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EXECUTIVE SUMMARY

This report provides an overview of maternal and perinatal health in the ACT from 1997 to 2001. 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 5.3 on page 64.

This is the fifth 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.

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 2001, whereas in 1995 the peak occurred in the 25-29 year age group.

The total fertility rate for the ACT resident population has declined slightly over time from 1.59 in 1997 to 1.49 in 2001. The total fertility rate for the Australian population has continued to decline over time from 2.86 in 1970, to 1.78 in 1997 to 1.73 in 2001¹.

The crude birth rate for ACT live births to ACT residents was 12.1 per 1,000 women in 2001.

Women who gave birth and babies born in the ACT

The total number of women giving birth in the ACT declined by 6.2% between 1997 and 2001, with a similar trend observed nationally. There were 4,414 women who gave birth to 4,513 babies in the ACT in 2001, 1.8% of all births nationally.

Place of birth

Almost all women gave birth in a hospital or birth centre in 2001 (99.6%). The remaining women gave birth at home (0.4%). Ninety-nine per cent of women who intended to give birth in hospital did so. One in three women chose to give birth in a private hospital during 2001 (32.9%).

Maternal characteristics

The majority of women who gave birth in the ACT in 2001 were ACT residents (86.3%), with almost all of the non-ACT residents being from NSW.

Births to teenagers accounted for 3.3% of all births in the ACT in 2001. This was significantly lower than the Australian percentage in 2001 (5.0%)².

The average age of women who gave birth in the ACT has increased from 28.6 years in 1991 to 30.0 years in 2001, 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

Two in three women had a normal (vaginal) birth in 2001 (63.1%). One in four women had a caesarean section (23.2%). A normal birth was more likely to occur following a spontaneous onset of labour and 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 2001, 2.2% compared with 1.7% for Australia². 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 (3.6%) of non-ACT residents had a multiple birth compared with 2.0% of ACT residents.

Baby characteristics

The ACT followed the national trend with male births (51.1%) slightly exceeding female births (48.9%).

In 2001, 80.2% of babies born in the ACT weighed between 2,500 and 3,999 grams, with an average birthweight of 3,369 grams. The majority (89.9%) of 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 2001 was the same as the Australian percentage (6.7%)². Fourteen per cent (13.7%) of babies born to women not usually resident in the ACT weighed less than 2,500 grams compared with 5.6% for ACT women. This reflects referrals for high-risk births to the Centre for Newborn Care at The Canberra Hospital from the surrounding region.

Birth defects

Reported birth defects accounted for 4.4% of all babies born in the ACT in 2001, with 173 (3.8%) babies reported to have one birth defect and 29 (0.6%) babies reported to have multiple birth defects.

Perinatal deaths

The fetal, neonatal and infant death rates are important indicators of our community's health. There were 29 stillbirths, seven neonatal deaths and less than five post neonatal deaths reported for ACT residents in 2001. Among babies born to non-ACT residents during 2001, there were six stillbirths and 13 neonatal deaths.

In 2001, the ACT had a stillbirth rate of 7.5 per 1,000 for ACT residents' births, compared with an Australian rate of 5.2 per 1,000 births³ and a neonatal death rate of 1.8 per 1,000 for ACT residents' births, compared with an Australian rate of 3.3 per 1,000 births³.

Aboriginal and Torres Strait Islander maternal characteristics

Aboriginal and Torres Strait Islander women accounted for 1.2% (52) of the women who gave birth in the ACT in 2001. They were more likely to have their babies at a younger age than their non-Aboriginal and Torres Strait Islander counterparts. Sixty-two per cent (61.6%) of the Aboriginal and Torres Strait Islander women were less than 30 years of age at the time of the birth compared with 45.3% of non-Aboriginal and Torres Strait Islander women.

Two hundred and ninety babies were born to Aboriginal and Torres Strait Islander women between 1997 and 2001. Ninety-eight per cent (97.9%) of these babies were live born and six babies were stillborn. The average birthweight for babies born to ACT residents who identified as Aboriginal was significantly higher than non-ACT residents. Nine per cent of babies 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 1997 to 2001. The information in this report will be of interest to service providers, policy makers, researchers and consumers. 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 fifth 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 is 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 than 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. Negotiations are underway to include these women in future reports using additional data from the Australian Bureau of Statistics (ABS).

Where population rates are presented, these represent 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 in the ACT, including those to usual residents of the surrounding Australian Capital Region.

A section for Aboriginal and Torres Strait Islander Women has been included for the first time in this series of publications, (Section 4). A small number of Aboriginal and Torres Strait Islander Women give birth each year in the ACT (around 55 per annum). Because of small numbers, data have been pooled for the years 1997 to 2001. This has enabled more detailed analyses of these women and their babies, whilst maintaining their confidentiality.

1.1 Fertility rates in the ACT

The total fertility rate for the ACT resident population has remained relatively stable over time ranging from a high of 1,641 births per 1,000 women in 2000 to 1,494 in 2001 (Table 1). The 2001 rates indicate that ACT women give birth to an average of 1.5 children during their lives. The total fertility rate for the Australian population has declined over time, from 1.9 in 1981, and more recently from 1.8 in 1997 to 1.7 in 2001¹.

Table 1: Number of births, age specific fertility rates and total fertility rates for all live births, ACT residents, 1997 - 2001

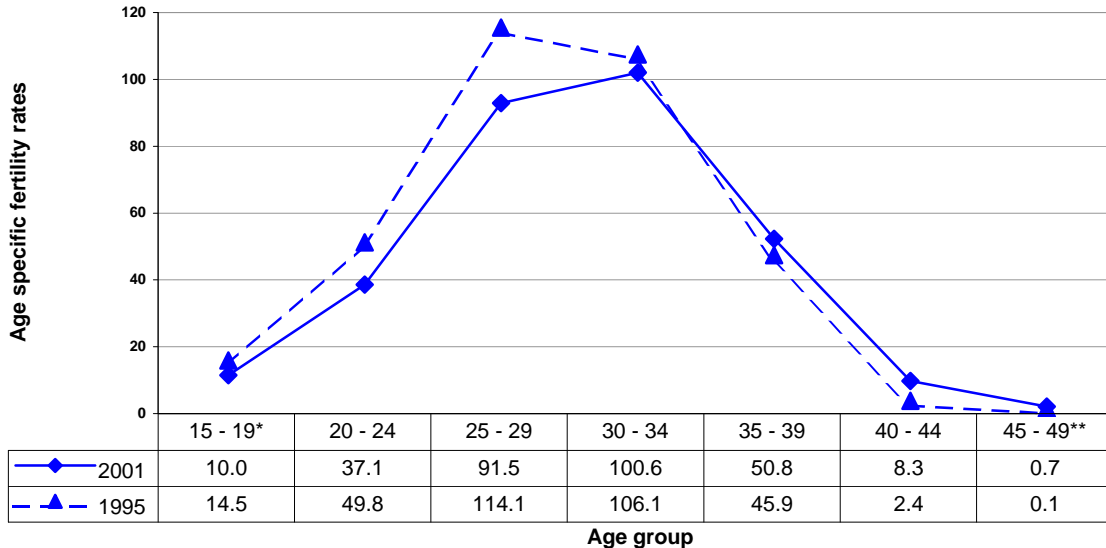
Age Groups	1997		1998		1999		2000		2001	
	No.	ASFR	No.	ASFR	No.	ASFR	No.	ASFR	No.	ASFR
15 - 19*	167	13.9	140	11.9	152	13.1	132	11.5	121	10.0
20 - 24	593	43.5	563	42.4	552	42.0	539	41.2	487	37.1
25 - 29	1,370	103.4	1,337	100.3	1,260	95.6	1,325	101.3	1,192	91.5
30 - 34	1,346	106.9	1,317	107.2	1,318	108.1	1,375	112.7	1,290	100.5
35 - 39	561	43.0	609	47.6	679	53.7	662	53.3	653	50.8
40 - 44	83	6.7	108	8.7	118	9.5	98	7.9	107	8.3
45 - 49	**	0.3	**	0.3	**	0.2	**	0.3	8	0.7
TFR Births per 1,000 women		1,589		1,593		1,611		1,641		1,494

Note: ASFR - Age Specific Fertility Rates TFR - Total Fertility Rates * By definition, all births for mothers aged less than 15 years are included in the 15-19 age group. **Less than five births for mothers aged 45 years or more have been suppressed for 1997 to 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. Figure 1 shows the changes in the fertility rate peaks between 1995 and 2001. Fertility rates peaked among women aged 25 to 29 years in 1995, whereas in 2001 the peak occurs in the 30 to 34 year age group.

Figure 1: Age specific fertility rates for all live births, ACT residents, 1995 and 2001



Note: ASFR means Age Specific Fertility Rates * By definition, all births for mothers aged less than 15 years are included in the 15-19 age group and ** all births for mothers aged more than 49 years are included in the 45-49 age group.

Source: ACT Maternal Perinatal Data Collection, 1995 & 2001 data

1.2 Crude birth rates in the ACT

Crude birth rates per 1,000 estimated resident population (ERP) presented in Table 2 show a decline from 13.4 in 1997 to 12.1 in 2001. The Australian Bureau of Statistics (ABS) 2001 crude birth rate for ACT was 12.2¹. The ABS reports on the number of live births to ACT residents irrespective of where the birth occurs, which accounts for the slight difference in rates. The Australian crude birth rate in 2001 was 12.6 per 1,000 ERP, with Northern Territory registering the highest crude birth rate (19.1 per 1,000 ERP) and South Australia registering the lowest crude birth rate (11.4 per 1,000 ERP)⁴.

Table 2: Crude birth rates per 1,000 ACT residents, 1997 - 2001

	1997	1998	1999	2000	2001
Livebirths in the ACT	4,743	4,691	4,637	4,736	4,478
Livebirths to ACT residents	4,126	4,078	4,082	4,135	3,858
Estimated resident population	308,011	308,411	310,173	310,839	319,317
Crude birth rate for ACT residents	13.4	13.2	13.2	13.3	12.1

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

Source: ACT Maternal Perinatal Data Collection and ABS: Population by age and sex, ACT, Cat no 3201.0

1.3 Women who gave birth and babies born in the ACT

ACT births accounted for 1.8% of all births nationally in 2001. Table 3 presents the total number of women who gave birth and babies born in the ACT from 1997 to 2001. The total number of babies born decreased by 5.6% over this time period.

Table 3: Women who gave birth and babies born in the ACT, 1997 - 2001

	1997	1998	1999	2000	2001
Number of women giving birth	4,708	4,645	4,586	4,684	4,414
Number of babies born	4,785	4,737	4,675	4,774	4,513

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

Source: ACT Maternal Perinatal Data Collection, 1997 - 2001

1.4 Place of birth

During 2001, 99.7% of women gave birth in a hospital or birth centre in the ACT, this includes women who gave birth before arrival at hospital (0.5%). The percentage of women who gave birth in a hospital or birth centre in the ACT has remained stable since 1997, varying from 99.0% in 1997 to 99.7% in 2001. The remaining women (0.4%) gave birth at home (Table 4).

Table 4: Type of birth facility where women gave birth, ACT, 1997 - 2001

Type of birth facility	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Hospital	4,290	91.1	4,212	90.7	4,218	92.0	4,366	93.2	4,112	93.2
Birth centre	372	7.9	389	8.4	346	7.5	296	6.3	286	6.5
Home	46	1.0	44	0.9	22	0.5	22	0.5	16	0.4
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0

Note: During 1997 to 1998 women booked into the Canberra Midwifery Program intending to have their baby at the Birth Centre but gave birth at home, without a subsequent admission to hospital, have been classified under the "home" category. Babies 'born before arrival' at hospital have been included with hospital numbers.

Source: ACT Maternal Perinatal Data Collection, 1997 - 2001 data

Ninety-nine per cent (98.8% to 99.3%) of women who intended to give birth in a hospital, did indeed give birth in a hospital during 2000 and 2001. In 2001, Table 5 shows that 54.0% of the women who intended to give birth in a birth centre did give birth in a birth centre, while 45.3% gave birth in the hospital delivery suite and the remaining 0.6% gave birth at home or before arrival at hospital. The majority of the women transferred from the birth centre to the delivery suite were 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 (eg midwife already in Delivery Suite with another woman or perhaps Delivery Suite staff covering sick leave) and the woman's choice.

Table 5: Actual place of birth by intended place of birth at onset of labour, ACT, 2000 - 2001

Actual place of birth	INTENDED PLACE OF BIRTH AT ONSET OF LABOUR					
	Hospital		Birth centre		Home	
	No.	%	No.	%	No.	%
2001						
Hospital	3,848	98.8	214	45.3	6	30.0
Birth centre	31	0.8	255	54.0	0	0.0
Home	<5	-	<5	-	14	70.0
Born before arrival	16	-	<5	-	0	0.0
2000						
Hospital	4,079	99.3	255	47.7	<5	9.1
Birth centre	18	0.4	277	51.8	<5	4.5
Home	<5	-	<5	-	19	86.4
Born before arrival	8	-	<5	-	0	0.0

Note: The data quality of intended place of birth prior to 1999 was poor, a change to the ACT Midwives Data Collection Form has improved the data quality to allow reporting of intended place of birth at onset of labour data. Records where the intended place of birth at onset of labour was "not stated" and the actual place of birth was a "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, 2000 - 2001 data

Between 1997 and 2001, 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. Two out of every three women (66.3%) who gave birth in the ACT, gave birth in public hospitals (Table 6). Just under half (42.7%) of the women gave birth at The Canberra Hospital and almost a quarter (23.7%) at Calvary Public Hospital. The percentage of women who gave birth in an ACT public hospital during 2001 (66.3%) has declined from seventy-three per cent (72.5%) in 1997 and seventy-seven per cent (76.8%) in 1999. Almost one quarter of women, who gave birth in the ACT during 2001, gave birth at John James Memorial Hospital (23.0%). Less than one per cent of women gave birth at home or before arrival at hospital.

Table 6: Place of birth, ACT, 1997 - 2001

Women who gave birth at:	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Public hospitals	3,412	72.5	3,392	73.0	3,524	76.8	3,427	73.2	2,930	66.3
TCH - Delivery Suite	2,001	42.5	1,965	42.3	1,963	42.8	1,901	40.6	1,599	36.2
TCH Birth Centre	372	7.9	389	8.4	346	7.5	296	6.3	286	6.5
Calvary Public	1,039	22.1	1,038	22.3	1,215	26.5	1,230	26.3	1,045	23.7
Private hospitals	1,250	26.6	1,212	26.1	1,023	22.3	1,225	26.2	1,450	32.9
Calvary Private	307	6.5	307	6.6	270	5.9	331	7.1	435	9.9
John James	943	20.0	905	19.5	753	16.4	894	19.1	1,015	23.0
Homebirths	46	1.0	41	0.9	22	0.5	22	0.5	16	0.4
Born before arrival	*	*	*	*	17	0.4	10	0.2	18	0.4
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0

Note: * There were less than 5 babies reported to have been born before arrival (BBA) in both 1997 & 1998. These numbers have been included in the totals for the hospital of admission. BBA refers to babies born before the mother arrives at the planned birth facility, where the mother and baby are subsequently admitted to that facility. The medical records from 1999 to 2001 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, 1997 - 2001 data

Women admitted to a public hospital can elect their accommodation status to be public or private. Table 7 shows small percentages of women choosing private accommodation at both The Canberra Hospital (4.2%) and at Calvary Public Hospital (3.3%) in 2001.

