babies 2004
  The full report is available at http://www.npsu.unsw.edu.au/ps18.pdf
- Assisted reproduction technology in Australia and New Zealand 2004
  The full report is available at http://www.npsu.unsw.edu.au/ART10%20report.pdf
- Recommendations for development of a new Australian Birth Anomalies System
  The full report is available at http://www.npsu.unsw.edu.au/birth anomalies final.pdf
- Maternal Deaths in Australia, 2000 – 2002
  The full report is available at http://www.npsu.unsw.edu.au/MD2002_02 17 Oct 2006.pdf
- Other publications such as the Smoking and pregnancy report is available at
  http://www.npsu.unsw.edu.au/Smoking%20and%20pregnancy%20for%20web.pdf

National contact:

Elizabeth Sullivan
AIHW National Perinatal Statistics Unit
Sydney Children's Hospital
Randwick Hospitals Campus
Randwick, Sydney, NSW

NPSU home Internet address is http://www.npsu.unsw.edu.au/ with the publications at http://www.npsu.unsw.edu.au/Publications.htm.

A list of AIHW health publications is available at http://www.aihw.gov.au/publications/health.html.

The **Australian Bureau of Statistics** (ABS) publishes reports on births, deaths and causes of infant and child deaths. These publications are annual reports that bring together statistics and indicators for births, perinatal deaths and infant deaths in Australia.

Births, Australia, cat. no. 3301.0

Deaths, Australia, cat. no. 3302.0

Causes of Death, Australia, cat. no. 3303.0

The State and territory figures for each publication are based on registered live births or registered deaths (either perinatal or infant) for the maternal usual state of residence.

The ABS home Internet address is at http://www.abs.gov.au/.

6.2 State publications

The states and territories in Australia produce publications on maternal and perinatal health status from their midwives data collections.

Australian Capital Territory:

The ACT has a series of publications on maternal and/or perinatal health status. These reports listed below are published in the Population Health Research Centre's (PHRC) Health Series:

Maternal and Perinatal Health in the ACT 1997 – 2001

Perinatal Deaths in the ACT 1991 – 2000

Maternal and Perinatal Health in the ACT 1999

ACT Maternal Perinatal 1998 Tables

ACT Maternal Perinatal 1997 Tables

Maternal and Perinatal Status, ACT, 1994 – 1996

ACT Maternal and Perinatal Health publications are available from the **ACT Health web sites** at http://www.health.act.gov.au/.
First select Publications from the side menu to open the ACT Health publications index. Select M from the index then select Maternal & perinatal health publications to list the publications.

Other states and territories' recent publications on maternal and/or perinatal health status are:

New South Wales:

2004 Mothers and Babies Report
http://www.health.nsw.gov.au/public-health/phbsup/mdc04.html

2003 Mothers and Babies Report
http://www.health.nsw.gov.au/public-health/phbsup/mdc03.html

Publications specific to maternal and/or perinatal health
http://www.health.nsw.gov.au/pubs/subs/sub_maternal.html

Internet site for a comprehensive list of NSW health publications
http://www.health.nsw.gov.au/pubs/index.html

Victoria:

Births in Victoria 2003 – 2004
http://www.health.vic.gov.au/perinatal/downloads/annrep0304.pdf

Birth Defects in Victoria 2003 – 2004
http://www.health.vic.gov.au/perinatal/downloads/bdr_report0304.pdf

The Consultative Council on Obstetrics and Paediatrics Mortality and Morbidity publications
http://www.health.vic.gov.au/perinatal/pubs.htm#ccopmm

Publications specific to maternal and/or perinatal health
http://www.health.vic.gov.au/perinatal/pubs.htm

Victorian Perinatal Data Collection Unit website is http://www.health.vic.gov.au/perinatal/

Internet site for a comprehensive list of Victorian health publications
http://www.dhs.vic.gov.au/pubs.htm

Queensland:

Health Information Centre Perinatal Statistics 2005
http://www.health.qld.gov.au/hic/peri2005/perinatal05.asp

Health Information Centre publications http://www.health.qld.gov.au/hic/

Queensland health publications: http://www.health.qld.gov.au/publications/default.asp

Western Australia:

Perinatal Statistics in Western Australia, 2005
http://www.health.wa.gov.au/publications/documents/2005_Report_061212.pdf

Future directions in maternity care
http://www.clinicalnetworks.health.wa.gov.au/maternitycare/docs/Consultation_Document.pdf

Publications specific to maternal and/or perinatal health
http://www.health.wa.gov.au/publications/subject_index/p/pregnancy.cfm

Internet site for a comprehensive list of Western Australian health publications
http://www.health.wa.gov.au/publications/

South Australia:

Pregnancy Outcomes in South Australia, 2005
http://www.dh.sa.gov.au/pehs/PDF-files/preg-outcome-report-dec06.pdf

Maternal, Perinatal and Infant Mortality in SA 2005
http://www.dh.sa.gov.au/pehs/PDF-files/2005-mortality-report-dec06.pdf

Publications of the Pregnancy Outcome Statistics Unit specific to maternal and/or perinatal health: http://www.dh.sa.gov.au/pehs/pregnancyoutcome.htm

Internet site for a comprehensive list of South Australian health publications
http://www.health.sa.gov.au/Default.aspx?tabid=27

Northern Territory:

Mothers and Babies Report 2000 – 2002
http://www.nt.gov.au/health/health_gains/epidemiology/mothers_babies_2000_2002.pdf

Publications specific to maternal and/or perinatal health
http://www.nt.gov.au/health/health_gains/epidemiology/mothers_babies_reports.shtml

Northern Territory health publications: http://www.nt.gov.au/health/publications.shtml

Tasmania:

The Council of Obstetric & Paediatric Mortality & Morbidity Tasmania Annual Report 2004
http://www.dhhs.tas.gov.au/agency/partnerships/documents/Council_of_Obstetric%20_Paediatric_Mortality_and_Morbidity_ANNUAL_REPORT_2004.pdf

Publications specific to maternal and/or perinatal health
http://www.dhhs.tas.gov.au/agency/partnerships/comm.php

Tasmanian Department of Health and Human Services publications
http://www.dhhs.tas.gov.au/corporateinformation/publications/index.html

6.2.1 Contacts for information on midwives data collections

Australian Capital Territory:

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New South Wales:

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Website: http://www.health.nsw.gov.au/public-health/epi/

Elvis Maio
Demand & Performance Evaluation Branch
Health System Performance Division
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Queensland:

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Queensland Department of Health
Suzanne_Cornes@health.qld.gov.au
Website: http://www.health.qld.gov.au/hic/ebulletin/default.asp

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Vivien.Gee@health.wa.gov.au
Website: http://www.health.wa.gov.au/icam/index/

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APPENDIX

Table 79: Summary measures of perinatal health, ACT residents, 2000 - 2004

Variable	Description of measure	2000 %	2001 %	2002 %	2003 %	2004 %
Maternal age	Percentage of teenagers who gave birth (less than 20 years)	3.2	3.1	3.5	2.7	2.7
Maternal age	Percentage of women who gave birth for the first-time aged 35 years and over	13.2	12.4	13.2	13.1	14.9
Smoking	Percentage of women smoking during pregnancy	14.7	14.6	14.3	12.0	15.3
Aboriginal Status	Percentage of women who identified as Aboriginal or Torres Strait Islander	0.9	1.0	1.3	1.4	1.3
Mothers country of birth	Percentage of women born in Australia	80.0	79.9	80.9	79.0	80.8
Hospital sector	Percentage of women who gave birth in public hospitals	72.3	65.5	61.8	62.4	61.6
Multiple pregnancy	Percentage of women who had a multiple pregnancy	1.4	2.0	1.6	1.4	2.2
Onset of labour	Percentage of women who had a spontaneous onset of labour	67.1	67.2	65.9	65.4	67.2
Induction of labour	Percentage of women who had an induced onset of labour	21.9	20.8	21.6	21.5	17.7
Instrumental vaginal birth	Percentage of women who had an instrumental (forceps or vacuum extraction) birth (a)	12.2	13.6	14.1	14.2	14.3
Caesarean section	Percentage of women who had a caesarean section (a)	20.4	22.2	23.4	24.6	26.0
Maternal postnatal stay	Average length of hospital stay (days) for women who were discharged home	4.9	4.8	4.8	4.7	4.7
Preterm birth	Percentage of all births that were less than 37 weeks gestation	7.2	7.7	7.1	6.7	8.1
Low birthweight	Percentage of liveborn babies weighing less than 2,500 grams at birth	5.5	5.6	5.4	4.7	6.4
Apgar scores	Percentage of liveborn babies with an Apgar score of less than 7 at 5 minutes	1.8	1.5	1.4	1.5	1.5
Perinatal death rate	Perinatal deaths per 1,000 births	9.6	9.3	7.9	13.4	10.5

(a) For multiple births, the method of birth of the first born baby was used.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004

Table 80: Selected Core Maternity Indicators Project indicators, ACT residents, 2000 - 2004

Indicators	2000 %	2001 %	2002 %	2003 %	2004 %
Caesarean sections for selected first births (a)	16.6	17.3	19.6	19.6	21.7
Episiotomies performed during first births (b)	26.0	30.0	28.8	29.9	25.2
Induction of labour for selected first births (a)	25.8	23.2	26.5	24.1	20.0
Major perineal tears during first births (b)(c)	1.7	2.6	1.0	1.6	2.7
Infant wellbeing at birth (low Apgar score at 5 minutes) (d)	1.4	1.3	1.2	1.1	1.0

a) Denominator includes women who were 20-34 years of age and gave birth for the first time to a singleton baby at 37-41 completed weeks gestation with a vertex presentation at birth.

b) Denominator includes women who gave birth for the first time and gave birth vaginally.

c) Numerator includes third and fourth degree tears.

d) Numerator includes babies with an Apgar score of less than 7 at 5 minutes after birth. Denominator includes liveborn babies born at 37-41 completed weeks gestation.