Table 7: Accommodation status by hospital of birth, ACT public hospitals, 1999 - 2001

Accommodation status	1999		2000		2001	
	No.	%	No.	%	No.	%
The Canberra Hospital						
Public	2,152	93.2	2,116	96.3	1,806	95.8
Private	157	6.8	81	3.7	79	4.2
Total	2,309	100.0	2,197	100.0	1,885	100.0
Calvary Public						
Public	1,173	96.5	1,197	97.3	1,011	96.7
Private	42	3.5	33	2.7	34	3.3
Total	1,215	100.0	1,230	100.0	1,045	100.0

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

Non-ACT resident women who gave birth in an ACT hospital were more likely to do so in a private hospital (38.9%) compared with ACT residents (32.2%). Non-ACT residents were most likely to attend The Canberra Hospital (47.4%) or John James Memorial Hospital (29.1%) for their birth (Table 8).

Table 8: ACT hospitals where women gave birth in the ACT by state of residence, ACT, 2001

ACT Hospitals	Maternal state of residence					
	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
ACT Public Hospital	2563	67.8	367	61.1	2930	66.9
The Canberra Hospital	1600	42.3	285	47.4	1885	43.0
Calvary Public	963	25.5	82	13.6	1045	23.9
ACT Private Hospital	1216	32.2	234	38.9	1450	33.1
Calvary Private	376	9.9	59	9.8	435	9.9
John James Memorial Hospital	840	22.2	175	29.1	1015	23.2
Total	3779	100.0	601	100.0	4380	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, 2001 data

1.5 Seasonality of birth

Table 9 presents information on birth seasonality in the ACT for the years 1999 to 2001. There was an even spread of births throughout the year in 2001, with births per month ranging from 418 (9.3%) in January to 347 (7.7%) in November. This pattern has remained consistent over time.

Table 9: Month of birth, ACT, 1999 - 2001

Month of birth	1999		2000		2001	
	No.	%	No.	%	No.	%
January	401	8.6	380	8.0	418	9.3
February	368	7.9	380	8.0	360	8.0
March	428	9.2	378	7.9	380	8.4
April	386	8.3	407	8.5	354	7.8
May	395	8.4	425	8.9	366	8.1
June	396	8.5	404	8.5	368	8.2
July	380	8.1	375	7.9	374	8.3
August	418	8.9	402	8.4	413	9.1
September	425	9.1	399	8.4	380	8.4
October	389	8.3	445	9.3	374	8.3
November	348	7.4	415	8.7	347	7.7
December	341	7.3	364	7.6	379	8.4
Total	4,675	100.0	4,774	100.0	4,513	100.0

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

2 MATERNAL CHARACTERISTICS

2.1 ACT maternal demographic characteristics

Maternal demographic characteristics are presented in Table 10 for all women who gave birth in the ACT, including ACT and non-ACT residents in 2001. Data from 1997 to 2001 are provided in the Appendix.

The majority of women who gave birth in the ACT in 2001 were ACT residents (86.3%) (Table 10). The percentage of non-ACT residents giving birth in the ACT increased slightly from 11.7% in 1999 to 13.7% in 2001, with women residing in NSW accounting for over 99% (599) of non-ACT resident women who gave birth in the ACT.

Table 10: Maternal demographic characteristics, ACT, 2001

		2001	
		No.	%
Age group	Less than 20 years	145	3.3
	20 - 24 years	548	12.4
	25 - 29 years	1,316	29.8
	30 - 34 years	1,516	34.3
	35 - 39 years	758	17.2
	40 years or more	131	3.0
	Total	4,414	100.0
Country of birth	Australia	3,561	80.7
	Other Oceania	108	2.4
	Europe	273	6.2
	Africa including the Middle East	82	1.9
	Asia	302	6.8
	America	84	1.9
	Not stated	4	0.1
	Total	4,414	100.0
Aboriginal and Torres Strait Islander identification	Aboriginal and Torres Strait Women	52	1.2
	Non-Aboriginal and Torres Strait Women	4,353	98.6
	Not stated	9	0.2
	Total	4,414	100.0
Usual place of residence	ACT residents	3,811	86.3
	North Side	1,826	41.4
	North Canberra	381	8.6
	Belconnen	968	21.9
	Gungahlin - Hall	477	10.8
	South Side	1,985	45.0
	South Canberra	249	5.6
	Woden Valley	317	7.2
	Weston Creek	249	5.6
	Tuggeranong	1,170	26.5
	Non-ACT residents	603	13.7
	Total	4,414	100.0
	Marital status	Married (inc, de facto)	3,966
Never married		377	8.5
Other		68	1.5
Not stated		3	0.1
Total		4,414	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, 2001 data

There has been a slight reduction in the percentage of births to teenage mothers in the ACT in recent years. Four per cent of all births in the ACT were to teenagers in 1997⁵, compared with 3.3% of all births in 2001 (95% CI 2.8 – 3.8). This was significantly lower than the Australian percentage (5.0%; 95% CI 4.9 – 5.1) in 2001². There were less than five births to women aged 15 years or less during 2001. During 1997 to 2001 there were 24 reported births to women aged 15 years or less.

Women in the ACT are choosing to delay childbirth with a reduction in the percentage of ACT women under 25 years who gave birth (18.7% in 1997 compared with 15.7% in 2001), and a rise in the percentage of ACT women 35 years and over who gave birth (15.8% in 1997 compared with 20.2% in 2001).

Table 11 highlights differences in age groupings between birth facilities in the ACT. Women giving birth in private hospitals during 2001 were more likely to be aged over 30 years (73.1%) while women giving birth in public hospitals were more likely to be aged less than 30 years (54.8%). The average age of women giving birth in public hospitals (29.0 years) was significantly lower than those in private hospitals (32.0 years; p=0.00)⁹.

Table 11: Maternal age by hospital of birth, ACT, 2001

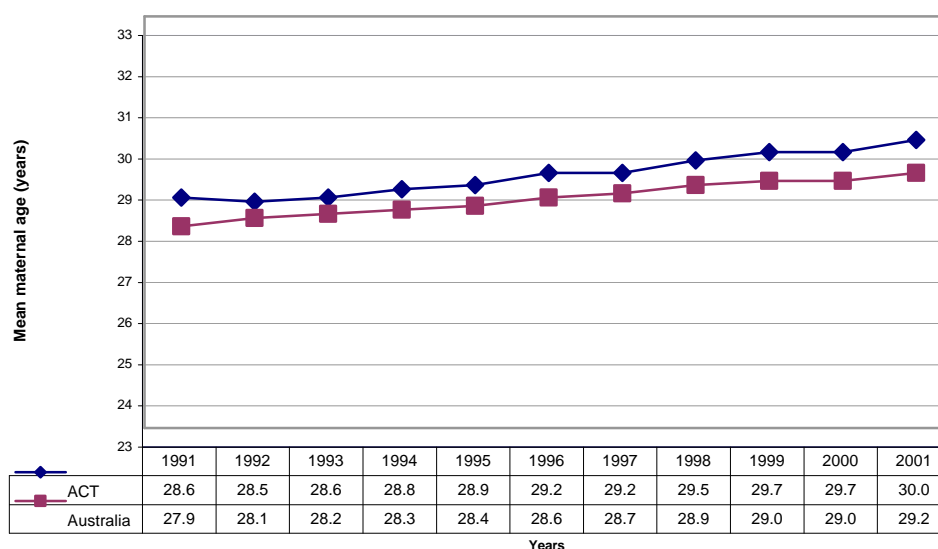
Age groups	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Less than 20 years	89	4.7	44	4.2	<5	0.5	7	0.7
20 – 24 years	316	16.8	171	16.4	24	5.5	32	3.2
25 – 29 years	577	30.6	410	39.2	108	24.8	216	21.3
30 – 34 years	555	29.4	285	27.3	206	47.4	455	44.8
35 – 39 years	300	15.9	118	11.3	77	17.7	258	25.4
40 years or more	48	2.5	17	1.6	18	4.1	47	4.6
Total	1,885	100.0	1,045	100.0	435	100.0	1,015	100.0
Average age	29.2 years		28.5 years		31.5 years		32.2 years	

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

Source: ACT Maternal Perinatal Data Collection, 2001 data

The average age of women who gave birth in the ACT has increased over time from 28.6 years in 1991 to 30.0 years in 2001. The average age of women in the ACT having their first child was 28.4 years in 2001. Figure 2 compares the differences in average maternal age between the ACT and Australia from 1991 to 2001, illustrating an ongoing increase in maternal age for both the ACT and Australian populations.

Figure 2: Average maternal age, ACT and Australia, 1991 – 2001

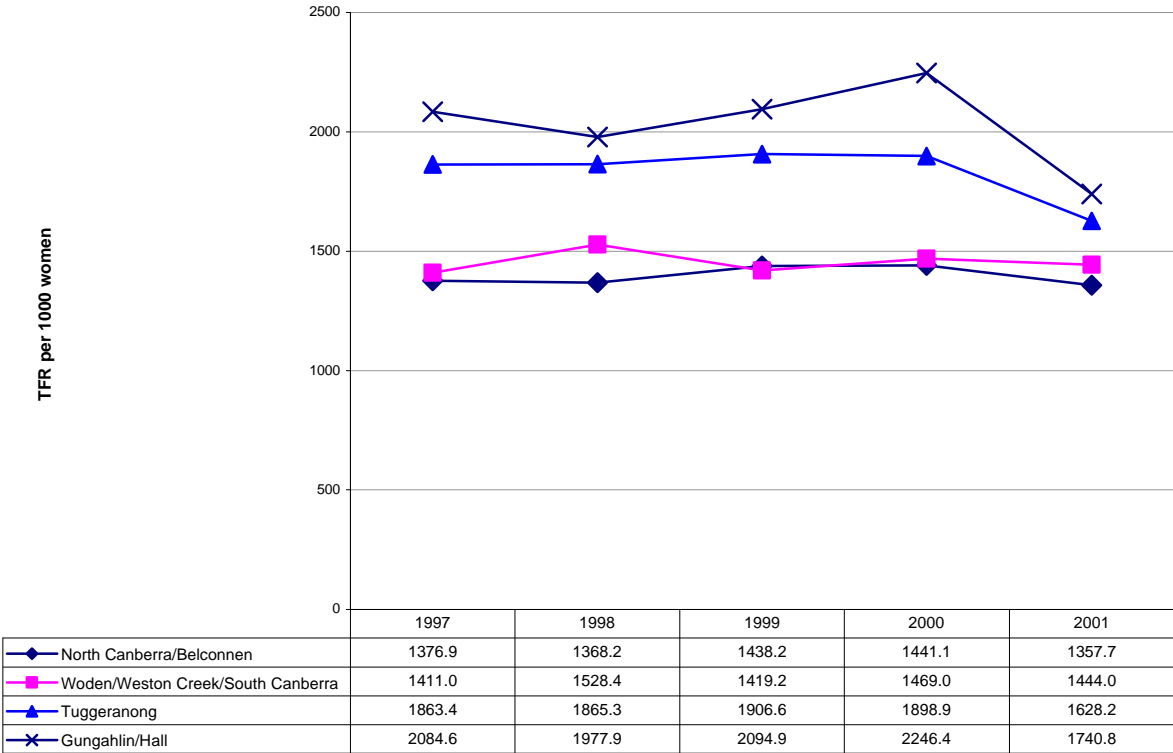


Source: AIHW, NPSU Perinatal Series, Australia's Mothers and Babies, 1991 - 2001

Forty-five per cent (45.0%) of women who gave birth resided on the South side of Canberra while women residing on the North side of Canberra accounted for 41.4% of women who gave birth in the ACT in 2001. In Gungahlin-Hall the birth rates have risen from 8.2% of women giving birth in the ACT in 1997 to 10.8% in 2001 (Table 76).

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 remained stable at around 1,400 births per 1,000 women. The newer subdivisions of Tuggeranong and Gungahlin have consistently experienced higher TFR than the older subdivisions, however, both subdivisions experienced a decrease in TFR during 2001. The decrease in the fertility rate for Gungahlin is likely to be due to a rapid increase in the population as new residential areas were opened. There was an increase of 53% in the number of women living in Gungahlin between 1997 and 2001, however the number of births only increased by 24%. Total fertility rates for 1997-2001 and age specific fertility rates for 2001 by subdivisions are presented in Table 78 and Table 79 in the Appendix.

Figure 3: Total fertility rates for ACT subdivisions, 1997 - 2001

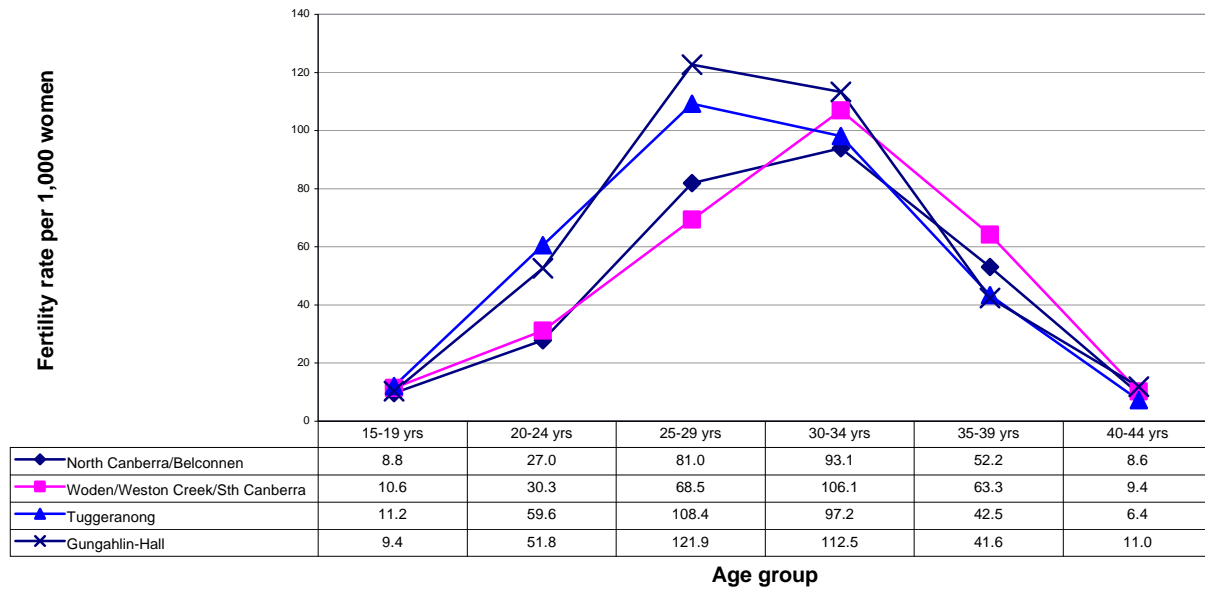


Note: TFR means Total Fertility Rates.

Source: ACT Maternal Perinatal Data Collection and Population by sex and age, ACT, ABS Cat. No. 3235.8 and Population By Age and Sex, Australia, 2001, ABS Cat. No. 3235.0.55.001

Figure 4 presents age specific fertility rates (ASFR) by ACT subdivision for 2001. Again, different patterns of fertility are observed for the older and newer subdivisions of the ACT. ASFR for the subdivisions of Tuggeranong and Gungahlin reflect a peak in fertility in the younger age group 25-29 years whereas for the older subdivisions the peak occurs in the 30-34 year age group. The ASFR for the 20-24 year age group in the Tuggeranong and Gungahlin subdivisions is approximately double the ASFR for the same age group in the Belconnen and Woden subdivisions.

Figure 4: Age specific fertility rates for all live births by subdivision, ACT residents, 2001



Note: ASFR - Age Specific Fertility Rates TFR - Total Fertility Rates * By definition, all births for mothers aged less than 15 years are included in the 15-19 age group. ** Note all births for mothers aged 45 years or more have been removed due to small numbers.
Source: ACT Maternal Perinatal Data Collection and Population by age and sex, Australia, 2001, ABS Cat. No. 3235.0.55.001.