Source: ACT Maternal Perinatal Data Collection, 2000 – 2004 data

Table 81: ACT Hospitals where women gave birth in the ACT by state of residence, ACT, 2003

	ACT residents		Non-ACT residents		Total	
ACT Hospitals	**No.**	**%**	**No.**	**%**	**No.**	**%**
The Canberra Hospital	1,623	40.2	361	49.7	1,984	41.6
Calvary Public	979	24.2	117	16.1	1,096	23.0
ACT Public Hospital	**2,602**	**64.4**	**478**	**65.8**	**3,080**	**64.7**
Calvary Private	576	14.3	56	7.7	632	13.3
John James Memorial Hospital	860	21.3	192	26.5	1,052	22.1
ACT Private Hospital	**1,436**	**35.6**	**248**	**34.2**	**1,684**	**35.3**
Total	**4,038**	**100.0**	**726**	**100.0**	**4,764**	**100.0**

Note: Women who did not give birth in an ACT Hospital have been excluded from this table.

Source: ACT Maternal Perinatal Data Collection, 2003 data

Table 82: ACT Hospitals where women gave birth in the ACT by state of residence, ACT, 2002

	ACT residents		Non-ACT residents		Total	
ACT Hospitals	**No.**	**%**	**No.**	**%**	**No.**	**%**
The Canberra Hospital	1,572	39.7	359	49.6	1,931	41.3
Calvary Public	960	24.3	97	13.4	1,057	22.6
ACT Public Hospital	**2,532**	**64.0**	**456**	**63.0**	**2,988**	**63.8**
Calvary Private	499	12.6	82	11.3	581	12.4
John James Memorial Hospital	925	23.4	186	25.7	1,111	23.7
ACT Private Hospital	**1,424**	**36.0**	**268**	**37.0**	**1,692**	**36.2**
Total	**3,956**	**100.0**	**724**	**100.0**	**4,680**	**100.0**

Note: Women who did not give birth in an ACT Hospital have been excluded from this table.

Source: ACT Maternal Perinatal Data Collection, 2002 data

Table 83: Maternal demographic characteristics, ACT, 2000 - 2004

Maternal Characteristics	2000		2001		2002		2003		2004	
	No.	%	No.	%	No.	%	No.	%	No.	%
Age group										
Less than 20 years	162	3.5	145	3.3	171	3.6	133	2.8	132	2.8
20 - 24 years	608	13.0	548	12.4	570	12.1	561	11.7	528	11.0
25 - 29 years	1,470	31.4	1,316	29.8	1,353	28.7	1,322	27.6	1,278	26.6
30 - 34 years	1,567	33.5	1,516	34.3	1,648	35.0	1,772	37.0	1,774	37.0
35 - 39 years	754	16.1	758	17.2	784	16.7	830	17.3	896	18.7
40 years or more	123	2.6	131	3.0	182	3.9	166	3.5	191	4.0
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**
Country of birth										
Australia	3,814	81.4	3,561	80.7	3,880	82.4	3,848	80.4	3,945	82.2
Other Oceania	88	1.9	108	2.4	113	2.4	119	2.5	102	2.1
Europe	263	5.6	273	6.2	251	5.3	280	5.9	237	4.9
Africa inc. Middle East	62	1.3	82	1.9	72	1.5	83	1.7	86	1.8
Asia	355	7.6	302	6.8	307	6.5	366	7.7	348	7.3
Americas	100	2.1	84	1.9	77	1.6	83	1.7	76	1.6
Not stated	2	0.0	4	0.1	8	0.2	5	0.1	5	0.1
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**
Aboriginal and Torres Strait Islander identification										
Aboriginal/Torres Strait Islander	53	1.1	52	1.2	72	1.5	80	1.7	73	1.5
Non-Aboriginal	4,625	98.7	4,353	98.6	4,610	97.9	4,683	97.9	4,711	98.2
Not stated	6	0.1	9	0.2	26	0.6	21	0.4	15	0.3
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**
Usual place of residence										
North Canberra	372	7.9	381	8.6	420	8.9	419	8.8	432	9.0
Belconnen	1,042	22.2	968	21.9	1,054	22.4	1,094	22.9	1,077	22.4
Gungahlin-Hall	509	10.9	477	10.8	504	10.7	578	12.1	552	11.5
North Side	**1,923**	**41.1**	**1,826**	**41.4**	**1,978**	**42.0**	**2,091**	**43.7**	**2,061**	**42.9**
Woden Valley	359	7.7	317	7.2	309	6.6	338	7.1	355	7.4
Weston Creek	215	4.6	249	5.6	277	5.9	253	5.3	265	5.5
Tuggeranong	1,370	29.2	1,170	26.5	1,193	25.3	1,114	23.3	1,095	22.8
South Canberra	236	5.0	249	5.6	225	4.8	258	5.4	243	5.1
South Side	**2,180**	**46.5**	**1,985**	**45.0**	**2,004**	**42.6**	**1,963**	**41.0**	**1,958**	**40.8**
ACT residents	**4,103**	**87.6**	**3,811**	**86.3**	**3,982**	**84.6**	**4,055**	**84.8**	**4,019**	**83.7**
Non-ACT residents	**581**	**12.4**	**603**	**13.7**	**726**	**15.4**	**730**	**15.2**	**780**	**16.3**
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**
Marital status										
Married (inc. de facto)	4,246	90.6	3,966	89.9	4,253	90.3	4,340	90.7	4,380	91.3
Never married	370	7.9	377	8.5	377	8.0	392	8.2	363	7.6
Other	65	1.4	68	1.5	78	1.7	52	1.1	56	1.2
Not stated	3	0.1	3	0.1	0	0.0	0	0.0	0	0.0
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: Data presented includes all women who gave birth in the ACT, including women who normally reside interstate or overseas. Other marital status includes Widowed, Divorced or Separated.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

Table 84: Maternal age by hospital of birth, ACT, 2003

	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Age groups	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Less than 20 years	99	5.0	29	2.6	*	*	*	*
20 – 24 years	302	15.2	205	18.7	26	4.2	31	2.9
25 – 29 years	582	29.3	387	35.3	138	21.8	210	20.0
30 – 34 years	641	32.3	331	30.2	311	49.2	485	46.1
35 – 39 years	281	14.2	127	11.6	138	21.8	277	26.3
40 years or more	79	4.0	17	1.6	19	3.0	49	4.7
Total	**1,984**	**100.0**	**1,096**	**100.0**	**632**	**100.0**	**1,052**	**100.0**
Average age	**29.4 years**		**28.8 years**		**31.9 years**		**32.4 years**	

Note: *There were less than five women aged less than 20 years who gave birth in Calvary Private Hospital and John James Memorial Hospital, these have been included in the 20-24 year age group.

Source: ACT Maternal Perinatal Data Collection, 2003 data

Table 85: Maternal age by hospital of birth, ACT, 2002

	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Age groups	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Less than 20 years	111	5.7	50	4.7	0	0.0	9	0.8
20 – 24 years	320	16.6	183	17.3	30	5.2	34	3.1
25 – 29 years	570	29.5	389	36.8	146	25.1	240	21.6
30 – 34 years	592	30.7	291	27.5	274	47.2	482	43.4
35 – 39 years	266	13.8	121	11.4	114	19.6	277	24.9
40 years or more	72	3.7	23	2.2	17	2.9	69	6.2
Total	**1,931**	**100.0**	**1,057**	**100.0**	**581**	**100.0**	**1,111**	**100.0**
Average age	**29.1 years**		**28.6 years**		**31.6 years**		**32.3 years**	

Note: Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 data

Table 86: Age specific fertility rates and total fertility rates for all live births by subdivision, ACT residents, 2004

	North Canberra/Belconnen	Woden/Weston Creek/Sth Canberra	Tuggeranong	Gungahlin-Hall
Age Group	**ASFR**	**ASFR**	**ASFR**	**ASFR**
15-19 years	8.5	10.3	8.9	10.0
20-24 years	24.3	28.1	53.0	39.0
25-29 years	79.3	68.2	100.3	103.0
30-34 years	116.4	120.6	104.8	127.0
35-39 years	66.6	76.6	46.5	54.3
40-44 years	11.9	16.9	9.7	7.6
45-49 years	0.9	1.0	0.0	0.0

Notes: ASFR - Age Specific Fertility Rates

By definition, all births for mothers aged less than 15 years are included in the 15-19 year age group.

Source: ACT Maternal Perinatal Data Collection and Population By Age and Sex, Australia, 2004, ABS Cat. No. 3235.8.55.001.