2.2 Smoking during pregnancy

Smoking during pregnancy is an important risk factor for adverse perinatal outcomes. Self reported data on cigarette smoking was collected for women who gave birth in the ACT. Almost 15% of women who gave birth in the ACT during 2000 and 2001 smoked during their pregnancy. Nine per cent of women smoked ten or more cigarettes per day during their pregnancy in 2001, and a further five per cent smoked less than five cigarettes per day. (Table 12).

Table 12: Smoking status and number of cigarettes smoked during pregnancy, ACT residents, 2000 - 2001

	2000		2001	
	No.	%	No.	%
Non smoker	3,303	80.5	3,131	82.2
Smokers	602	14.7	556	14.6
Less than 10 cigarettes per day	190	4.6	189	5.0
10 or more cigarettes per day	384	9.4	351	9.2
No. of cigarettes not stated	28	0.7	16	0.4
Not stated	198	4.8	124	3.3
Total	4,103	100.0	3,811	100.0

Note: Data includes ACT resident women who gave birth in the ACT. Smoking data for 1997 to 1999 has not been included in this report due to high levels (over 5% each year) of 'not stated'.

Source: ACT Maternal Perinatal Data Collection, 2000 and 2001 data

Smoking status during pregnancy by maternal age is shown in Table 13. Forty-one per cent of women aged less than 20 years smoked during pregnancy, compared to only nine per cent of women aged 35 years or more. Women who smoked during pregnancy (average age 27 years) were significantly younger ($p=0.00$) than women who did not smoke (average age 30 years)⁹.

Table 13: Number of cigarettes smoked during pregnancy by maternal age, ACT residents, 2001

	Less than 20 years		20 – 24 years		25 – 29 years		30 – 34 years		35 years or more	
	No.	%	No.	%	No.	%	No.	%	No.	%
Non smoker	67	55.8	330	68.0	948	81.0	1,124	88.2	662	87.1
Less than 10 cigarettes per day	18	15.0	42	8.7	71	6.1	38	3.0	20	2.6
10 or more cigarettes per day	31	25.8	90	18.6	107	9.1	71	5.6	52	6.8
Not stated	4	3.3	23	4.7	45	3.8	42	3.3	26	3.4
Total	120	100.0	485	100.0	1,171	100.0	1,275	100.0	760	100.0

Source: ACT Maternal Perinatal Data Collection, 2001 data

Women who smoked during pregnancy were significantly more likely to give birth to lower birthweight babies ($p=0.00$) than mothers who did not smoke during pregnancy. The average birthweight of infants born to smokers was 3,148 grams compared with non-smokers 3,406 grams (Table 14). The proportion of babies weighing less than 2,500 grams was significantly higher for women who smoked (9.1%; 95% CI 6.7 - 11.5) than for women who did not smoke (4.4%; 95% CI 3.7 - 5.1).

Table 14: Birthweight by smoking status during pregnancy, ACT residents, 2001

Birthweight	Non smoker		Smoker	
	No.	%	No.	%
Less than 2500 grams	138	4.4	49	9.1
2500 grams or more	2990	95.5	490	90.7
Total	3131	100.0	540	100.0
Average Birthweight	3,406 grams		3,148 grams	

Note: Data includes babies born in the ACT to ACT resident women. Due to rounding of percentages, some totals may not equal 100.

Source: ACT Maternal Perinatal Data Collection, 2001 data

2.3 Pregnancy profile

Information about previous pregnancies, parity and previous pregnancy outcome is reported by the woman when a pregnancy history is taken and recorded at an antenatal visit or birth admission.

Table 15: Pregnancy profile characteristic, ACT, 1999 - 2001

	1999		2000		2001	
	No.	%	No.	%	No.	%
Previous pregnancies						
No previous pregnancy	1,396	30.4	1,493	31.9	1,634	37.0
One previous pregnancy	1,430	31.2	1,472	31.4	1,437	32.5
Two previous pregnancies	883	19.3	910	19.4	755	17.1
Three previous pregnancies	474	10.4	402	8.6	348	7.9
Four or more previous pregnancies	403	8.7	407	8.7	240	5.4
Total	4,586	100.0	4,684	100.0	4,414	100.0
Parity						
No previous births	1,905	41.5	2,040	43.6	1,940	44.0
One previous birth	1,584	34.5	1,594	34.0	1,499	34.0
Two previous births	725	15.8	716	15.3	642	14.5
Three previous births	242	5.3	230	4.9	216	4.9
Four or more previous births	130	2.8	104	2.2	117	2.7
Total	4,586	100.0	4,684	100.0	4,414	100.0

Note: The number of pregnancies and a woman's parity may differ depending on the birth outcome for each pregnancy with parity increasing by more than one for multiple pregnancies. Parity refers to the number of children a woman has borne that are either live births or stillbirths. As not all pregnancies progress to 20 weeks gestation (that is they are aborted), 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.

Source: ACT Maternal Perinatal Data Collection, 1999 – 2001 data

Parity of women was relatively evenly spread across hospital of birth (Table 16). In 2001, 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 (TCH 9.5%, Calvary 7.8%) when compared with the private hospitals (Calvary Private 5.3%, JJMH 4.1%).

Table 16: Parity by hospital of birth, ACT, 2001

Parity	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
No previous births	784	41.6	473	45.3	195	44.8	484	47.7
One previous birth	655	34.7	334	32.0	165	37.9	336	33.1
Two previous births	267	14.2	157	15.0	52	12.0	153	15.1
Three previous births	109	5.8	54	5.2	16	3.7	35	3.4
Four or more previous births	70	3.7	27	2.6	7	1.6	7	0.7
Total	1,885	100.0	1,045	100.0	435	100.0	1,015	100.0

Note: Parity refers to the number of children a woman has borne that are either live births or stillbirths; 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.

Source: ACT Maternal Perinatal Data Collection, 2001 data

Maternal age, usual place of residence and marital status by pregnancy status are presented in Table 17. Primigravida refers to a woman 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 29 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 (13.4%) than multigravida (5.7%) in 2001.

Table 17: Selected maternal characteristics by pregnancy status, ACT, 2001

		Primigravida		Multigravida	
		No.	%	No.	%
Age groups	Less than 20 years	120	7.4	25	0.9
	20 - 24 years	293	18.0	255	9.2
	25 - 29 years	571	35.0	744	26.8
	30 - 34 years	465	28.5	1,050	37.8
	35 - 39 years	161	9.9	597	21.5
	40 years or more	22	1.3	109	3.9
	Total	1,632	100.0	2,780	100.0
Usual place of residence	ACT residents	1,412	86.5	2,397	86.2
	North Side	689	42.2	1,136	40.9
	South Side	723	44.3	1,261	45.4
	Non-ACT residents	220	13.5	383	13.8
	Total	1,632	100.0	2,780	100.0
Marital status	Married (inc. de facto)	1,403	86.0	2,561	92.1
	Never married	219	13.4	158	5.7
	Widowed, Divorced or Separated	10	0.6	58	2.1
	Not stated	0	0.0	3	0.1
	Total	1,632	100.0	2,780	100.0

Note: Due to the rounding of percentages some totals may not equal 100.0. Two records with previous pregnancy as 'Not stated' have been excluded from the table.

Source: ACT Maternal Perinatal Data Collection, 2001 data

A general overview of previous pregnancy outcomes for women in the ACT is presented in Table 18. 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 2001, 10.6% of women who have had one or more previous pregnancies (multigravida) had not previously experienced a live birth during their reproductive life.

Only a relatively small percentage of women who gave birth in 2001 had previously experienced a neonatal death (0.4%) or stillbirth (1.9%) during their reproductive life.

Fetal loss includes miscarriage (spontaneous abortion), termination of pregnancy (induced abortion) and ectopic pregnancies before 20 weeks gestation. Three in ten women who gave birth in 2001 had previously experienced a fetal loss (27.9%) during their reproductive life.

Table 18: Previous pregnancy outcomes for multigravida women, ACT, 1999 - 2001

	1999		2000		2001	
	No.	%	No.	%	No.	%
Previous live births						
No previous live births	534	16.7	565	17.7	314	11.3
One previous live birth	1,592	49.9	1,601	50.2	1,517	54.6
Two previous live births	721	22.6	715	22.4	633	22.8
Three previous live births	224	7.0	217	6.8	207	7.4
Four or more previous live births	119	3.7	93	2.9	109	3.9
Total	3,190	100.0	3,191	100.0	2,780	100.0
Previous neonatal deaths						
No previous neonatal death	3,180	99.7	3,184	99.8	2,770	99.6
One or more previous neonatal deaths	10	0.3	7	0.2	10	0.4
Total	3,190	100.0	3,191	100.0	2,780	100.0
Previous stillbirths						
No previous stillbirths	3,103	97.3	3,114	97.6	2,727	98.1
One or more previous stillbirths	87	2.7	77	2.4	53	1.9
Total	3,190	100.0	3,191	100.0	2,780	100.0
Previous fetal loss						
No previous fetal loss	1,699	53.3	1,714	53.7	2,012	72.4
One previous fetal loss	991	31.1	952	29.8	530	19.1
Two previous fetal losses	342	10.7	342	10.7	163	5.9
Three previous fetal losses	92	2.9	121	3.8	43	1.6
Four or more fetal losses	66	2.1	62	1.9	32	1.2
Total	3,190	100.0	3,191	100.0	2,780	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. Two records with previous pregnancy as 'Not stated' have been excluded from the table.

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data.

2.4 Multiple births

ACT maternity services have the highest percentage of multiple births in Australia in 2001. This percentage includes all women who give birth in the ACT (both ACT and non-ACT residents). Table 19 shows that there were 98 multiple births in the ACT in 2001, accounting for 2.2% of all ACT births, compared with the Australian percentage of 1.7%².

Table 19: Women having a multiple birth, ACT, 1999 - 2001

Plurality	1999		2000		2001	
	No.	%	No.	%	No.	%
Singleton	4,499	98.1	4,598	98.2	4,316	97.8
Multiple birth	87	1.9	86	1.8	98	2.2
Total	4,586	100.0	4,684	100.0	4,414	100.0

Note: There were less than five triplets born in any 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, 1999 – 2001 data

Table 20 compares multiple births in the ACT with the Australian figures for a five-year period from 1997 to 2001. Higher percentages of multiple births are evident in the non-ACT resident data. Four per cent (3.6%) of non-ACT residents who gave birth in the ACT in 2001 had a multiple birth compared with 2.0% 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 rates of multiple births for ACT residents are similar to Australian rates for the 1997 – 2001 period.

Table 20: Women having a multiple birth, ACT and Australia, 1997 - 2001

Year	ACT residents		Non-ACT residents		Total - ACT		Australia	
	No.	%	No.	%	No.	%	No.	%
1997	53	1.3	24	4.0	77	1.6	3,709	1.5
1998	63	1.6	27	4.5	90	1.9	3,751	1.5
1999	62	1.5	25	4.7	87	1.9	3,929	1.6
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

Note: Multiple birth includes twins and triplets. ACT's annual rates fluctuate due to the small numbers.

Source: ACT Maternal Perinatal Data Collection and AIHW, NPSU Perinatal Series, Australia's Mothers and Babies, 1997 - 2001

The Canberra Hospital (TCH) had the highest number of women having a multiple birth (Table 21) in 2001. TCH accepts referrals for multiple birth pregnancies from the surrounding Australian Capital Region, which contributes to the higher rate of multiple births observed in the ACT.

Table 21: Women having a multiple birth by hospital of birth, ACT, 2001

Plurality	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Singleton	1,828	97.0	1,035	99.0	429	98.6	992	97.7
Multiple birth	57	3.0	10	1.0	6	1.4	23	2.3
Total	1,885	100.0	1,045	100.0	435	100.0	1,015	100.0

Source: ACT Maternal Perinatal Data Collection, 2001 data. Note: Two multiple births were either a homebirth or born before arrival at hospital. These are not included in the table.

A clear association between multiple pregnancy and advanced maternal age has been reported each year in Australia's Mothers & Babies since 1991. This trend was also observed for the ACT between 1999 and 2001 with the average age of mothers having a multiple birth (31.3 years) being significantly higher ($p = 0.01$) than the average age of mothers having a single birth (29.7 years). Multiple birth numbers by maternal age for 2000 and 2001 are presented in Table 84 in the Appendix.

2.5 Antenatal care

Antenatal care is the care that a woman receives during pregnancy. It includes screening pregnant women, with the aim of detecting, and thereby preventing, both maternal and neonatal adverse events⁶. The aim of this care is to decrease the incidence of unfavourable pregnancy outcomes by detecting and treating conditions or complications during the pregnancy. For example screening pregnant women for anaemia (using a blood test) and providing iron supplements to those found to be anaemic^{7 8}.

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. Almost nine out of every 10 pregnant women in the ACT had six or more antenatal visits in 2000 (88.5%) and 2001 (87.2%) (Table 22).

Table 22: Antenatal visits, ACT, 2000 - 2001

	2000		2001	
	No.	%	No.	%
No visits	6	0.1	12	0.3
One to five visits	286	6.1	336	7.6
Six or more visits	4,147	88.5	3,847	87.2
Not stated	245	5.2	219	5.0
Total	4,684	100	4,414	100.0

Source: ACT Maternal Perinatal Data Collection, 2000 - 2001 data

Multipara women were significantly more likely to have five or less antenatal visits (9.1%; 95% CI 8.0 - 10.2) compared with primipara women (6.4%; 95% CI 5.3 – 7.4)⁹ during 2001.

2.5.2 Responsibility for antenatal care

Women in the ACT access a variety of antenatal care providers (Table 23). Obstetricians (37.3%) provided the largest percentage of antenatal care in 2001, followed by shared care (29.9%) and the antenatal clinic (20.6%). A slightly higher percentage of non-ACT women chose antenatal care provided by an obstetrician (42.0%) compared with ACT resident women (36.6%), reflecting the tertiary referral service provided by ACT hospitals for non-ACT residents. A small percentage of women (0.4%) had their antenatal care solely provided by a General Practitioner during 2001. General Practitioners were also involved in the shared care arrangements with other professional clinicians or clinics for the provision of antenatal care.

Table 23: Responsibility for antenatal care, ACT, 2001

	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
Obstetrician	1392	36.6	252	42.0	1644	37.3
General Practitioner	5	0.1	14	2.3	19	0.4
Midwife (max 2 GP visits)	18	0.5	<5	0.5	21	0.5
Antenatal Clinic	841	22.1	68	11.3	909	20.6
CMP	410	10.8	47	7.8	457	10.4
Shared Care	1104	29.0	211	35.2	1315	29.9
Not Stated	31	0.8	<10	0.8	37	0.8
Total	3801	100.0	601	100.0	4402	100.0

Note: CMP refers to the Canberra Midwifery Program that commenced in 1999. 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. Due to the rounding of percentages some totals may not equal 100.0. Twelve women who did not have any antenatal visits have been excluded.