Table 87: Smoking status by maternal age, ACT residents, 2002 - 2003

		Less than 20 years		20-24 years		25-29 years		30-34 years		35 years or more	
Year	**Smoking status**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2002	Smoker	64	45.7	158	32.8	157	13.3	122	8.8	69	8.7
	Non smoker	72	51.4	312	64.7	996	84.5	1,228	88.7	704	88.3
	Not stated	4	2.9	12	2.5	26	2.2	34	2.5	24	3.0
	Total	**140**	**100.0**	**482**	**100.0**	**1,179**	**100.0**	**1,384**	**100.0**	**797**	**100.0**
2003	Smoker	45	40.9	141	29.1	132	11.8	109	7.2	59	7.2
	Non smoker	65	59.1	343	70.7	990	88.2	1,403	92.8	763	92.6
	Not stated	0	0.0	1	0.2	1	0.1	0	0.0	2	0.2
	Total	**110**	**100.0**	**485**	**100.0**	**1,123**	**100.0**	**1,512**	**100.0**	**824**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 88: Birthweight by smoking status during pregnancy, ACT residents, 2002 and 2003

		Smoker		Non smoker	
Year	**Birthweight**	**No.**	**%**	**No.**	**%**
2002	Less than 2500 grams	54	9.5	144	4.3
	2500 grams or more	516	90.5	3,168	95.7
	Total	**570**	**100.0**	**3312**	**100.0**
	Average birthweight	**3,222 grams**		**3,473 grams**	
2003	Less than 2500 grams	52	10.7	141	4.0
	2500 grams or more	435	89.3	3,422	96.0
	Not Stated	0	0.0	1	0.0
	Total	**487**	**100.0**	**3564**	**100.0**
	Average birthweight	**3,162 grams**		**3,462 grams**	

Note: There were four records in 2003 and 100 records in 2002 for whom smoking status was not stated, these have been excluded from this table.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 89: Parity by hospital of birth, ACT, 2002 - 2003

		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Year	**Parity**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2003	No previous births	885	44.6	483	44.1	285	45.1	521	49.5
	One previous birth	612	30.8	359	32.8	237	37.5	346	32.9
	Two previous births	299	15.1	153	14.0	83	13.1	140	13.3
	Three previous births	117	5.9	74	6.8	17	2.7	34	3.2
	Four or more previous births	71	3.6	27	2.5	10	1.6	11	1.0
	Total	**1,984**	**100.0**	**1,096**	**100.0**	**632**	**100.0**	**1,052**	**100.0**
2002	No previous births	830	43.0	479	45.3	257	44.2	557	50.1
	One previous birth	627	32.5	350	33.1	223	38.4	391	35.2
	Two previous births	294	15.2	146	13.8	79	13.6	126	11.3
	Three previous births	112	5.8	48	4.5	22	3.8	31	2.8
	Four or more previous births	68	3.5	34	3.2	*	*	6	0.5
	Total	**1,931**	**100.0**	**1,057**	**100.0**	**581**	**100.0**	**1,111**	**100.0**

Note: Parity refers to the number of children a woman has borne that are either live births or fetal deaths; it does not include pregnancies where the fetus is delivered before 20 weeks gestation.

Due to the rounding of percentages some totals may not equal 100.0.

*There were less than five records, these have been added to the previous category.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 90: Selected maternal characteristics by pregnancy status, ACT, 2003

		Primigravida		Multigravida	
Maternal characteristics		**No.**	**%**	**No.**	**%**
Age groups	Less than 20 years	100	6.1	33	1.1
	20 - 24 years	260	15.8	301	9.6
	25 - 29 years	535	32.5	787	25.1
	30 - 34 years	557	33.9	1,215	38.7
	35 - 39 years	166	10.1	664	21.1
	40 years or more	26	1.6	140	4.5
	Total	**1,644**	**100.0**	**3,140**	**100.0**
Usual place of	North Side	741	45.1	1,350	43.0
residence	South Side	672	40.9	1,291	41.1
	ACT residents	**1,414**	**85.9**	**2,641**	**84.1**
	Non-ACT residents	**231**	**14.1**	**499**	**15.9**
	Total	**1,644**	**100.0**	**3,140**	**100.0**
Marital status	Married (inc. de facto)	1,451	88.3	2,889	92.0
	Never married	182	11.1	210	6.7
	Widowed, Divorced or Separated	11	0.7	41	1.3
	Total	**1,644**	**100.0**	**3,140**	**100.0**

Note: Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2003 data

Table 91: Selected maternal characteristics by pregnancy status, ACT, 2002

		Primigravida		Multigravida	
Maternal characteristics		**No.**	**%**	**No.**	**%**
Age groups	Less than 20 years	135	7.6	36	1.2
	20 - 24 years	287	16.2	283	9.6
	25 - 29 years	573	32.4	780	26.5
	30 - 34 years	549	31.0	1,099	37.4
	35 - 39 years	191	10.8	593	20.2
	40 years or more	34	1.9	148	5.0
	Total	**1,769**	**100.0**	**2,939**	**100.0**
Usual place of	North Side	714	40.4	1,264	43.0
residence	South Side	785	44.4	1,219	41.5
	ACT residents	**1,499**	**84.7**	**2,483**	**84.5**
	Non-ACT residents	**270**	**15.3**	**456**	**15.5**
	Total	**1,769**	**100.0**	**2,939**	**100.0**
Marital status	Married (inc. de facto)	1,537	86.9	2,716	92.4
	Never married	214	12.1	163	5.5
	Widowed, Divorced or Separated	18	1.0	60	2.0
	Total	**1,769**	**100.0**	**2,939**	**100.0**

Note: Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 data

Table 92: Multiple births by hospital of birth, ACT, 2002 - 2003

		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Year	**Plurality**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2003	Singleton	1,927	97.1	1,085	99.0	627	99.2	1,037	98.6
	Multiple birth	57	2.9	11	1.0	5	0.8	15	1.4
	Total	**1,984**	**100.0**	**1,096**	**100.0**	**632**	**100.0**	**1,052**	**100.0**
2002	Singleton	1,887	97.7	1,044	98.8	573	98.6	1,082	97.4
	Multiple birth	44	2.3	13	1.2	8	1.4	29	2.6
	Total	**1,931**	**100.0**	**1,057**	**100.0**	**581**	**100.0**	**1,111**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 93: Maternal age by multiple births, ACT, 2002 - 2004

		Singleton		Multiple birth	
Year	**Maternal age**	**No.**	**%**	**No.**	**%**
2004	Less than 25 years	647	13.8	13	10.5
	25 to 29 years	1257	26.9	21	16.9
	30 to 35 years	1721	36.8	53	42.7
	35 and over years	1050	22.5	37	29.8
	Total	**4,675**	**100.0**	**124**	**100.0**
2003	Less than 25 years	679	14.5	15	17.0
	25 to 29 years	1301	27.7	21	23.9
	30 to 35 years	1744	37.1	28	31.8
	35 and over years	972	20.7	24	27.3
	Total	**4,696**	**100.0**	**88**	**100.0**
2002	Less than 25 years	735	15.9	6	6.4
	25 to 29 years	1,322	28.7	31	33.0
	30 to 35 years	1,612	34.9	36	38.3
	35 and over years	945	20.5	21	22.3
	Total	**4,614**	**100.0**	**94**	**100.0**

Note: Annual rates may fluctuate due to the small numbers.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2004 data

Table 94: Antenatal length of stay in hospital by state of residence, ACT, 2002 - 2003

		ACT residents		Non ACT residents	
Year	**Antenatal length of stay**	**No.**	**%**	**No.**	**%**
2003	Less than 1 day	2,378	59.0	390	53.8
	1 day	1,369	33.9	243	33.5
	2-6 days	247	6.1	59	8.1
	7 or more days	39	1.0	33	4.6
	Total	**4,033**	**100.0**	**725**	**100.0**
2002	Less than 1 day	2,365	59.8	391	54.0
	1 day	1,305	33.0	240	33.1
	2-6 days	234	5.9	57	7.9
	7 or more days	52	1.3	36	5.0
	Total	**3,956**	**100.0**	**724**	**100.0**

Note: Antenatal length of stay only includes hospital births. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 95: Obstetric complications for women who gave birth in the ACT by usual state of residence, ACT, 2002 - 2003

		ACT residents		Non-ACT residents		Total	
Year	**Obstetric complications**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2003	No complications	1,919	47.3	286	39.2	2,205	46.1
	One complication	1,509	37.2	271	37.2	1,780	37.2
	Multiple complications	627	15.5	172	23.6	799	16.7
	Total	**4,055**	**100.0**	**729**	**100.0**	**4,784**	**100.0**
2002	No complications	1,927	48.4	281	38.7	2,208	46.9
	One complication	1,460	36.7	280	38.6	1,740	37.0
	Multiple complications	595	14.9	165	22.7	760	16.1
	Total	**3,982**	**100.0**	**726**	**100.0**	**4,708**	**100.0**

Note: Less than one per cent of women giving birth in the ACT gave birth outside of a hospital, complications for these women are reported using the ACT Midwives Data Collection Form.

Source: ACT Maternal Perinatal Data Collection and ACT Admitted Patient Care Data, 2002 - 2003 data

Table 96: Labour characteristics, ACT, 2000 - 2004

	2000		2001		2002		2003		2004	
Labour characteristics	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Onset of Labour										
Spontaneous	3,068	65.5	2,908	65.9	3,034	64.4	3,060	64.0	3,163	65.9
Induced	1,048	22.4	938	21.3	1,045	22.2	1,051	22.0	873	18.2
No Labour	568	12.1	568	12.9	629	13.4	673	14.1	763	15.9
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**
Type of Labour										
Spontaneous	**2,086**	**44.5**	**1,603**	**36.3**	**1,772**	**37.7**	**2,129**	**44.5**	**1,881**	**39.2**
Augmentation - Medical	326	7.0	424	9.6	373	7.9	318	6.6	398	8.3
Augmentation - Surgical	436	9.3	664	15.0	581	12.3	436	9.1	646	13.5
Augmentation - Combined	220	4.7	217	4.9	308	6.5	177	3.7	238	5.0
Total Augmentation	**982**	**21.0**	**1,305**	**29.6**	**1,262**	**26.8**	**931**	**19.5**	**1,282**	**26.7**
Induction - Medical	389	8.3	378	8.6	354	7.5	382	8.0	232	4.8
Induction - Surgical	93	2.0	83	1.9	152	3.2	106	2.2	78	1.6
Induction - Combined	560	12.0	472	10.7	530	11.3	563	11.8	563	11.7
Induction - Other	6	0.1	5	0.1	9	0.2	0	0.0	0	0.0
Total Induction	**1,048**	**22.4**	**938**	**21.3**	**1,045**	**22.2**	**1,051**	**22.0**	**873**	**18.2**
No Labour	**568**	**12.1**	**568**	**12.9**	**629**	**13.4**	**673**	**14.1**	**763**	**15.9**
Total	**4,684**	**100.0**	**4,414**	**100.0**	**4,708**	**100.0**	**4,784**	**100.0**	**4,799**	**100.0**

Note: In 2004, eight records where 'onset of labour' and 'type of labour' was "Not stated" were recoded as "Spontaneous".