Source: ACT Maternal Perinatal Data Collection, 2001 data

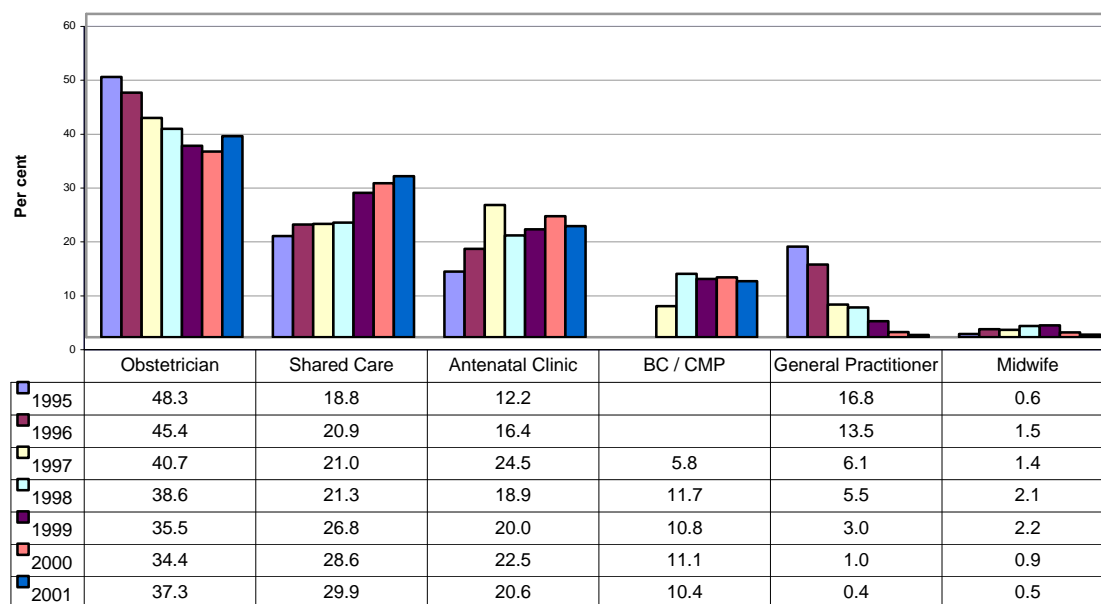
The models of antenatal care have changed considerably from 1995 to 2001, including the commencement of antenatal services in the Birth Centre and the Canberra Midwifery Program. The Community Midwives Pilot Program started in 1995 and provided care by a team of midwives. This program continued as the Community Midwives Program from October 1996 until 1999 when it amalgamated with the Birth Centre to form the Canberra Midwifery Program.

The Canberra Midwifery Program provides continuity of midwifery care by teams of midwives to women throughout their pregnancy, birth and up to two weeks after the birth. The models of maternity care have continued to evolve with some of the teams now providing one to one midwifery care. The changes centred around midwives taking more responsibility for the provision of antenatal care, with an initial health check and ordering of diagnostic tests performed by a medical practitioner early in the pregnancy. Shared care with the midwife and a medical practitioner is arranged for women with pre-existing maternal medical conditions or obstetric complications as required.

In 1995, the Fetal Medicine Unit (FMU) was established for assessment and management of complicated pregnancies. As a result there has been an increase in the referral of women from regional areas with complicated pregnancies to TCH. When appropriate these women are also managed as outpatients for their antenatal care.

The changes in responsibility for antenatal care since 1995 are illustrated in Figure 5. Over the six-year period, the use of antenatal services provided by general practitioners and obstetricians declined, and the use of shared care and antenatal clinics increased.

Figure 5: Responsibility for antenatal care, ACT, 1995 - 2001

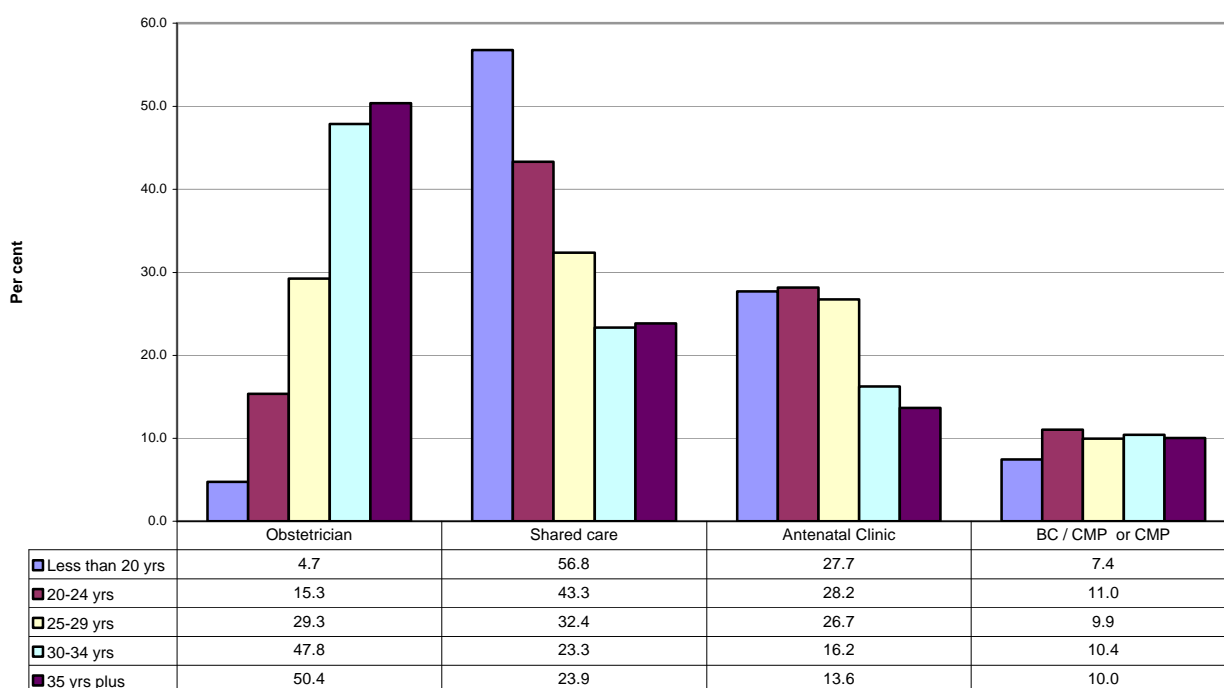


Note: BC/CMP refers to the combined Birth Centre/Community Midwifery Program from 1997 to 1998. The Community Midwifery Program evolved into the Canberra Midwifery Program that commenced in 1999. Shared care refers to a model of antenatal care where more than one professional clinician or clinic has been involved in a woman's antenatal care. Twelve women who did not have any antenatal visits have been excluded

Source: ACT Maternal Perinatal Data Collection, 1995 - 2001 data

Decisions regarding the choice for antenatal care varied with maternal age. Figure 6 shows that the tendency to choose the antenatal clinic or shared care options for antenatal care decreased with age. Conversely, the tendency to choose antenatal care provided by an obstetrician increased with age. Use of the Canberra Midwifery Program for antenatal care was consistent across age groups. Responsibility for antenatal care by age groups for 2000 and 2001 is presented in Table 87 in the Appendix.

Figure 6: Responsibility for antenatal care by age groups, ACT, 2001



Note: Twelve women who did not have any antenatal visits have been excluded. The number of women accessing midwifery or GP services was too small to present.

Source: ACT Maternal Perinatal Data Collection, 2001 data

Ninety-two per cent (92.2%) of women who chose private hospital accommodation had their antenatal care provided by obstetricians in 2001 (Table 24). In comparison, women who chose public hospital accommodation accessed antenatal care from a variety of services, with only seven per cent (7.1%) of the antenatal care being provided by obstetricians. The majority of women who chose public hospital accommodation chose shared care (44.4%) or the Antenatal Clinic (31.4%) for their antenatal care.

Table 24: Responsibility for antenatal care by accommodation status, ACT, 2001

Service providers	Public		Private		Total	
	No.	%	No.	%	No.	%
Obstetrician	200	7.1	1443	92.4	1643	37.5
Shared care	17	0.6	<5	0.1	19	0.4
Antenatal clinic	7	0.2	<5	0.1	8	0.2
CMP	886	31.4	23	1.5	909	20.7
GP	447	15.8	9	0.6	456	10.4
Midwife	1254	44.4	60	3.8	1314	30.0
Not stated	13	0.5	24	1.5	37	0.8
Total	2824	100.0	1562	100.0	4386	100.0

Note: Twelve women who did not have any antenatal visits have been excluded, and accommodation status was 'not stated' for a further 16 records which were also excluded. Women who gave birth at home have been included under private accommodation status. CMP means Canberra Midwifery Program.

Source: ACT Maternal Perinatal Data Collection, 2001 data

2.5.3 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 pregnant 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 94.4% in 1999 to 92.6% in 2001 (Table 25).

Table 25: Antenatal length of stay in hospital, ACT, 1999 - 2001

Antenatal length of stay	1999		2000		2001	
	No.	%	No.	%	No.	%
Less than 1 day	2,786	61.3	2,766	59.5	2,665	60.8
1 day	1,507	33.1	1,598	34.4	1,391	31.8
2 - 6 days	201	4.4	223	4.8	264	6.0
7 days or more	53	1.2	65	1.4	60	1.4
Total	4,547	100.0	4,652	100.0	4,380	100.0

Note: Antenatal length of stay only includes hospital births. Seven records in total from 1997 to 2001 where antenatal length of stay was not available were excluded. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 1999 – 2001 data

ACT residents (62.1%; 95% CI 60.6 – 63.7) were significantly more likely to have an antenatal length of stay in hospital of less than one day when compared with non-ACT residents (52.7%; 95% CI 48.8 - 56.7) (Table 26). Non-ACT residents (11.7%; 95% CI 9.1 – 14.2) were significantly more likely to stay in an ACT hospital for more than 2 days prior to the baby's date of birth than ACT residents (6.8%; 95% CI 5.9 – 7.5).

Table 26: Antenatal length of stay in hospital by state of residence, ACT, 2001

	ACT residents		Non-ACT residents	
	No.	%	No.	%
Less than 1 day	2,348	62.1	317	52.7
1 day	1,177	31.1	214	35.6
2-6 days	210	5.6	54	9.0
7 or more days	44	1.2	16	2.7
Total	3,779	100.0	601	100.0

Note: Antenatal length of stay only includes hospital births. Four records in total for 2001 where antenatal length of stay was not available were excluded. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2001 data

2.5.4 Antenatal procedures

A number of different antenatal diagnostic procedures are available for women in the ACT during their pregnancy. Data for 1999 to 2001 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.

Abdominal ultrasounds are widely used because a great deal of information can be obtained with no established risk to the mother or fetus. It 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 fluid¹⁰. Approximately 9 in 10 pregnant women in the ACT (89.2%) reported that they had at least one ultrasound in 2001 (Table 27). Note that these data could be subject to under reporting, as annual reported rates have been inconsistent between birth facilities since 1997.

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 record¹⁰. There has been an increase in the reported use of cardiotocography (CTG) from 48.2% in 1997¹¹ to 54.5% in 2001. This is most likely due to improved computerised reporting at The Canberra Hospital (TCH), with TCH reporting the highest percentages (66.2%) of CTG in 2001. However, these data are also likely to be under reported by the other birth facilities.

Amniocentesis is used to assess fetal health and maturity. It can also be used to diagnose chromosomal or genetic abnormalities¹². A needle is inserted through the abdominal wall, guided by ultrasound, to withdraw amniotic fluid¹³.

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. Data for chorionic villus sampling and amniocentesis reported in the ACT Maternal Perinatal Data have been supplemented with data from the Fetal Medicine Unit. It is possible that this procedure is under-reported.

X-ray pelvimetry was done to determine whether the pelvis was adequate for a vaginal birth, with an X-ray taken of the pelvic region¹⁴. 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.¹⁴

A cervical suture is used for cervical incompetence (premature dilatation of the cervix associated with 2nd 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.¹⁴

Table 27: Antenatal diagnostic procedures, ACT, 1999 - 2001

Antenatal procedures	1999		2000		2001	
	No.	%	No.	%	No.	%
Ultrasound	4,152	90.5	4,246	90.6	3,937	89.2
Cardiotocography (CTG)	2,202	48.0	2,572	54.9	2,406	54.5
Amniocentesis <20 weeks	234	5.1	172	3.7	151	3.4
Amniocentesis 20 weeks or more	21	0.5	22	0.5	15	0.3
Chorionic villus sampling	35	0.8	21	0.4	19	0.4
X-ray	21	0.5	11	0.2	<5	0.1
CT scan	19	0.4	7	0.1	9	0.2
Cervical suture	12	0.3	7	0.1	7	0.2

Note: 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.

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

2.6 Medical conditions

The pre-existing maternal medical conditions such as diabetes mellitus, epilepsy, hypertension, renal disease, cardiovascular disease and asthma add an additional level of complexity to the obstetric management of the pregnancy. The maternal medical conditions have been reported from three sources since 1998. These were the ACT Midwives Data Collection, OBICARE database and ACT Admitted Patient Care (ACT APC) Data Collection. Ninety-five per cent (94.6%; 4,177) of women who gave birth in the ACT in 2001 had no reported pre-existing maternal medical conditions, while five per cent (5.1%; 223) had one reported condition and less than one per cent (0.3%; 14) had multiple reported conditions. Among those with a maternal medical condition, asthma was the most frequently reported pre-existing condition (2.7%; Table 28).

Table 28: Maternal medical conditions, ACT, 1999 - 2001

Maternal medical conditions (ICD-10-AM)	1999		2000		2001	
	No.	%	No.	%	No.	%
Pre-existing diabetes mellitus (E10 –E14, O24.0-3)	21	0.4	49	1.0	32	0.7
Epilepsy (G40)	24	0.5	25	0.5	21	0.5
Essential hypertension (I10, O10, I27)	35	0.7	54	1.2	42	1.0
Renal disease (N00 – N29)	16	0.3	22	0.5	16	0.4
Cardiovascular disease (I20 – I52)	22	0.5	23	0.5	25	0.6
Asthma (J45)	162	3.5	143	3.1	118	2.7

Note: Percentages for the specified medical conditions are for all women who gave birth in the ACT in a given year. Figures from ACT APC were based on women not separations, if a woman has more than one admission for the same condition only one condition was counted. A woman may have more than one reported condition. Definitions and standards are as per the provided ICD-10-AM codes. Data prior to 1999 is not directly comparable as data extraction criteria changed to accommodate ICD-10-AM codes.

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

2.7 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, OBICARE database and ACT Admitted Patient Care (ACT APC) Data Collection. Almost half of women (49.4%) who gave birth in the ACT in 2001 had no reported obstetric complications, while one third (34.7%) had one reported complication (Table 29). Sixteen per cent (15.9%) 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 (50.9%; 95% CI 49.3 - 52.5) than non-ACT residents who gave birth in the ACT (39.8%; 95% CI 35.9-43.7). Non-ACT resident women (22.1%; 95% CI 18.7 - 25.4) were more likely to have multiple complications than ACT resident women (14.9%; 95% CI 13.8 - 16.0).

Table 29: Obstetric complications for women that gave birth in the ACT by usual state of residence, ACT, 2001

	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
No complications	1,940	50.9	240	39.8	2,180	49.4
One complication	1,303	34.2	230	38.1	1,533	34.7
Multiple complications	568	14.9	133	22.1	701	15.9
Total	3,811	100.0	603	100.0	4,414	100.0

Note: Less than one per cent of women giving birth in the ACT give 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, 2001 data

Table 30 presents obstetric complications in the ACT by diagnosis. The most commonly diagnosed obstetric complications were: premature (pre-labour) rupture of membranes (10.7%); prolonged pregnancy (9.3%); maternal care for malpresentation of fetus (9.1%); maternal care for pelvic abnormality (8.6%); pre-eclampsia (6.7%); maternal care for fetal problems (4.2%); false labour (3.1%) and diabetes mellitus arising in pregnancy (gestational diabetes) (2.9%). The percentages are for all women giving birth in the ACT per year.

Table 30: Obstetric complications, ACT, 1999 - 2001

Obstetric Complications (ICD-10-AM)	1999		2000		2001	
	No.	%	No.	%	No.	%
Superimposed pre-eclampsia and Gestational oedema proteinuria (O11 - O12)	14	0.3	29	0.6	18	0.4
Mild pre-eclampsia (O13)	163	3.6	148	3.2	149	3.4
Moderate and severe pre-eclampsia (O14)	189	4.1	180	3.8	145	3.3
Eclampsia (O15)	<5	0.0	<5	0.0	6	0.1
Unspecified maternal hypertension (O16)	44	1.0	92	2.0	68	1.5
Haemorrhage in early pregnancy (O20)	38	0.8	32	0.7	18	0.4
Excessive vomiting in pregnancy (O21)	56	1.2	62	1.3	43	1.0
Venous complications in pregnancy (O22)	17	0.4	15	0.3	18	0.4
Infections of genitourinary tract in pregnancy (O23)	66	1.4	53	1.1	56	1.3
Diabetes mellitus arising in pregnancy (gestational diabetes) (O24.4 & O24.8)	184	4.0	163	3.5	127	2.9
Maternal care for other conditions related to pregnancy (O26)	55	1.2	42	0.9	37	0.8
Maternal care for malpresentation of fetus (O32)	368	8.0	388	8.3	403	9.1
Maternal care ^(a) for disproportion (O33)	61	1.3	88	1.9	103	2.3
Maternal care ^(a) for congenital malformation of uterus (O34)	396	8.6	403	8.6	381	8.6
Maternal care ^(a) for fetal abnormality and damage (O35)	19	0.4	23	0.5	15	0.3
Maternal care ^(a) for other fetal problems (O36)	200	4.4	223	4.8	186	4.2
Disorders of amniotic fluid and membranes (O40 - O41)	84	1.8	86	1.8	90	2.0
Premature (pre-labour) rupture of membranes (O42)	443	9.7	508	10.8	474	10.7
Placental disorders (O43)	43	0.9	24	0.5	57	1.3
Placenta praevia (O44)	35	0.8	25	0.5	49	1.1
Abruptio placentae (O45)	27	0.6	26	0.6	27	0.6
Antepartum haemorrhage, not elsewhere classified (O46)	88	1.9	115	2.5	92	2.1
False labour (O47)	177	3.9	166	3.5	139	3.1
Prolonged pregnancy (O48)	408	8.9	422	9.0	412	9.3

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 separations, 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. Maternal care^(a) includes known or suspected complications. Definitions and standards as per the ICD-10-AM manuals. 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); & Complications specific to multiple gestation (O31)
Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

2.8 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 1999 to 2001. Table 92 in the Appendix presents five years of data on labour characteristics from 1997 to 2001.

Table 31 presents information on the onset of labour and the type of labour experienced by women who gave birth in the ACT in 1999 to 2001. In the ACT from 1999 to 2001 the induction rate remained relatively stable varying between 20.5% and 22.4%. Approximately one in five women in 2001 (21.2%; 95% CI 20.0 – 22.5) were induced compared with the Australian population figure of approximately one in four women (26.7%; 95% CI 26.5 – 26.9)².

Table 31: Labour characteristics, ACT, 1999 - 2001

		1999		2000		2001	
		No.	%	No.	%	No.	%
Onset of labour	Spontaneous	3,104	67.7	3,068	65.5	2,908	65.9
	Induced	939	20.5	1,048	22.4	938	21.2
	No Labour	543	11.8	568	12.1	568	12.9
	Total	4,586	100.0	4,684	100.0	4,414	100.0
Type of labour	Spontaneous	2,143	46.7	2,086	44.5	1,603	36.3
	Augmentation	961	21.0	982	21.0	1,305	29.6
	Medical	340	7.4	326	7.0	424	9.6
	Surgical	416	9.1	436	9.3	664	15.0
	Combined	205	4.5	220	4.7	217	4.9
	Induction	939	20.5	1,048	22.4	938	21.2
	Medical	322	7.0	389	8.3	378	8.6
	Surgical	108	2.4	93	2.0	83	1.9
	Combined	501	10.9	560	12.0	472	10.7
	Other	8	0.2	6	0.1	5	0.1
	No Labour	543	11.8	568	12.1	568	12.9
	Total	4,586	100.0	4,684	100.0	4,414	100.0

Note: The process for data cleaning has improved for the 2001 data to better identify augmentation of labour. This has resulted in a 6% increase in surgical augmentations. It is likely that surgical augmentations have been under reported for 1999 and 2000. Therefore comparison between the years in this table is not valid.

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

Seven in ten women (69.5%) who gave birth in an ACT public hospital had a spontaneous onset of labour compared with six in ten women (57.7%) who gave birth in an ACT private hospital (Table 32). Similar percentages of women were induced or had an augmented labour in public hospitals and private hospitals.

Ten per cent of women (10.1%) who gave birth in a public hospital had no labour (they had an elective caesarean section) compared with nineteen per cent of women (18.8%) who gave birth in a private hospital.

Table 32: Labour characteristics by public or private hospital, ACT, 2001

		ACT Public Hospitals		ACT Private Hospitals	
		No.	%	No.	%
Onset of labour	Spontaneous	2,037	69.5	837	57.7
	Induced	597	20.4	341	23.5
	No labour	296	10.1	272	18.8
	Total	2,930	100.0	1,450	100.0
Type of labour	Spontaneous	1,137	38.8	432	29.8
	Augmentation	900	30.7	405	27.9
	Induced	597	20.4	341	23.5
	No labour	296	10.1	272	18.8
	Total	2,930	100.0	1,450	100.0

Note: The process for data cleaning has improved for the 2001 data to better identify augmentation of labour. This has resulted in an increase in augmentations.

Source: ACT Maternal Perinatal Data Collection, 2001 data

The majority of women who gave birth in the ACT from 1997 to 2001 had a normal birth, varying from sixty-nine per cent (69.1%) in 1999 to sixty-three per cent (63.1%) in 2001 (Table 33). A caesarean section was performed for between nineteen per cent (18.8%) and twenty-three per cent (23.2%) of women with the lowest rate occurring in 1998. From 1997 to 2001, forceps as a method of birth decreased slightly (7.9% in 1997 to 6.2% in 2001) while vacuum extraction increased slightly (5.0% in 1997 to 7.3% in 2001). The number of vaginal breech births has also declined from 1.0% in 1997 to 0.2% in 2001. Findings from the Breech Trial (1997-2000) were clearly in favour of planned caesarean section as the method of birth for a breech presentation at term¹⁵.

During 2001, 63.1% of women had a normal birth and 23.2% had a caesarean section, similar to the Australian population figures of 63.2% and 25.4% respectively².

Table 33: Method of birth, ACT, 1997 - 2001

Method of birth	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Normal birth	3,100	65.8	3,168	68.2	3,169	69.1	3,078	65.7	2,786	63.1
Caesarean section	953	20.2	872	18.8	891	19.4	1,016	21.7	1,024	23.2
Forceps	370	7.9	366	7.9	283	6.2	304	6.5	274	6.2
Vacuum extraction	237	5.0	207	4.5	213	4.6	267	5.7	322	7.3
Vaginal breech	48	1.0	32	0.7	30	0.7	19	0.4	8	0.2
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	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. Other and not stated have been recoded to normal birth for 1997 & 1998 births.

Source: ACT Maternal Perinatal Data Collection, 1997 - 2001 data

There was an increased likelihood of a normal birth when the onset of labour was spontaneous (81.4%; 95% CI 79.5 - 83.3) compared with a labour that was augmented (65.2%; 95% CI 62.6 - 67.8) or induced (68.0%; 95% CI 65.0 - 71.0) in 2001 (Table 34). Elective caesarean section can be identified where there was "no labour". Table 34 shows that 568 women had an elective caesarean section (12.9%).

Table 34: Method of birth by type of labour, ACT, 2001

Method of birth	Spontaneous		Augmentation		Induction		No Labour	
	No.	%	No.	%	No.	%	No.	%
Normal birth*	1,305	81.4	851	65.2	638	68.0	0	0.0
Caesarean section	168	10.5	150	11.5	138	14.7	**568	100.0
Forceps	52	3.2	141	10.8	81	8.6	0	0.0
Vacuum extraction	78	4.9	163	12.5	81	8.6	0	0.0
Total	1,603	100.0	1,305	100.0	938	100.0	568	100.0

Note: *Includes vaginal breech births due to small numbers of vaginal breech births. **Women who have no labour have had an elective caesarean section (12.9%). Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2001 data

Method of birth by hospital of birth in the ACT during 2001 is shown in Table 35. The highest percentage of women who gave birth at each hospital had a normal birth (TCH 69.6%, Calvary Public 68.4%, Calvary Private 57.9%, JJMH 47.4%). However there was variation in the caesarean rates between hospitals. The Canberra Hospital had the lowest caesarean section rate (19.8%), and John James Memorial Hospital had the highest rate (31.9%). The percentages of forceps births performed in private hospitals (Calvary Private 8.0%, JJMH 11.5%) are higher than the percentage performed in public hospitals (TCH 3.5%, Calvary Public 5.4%).

Table 35: Method of birth by hospital of birth, ACT, 2001

Method of birth	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Normal birth *	1,312	69.6	715	68.4	252	57.9	481	47.4
Caesarean section	374	19.8	217	20.8	109	25.1	324	31.9
Forceps	66	3.5	56	5.4	35	8.0	117	11.5
Vacuum extraction	133	7.1	57	5.5	39	9.0	93	9.2
Total	1,885	100.0	1,045	100.0	435	100.0	1,015	100.0

Note: *Includes 5 or less vaginal breech births for each group. Due to the rounding of percentages some totals may not equal 100.0.
Source: ACT Maternal Perinatal Data Collection, 2001 data

Method of birth also varied by state of residence of the mother. Non-ACT residents (57.2%; 95% CI 53.3 - 61.2) were less likely than ACT residents (64.2%; 95% CI 62.7 - 65.8) to have normal births and were more likely to have a caesarean section during 2001 (non-ACT 29.7%; 95% CI 26.0 - 33.3; ACT 22.2%; 95% CI 20.8 - 23.5) (Table 36).

Table 36: Method of birth by state of residence, ACT, 2001

Method of birth	ACT residents		Non-ACT residents	
	No.	%	No.	%
Normal birth*	2,449	64.2	345	57.2
Caesarean Section	845	22.2	179	29.7
Forceps	236	6.2	38	6.3
Vacuum Extraction	281	7.4	41	6.8
Total	3,811	100.0	603	100.0

Note: *Includes 5 or less vaginal breech births for each group.
Source: ACT Maternal Perinatal Data Collection, 2001 data

2.9 Caesarean section

The caesarean section rate in Australia has increased from 20.2% in 1997¹⁶ to 25.4% in 2001². The ACT caesarean section rate has been lower than the Australian rate each year for this five-year period. In 2001, twenty-three per cent (23.2%; 95% CI 22.0 - 24.4) of all births in the ACT were by caesarean section compared with the Australian national caesarean section rate of 25.4% (95% CI 25.2 - 25.6).

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 (520.4 per 1,000; 95% CI 421.5 – 619.3) compared with a singleton birth (225.4 per 1,000; 95% CI 213.0 – 237.9) (Table 37). Caesarean section rates were significantly higher for private hospital accommodation (326.9 per 1,000; 95% CI 302. - 351.0) compared with public hospital accommodation (187.7 per 1,000; 95% CI 173.6 - 201.9). Caesarean section rates were similar for Aboriginal and Torres Strait Islander women and non-Aboriginal and Torres Strait Islander women and also for primipara and multipara women.

Caesarean section rates increased with age from 164.5 per 1,000 for women aged 24 years or less to 295.8 per 1,000 for women aged over 35 years. As expected, the caesarean section rate for vertex presentations (190.1 per 1,000; 95% CI 178.2 - 202.0) was significantly lower than the rate for breech (758.8 per 1,000; 95% CI 706.4 – 811.1) or other presentations (507.9 per 1,000; 95% CI 384.5 - 631.4). Babies born at term were significantly less likely to be born by caesarean section (218.7 per 1,000; 95% CI 205.9 – 231.5) than those born preterm (300.5 per 1,000; 95% CI 255.9 - 345.1).

Table 37: Selected characteristics for caesarean section, ACT, 2001

		No.	% of Caesareans	Rate per 1,000 births
Accommodation	Public	550	53.7	187.7
	Private	474	46.3	326.9
	Total	1,024	100.0	
Parity	Primipara	479	46.8	246.9
	Multipara	545	53.2	220.3
	Total	1,024	100.0	
Plurality	Singleton	973	95.0	225.4
	Multiple	51	5.0	520.4
	Total	1,024	100.0	
Maternal Aboriginal and Torres Strait Islander Identification	Aboriginal and Torres Strait Islanders	12	1.2	230.8
	Non-Aboriginal and Torres Strait Islanders	1,012	98.8	232.5
	Total	1,024	100.0	
Maternal age	24 years or less	114	11.1	164.5
	25-29 years	258	25.2	196.0
	30-34 years	389	38.0	256.6
	35 years or more	263	25.7	295.8
	Total	1,024	100.0	
Presentation (of first born)	Vertex (inc. POP)	797	77.8	190.1
	Breech	195	19.0	758.8
	Other (inc. brow & face)	32	3.1	507.9
	Total	1,024	100.0	
Birthweight (of first born)	Less than 1,500 grams	19	1.9	228.9
	1,500 to 2499 grams	83	8.1	345.8
	2500 to 3999 grams	782	76.4	216.0
	4000 grams or more	140	13.7	246.0
	Total	1,024	100.0	
Gestational age	Preterm (20 to 36 weeks)	122	11.9	300.5
	Term (37 to 41 weeks)	882	86.1	218.7
	Post term (42 weeks or more)	20	2.0	281.7
	Total	1,024	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. Caesarean section rates may fluctuate from year to year.

Source: ACT Maternal Perinatal Data Collection, 2001 data

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. Elective caesarean section rates at ACT public hospitals remained stable between 1997 and 2001 (Table 39). A slight increase was observed for ACT private hospitals over this time. A slight increase in emergency caesarean section rates was observed for both ACT public and private hospitals.

Table 38: Caesarean section by ACT public & private hospitals, 1997 - 2001

Caesarean Section	1997		1998		1999		2000		2001	
	No.	% ^(a)	No.	% ^(a)	No.	% ^(a)	No.	% ^(a)	No.	% ^(a)
ACT Public Hospitals										
Elective Caesarean	353	10.4	342	10.1	357	10.1	350	10.2	296	10.1
Emergency Caesarean	271	7.9	226	6.7	250	7.1	307	9.0	295	10.1
Caesarean Section	624	18.3	568	16.8	607	17.2	657	19.2	591	20.2
ACT Private Hospitals										
Elective Caesarean	207	16.6	189	15.6	186	18.2	218	17.8	272	18.7
Emergency Caesarean	122	9.8	115	9.5	98	9.6	141	11.5	161	11.1
Caesarean Section	329	26.3	304	25.1	284	27.8	359	29.3	433	29.9

Note: (a) Percentage of total hospital births.

Source: ACT Maternal Perinatal Data Collection, 1997 - 2001 data

Table 39 shows the caesarean section rate by hospitals in the ACT in 2001. The elective caesarean section rate for John James Memorial Hospital (20.7%; 95% CI 15.2 – 26.2) is significantly higher than The Canberra Hospital (9.4%; 95% CI 5.1 – 13.7). No significant difference was found between Calvary Public or Private hospitals and TCH.

Table 39: Caesarean section by ACT hospitals, ACT, 2001

	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Elective Caesarean	178	9.4	118	11.3	62	14.3	210	20.7
Emergency Caesarean	196	10.4	99	9.5	47	10.8	114	11.2
Caesarean section	374	19.8	217	20.8	109	25.1	324	31.9

Source: ACT Maternal Perinatal Data Collection, 2001 data

The elective caesarean section rate for the ACT was 12.9% (95% CI 11.9 - 13.9, 568 women) significantly lower than the Australian elective caesarean section rate of 14.3%² (95% CI 14.2 - 14.4). The emergency caesarean section rate for the ACT was 10.3% (456 women) similar to the Australian emergency caesarean section rate of 11.0%².