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

Table 97: Labour characteristics by hospital, ACT, 2004

Labour characteristics		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
		No.	%	No.	%	No.	%	No.	%
Onset of Labour	Spontaneous	1,352	68.8	800	74.6	391	60.2	588	54.4
	Induced	351	17.9	142	13.2	143	22.0	237	21.9
	No Labour	262	13.3	131	12.2	115	17.7	255	23.6
	Total	**1,965**	**100.0**	**1,073**	**100.0**	**649**	**100.0**	**1,080**	**100.0**
Type of Labour	**Spontaneous**	**873**	**44.4**	**443**	**41.3**	**185**	**28.5**	**349**	**32.2**
	Augmentation - Medical	161	8.2	78	7.3	74	11.4	85	7.9
	Augmentation - Surgical	222	11.3	213	19.9	99	15.3	111	10.3
	Augmentation - Combined	96	4.9	66	6.2	33	5.1	43	4.0
	Total Augmentation	**479**	**24.4**	**357**	**33.3**	**206**	**31.7**	**239**	**22.1**
	Induction - Medical	69	3.5	43	4.0	44	6.8	76	7.0
	Induction - Surgical	27	1.4	10	0.9	18	2.8	23	2.1
	Induction - Combined	255	13.0	89	8.3	81	12.5	138	12.8
	Induction - Other	0	0.0	0	0.0	0	0.0	0	0.0
	Total Induction	**351**	**17.9**	**142**	**13.2**	**143**	**22.0**	**237**	**21.9**
	No Labour	**262**	**13.3**	**131**	**12.2**	**115**	**17.7**	**255**	**23.6**
Total	**Total**	**1,965**	**100.0**	**1,073**	**100.0**	**649**	**100.0**	**1,080**	**100.0**

Note: In 2004, eight records where 'onset of labour' and 'type of labour' was "Not stated" were recoded as "Spontaneous". Due to the rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2004 data

Table 98: Labour characteristics by hospital, ACT, 2003

Labour characteristics		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
		No.	%	No.	%	No.	%	No.	%
Onset of Labour	Spontaneous	1,322	66.6	765	69.8	360	57.0	593	56.4
	Induced	431	21.7	211	19.3	169	26.7	240	22.8
	No Labour	231	11.6	120	10.9	103	16.3	219	20.8
	Total	**1,984**	**100.0**	**1,096**	**100.0**	**632**	**100.0**	**1,052**	**100.0**
Type of Labour	**Spontaneous**	**891**	**44.9**	**564**	**51.5**	**249**	**39.4**	**405**	**38.5**
	Augmentation - Medical	150	7.6	63	5.7	44	7.0	61	5.8
	Augmentation - Surgical	200	10.1	94	8.6	46	7.3	96	9.1
	Augmentation - Combined	81	4.1	44	4.0	21	3.3	31	2.9
	Total Augmentation	**431**	**21.7**	**201**	**18.3**	**111**	**17.6**	**188**	**17.9**
	Induction - Medical	148	7.5	86	7.8	54	8.5	94	8.9
	Induction - Surgical	39	2.0	18	1.6	22	3.5	27	2.6
	Induction - Combined	244	12.3	107	9.8	93	14.7	119	11.3
	Induction - Other	0	0.0	0	0.0	0	0.0	0	0.0
	Total Induction	**431**	**21.7**	**211**	**19.3**	**169**	**26.7**	**240**	**22.8**
	No Labour	**231**	**11.6**	**120**	**10.9**	**103**	**16.3**	**219**	**20.8**
	Total	**1,984**	**100.0**	**1,096**	**100.0**	**632**	**100.0**	**1,052**	**100.0**

Note: Due to the rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2003 data

Table 99: Labour characteristics by hospital, ACT, 2002

		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Labour characteristics		**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Onset of Labour	Spontaneous	1,316	68.2	751	71.1	338	58.2	602	54.2
	Induced	424	22.0	197	18.6	157	27.0	266	23.9
	No Labour	191	9.9	109	10.3	86	14.8	243	21.9
	Total	**1,931**	**100.0**	**1,057**	**100.0**	**581**	**100.0**	**1,111**	**100.0**
Type of Labour	**Spontaneous**	**746**	**38.6**	**438**	**41.4**	**194**	**33.4**	**368**	**33.1**
	Augmentation - Medical	178	9.2	80	7.6	44	7.6	70	6.3
	Augmentation - Surgical	244	12.6	148	14.0	72	12.4	117	10.5
	Augmentation - Combined	148	7.7	85	8.0	28	4.8	47	4.2
	Total Augmentation	**570**	**29.5**	**313**	**29.6**	**144**	**24.8**	**234**	**21.1**
	Induction - Medical	119	6.2	69	6.5	61	10.5	104	9.4
	Induction - Surgical	47	2.4	39	3.7	30	5.2	36	3.2
	Induction - Combined	251	13.0	88	8.3	65	11.2	126	11.3
	Induction - Other	7	0.4	1	0.1	1	0.2	0	0.0
	Total Induction	**424**	**22.0**	**197**	**18.6**	**157**	**27.0**	**266**	**23.9**
	No Labour	**191**	**9.9**	**109**	**10.3**	**86**	**14.8**	**243**	**21.9**
	Total	**1,931**	**100.0**	**1,057**	**100.0**	**581**	**100.0**	**1,111**	**100.0**

Note: Due to the rounding of percentages, some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 data

Table 100: Method of birth by type of labour, ACT, 2002 - 2003

		Spontaneous		Augmentation		Induction		No Labour	
Year	**Method of birth**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2003	Normal birth	1,713	80.5	535	57.4	661	63.0	0	0.0
	Caesarean section	200	9.4	143	15.4	190	18.1	673	100.0
	Forceps	67	3.1	90	9.7	82	7.8	0	0.0
	Vacuum extraction	150	7.0	163	17.5	117	11.1	0	0.0
	Total	**2,130**	**100.0**	**931**	**100.0**	**1,050**	**100.0**	**673**	**100.0**
2002	Normal birth	1,458	82.3	788	62.4	671	64.2	0	0.0
	Caesarean section	169	9.5	165	13.1	169	16.2	629	100.0
	Forceps	42	2.4	103	8.2	61	5.8	0	0.0
	Vacuum extraction	103	5.8	206	16.3	144	13.8	1	0.2
	Total	**1,772**	**100.0**	**1,262**	**100.0**	**1,045**	**100.0**	**629**	**100.0**

Note: Normal birth includes vaginal breech births due to small numbers of vaginal breech births.
Women who have no labour have had an elective caesarean section.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 101: Method of birth by hospital of birth, ACT, 2002 - 2003

		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Year	**Method of birth**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2003	Normal birth	1,334	67.2	715	65.2	333	52.7	507	48.2
	Caesarean Section	433	21.8	241	22.0	182	28.8	350	33.3
	Forceps	92	4.6	42	3.8	34	5.4	71	6.7
	Vacuum Extraction	125	6.3	98	8.9	83	13.1	124	11.8
	Total	**1,984**	**100.0**	**1,096**	**100.0**	**632**	**100.0**	**1,052**	**100.0**
2002	Normal birth	1,372	71.1	693	65.6	313	53.9	511	46.0
	Caesarean Section	361	18.7	234	22.1	175	30.1	362	32.6
	Forceps	59	3.1	40	3.8	28	4.8	79	7.1
	Vacuum Extraction	139	7.2	90	8.5	65	11.2	159	14.3
	Total	**1,931**	**100.0**	**1,057**	**100.0**	**581**	**100.0**	**1,111**	**100.0**

Note: Vaginal breech births have been included with normal births for this table.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 102: Method of birth by state of residence, ACT, 2002 - 2003

		ACT residents		Non ACT residents	
Year	**Method of birth**	No.	**%**	**No.**	**%**
2003	Normal birth	2,449	60.4	414	56.7
	Caesarean Section	998	24.6	208	28.5
	Forceps	209	5.2	30	4.1
	Vacuum Extraction	367	9.1	63	8.6
	Vaginal breech	31	0.8	15	2.1
	Total	**4,054**	**100.0**	**730**	**100.0**
2002	Normal birth	2,481	62.3	420	57.9
	Caesarean Section	933	23.4	199	27.4
	Forceps	176	4.4	30	4.1
	Vacuum Extraction	385	9.7	68	9.4
	Vaginal breech	7	0.2	9	1.2
	Total	**3,982**	**100.0**	**726**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 103: Method of birth by maternal age group, ACT, 2000 - 2003

		Less than 20 years		20-24 years		25-29 years		30-34 years		35 years or more		Total	
Year	**Method of birth**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2000	Normal birth	130	80.2	446	73.4	985	67.0	1,032	65.9	504	57.5	3,097	66.1
	Instrumental birth	13	8.0	66	10.9	207	14.1	174	11.1	111	12.7	571	12.2
	Caesarean Section	19	11.7	96	15.8	278	18.9	361	23.0	262	29.9	1,016	21.7
	Total	**162**	**100.0**	**608**	**100.0**	**1,470**	**100.0**	**1,567**	**100.0**	**877**	**100.0**	**4,684**	**100.0**
2001	Normal birth	110	75.9	385	70.3	858	65.2	931	61.4	510	57.4	2,794	63.3
	Instrumental birth	17	11.7	67	12.2	200	15.2	196	12.9	116	13.0	596	13.5
	Caesarean Section	18	12.4	96	17.5	258	19.6	389	25.7	263	29.6	1,024	23.2
	Total	**145**	**100.0**	**548**	**100.0**	**1,316**	**100.0**	**1,516**	**100.0**	**889**	**100.0**	**4,414**	**100.0**
2002	Normal birth	138	80.7	420	73.7	869	64.2	978	59.3	512	53.0	2,917	62.0
	Instrumental birth	19	11.1	68	11.9	198	14.6	244	14.8	130	13.5	659	14.0
	Caesarean Section	14	8.2	82	14.4	286	21.1	426	25.8	324	33.5	1,132	24.0
	Total	**171**	**100.0**	**570**	**100.0**	**1,353**	**100.0**	**1,648**	**100.0**	**966**	**100.0**	**4,708**	**100.0**
2003	Normal birth	96	72.2	391	69.7	831	62.9	1,043	58.9	548	55.0	2,909	60.8
	Instrumental birth	16	12.0	79	14.1	182	13.8	269	15.2	123	12.3	669	14.0
	Caesarean Section	21	15.8	91	16.2	309	23.4	460	26.0	325	32.6	1,206	25.2
	Total	**133**	**100.0**	**561**	**100.0**	**1,322**	**100.0**	**1,772**	**100.0**	**996**	**100.0**	**4,784**	**100.0**