2.10 Perineal status

The following section outlines the perineal outcomes of women who gave birth vaginally in the ACT from 1999 to 2001. 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 months¹⁷.

The episiotomy rate decreased from 21.7% in 1997⁵ to 17.5% in 2001, with a corresponding increase in all perineal lacerations from 35.9% in 1997⁵ to 45.6% in 2001 (Table 40).

Table 40: Perineal status for vaginal births, ACT, 1999 - 2001

Perineal Status	1999		2000		2001	
	No.	%	No.	%	No.	%
Intact	1,472	39.8	1,413	38.5	1,308	38.6
First degree laceration	648	17.5	658	17.9	527	15.5
Second degree laceration	994	26.9	943	25.7	910	26.8
Third or fourth degree laceration	54	1.5	42	1.1	54	1.6
Episiotomy	458	12.4	585	15.9	556	15.8
Episiotomy & laceration	*52	1.4	27	0.7	56	1.7
Not stated	17	0.5	0	0.0	0	0.0
Total	3,695	100.0	3,668	100.0	3,390	100.0

Note: In 1999 and 2000 there were no reported fourth degree lacerations and in 2001 there were less than five. The episiotomy rate also includes combined episiotomy and laceration.

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

In 2001, a small number of women had both an episiotomy (or sutured laceration) and an emergency caesarean section (9 women of the 1,024 women who had a caesarean section)¹⁸. These women comprised 0.2% of all women giving birth (9 of 4,414 women).

Women giving birth in 2001 were more likely to have an intact perineum following a normal vaginal birth (45.0%; 95% CI 43.1 - 46.8; Table 41) compared to all women giving birth vaginally (38.6%; 95% CI 37.0 - 40.3). The episiotomy rate for normal births (8.8%) was much less than for instrumental birth (51.3%; Table 41).

Table 41: Perineal status for vaginal births by method of birth, ACT, 2001

Perineal status	Normal birth*		Instrumental birth	
	No.	%	No.	%
Intact	1257	45.0	50	8.4
1st degree laceration	471	16.9	56	9.4
2nd degree laceration	769	27.6	141	23.7
3rd or 4th degree laceration	37	1.3	17	3.0
Episiotomy	239	8.8	297	51.3
Laceration and episiotomy	21	0.8	35	5.9
Total	2794	100.0	596	100.0

Note: *Includes 8 vaginal breech births in 2001. Instrumental births include forceps and vacuum extraction assisted births. There were less than five fourth degree lacerations in 2001.

Source: ACT Maternal Perinatal Data Collection, 2001 data

Perineal status for vaginal births by hospital of birth is presented in Table 42. Forty-seven percent (47.1%) of women who gave birth vaginally at The Canberra Hospital had an intact perineum (40.5% at Calvary Public), compared with between 25.5 to 22.1% of women who delivered at either Calvary Private or John James Memorial Hospital. Episiotomy rates ranged from 7.3% (TCH) to 39.4% (JJMH). No episiotomies and less than five perineal laceration were reported following homebirths in 2001.

Table 42: Perineal status for vaginal births by hospital of birth, ACT, 2001

Perineal status	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Intact	712	47.1	334	40.3	83	25.5	153	22.1
1st degree laceration	206	13.6	119	14.4	68	20.9	129	18.7
2nd degree laceration	423	28.0	264	31.9	93	28.5	126	18.2
3rd or 4th degree laceration	45	2.9	5	0.6	<5	-	<5	-
Episiotomy	110	7.3	87	10.5	67	20.6	272	39.4
Laceration & episiotomy	15	1.0	19	2.3	<15	-	<10	-
Total	1,511	100.0	828	100.0	326	100.0	691	100.0

Note: There were less than five fourth degree lacerations reported in 2001.

Source: ACT Maternal Perinatal Data Collection, 2001 data

2.11 Retained placenta

Retained placenta is potentially life threatening due to associated risk of haemorrhage or infections, and complications related to its removal¹⁹. 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)²⁰. A properly conducted birth and third stage management can reduce the incidence of retained placenta. If retention occurs, timely appropriate treatment can save a life¹⁹.

Retained placenta was reported for 1.6% (53 of 3,390) in 2001 and 1.4% (52 of 3,668) in 2000 of the women who had a vaginal birth in the ACT. There is 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 (ICD-10-AM procedure code 90482-00) was performed for 2.1% (70 of 3,390 women)¹⁸ of vaginal births in 2001. Postpartum evacuation of the uterus by dilatation and curettage (ICD-10-AM procedure code 16564-00) (0.6%; 19 of 3,390 women) and postpartum evacuation of the uterus by suction curettage (ICD-10-AM procedure code 16564-00) (0.5%; 16 of 3,390 women)¹⁸ were performed for a small number of women who had a vaginal birth in the ACT during 2001.

2.12 Complications of labour, birth and puerperium

Complications that occur during labour, birth or the puerperium affect the management and level of intervention experienced by women. Sixty-three per cent (62.9%) of women 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 1999 to 2001 are shown in Table 43. The most commonly reported complications in 2001 were: perineal laceration (32.3%); fetal distress (11.5%); abnormal forces of labour (10.0%); long labour (9.8%); and postpartum haemorrhage (9.2%).

Table 43: Complications of labour and birth reported during a hospital birth, ACT, 1999 - 2001

Complications of labour and birth (ICD-10-AM)	1999		2000		2001	
	No.	%	No.	%	No.	%
Preterm birth (O60)	230	5.0	303	6.5	270	6.1
Failed induction of labour (O61)	24	0.5	47	1.0	29	0.7
Abnormal forces of labour (O62)	243	5.3	417	8.9	440	10.0
Long labour (O63)	402	8.8	463	9.9	432	9.8
Obstructed labour (O64 – O66)	132	2.9	171	3.7	198	4.5
Intrapartum haemorrhage (O67)	8	0.2	7	0.1	12	0.3
Fetal stress [distress] (O68)	326	7.1	499	10.7	508	11.5
Umbilical cord complications (O69)	172	3.8	272	5.8	312	7.1
Perineal laceration while giving birth (O70)	1,176	25.6	1,566	33.4	1,426	32.3
Other obstetric trauma (O71)	64	1.4	80	1.7	134	3.0
Postpartum haemorrhage (O72)	364	7.9	426	9.1	406	9.2
Retained placenta or membranes, without haemorrhage (O73)	29	0.6	35	0.7	39	0.9
Complications of the administration of anaesthetic or other sedation in labour and birth (O74)	20	0.4	17	0.4	32	0.7
Other complications of labour and birth, NEC (O75)	248	5.4	355	7.6	233	5.3

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 separations, 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, 1999 – 2001 and ACT Maternal Perinatal Data Collection, 1999 - 2001 data

One out of every five women (22.9%) 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' (4.8%), anaemia (3.0%, 133), venous complications (2.8%) and puerperal infections (2.1%). More details on the complications of the puerperium are provided in Table 44.

Table 44: Complications of puerperium reported during a hospital birth, ACT, 1999 - 2001

Complications of puerperium (ICD-10-AM)	1999		2000		2001	
	No.	%	No.	%	No.	%
Puerperal sepsis (O85)	20	0.4	21	0.4	17	0.4
Other puerperal infections (O86.0-8)	92	2.0	80	1.7	73	1.7
Venous complication in the puerperium (O87)	108	2.4	134	2.9	124	2.8
Obstetric embolism (O88)	5	0.1	<5	0.1	<5	0.0
Complications of anaesthesia during the puerperium (O89)	11	0.2	8	0.2	11	0.2
Complications of the puerperium, NEC (O90)	37	0.8	51	1.1	49	1.1
Infections of breast assoc. with childbirth (O91)	19	0.4	12	0.3	36	0.8
Other disorders of breast and lactation (O92)	195	4.3	173	3.7	213	4.8
Obstetric death (O95 –O97)	0	0.0	0	0.0	0	0.0
Maternal infectious and parasitic diseases (O98)	36	0.8	23	0.5	26	0.6
Other maternal diseases and conditions (O99) (includes Anaemia - O99.0)	518	11.3	535	11.4	796	18.0

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 separations, 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, 1999 - 2001 and ACT Maternal Perinatal Data Collection, 1999 - 2001 data

The ACT APC data has been coded using ICD-10 code 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.

2.13 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 2001, 45.9% of women who gave birth in ACT hospitals stayed for three days or less after the birth, compared with 50.4% in 1999. The average length of postnatal stay has remained similar over time (Table 45).

Table 45: Postnatal length of stay in hospital, ACT, 1999 - 2001

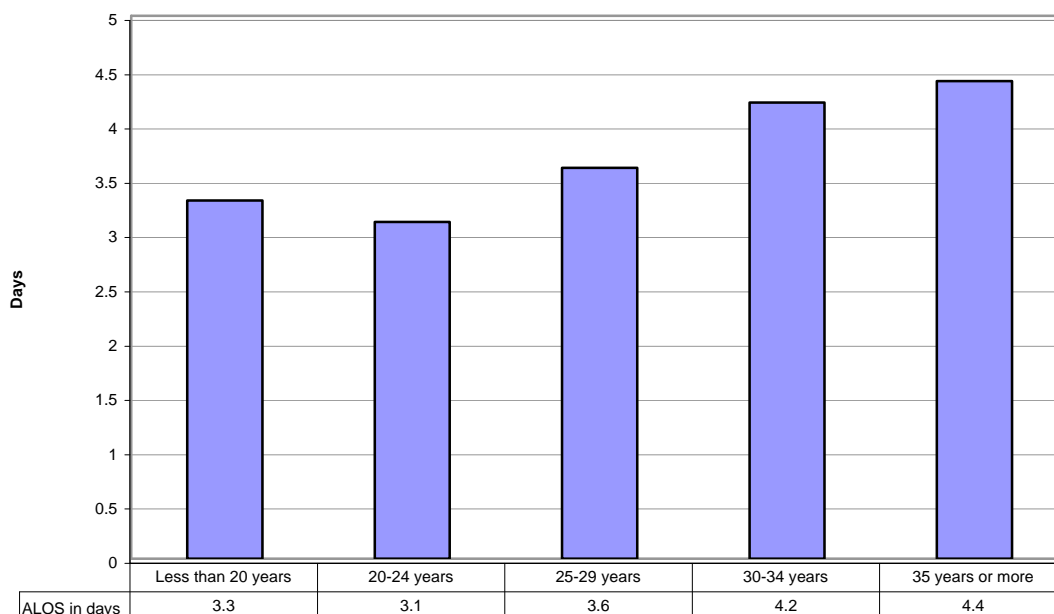
Postnatal length of stay	1999		2000		2001	
	No.	%	No.	%	No.	%
Less than 1 day	160	3.6	192	4.3	174	4.0
1 day	440	10.0	428	9.5	404	9.4
2 days	712	16.2	730	16.2	632	14.7
3 days	898	20.5	929	20.6	765	17.8
4 days	745	17.0	732	16.2	736	17.1
5 days	561	12.8	640	14.2	688	16.0
6 days	425	9.7	408	9.1	466	10.8
7 days or more	447	10.2	447	9.9	434	10.1
Total	4,388	100.0	4,506	100.0	4,299	100.0
Average postnatal stay	3.8 days		3.7 days		3.9 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, 1999 - 2001 data

The average postnatal length of stay in hospital increased slightly with age (Figure 7) from 3.3 days for mothers aged less than 20 years to 4.4 days for mothers aged 35 years or more. Average length of stay was also slightly longer for primipara women (4.4 days) compared with multipara women (3.5 days).

Figure 7: Average length of postnatal stay in hospital by maternal age, ACT, 2001



Source: ACT Maternal Perinatal Data Collection, 2001 data

On average, women who gave birth in private hospitals stayed longer (5.5 days) than those who gave birth in public hospitals (3.1 days). The majority of women giving birth in the public hospitals stayed three days or less in hospital (TCH with 62.2% and Calvary Public with 68.0%), whereas the majority of women giving birth in private hospitals stayed between four and six days (Calvary Private with 70.9% and JJMH with 66.9%) (Table 46).

Table 46: Postnatal length of stay by hospital of birth, ACT, 2001

Postnatal length of stay	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
3 days or less	1,144	62.2	696	68.0	59	13.7	76	7.5
4 to 6 days	597	32.5	314	30.7	305	70.9	674	66.9
7 days or more	98	5.3	13	1.3	66	15.3	257	25.5
Total	1,839	100.0	1,023	100.0	430	100.0	1,007	100.0
Average postnatal stay	3.1 days		3.0 days		5.1 days		5.7 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.

Source: ACT Maternal Perinatal Data Collection, 2001 data

2.14 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).

Over half (53.6%) of women were discharged home with a further 44.5% referred to Midcall or Canberra Midwifery Program (CMP) for additional midwifery care at home following birth admission in hospital during 2001 (Table 47). One per cent (1.1%) of women were transferred to an ACT hospital, with less than one per cent (0.7%) transferred to an interstate hospital. One maternal death occurred in the ACT in the three-year period 1999 to 2001.

Table 47: Maternal discharge status from hospital, ACT, 1999 - 2001

Maternal discharge	1999		2000		2001	
	No.	%	No.	%	No.	%
Discharged home	2,487	54.7	2,069	44.5	2,347	53.6
Discharged home on Midcall or CMP	1,884	41.4	2,432	52.3	1,951	44.5
Transferred to ACT hospital	142	3.1	86	1.8	50	1.1
Transferred to interstate hospital	17	0.4	60	1.3	32	0.7
Not stated	17	0.4	4	0.1	0	0.0
Total	4,547	100.0	4,652	100.0	4,380	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. Homebirths and stillbirths have been excluded. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

Women who gave birth in an ACT public hospital in 2001 were more likely to go home from hospital on Midcall, or the CMP (TCH with 65.9% and Calvary Public with 59.7%) when compared with women who gave birth in an ACT private hospital (Calvary Private with 8.7% and JJMH with 4.5%) (Table 48).

Table 48: Maternal discharge status by hospital of birth, ACT, 2001

Maternal discharge status	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Discharged home	596	31.6	398	38.1	392	90.1	961	94.7
Discharged on Midcall / CMP	1,243	65.9	624	59.7	38	8.7	46	4.5
Transferred	46	2.4	23	2.2	5	1.1	8	0.8
Total	1,885	100.0	1,045	100.0	435	100.0	1,015	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. Homebirths and stillbirths have been excluded. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2001 data

2.15 Breastfeeding

The benefits of breastfeeding for infants and mothers are well established. The National Health and Medical Research Council 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 workplaces²¹.

Mothers of children aged less than two years were asked a series of questions about breastfeeding in the Children's Health Survey. Ninety-four per cent of the mothers that were surveyed indicated that their child had been breastfed (NSW 89.8%), but the duration of breastfeeding was not recorded²².

Breastfeeding information is collected on the ACT Midwives Data Collection forms, however there are some data quality issues that need to be addressed before these data can be published. There is a plan to review the breastfeeding information collected both on the form and within PANDA (Perinatal and Newborn Data Access).

3 BABIES' CHARACTERISTICS

The 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 (99.2%) of babies were born alive in the ACT in 2001, and 0.8% were stillborn (Table 49).

Ninety-six per cent (95.6%) of babies were singleton births in the ACT in 2001, and 4.4% were multiple births (Table 49). There were less than five sets of triplets born in 2001.

The ACT followed the national trend with male births (51.1%) exceeding female births (Table 49).