Note: Normal birth includes vaginal breech births.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2003 data

Table 104: Selected characteristics for caesarean section, ACT, 2003

Selected characteristics		No.	%	Rate
Accommodation	Public	642	53.2	216.0
	Private	564	46.8	312.3
	Total	**1,206**	**100.0**	
Parity	Primipara	586	48.6	269.3
	Multipara	620	51.4	237.7
	Total	**1,206**	**100.0**	
Plurality	Singleton	1169	96.9	248.9
	Multiple birth	37	3.1	420.5
	Total	**1,206**	**100.0**	
Maternal Aboriginal and	Aboriginal	19	1.6	237.5
Torres Strait Islander	Non Aboriginal	1,181	97.9	252.2
Identification	Not stated	6	0.5	
	Total	**1,206**	**100.0**	
Maternal age	Less than 20 years	21	1.7	157.9
	20-24 years	91	7.5	162.2
	25-29 years	309	25.6	233.7
	30-34 years	460	38.1	259.6
	35-39 years	259	21.5	312.0
	40 years or more	66	5.5	397.6
	Total	**1,206**	**100.0**	
Presentation	Vertex	988	81.9	218.9
(**for first born)**	Breech	173	14.3	790.0
	Other (including Face & Brow)	38	3.2	883.7
	Not Stated	7	0.6	
	Total	**1,206**	**100.0**	
Birth weight	Less than 1500 grams	23	1.9	287.5
	1500 to 2499 grams	97	8.0	431.1
	2500 to 3999 grams	889	73.7	234.8
	4000 grams and over	197	16.3	285.1
	Total	**1,206**	**100.0**	
Gestational age	20 to 36 weeks	151	12.5	399.5
	37 to 41 weeks	1,036	85.9	239.6
	42 weeks or more	19	1.6	240.5
	Total	**1,206**	**100.0**	

Note: Information that was “not stated” has been recoded to the group with the majority of records. The number of “not stated” records in any data item presented in this table was five or less.

Rates per 1,000 births are calculated using the total number of births in the category as the denominator.

Caesarean section rates may fluctuate from year to year.

Source: ACT Maternal Perinatal Data Collection, 2003 data

Table 105: Selected characteristics for caesarean section, ACT, 2002

Selected characteristics		No.	%	Rate
Accommodation	Public	550	53.7	188.9
	Private	474	46.3	263.9
	Total	**1024**	**100.0**	
Parity	Primipara	479	46.8	224.9
	Multipara	545	53.2	211.4
	Total	**1024**	**100.0**	
Plurality	Singleton	973	95.0	210.9
	Multiple birth	51	5.0	542.6
	Total	**1024**	**100.0**	
Aboriginal and Torres Strait Islander Identification	Aboriginal	12	1.2	166.7
	Non Aboriginal	1010	98.6	219.1
	Not stated	2	0.2	
	Total	**1024**	**100.0**	
Maternal age	Less than 20 years	18	1.8	105.3
	20-24 years	96	9.4	168.4
	25-29 years	258	25.2	190.7
	30-34 years	389	38.0	236.0
	35-39 years	219	21.4	279.3
	40 years or more	44	4.3	241.8
	Total	**1024**	**100.0**	
Presentation (for first born)	Vertex	792	77.3	178.6
	Breech	195	19.0	994.9
	Other (including Face & Brow)	32	3.1	695.7
	Not Stated	5	0.5	
	Total	**1024**	**100.0**	
Birth weight	Less than 1500 grams	19	1.9	260.3
	1500 to 2499 grams	84	8.2	359.0
	2500 to 3999 grams	781	76.3	210.8
	4000 grams and over	140	13.7	201.1
	Total	**1024**	**100.0**	
Gestational age	20 to 36 weeks	122	11.9	338.0
	37 to 41 weeks	882	86.1	209.1
	42 weeks or more	20	2.0	155.0
	Total	**1024**	**100.0**	

Note: Information that was "not stated" has been recoded to the group with the majority of records. The number of "not stated" records in any data item presented in this table was five or less.

Rates per 1,000 births are calculated using the total number of births in the category as the denominator.

Caesarean section rates may fluctuate from year to year.

Source: ACT Maternal Perinatal Data Collection, 2002 data

Table 106: Caesarean section by ACT hospitals, ACT, 2002 - 2003

		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Year	**Caesarean section**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2003	Elective Caesarean	231	11.8	120	11.2	103	15.9	219	20.3
	Emergency Caesarean	202	10.3	121	11.3	79	12.2	131	12.1
	Caesarean section	**433**	**22.0**	**241**	**22.5**	**182**	**28.0**	**350**	**32.4**
2002	Elective Caesarean	190	9.8	109	10.3	86	14.8	243	21.9
	Emergency Caesarean	171	8.9	125	11.8	89	15.3	119	10.7
	Caesarean section	**361**	**18.7**	**234**	**22.1**	**175**	**30.1**	**362**	**32.6**

Note: Percentages are of total births for each hospital.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 107: Perineal status for vaginal births by method of birth, ACT, 2002 - 2003

		Normal birth / Vaginal Breech		Instrumental birth	
Year	**Perineal status**	**No.**	**%**	**No.**	**%**
2003	Intact	1,111	38.2	65	9.7
	1st degree laceration	562	19.3	51	7.6
	2nd degree laceration	924	31.8	179	26.8
	3rd or 4th degree laceration	28	1.0	5	0.7
	Episiotomy	243	8.4	308	46.0
	Laceration and episiotomy	35	1.2	61	9.1
	Other and not stated	6	0.2	0	0.0
	Total	**2,909**	**100.0**	**669**	**100.0**
2002	Intact	1,176	40.3	73	11.1
	1st degree laceration	570	19.5	51	7.7
	2nd degree laceration	862	29.6	167	25.3
	3rd or 4th degree laceration	25	0.9	9	1.4
	Episiotomy	245	8.4	310	47.0
	Laceration and episiotomy	39	1.3	49	7.4
	Total	**2,917**	**100.0**	**659**	**100.0**

Note: There were 43 vaginal breech births in 2003 and 16 in 2002.
Instrumental births include forceps and vacuum extraction assisted births.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 108: Perineal status for vaginal births by hospital of birth, ACT, 2002 - 2003

		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Year	**Perineal status**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
2003	Intact	584	37.7	323	37.8	108	24.0	153	21.8
	1st degree laceration	279	18.0	139	16.3	77	17.1	112	16.0
	2nd degree laceration	479	30.9	257	30.1	171	38.0	193	27.5
	3rd or 4th degree laceration	19	1.2	5	0.6	6	1.3	<5	*
	Episiotomy	163	10.5	107	12.5	66	14.7	215	30.6
	Laceration and episiotomy	26	1.7	24	2.8	22	4.9	24	3.4
	Not stated	1	0.1	0	0.0	0	0.0	<5	*
	Total	**1,551**	**100.0**	**855**	**100.0**	**450**	**100.0**	**702**	**100.0**
2002	Intact	661	42.1	303	36.8	108	26.6	160	21.4
	1st degree laceration	254	16.2	150	18.2	75	18.5	137	18.3
	2nd degree laceration	448	28.5	239	29.0	139	34.2	197	26.3
	3rd or 4th degree laceration	23	1.5	<5	*	<5	*	7	0.9
	Episiotomy	163	10.4	97	11.8	68	16.7	227	30.3
	Laceration and episiotomy	21	1.3	31	3.8	15	3.7	21	2.8
	Not stated	0	0.0	<5	*	<5	*	0	0.0
	Total	**1,570**	**100.0**	**823**	**100.0**	**406**	**100.0**	**749**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 109: Postnatal length of stay in hospital, ACT, 2000 - 2004

Postnatal	2000		2001		2002		2003		2004	
length of stay	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 1 day	192	4.3	174	4.0	170	3.7	198	4.3	162	3.5
1 day	428	9.5	404	9.4	456	10.0	500	10.8	462	9.9
2 days	730	16.2	632	14.7	646	14.2	672	14.5	706	15.2
3 days	929	20.6	765	17.8	818	17.9	782	16.9	841	18.1
4 days	732	16.2	736	17.1	798	17.5	841	18.2	933	20.0
5 days	640	14.2	688	16.0	804	17.6	818	17.7	796	17.1
6 days	408	9.1	466	10.8	471	10.3	458	9.9	424	9.1
7 days or more	447	9.9	434	10.1	396	8.7	358	7.7	332	7.1
Total	**4,506**	**100.0**	**4,299**	**100.0**	**4,559**	**100.0**	**4,627**	**100.0**	**4,656**	**100.0**
Average postnatal stay	**3.74 days**		**3.88 days**		**3.82 days**		**3.75 days**		**3.70 days**	

Note: Postnatal length of stay includes only hospital admissions not transferred for further care to another hospital.
Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

Table 110: Postnatal length of stay by hospital of birth, ACT, 2002 - 2003

		The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
Year	Postnatal length of stay	No.	%	No.	%	No.	%	No.	%
2003	3 days or less	1,212	62.5	780	74.8	73	11.8	87	8.5
	4 to 6 days	635	32.7	247	23.7	452	73.1	783	76.2
	7 days or more	92	4.7	16	1.5	93	15.0	157	15.3
	Total	**1,939**	**100.0**	**1,043**	**100.0**	**618**	**100.0**	**1,027**	**100.0**
	Average postnatal stay	**3.05 days**		**2.81 days**		**5.14 days**		**5.17 days**	
2002	3 days or less	1,199	63.9	721	71.0	74	12.9	96	8.8
	4 to 6 days	565	30.1	279	27.5	413	72.1	816	74.6
	7 days or more	112	6.0	16	1.6	86	15.0	182	16.6
	Total	**1,876**	**100.0**	**1,016**	**100.0**	**573**	**100.0**	**1,094**	**100.0**
	Average postnatal stay	**3.07 days**		**2.92 days**		**5.09 days**		**5.26 days**	