Table 49: Babies' characteristics, ACT, 2001

		No.	%
Birth condition	Live born	4,478	99.2
	Stillborn	35	0.8
	Total	4,513	100.0
Plurality	Singleton	4,316	95.6
	Multiple births	197	4.4
	Total	4,513	100.0
Sex	Male	2,305	51.1
	Female	2,208	48.9
	Total	4,513	100.0
Presentation	Vertex (crown of head)	4,193	92.9
	Breech	257	5.7
	Other including face and brow	50	1.1
	Not stated	13	0.3
	Total	4,513	100.0
Birthweight	Less than 500 grams	13	0.3
	500 to 999 grams	26	0.6
	1,000 to 1,499 grams	44	1.0
	1,500 to 1,999 grams	73	1.6
	2,000 to 2,499 grams	167	3.7
	2,500 to 2,999 grams	633	14.0
	3,000 to 3,499 grams	1,508	33.4
	3,500 to 3,999 grams	1,480	32.8
	4,000 to 4,499 grams	472	10.5
	4,500 or more grams	92	2.0
	Not stated	5	0.1
Total	4,513	100.0	
Gestational age	20 to 27 weeks	48	1.1
	28 to 31 weeks	54	1.2
	32 to 36 weeks	304	6.7
	37 to 41 weeks	4,033	89.4
	42 or more weeks	71	1.6
	Not stated	3	0.1
Total	4,513	100.0	

Note: Less than 5 babies where sex was classified as "indeterminate" in 2001 have been recoded to either male or female. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2001 data

Ninety-three per cent (92.9%) of the babies born in the ACT in 2001 were vertex presentation (the first presenting part was the crown of head), 5.7% were breech (the first presenting part was the buttocks) and the remainder (1.4%) were face, brow, other (usually compound presentation eg. hand and head or cord and head) or not stated (Table 49).

In 2001, 80.2% of babies born in the ACT weighed between 2,500 and 3,999 grams at birth (Table 49), with an average birthweight of 3,369 grams. The percentage of live babies born in the ACT with a birthweight of less than 2,500 grams in 2001 was the same as the Australian percentage (6.7%)². Fourteen per cent (13.7%) of babies born to women not usually resident in the ACT weighed less than 2,500 grams compared with 5.6% 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 50).

Ninety per cent (89.9%) of live babies born in the ACT in 2001 were between 37 and 41 weeks gestation, with an average gestational age of 39 weeks, and 8.5% were classified as preterm babies (less than 37 weeks gestation at birth) (Table 49). Sixteen per cent (16%) of live births among women not usually resident in ACT were preterm, compared with 7.3% of births among women from the ACT (Table 50). The percentage of preterm babies born to ACT residents was similar to the rate for the Australian population (7.8%)².

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

Table 50: Birthweight and gestational age for live births by mother's usual state of residence, ACT, 2001

	ACT residents		Non-ACT residents		ACT & Non-ACT residents	
	No.	%	No.	%	No.	%
Birthweight						
Less than 1500 grams	33	0.9	34	5.5	67	1.5
1500 to 2499 grams	181	4.7	51	8.2	232	5.2
2,500 grams to 4499 grams	3557	92.3	528	85.2	4085	91.3
4500 grams and over	83	2.2	7	1.1	90	2.0
Total	3,854	100.0	620	100.0	4,474	100.0
Gestational age						
20 to 27 weeks	12	0.3	16	2.6	28	0.6
28 to 31 weeks	30	0.8	23	3.7	53	1.2
32 to 36 weeks	238	6.2	60	9.7	298	6.7
37 to 41 weeks	3,515	91.1	511	82.6	4,026	89.9
42 weeks or more	62	1.6	9	1.5	71	1.6
Total	3,857	100.0	619	100.0	4,476	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, 2001 data

Eleven per cent of babies born at TCH (10.8%) weighed less than 2,500 grams compared with 3.2% to 3.6% of babies born at other ACT hospitals in 2001 (Table 51). Among the babies with a birthweight of less than 2,500 grams born at TCH, thirty-one per cent (30.7%) weighed less than 1,500 grams.

In 2001, TCH had the highest percentage of preterm babies (12.0%) with one third (33.0%) of these babies being 31 weeks gestation or less. Only two per cent of babies that were 31 weeks gestation or less were born at the other ACT hospitals.

Table 51: Birthweight and gestational age for live births by hospital of birth, ACT, 2001

	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Birthweight								
Less than 2,500 grams	208	10.8	36	3.4	14	3.2	37	3.6
2,500 grams to 4499 grams	1684	87.8	990	94.5	413	94.1	970	93.9
4500 grams and over	28	1.5	22	2.1	12	2.7	26	2.5
Total	1,920	100.0	1,048	100.0	439	100.0	1,033	100.0
Gestational age								
Less than 37 weeks	230	12.0	58	5.5	23	5.2	64	6.2
37 to 41 weeks	1,654	86.1	973	92.9	414	93.9	957	92.6
42 or more weeks	36	1.9	16	1.5	4	0.9	12	1.2
Total	1,920	100.0	1,047	100.0	441	100.0	1,033	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, 2001 data

3.1.1 Place of birth for babies born

Sixty-six per cent (66.4%) of babies were born in an ACT public hospital in 2001 compared with seventy-three per cent (72.5%) in 1997. Thirty-three per cent (32.8%) of babies were born in an ACT private hospital in 2001 compared with twenty-seven per cent (26.5%) in 1997 (Table 52).

Table 52: Babies' place of birth, ACT, 1997 - 2001

	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Babies born at:	No.	%	No.	%	No.	%	No.	%	No.	%
Public Hospitals	3,470	72.5	3,466	73.2	3,589	76.8	3,500	73.3	2,998	66.4
TCH-Delivery suite	2,047	42.7	2,027	42.8	2,021	43.2	1,956	41.0	1,657	36.7
TCH-Birth Centre	372	7.8	390	8.2	346	7.4	300	6.3	286	6.3
Calvary Public	1,051	22.0	1,049	22.1	1,222	26.1	1,244	26.1	1,055	23.4
Private Hospitals	1,268	26.5	1,230	26.0	1,047	22.4	1,242	26.0	1,479	32.8
Calvary Private	309	6.5	312	6.6	280	6.0	335	7.0	441	9.8
John James Memorial	959	20.0	918	19.4	767	16.4	907	19.0	1,038	23.0
Homebirth	47	1.0	41	0.9	22	0.5	22	0.5	17	0.4
Born before arrival	*	*	*	*	17	0.4	10	0.2	19	0.4
Total	4,785	100.0	4,737	100.0	4,675	100.0	4,774	100.0	4,513	100.0

Note: * There were less than 5 babies reported to have been born before arrival (BBA) in both 1997 & 1998. These numbers have been included in the totals for the hospital of admission. BBA refers to babies born before the mother arrives at the planned birth facility, where the mother and baby are subsequently admitted to that facility. The medical records in 1999 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, 1997 - 2001 data

3.1.2 Babies' usual area of residence

The majority of babies born to ACT women from 1999 to 2001 were to women normally residing on the South side of Canberra (54.5% to 52.2%) (Table 53). The percentages of babies born in the ACT to women normally residing outside of the ACT increased from 12.1% to 13.9% between 1999 and 2001. The majority of babies born to non-ACT residents were from New South Wales (98% to 99%). The numbers of residents from other states, external territories or overseas were less than ten in any one year.

Table 53: Babies born by maternal usual place of residence, ACT, 1999 - 2001

Maternal usual place of residence	1999		2000		2001	
	No.	%	No.	%	No.	%
North Side	1,869	45.5	1,954	46.9	1,858	47.8
North Canberra	394	9.6	383	9.2	390	10.0
Belconnen	1,019	24.8	1,057	25.4	982	25.3
Gungahlin - Hall	456	11.1	514	12.3	486	12.5
South Side	2,241	54.5	2,209	53.1	2,029	52.2
Woden Valley	332	8.1	367	8.8	324	8.3
Weston Creek	251	6.1	216	5.2	256	6.6
Tuggeranong	1,436	34.9	1,384	33.2	1,194	30.7
South Canberra	222	5.4	242	5.8	255	6.6
Total Births to ACT residents	4,110	100.0	4,163	100.0	3,887	100.0
ACT residents	4,110	87.9	4,163	87.2	3,887	86.1
Non-ACT residents	565	12.1	611	12.8	626	13.9
Total birth occurring in the ACT	4,675	100.0	4,774	100.0	4,513	100.0

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 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 1999 to 2001 had apgar scores between 7 and 10 at one minute after birth (84.1% to 84.6%), with approximately ninety-seven per cent (96.8% to 98.0%) attaining those scores at five minutes after birth (Table 54). An apgar score between 7 and 10 at one minute after birth corresponds with approximately three quarters of babies (74.0% to 75.2%) requiring no resuscitation or suction only at birth (Table 55). 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 births.

Table 54: Apgar scores for live births, ACT, 1999 - 2001

	1999		2000		2001	
	No.	%	No.	%	No.	%
Apgar scores at 1 minute						
0 to 3	165	3.6	163	3.4	148	3.3
4 to 6	517	11.1	559	11.8	494	11.0
7 to 10	3,904	84.2	4,008	84.6	3,765	84.1
Not stated	51	1.1	6	0.1	71	1.6
Total	4,637	100.0	4,736	100.0	4,478	100.0
Apgar scores at 5 minutes						
0 to 3	13	0.3	21	0.4	27	0.6
4 to 6	56	1.2	66	1.4	50	1.1
7 to 10	4,517	97.4	4,643	98.0	4,335	96.8
Not stated	51	1.1	6	0.1	66	1.5
Total	4,637	100.0	4,736	100.0	4,478	100.0

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

Narcotic antagonists were administered to between 3.9% and 2.9% of babies to reverse the effects of narcotic drugs given to women during labour from 1999 to 2001 (Table 55).

Table 55: Resuscitation procedures for live births, ACT, 1999 - 2001

		1999		2000		2001	
		No.	%	No.	%	No.	%
Method of resuscitation	No resuscitation method used	2,366	51.0	2,577	54.5	2,366	52.9
	Suction only	1,122	24.2	976	20.6	943	21.1
	Oxygen *	732	15.8	747	15.8	762	17.0
	IPPR - bag & mask	339	7.3	368	7.8	343	7.7
	IPPR - endotracheal intubation	69	1.5	61	1.3	56	1.3
	External cardiac massage & ventilation	9	0.2	7	0.1	8	0.2
	Total	4,637	100.0	4,736	100.0	4,478	100.0
Resuscitation using drug therapy	No resuscitation using drug therapy	4,441	95.8	4,542	95.9	4,336	96.8
	Narcotic antagonist	179	3.9	168	3.5	132	2.9
	Other drugs or drug Combinations	17	0.4	26	0.5	10	0.2
	Total	4,637	100.0	4,736	100.0	4,478	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" (between 0.4% and 1.3%) have been included with "No resuscitation using drug therapy". Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

3.3 Birth defects

Birth defects are the 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. Information on birth defects was reported to the ACT Maternal Perinatal Data Collection (ACT MPDC) from the ACT Midwives Data Collection, The Canberra Hospital OBICARE database and the ACT Admitted Patient Care data collection. Four per cent (4.4%) of all babies born in the ACT in 2001 were reported to have a birth defect, with 173 (3.8%) babies reported to have one birth defect and 29 (0.6%) babies reported to have multiple birth defects.

The birth defect rates presented in Table 56 are reported for a five-year period from 1997 to 2001 to avoid the marked fluctuation of rates due to the small number when reporting rates annually.

Table 56: Birth defects, ACT, 1997 - 2001

	1997 - 2001	
Birth defects (ICD-10-AM)	No.	Rate per 10,000
Anencephaly and similar birth defects (Q00)	2	0.9
Encephalocele (Q01)	8	3.4
Other birth defects of brain (Q02 - Q04)	35	14.9
Spina bifida (Q05)	5	2.1
Other birth defects of spinal cord & nervous system (Q06 - Q07)	8	3.4
Birth defects of eye (Q10 - Q15)	20	8.5
Birth defects of ear, face and neck (Q16 - Q18)	39	16.6
Birth defects of cardiac chambers, connections and septa (Q20 - Q21)	106	45.1
Other birth defects of heart including cardiac valves (Q22 - Q24)	45	19.2
Other birth defects of circulatory system (Q25 - Q28)	50	21.3
Birth defects of respiratory system (Q30 - Q34)	33	14.1
Cleft palate and/or cleft lip (Q35 - Q37)	65	27.7
Other birth defects of upper alimentary tract (Q38 - Q40)	29	12.3
Other birth defects of digestive system (Q41 - Q45)	38	16.2
Birth defects of genital organs (Q50 - Q56)	241	102.6
Birth defects of urinary system (Q60 - Q64)	107	45.6
Reportable musculoskeletal birth defects (Q65 - Q68 see exclusions)	176	74.9
Other reportable birth defects of limb(s) (Q69 - Q74 see exclusions)	48	20.4
Other reportable birth defects of musculoskeletal system (Q75 - Q79)	55	23.4
Reportable birth defects of skin (see exclusions) (Q80 - Q84)	9	3.8
Other birth defects, not elsewhere classified (Q85 - Q89)	13	5.5
Chromosome birth defects (Q90 - Q99)	64	27.3
Down's syndrome (Q90)	41	17.5
Edwards' syndrome and Patau's syndrome (Q91)	11	4.7
Other chromosome birth defects (Q92 - Q99)	12	5.1
Total birth defects (* Rate per 100)	1,196	5.1

Note: Figures from the ACT Admitted Patient Care Data Collection are based on babies not separations; if a baby has more than one admission for the same defect only one defect is counted. One baby may have more than one defect. Data includes stillbirths but excludes pre-twenty week fetuses. Definitions and standards as per the ICD-10-AM manual, codes are provided. During this time period mapping between ICD-9-CM and ICD-10-AM was performed for 1997 to 1999 data. ICD-10-AM descriptions with the words "Congenital anomalies or malformations" replaced with "Birth defects" in this publication. Additional exclusions of minor birth defects have reduced the number of reportable musculoskeletal birth defects and reportable birth defects of skin from the last report that included 1995 to 1999 birth defects. See exclusions in the following text.

Source: ACT Admitted Patient Care Data Collection and ACT Maternal Perinatal Data Collection, 1997 - 2001 data

There are some reported birth defects that were not presented in Table 56. The following birth defects have been excluded because they are considered to be either minor birth defects 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 (79 cases);
- undescended testicles (Q53.1 – Q53.9) where the gestational age is less than 37 weeks or the birthweight is less than 2,500 grams (34 cases);
- tongue tie (Q38.1: 45 cases);
- other specified anomalies of the skin (Q82.5 – Q82.9: 199 cases); and
- talipes equinovarus (Q66.0: 113 cases), calcaneovarus and unspecified talipes (Q66.1 – Q66.6: 148 cases), and other deformities of the feet (Q66.8 – Q66.9: 387 cases).

Data checks were done on records where unspecified or non-specific ICD-10-AM codes were allocated in the ACT Admitted Patient Care dataset. These records have been edited based on those findings.

3.4 Perinatal deaths

3.4.1 Perinatal deaths by birth cohort

Fetal, neonatal and infant death rates are important indicators of our community's health. In 2001, 29 stillbirths (0.7%), seven neonatal deaths (0.2%) and less than five post neonatal deaths were reported for ACT residents. For all births that occurred in ACT (ACT and non-ACT resident births), there were 35 stillbirths (0.8%), 20 neonatal deaths (0.4%) and less than five post neonatal deaths reported (Table 57).

Table 57: Birth outcome by maternal usual residence, ACT, 2001

	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
Live births survived to 28 days	3,851	99.1	607	97.0	4,458	98.8
Stillbirth	29	0.7	6	1.0	35	0.8
Neonatal death	7	0.2	13	2.1	20	0.4
All births	3,887	100.0	626	100.0	4,513	100.0

Note: Post neonatal deaths have been excluded, as there were less than five for all births in the ACT.