Note: Due to the rounding of percentages some totals may not equal 100.0.
Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 111: Maternal discharge status by hospital of birth, ACT, 2002 - 2003

Year	Maternal discharge status	The Canberra Hospital No.	%	Calvary Public No.	%	Calvary Private No.	%	John James Memorial Hospital No.	%
2003	Discharged home	373	18.8	407	37.3	570	90.2	993	94.6
	Midcall/CMP	1,565	78.9	636	58.2	48	7.6	35	3.3
	Transferred or died	46	2.3	49	4.5	14	2.2	22	2.1
	Total	**1,984**	**100.0**	**1,092**	**100.0**	**632**	**100.0**	**1,050**	**100.0**
2002	Discharged home	440	22.8	417	39.5	521	89.7	1,046	94.1
	Midcall/CMP	1,436	74.4	599	56.7	52	9.0	47	4.2
	Transferred or died	55	2.8	41	3.9	8	1.4	18	1.6
	Total	**1,931**	**100.0**	**1,057**	**100.0**	**581**	**100.0**	**1,111**	**100.0**

Note: Midcall is an early discharge program with follow up at home by a registered midwife for antenatal or postnatal care. CMP means Canberra Midwifery Program.

There were less than five maternal deaths, which accounted for 0.0% of women giving birth in the ACT in 2002-03. Homebirths and fetal deaths have been excluded. There are some reporting inconsistencies between the number of mothers and babies.

Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

Table 112: Breastfeeding status by place of birth, ACT, 2000 - 2004

Year	Breastfeeding	Calvary Public No.	%	Calvary Private No.	%	John James Memorial Hospital No.	%	Homebirths No.	%
2000	Ever breastfed	1,064	85.5	291	86.9	823	90.7	18	81.8
	Not breastfed	39	3.1	<5	*	20	2.2	0	0.0
	Not stated	141	11.3	<50	*	64	7.1	4	18.2
	Total	**1,244**	**100.0**	**335**	**100.0**	**907**	**100.0**	**22**	**100.0**
2001	Ever breastfed	915	86.7	389	88.2	929	89.5	14	82.4
	Not breastfed	22	2.1	<5	*	19	1.8	0	0.0
	Not stated	118	11.2	<50	*	90	8.7	3	17.6
	Total	**1,055**	**100.0**	**441**	**100.0**	**1,038**	**100.0**	**17**	**100.0**
2002	Ever breastfed	932	87.1	526	89.3	1,043	91.5	10	71.4
	Not breastfed	23	2.1	16	2.7	25	2.2	0	0.0
	Not stated	115	10.7	47	8.0	72	6.3	4	28.6
	Total	**1,070**	**100.0**	**589**	**100.0**	**1,140**	**100.0**	**14**	**100.0**
2003	Ever breastfed	972	87.8	594	93.2	998	93.5	0	0.0
	Not breastfed	35	3.2	5	0.8	32	3.0	0	0.0
	Not stated	100	9.0	38	6.0	37	3.5	6	100.0
	Total	**1,107**	**100.0**	**637**	**100.0**	**1,067**	**100.0**	**6**	**100.0**
2004	Ever breastfed	957	88.2	612	92.3	1,062	95.8	<5	*
	Not breastfed	31	2.9	6	0.9	19	1.7	<5	*
	Not stated	97	8.9	45	6.8	27	2.4	21	84.0
	Total	**1,085**	**100.0**	**663**	**100.0**	**1,108**	**100.0**	**25**	**100.0**

Note: Data for The Canberra Hospital was not available.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

Table 113: Babies' characteristics, ACT, 2000 - 2004

Babies'	2000		2001		2002		2003		2004	
characteristics	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Birth Condition										
Liveborn	4,736	99.2	4,478	99.2	4,769	99.3	4,821	98.9	4,893	99.3
Stillborn	38	0.8	35	0.8	35	0.7	55	1.1	33	0.7
Total	**4,774**	**100.0**	**4,513**	**100.0**	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**
Plurality										
Singleton	4,598	96.3	4,316	95.6	4,614	96.0	4,696	96.3	4,675	94.9
Twins	164	3.4	194	4.3	184	3.8	168	3.4	242	4.9
Triplets	12	0.3	3	0.1	6	0.1	12	0.2	9	0.2
Total	**4,774**	**100.0**	**4,513**	**100.0**	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**
Sex										
Male	2,432	50.9	2,305	51.1	2,473	51.5	2,544	52.2	2,559	51.9
Female	2,342	49.1	2,208	48.9	2,331	48.5	2,332	47.8	2,367	48.1
Total	**4,774**	**100.0**	**4,513**	**100.0**	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**
Presentation										
Vertex	4,493	94.1	4,193	92.9	4,494	93.5	4,566	93.6	4,608	93.5
Breech	234	4.9	257	5.7	228	4.7	253	5.2	273	5.5
Other (including Face & Brow)	30	0.6	50	1.1	50	1.0	48	1.0	45	0.9
Not Stated	17	0.4	13	0.3	32	0.7	9	0.2	0	0.0
Total	**4,774**	**100.0**	**4,513**	**100.0**	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**
Birthweight										
Less than 500 grams	18	0.4	13	0.3	12	0.2	37	0.8	13	0.3
500 to 999 grams	36	0.8	26	0.6	34	0.7	39	0.8	32	0.6
1,000 to 1,499 grams	38	0.8	44	1.0	40	0.8	21	0.4	42	0.9
1,500 to 1,999 grams	86	1.8	73	1.6	79	1.6	76	1.6	98	2.0
2,000 to 2,499 grams	186	3.9	169	3.7	195	4.1	183	3.8	232	4.7
2,500 to 2,999 grams	603	12.6	633	14.0	636	13.2	675	13.8	677	13.7
3,000 to 3,499 grams	1,622	34.0	1,508	33.4	1,591	33.1	1,690	34.7	1,550	31.5
3,500 to 3,999 grams	1,533	32.1	1,481	32.8	1,521	31.7	1,462	30.0	1,581	32.1
4,000 to 4,499 grams	533	11.2	472	10.5	590	12.3	580	11.9	584	11.9
4,500 grams or more	119	2.5	92	2.0	106	2.2	111	2.3	117	2.4
Not Stated	0	0.0	2	0.0	0	0.0	2	0.0	0	0.0
Total	**4,774**	**100.0**	**4,513**	**100.0**	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**
Average (grams)	**3,393.6**		**3,381.1**		**3,400.2**		**3,393.5**		**3,383.0**	
Gestational age										
Less than 27 weeks	50	1.0	48	1.1	44	0.9	79	1.6	47	1.0
28 to 31 weeks	50	1.0	53	1.2	58	1.2	26	0.5	56	1.1
32 to 36 weeks	330	6.9	304	6.7	311	6.5	325	6.7	384	7.8
37 to 41 weeks	4,227	88.5	4,036	89.4	4,262	88.7	4,367	89.6	4,364	88.6
42 plus weeks	116	2.4	71	1.6	129	2.7	79	1.6	74	1.5
Not stated	1	0.0	1	0.0	0	0.0	0	0.0	1	0.0
Total	**4,774**	**100.0**	**4,513**	**100.0**	**4,804**	**100.0**	**4,876**	**100.0**	**4,926**	**100.0**
Average (weeks)	**39.0**		**38.9**		**39.0**		**39.0**		**38.9**	

Note: There were less than 5 babies whose sex was "indeterminate" in any calendar year. Due to the rounding of percentages some totals may not equal 100.0. Two records in 2001 where birthweight was not stated have now been corrected. Eight records where gestational age was not stated during 2000 - 2004 have now been corrected.

Source: ACT Maternal Perinatal Data Collection, 2000 - 2004 data

Table 114: Birthweight and gestational age for live births by maternal usual state of residence, ACT, 2003

Selected characteristics		ACT residents		Non ACT residents		Total	
		No.	%	No.	%	No.	%
Birthweight	Less than 1,500 grams	28	0.7	29	3.9	57	1.2
	1,500 to 2,499 grams	162	4.0	92	12.3	254	5.3
	2,500 to 3,999 grams	3,287	80.7	532	70.9	3,819	79.2
	4,000 grams and over	594	14.6	96	12.8	690	14.3
	Total	**4,071**	**100.0**	**749**	**100.0**	**4,820**	**100.0**
Gestational Age	20 to 27 weeks	23	0.6	19	2.5	42	0.9
	28 to 31 weeks	12	0.3	13	1.7	25	0.5
	32 to 36 weeks	210	5.2	106	14.1	316	6.6
	37 to 41 weeks	3,756	92.2	603	80.4	4,359	90.4
	42 plus weeks	70	1.7	9	1.2	79	1.6
	Total	**4,071**	**100.0**	**750**	**100.0**	**4,821**	**100.0**

Note: Records where birthweight or gestational age was 'not stated' have been excluded.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2003 data

Table 115: Birthweight and gestational age for live births by maternal usual state of residence, ACT, 2002

Selected characteristics		ACT residents		Non ACT residents		Total	
		No.	%	No.	%	No.	%
Birthweight	Less than 1,500 grams	37	0.9	28	3.8	65	1.4
	1,500 to 2,499 grams	180	4.5	88	11.8	268	5.6
	2,500 to 3,999 grams	3,208	79.7	533	71.4	3,741	78.4
	4,000 grams and over	598	14.9	97	13.0	695	14.6
	Total	**4,023**	**100.0**	**746**	**100.0**	**4,769**	**100.0**
Gestational Age	20 to 27 weeks	11	0.3	16	2.1	27	0.6
	28 to 31 weeks	37	0.9	19	2.5	56	1.2
	32 to 36 weeks	218	5.4	83	11.1	301	6.3
	37 to 41 weeks	3,646	90.6	610	81.8	4,256	89.2
	42 plus weeks	111	2.8	18	2.4	129	2.7
	Total	**4,023**	**100.0**	**746**	**100.0**	**4,769**	**100.0**

Note: Records where birthweight or gestational age was 'not stated' have been excluded.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 data

Table 116: Birthweight and gestational age for live births by hospital of birth, ACT, 2003

Selected characteristics	The Canberra Hospital No.	%	Calvary Public No.	%	Calvary Private No.	%	John James Memorial Hospital No.	%
Birthweight								
Less than 2,500 grams	227	11.3	39	3.5	15	2.4	25	2.4
2,500 to 4,499 grams	1,749	87.0	1,035	93.9	597	94.2	1,004	95.3
4,500 grams and over	35	1.7	28	2.5	22	3.5	25	2.4
Total	**2,011**	**100.0**	**1,102**	**100.0**	**634**	**100.0**	**1,054**	**100.0**
Gestational age								
20 to 36 weeks	249	12.4	49	4.4	33	5.2	49	4.6
37 to 41 weeks	1,739	86.5	1,022	92.7	586	92.4	996	94.5
42 weeks or more	23	1.1	31	2.8	15	2.4	9	0.9
Total	**2,011**	**100.0**	**1,102**	**100.0**	**634**	**100.0**	**1,054**	**100.0**

Note: Records where birthweight or gestational age were 'not stated' have been excluded.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2003 data

Table 117: Birthweight and gestational age for live births by hospital of birth, ACT, 2002

Selected characteristics	The Canberra Hospital No.	%	Calvary Public No.	%	Calvary Private No.	%	John James Memorial Hospital No.	%
Birthweight								
Less than 2,500 grams	237	12.1	32	3.0	20	3.4	43	3.8
2,500 to 4,499 grams	1,678	85.7	1,007	94.6	555	94.5	1,065	94.0
4,500 grams and over	43	2.2	25	2.3	12	2.0	25	2.2
Total	**1,958**	**100.0**	**1,064**	**100.0**	**587**	**100.0**	**1,133**	**100.0**
Gestational age								
20 to 36 weeks	247	12.6	49	4.6	24	4.1	63	5.6
37 to 41 weeks	1,623	82.9	991	93.1	557	94.9	1,059	93.4
42 weeks or more	88	4.5	24	2.3	6	1.0	11	1.0
Total	**1,958**	**100.0**	**1,064**	**100.0**	**587**	**100.0**	**1,133**	**100.0**

Note: Records where birthweight or gestational age were 'not stated' have been excluded.
Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2002 data

Table 118: Birth outcome by maternal usual residence, ACT, 2002 and 2003

Year	Birth outcome	ACT residents No.	%	Non ACT residents No.	%	Total No.	%
2003	Livebirth survived to 28 days	4,056	98.7	739	96.6	4,795	98.3
	Stillbirth	40	1.0	15	2.0	55	1.1
	Neonatal death	15	0.4	11	1.4	26	0.5
	All births	**4,111**	**100.0**	**765**	**100.0**	**4,876**	**100.0**
2002	Livebirth survived to 28 days	4,015	99.2	731	96.6	4,746	98.8
	Stillbirth	24	0.6	11	1.5	35	0.7
	Neonatal death	8	0.2	15	2.0	23	0.5
	All births	**4,047**	**100.0**	**757**	**100.0**	**4,804**	**100.0**

Source: ACT Maternal Perinatal Data Collection, 2002 and 2003 data

Table 119: Age and usual place of residence by Aboriginal and Torres Strait Islander identification, ACT, 2002 and 2003

			Aboriginal and Torres Strait Islander women		Non Aboriginal and Torres Strait Islander women	
Year	**Selected characteristics**		**No.**	**%**	**No.**	**%**
2003	**Age groups**	Less than 20 years	9	11.3	124	2.6
		20-24 years	22	27.5	537	11.5
		25-29 years	20	25.0	1,297	27.7
		30-34 years	18	22.5	1,744	37.2
		35 years or more	11	13.8	981	21.0
		Total	**80**	**100.0**	**4,683**	**100.0**
	Usual place of residence	North Side	31	38.8	2,046	43.7
		South Side	27	33.8	1,933	41.3
		ACT residents	**58**	**72.5**	**3,979**	**85.0**
		Non ACT residents	**22**	**27.5**	**704**	**15.0**
		Total	**80**	**100.0**	**4,683**	**100.0**
2002	**Age groups**	Less than 20 yrs	17	23.6	154	3.3
		20-24 yrs	13	18.1	554	12.0
		25-29 yrs	19	26.4	1,325	28.7
		30 years or more	23	32.0	2,577	55.9
		Total	**72**	**100.0**	**4,610**	**100.0**
	Usual place of residence	North Side	24	33.3	1,932	41.9
		South Side	26	36.1	1,975	42.8
		ACT residents	**50**	**69.4**	**3,907**	**84.8**
		Non ACT residents	**22**	**30.6**	**703**	**15.2**
		Total	**72**	**100.0**	**4,610**	**100.0**

Note: Records where Aboriginal and Torres Strait Islander identification was 'not stated' have been excluded. Aboriginal and Torres Strait Islander identification is based on the identified status of the mother. Status of the father is not recorded.

Source: ACT Maternal Perinatal Data Collection, 2002 - 2003 data

GLOSSARY

Aboriginal and Torres Strait Islander identification (status) refers to whether or not a person is of Aboriginal and/or Torres Strait Islander descent who self identifies as an Aboriginal and/or Torres Strait Islander and is accepted as such by the community in which he or she lives.

Abortion is a common term often used to mean induced abortion. See definition for 'induced abortion'.

Age specific fertility rates are the number of live births (occurring or registered) during the calendar year according to the age of women who gave birth, per 1,000 female resident population of the same age at 30 June. For calculating these rates, births to women under 15 are included in the 15-19 age group, and births to women aged 50 and over are included in the 45-49 age group. Pro rata adjustment is made for births for which the age of the woman is not given.[1]

Amniocentesis is the sampling of the amniotic fluid to help determine fetal maturity or disease, by aspiration of the fluid though the mother's abdomen.[25]

Anomaly is a deviation from what is regarded as normal. An example would be a congenital malformation or congenital anomaly.

Antenatal refers to the time period of pregnancy before birth.

Apgar score is a numerical scoring system (1-10) to indicate the condition of the baby after birth (usually done at one minute and five minutes after birth). It is based on the clinical assessment of heart rate, respiration, muscle tone, reflex irritability and colour of the baby. A low apgar score indicates poor adaptation to extrauterine life.

Augmentation is the artificial rupturing of membranes and/or use of oxytocin or other drugs to progress labour after spontaneous onset of labour.

Birth refers to the birth or delivery of a child.

Birth status is the condition of the baby immediately after birth. The status may be a live birth or stillbirth (fetal death).

Birthweight is the first weight of the baby (stillborn or live born) obtained after birth. It is usually measured to the nearest five grams.

Born before arrival refers to a woman who gives birth before arrival at the birth facility, where the woman and baby are subsequently admitted to that facility.

Breech birth – see 'Vaginal breech'.

Caesarean section is an operative birth through an abdominal incision.

Canberra Midwifery Program (CMP) was formed by the amalgamation of the former Community Midwives Program and the Birth Centre. The Canberra Midwifery Program commenced in 1999 and provides continuity of midwifery care by caseloading and small group practice to women throughout their pregnancy, birth and up to two weeks after the birth.

Chorionic relates to the outermost of the fetal membranes (chorion).[26]

Chorionic villus sampling (CVS) is the aspiration of a sample of chorionic tissue for biochemical and chromosome analysis.[27]

Community Midwives Program was a pilot program to provide midwifery care by a team of midwives. The program commenced in 1997 and continued until 1999 when it amalgamated with the Birth Centre to form the Canberra Midwifery Program.

Confidence interval (95% CI) is a computed interval with a given probability (for example, 95%) that a true value of a variable, such as a rate, mean or proportion, is contained between the low and high values. When the confidence intervals of two estimated values do not overlap, the values are statistically significantly different.

Confinement refers to a pregnancy resulting in at least one birth. A multiple pregnancy refers to one confinement with more than one birth. This term has not been used in this publication, preferring instead to use 'women giving birth' or "women who gave birth".

Congenital anomalies are the structural or anatomical abnormalities that are present at or existing from the time of birth, usually resulting from abnormal development in the first trimester of pregnancy. Previously reported as birth defects, congenital anomalies or malformations.

Crude birth rate is the number of live births registered during a calendar year per 1,000 estimated resident population at 30 June of that year (ABS definition).

Crude death rate is the number of deaths per 1,000 population (unless otherwise stipulated) in a given year (ABS definition).

Elective caesarean section refers to an operative birth though an abdominal incision performed before the onset of labour.

Emergency caesarean section refers to an operative birth though an abdominal incision performed after the onset of labour.

Episiotomy is an incision into the perineum and vagina to enlarge the vaginal opening for the birth.

Fertility rate – see 'Total fertility rate'.

Fetal death refers to death prior to the birth of a baby of 20 completed weeks gestation or at least 400 grams in birthweight who did not, at any time after birth, breathe or show any other evidence of life, such as a heartbeat. The following definition is used nationally. Stillbirth or fetal death refers to death prior to the complete expulsion or extraction from its mother of a product of conception of 20 or more completed weeks of gestation or of 400g or more of birthweight; the death is indicated by the fact that after separation the fetus does not breathe or show any other evidence of life, such as the beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles (WHO definition).

First degree tear or graze is a perineal graze, laceration or tear involving one or more of the following: the fourchette, hymen, labia, skin, vagina or vulva.

Forceps refers, in this publication, to a cephalic vaginal birth where forceps are applied to the head to assist with the birth.

Fourth degree tear is a perineal laceration or tear involving the anal sphincter complex or rectal mucosa.[28]

Gestation is the period of development of a baby from the time of conception (fertilisation of the ovum) to birth.

Gestational age is the duration of the pregnancy in completed weeks from the first day of the last normal menstrual period. This is estimated from clinical assessment (including estimates from ultrasound examinations) when accurate information on the last menstrual period is not available or not consistent with the clinical assessment of gestational age.

Gravidity refers to a pregnancy; the state of being pregnant, it is unrelated to the outcome.

ICD 9 (or ICD-9-CM) refers to the International Classification of Diseases Ninth Revision as developed by the World Health Organisation. The CM stands for Country Modification.

ICD 10 (or ICD-10-AM) refers to the International Classification of Diseases Tenth Revision as developed by the World Health Organisation. The AM stands for Australian Modification. In the ACT

and most other states in Australia, ICD-10-AM codes were introduced to code hospital (morbidity) inpatient data in July 1998.

Induced abortion refers, in this publication, to an intervention undertaken to terminate a pregnancy before the completion of 20 weeks gestation.

Induction of labour refers to an intervention undertaken to stimulate the onset of labour by pharmacological or other means.

Instrumental birth refers, in this publication, to an assisted cephalic vaginal birth using forceps or vacuum extraction.

Live birth refers, in this publication, to the complete expulsion or extraction from its mother a baby of 20 completed weeks gestation or more or at least 400 grams in birthweight or who after being born breathes or shows any other evidence of life, such as a heartbeat. The WHO defines live birth differently, as the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta attached, each product of such a birth is considered live born.

Midcall is an early discharge program with follow up at home by a registered midwife for antenatal or postnatal care.

Miscarriage is a common term used to mean spontaneous abortion. See the definition for 'Spontaneous abortion'.

Morbidity is a diseased state or the ratio of sick to well in the community.[29]

Mortality is a fatal outcome or the relative number of deaths (death rate) in a given population at a given time.

Multigravida refers to a woman who has been pregnant more than once.

Multipara refers to pregnant women who have had at least one previous pregnancy resulting in a live birth or stillbirth.

Multiple birth refers to a pregnancy resulting in more than one birth. For example twins, triplets etc.

Neonatal death is the death of a live born baby within 28 days of birth.

Neonatal morbidity refers to any condition or disease of the baby diagnosed within 28 days of birth.

Normal birth refers to a spontaneous cephalic vaginal birth. The term only relates to the birth method excluding other methods of birth such as forceps, vacuum extraction or Caesarean section.

Parity refers to the total number of previous pregnancies experienced by the woman that have resulted in a live birth or a stillbirth. The definition of parity has been changed since the last publication to align with the revised National Perinatal Data Development Committee's accepted definition.

Perinatal refers to the period from 20 weeks gestation to within 28 days after birth.

Perinatal death refers to a stillbirth or a neonatal death.

Perineal repair is the surgical suturing of a perineal laceration or episiotomy.

Plurality refers to the number of fetuses or babies from a pregnancy. On this basis a pregnancy may be classified as single or multiple.[25]

Post neonatal death refers to the death of a baby after 28 completed days and before 365 completed days.

Preterm birth refers to a birth before 36 completed weeks of gestation. Extremely preterm refers to births between 20 and 27 weeks gestation; moderately preterm refers to births between 28 and 31 weeks gestation; and mildly preterm refers to births between 32 and 37 weeks gestation.

Primigravida refers to a woman pregnant for the first time.

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

Prolonged rupture of membranes refers to the spontaneous rupture of membranes for at least 18 hours prior to the onset of regular contractions with cervical dilation.

Puerperium is the period from the end of the third stage of labour until the uterus returns to its normal size (approximately 6 weeks).

Resuscitation of a baby refers to active measures taken shortly after birth to assist the baby's ventilation and heartbeat, or to treat depressed respiratory effort and to correct metabolic disturbances.

Second degree tear is a perineal laceration or tear involving the pelvic floor or perineal muscles or vaginal muscles.

Separation (from hospital) refers to when a patient is discharged from hospital, transferred to another hospital or other health care accommodation, or dies in hospital following formal admission (ABS definition).

Shared care refers to a model of antenatal care where more than one professional clinician or clinic has been involved in a woman's antenatal care.

Singleton birth refers to a pregnancy resulting in one birth.

Spontaneous abortion refers to the premature expulsion from the uterus of the products of conception, of the embryo, or of a nonviable fetus (a fetus of less than 400 grams birthweight or less than 20 weeks gestation). These may be classified as complete or incomplete.

Statistically significant infers that it can be concluded on the basis of statistical analysis that it is highly probable.

Stillbirth see 'Fetal death'.

Third degree tear is a perineal laceration or tear involving the anal sphincter complex.[28]

Total fertility rate is the sum of the age-specific fertility rates (live births at each age of mother per female population of that age). It represents the number of children a woman would bear during her lifetime if she experienced current age-specific fertility rates at each age of her reproductive life.[1]

Vacuum extraction refers to an assisted vaginal birth using a suction cap applied to the baby's head.

Vaginal breech refers to a birth in which the baby's buttocks or lower limbs are the presenting parts, also includes vaginal breech birth with forceps to the after coming head.

HEALTH SERIES PUBLICATIONS

The Population Health Research Centre (PHRC) of ACT Health maintains and adds to an ongoing health series of publications to inform health professionals, policy developers and the community on health status in the Territory. Information contained therein will assist in the development of appropriate policy and service delivery models, the evaluation of programs, and an understanding of how the ACT compares with Australia as a whole with regard to health status.

The Health Series publications are listed below:

Number 1: ACT's Health: A report on the health status of ACT residents, Carol Gilbert, Ursula White, October 1995

Number 2: The Epidemiology of Injury in the ACT, Carol Gilbert, Chris Gordon, February 1996

Number 3: Cancer in the Australian Capital Territory 1983 - 1992, Norma Briscoe, April 1996

Number 4: The Epidemiology of Asthma in the ACT, Carol Gilbert, April 1996

Number 5: The Epidemiology of Diabetes Mellitus in the ACT, Carol Gilbert, Chris Gordon, July 1996

Number 6: Developing a Strategic Plan for Cancer Services in the ACT, Kate Burns, June 1996

Number 7: The First Year of The Care Continuum and Health Outcomes Project, Bruce Shadbolt, June 1996

Number 8: The Epidemiology of Cardiovascular Disease in the ACT, C Gilbert, U White, January 1997

Number 9: Health Related Quality of Life in the ACT: 1994 - 95, D Gannon, C Gordon, B Egloff, B Shadbolt, February 1997

Number 10: Disability and Ageing in the ACT: An Epidemiological Review, C Gilbert, April 1997

Number 11: Mental Health in the ACT, Ursula White, C Gilbert, May 1997

Number 12: Aboriginal and Torres Strait Islander Health in the ACT, N Briscoe, J McConnell, M Petersen, July 1997

Number 13: Health Indicators in the ACT: Measures of health status and health services in the ACT, C Kee (Gilbert), G Johansen, U White, J McConnell, January 1998

Number 14: Health status of the ACT by statistical sub divisions, C Kee, G Bodilson (Johansen), April 1998

Number 15: Results from the 1996 ACT Secondary School Students' Survey, H Phung, A Webb, N Briscoe, June 1998

Number 16: Childhood immunisation & preventable diseases in the ACT 1993 - 1997, H Phung, M Petersen, June 1998

Number 17: Health Related Quality of Life in the ACT 1994 - 97, H Phung, U White, B Egloff, June 1998

Number 18: Maternal and Perinatal Status, ACT, 1994 - 96, M Bourne, C Kee, September 1998

Number 19: Health risk factors in the ACT, C Kee, M Petersen, K Rockpool, October 1998

Number 20: Communicable diseases in the ACT, L Halliday, M Petersen, November 1998

Number 21: Illicit drug samples seized in the ACT, 1980 - 97, D Pianca, November 1998

Number 22: Health Status of Young People in the A.C.T, L Halliday, J McConnell, October 1998

Number 23: Health Status of Older People in the A.C.T, C Kee, G Bodilsen, October 1999

Number 24: Drug related health in the ACT, J Barac (McConnell), P Luke, O Phongkham, December 1999

Number 25: ACT Maternal and Perinatal 1997 Tables, M Bourne, March 2000

Number 26: ACT Maternal and Perinatal 1998 Tables, M Bourne, March 2001

Number 27: Cancer in the Australian Capital Territory 1994 – 1999, PHRC, February 2002

Number 28: Health of older people in the ACT, 1999, PHRC, May 2002

Number 29: Physical activity patterns of adults in the ACT, 2000, PHRC, November 2003

Number 30: Perinatal Deaths in the ACT 1991 – 2000, PHRC, June 2003

Number 31: Breast Cancer in the ACT, PHRC, June 2003

Number 32: Maternal and Perinatal Health in the ACT, 1999, PHRC, June 2003

Number 33: Alcohol and Tobacco Use by ACT Secondary School Students 1996-2002, PHRC, September 2003

Number 34: Cancer in the ACT 1996-2000, PHRC, November 2003

Number 35: Preventing injury in older people: fear of falling and physical activity ACT 2003, PHRC, November 2003

Number 36: Maternal and Perinatal Health in the ACT, 1997 - 2001, PHRC, September 2004

Number 37: Substance use & other health related behaviours among ACT Secondary Students, PHRC, December 2004

Number 38: Review of ACT child deaths, PHRC, June 2006

Number 39: The results of the 2005 ACT secondary student drug and health risk survey, PHRC, February 2007

Number 40: The Health of Aboriginal and Torres Strait Islander People in the ACT, 2000 – 2004, May 2007

Number 41: Sustainable Healthy Development – the ACT way, June 2007

Number 42: Cancer in the ACT 1998-2004, August 2007

Number 43: Report on the 2006 ACT Year 6 Physical Activity and Nutrition Survey, August 2007

Publications prepared after Health Series Number 13 are available online from the Population Health Research Centre web site.

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