Source: ACT Maternal Perinatal Data Collection, 2001 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 occur 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 2001, the ACT had a stillbirth rate of 7.5 per 1,000 for ACT residents' births, compared with an Australian rate of 5.2 per 1,000 births³ and a neonatal death rate of 1.8 per 1,000 for ACT residents' births, compared with an Australian rate of 3.3 per 1,000 births³ No significant difference was observed between the ACT and Australia for stillbirth or neonatal death rates.

Table 58: Birth status and survival, ACT residents' births, 1997 - 2001

	1997	1998	1999	2000	2001
ACT residents'					
	Numbers				
Births	4,157	4,115	4,110	4,163	3,887
Livebirths	4,126	4,078	4,082	4,135	3,858
Survived to one year	4,107	4,052	4,069	4,118	3,849
Infant Deaths	19	26	13	17	9
Post neonatal deaths	6	6	<5	5	<5
Neonatal deaths	13	20	11	12	7
Stillbirths – fetal deaths	31	37	28	28	29
Perinatal Deaths	44	57	39	40	36
	Rate per 1,000				
Livebirths	992.5	991.0	993.2	993.3	992.5
Survived to one year	995.4	993.6	996.8	995.9	997.7
Infant Deaths	4.6	6.4	3.2	4.1	2.3
Post neonatal deaths	1.5	1.5	0.5	1.2	0.5
Neonatal deaths	3.2	4.9	2.7	2.9	1.8
Stillbirths – fetal deaths	7.5	9.0	6.8	6.7	7.5
Perinatal Deaths	10.6	13.9	9.5	9.6	9.3

Note: 1997 to 2001 Birth Cohort Data includes reported deaths for ACT residents' births only. This table does not include ACT residents that have birthed in another jurisdiction, or non-ACT residents that have birthed 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, 1997– 2001 data

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 as follows:

- 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 (9.4 per 1,000 births; 95% CI 8.4 - 10.3) between the years 1997-2001 was not statistically different to the average Australian perinatal death rate (8.6 per 1,000 births; 95% CI 8.4 - 8.7).

A significantly higher perinatal death rate was observed for the ACT in 1998. Further analysis indicated that the higher rate was due to the high number of extremely low birth weight babies born that year²³. Since 1998 the rate of perinatal deaths in the ACT has not been significantly higher than observed nationally.

Table 59: ABS perinatal death rates per 1,000 births by year of death registration with 95% confidence intervals, ACT & Australia 1997 - 2001

Year of death registration	ACT rates		Australian rates	
	Rate	95% CI	Rate	95% CI
1997	6.6	4.2 - 9.1	9.2	8.8 - 9.5
1998	12.2	8.8 - 15.6	8.3	8.0 - 8.7
1999	11.7	8.5 - 14.9	8.5	8.2 - 8.9
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
1997 – 2001	9.4	8.1 - 10.8	8.6	8.4 - 8.7

Note: The confidence intervals have been calculated for this table using the number of registered births provided by the ABS.
Source: ABS Causes of Death 2001 (Dec 2002) Catalogue no 3303.0.

3.4.4 Causes of fetal deaths and neonatal deaths

In Australia, the major causes of registered fetal deaths in 2001 were intrauterine hypoxia, birth defects including chromosomal abnormalities, and disorders related to length of gestation and fetal growth³. Fifteen of the 29 fetal deaths among the ACT in 2001 (ACT residents) weighed less than 1,000 grams at birth and 18 were between 20 and 27 completed weeks gestation.

Nationally the major cause of registered neonatal deaths in 2001 was birth defects. This includes chromosomal abnormalities. Other major causes included respiratory and cardiovascular disorders specific to the perinatal period, and disorders related to length of gestation and fetal growth³. Three out of the seven neonatal deaths in the ACT during 2001 weighed less than 1,000 grams at birth and were between 20 and 27 completed weeks gestation.

3.5 Babies' length of stay in hospital

Almost half (44.3%) of babies born in ACT hospitals during 2001 stayed in hospital for three days or less after birth, 41.9% stayed in hospital for between 4 to 6 days and 13.7% stayed in hospital for a week or more after birth (Table 60).

Table 60: Babies' length of stay in hospital for live births, ACT, 1999 - 2001

Babies' length of stay in hospital	1999		2000		2001	
	No.	%	No.	%	No.	%
3 days or less	2,216	50.3	2,207	50.0	1,860	44.3
4 to 6 days	1,625	36.9	1,645	37.3	1,760	41.9
7 days or more	562	12.8	561	12.7	576	13.7
Total	4,403	100.0	4,413	100.0	4,196	100.0
Average stay in hospital	4.5 days		4.3 days		4.6 days	

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

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

Babies' average length of stay in hospital by selected characteristics for 1999 to 2001 is shown in Table 61. Consistent trends in average length of stay are observed over the three year period. The average length of stay for babies in hospital in 2001 was 4.6 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 66.4 days compared with 4.0 days for babies born weighing more than 2,500 grams (Table 61). Similarly, babies with a gestational age of 31 weeks or less had a longer average length of stay (53.0 days) compared with babies with a gestational age of more than 37 weeks (4.0 days).

The average length of hospital stay for private hospitals (Calvary Private 5.2 days, JJMH 6.0 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 (5.6 days; $p = 0.00$) than babies born to ACT residents (4.5 days). 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 (5.3 days; $p = 0.00$) than babies born to mothers aged less than 30 years (4.5 days)⁹.

Table 61: Babies' average length of stay in hospital by selected characteristics, ACT, 1999 - 2001

Babies' average length of stay (Days)		1999	2000	2001
Birthweight	Less than 1500 grams	68.2	58.3	66.4
	1500 to 2499 grams	11.4	12.5	14.6
	Greater than 2500 grams	3.8	3.8	4.0
	Total	4.5	4.3	4.6
Gestational age	31 weeks or less	64.1	50.2	53.0
	32 to 36 weeks	10.8	11.0	11.4
	37 weeks or more	3.7	3.7	4.0
	Total	4.5	4.3	4.6
Place of birth (hospital)	The Canberra Hospital	4.6	4.2	4.4
	Calvary Public Hospital	3.2	3.3	3.3
	Calvary Private Hospital	4.6	4.5	5.2
	John James Memorial Hospital	6.3	6.1	6.0
	Total	4.5	4.3	4.6
Area of residence	ACT residents	4.3	4.1	4.5
	Non-ACT residents	6.6	6.3	5.6
	Total	4.5	4.3	4.6
Maternal age	Less than 20 years	3.7	4.8	4.2
	20-24 years	3.8	4.1	3.8
	25-29 years	4.1	3.9	4.2
	30-34 years	4.9	4.4	4.9
	35 years and over	5.3	5.1	5.2
	Total	4.5	4.3	4.6

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

Source: ACT Maternal Perinatal Data Collection, 2001 data

3.6 Babies' discharge status from hospital

Ninety-four per cent (94.4%) of babies were discharged home; five per cent (5.2%) were transferred to an ACT (3.7%) or interstate (1.5%) hospital and less than half a per cent (0.3%) died following a hospital birth admission in 2001 (Table 62).

Table 62: Babies' discharge status for live births from hospital, ACT, 1999 - 2001

Babies' discharge	1999		2000		2001	
	No.	%	No.	%	No.	%
Discharged home	4,398	95.7	4,409	93.7	4,196	94.4
Transferred to an ACT or interstate hospital	180	3.9	274	5.8	232	5.2
Died	15	0.3	17	0.4	15	0.3
Not stated	5	0.1	4	0.1	0	0.0
Total	4,598	100.0	4,704	100.0	4,443	100.0

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

Source: ACT Maternal Perinatal Data Collection, 1999 - 2001 data

4 ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

4.1 Maternity services for Aboriginal and Torres Strait Islander women

During the 1997-2001 reporting period, antenatal services for Aboriginal and Torres Strait Islander people in the ACT were improved with the establishment of the Aboriginal Midwifery Access Program (AMAP) as part of the services provided by Winnunga Nimmityjah Aboriginal Health Service (Winnunga). The program was created due to concern about poor access of Aboriginal women to antenatal care. AMAP provides a primary health care service specifically focused on delivering antenatal care. This service was evaluated in June 2002 after eighteen months of operation. The following information is from the Evaluation Report²⁴ and provides baseline data for this program.

Many women who use the AMAP service have multiple problems and their social environment is often marked by poverty, family difficulties and limited educational and personal resources (including access to a telephone). They often do not have access to motor vehicles or live close to public transport. AMAP staff provide a variety of services including transport, support for social problems, making appointments and helping clients to keep them. The AMAP work also involves referral and liaison work aimed at ensuring appropriate secondary and tertiary care is provided through shared care arrangements with hospitals, the Fetal Medicine Unit and other programs at Winnunga. At the time of the evaluation, limited postnatal care was provided by AMAP.

During the 18 months from January 2001 to June 2002, 38 women used the AMAP service. Of these women 10 were current clients and 28 had given birth. The mean age of the women was 27 years. The majority of the women (90%) were unemployed and almost three quarters were single.

It is widely accepted that the first antenatal check should be in the first twelve weeks of pregnancy. Prior to the establishment of AMAP, most Aboriginal women presented for antenatal care during the late second or third trimester of pregnancy. Many of these women had complications requiring lengthy hospital admissions and invasive tests and/or procedures. During the first 18 months of AMAP almost 50% of women presented to the program during the first trimester, a further 40% presented during the second trimester and just over 10% presented during the third trimester.

Limited information relating to risk factors was also collected during the evaluation. One in three clients smoked, approximately eight per cent used opiates and a further five per cent used other substances. Approximately eight per cent of clients had a mental health issue. It is likely these prevalence rates, particularly tobacco use, are underestimated.

Anaemia (16%) and pre-eclampsia (16%) were the most common complications of pregnancy among AMAP clients. This was followed by premature labour (10%) and hepatitis C (8%) and gestational diabetes (5%). Almost 20% of AMAP clients experienced a post-partum haemorrhage. Although based on small numbers, the frequency of complications observed is high.

One advantage of this service is the rapport built between the women and staff. This enables staff to make judgements about when extra effort is required to ensure that the woman receives necessary care. Many AMAP clients require more antenatal visits for investigations and procedures than is normally expected during pregnancy. Encouraging women to participate in antenatal care and to attend for investigations and specialist visits is both a crucial and time consuming part of the AMAP staff's role. AMAP staff also provide birth support for many of their clients and hospital staff feedback indicates that AMAP clients were better prepared for the birth with less anxiety and fear.

A small number of AMAP clients were interviewed for the evaluation. The women indicated that feeling supported, being reminded of appointments, having transport provided when necessary and receiving good explanations were major factors in their using antenatal care. The women stated that prior to the establishment of the program they may have attended a hospital antenatal clinic once, but most likely would have waited until the end of their pregnancy. All clients interviewed talked about the importance of Winnunga generally and how the AMAP was a great service for them.

4.2 Maternal characteristics for ACT Aboriginal and Torres Strait Islander women

The reported numbers of Aboriginal and Torres Strait Islander women who gave birth in the ACT from 1997 to 2001 were 58, 63, 59, 53 and 52 respectively. This accounted for between 1.1% and 1.4% of the total women who gave birth in the ACT from 1997 to 2001.

Aboriginal and Torres Strait Islander women who gave birth in the ACT in 2001, were more likely to have their babies at a younger age, with 61.6% less than 30 years of age at the time of the birth compared with 45.3% of non-Aboriginal and Torres Strait Islander women (Table 63).

The Aboriginal and Torres Strait Islander women who gave birth in 2001 tended to be dispersed throughout the ACT geographical subdivisions, although there were slightly more who were usual residents on the south side (42.3%) than on the north side (34.6%) (Table 63).

Table 63: Age and usual place of residence by Aboriginal and Torres Strait Islander identification, ACT, 2001

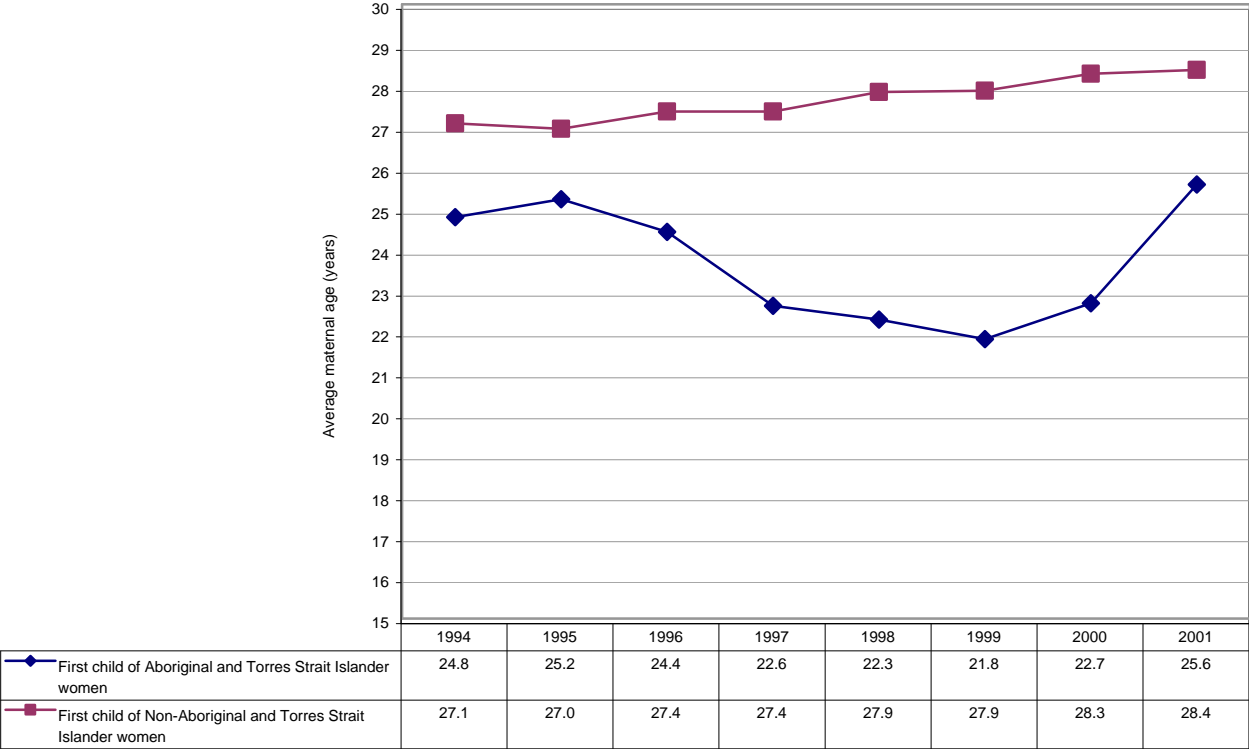
		Aboriginal and Torres Strait Islander women		Non-Aboriginal and Torres Strait Islander women	
		No.	%	No.	%
Age groups	Less than 20 years	7	13.5	138	3.2
	20 - 24 years	11	21.2	537	12.3
	25 - 29 years	14	26.9	1,299	29.8
	30 years or more	20	38.5	2,379	54.7
	Total	52	100.0	4,353	100.0
Usual place of residence	ACT residents	40	76.9	3,762	86.4
	North side	18	34.6	1,801	41.4
	South side	22	42.3	1,961	45.0
	Non-ACT residents	12	23.1	591	13.6
	Total	52	100.0	4,353	100.0

Note: Nine 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.

Source: ACT Maternal Perinatal Data Collection, 2001 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 25.6 years in 2001 (Figure 8). Aboriginal and Torres Strait Islander women who gave birth to their first child in 2001 were significantly younger than Non-Aboriginal and Torres Strait Islander women (28.4 years, $p=0.02$).

Figure 8: Average maternal age for first born child by Aboriginal and Torres Strait Islander identification, ACT, 1994 – 2001

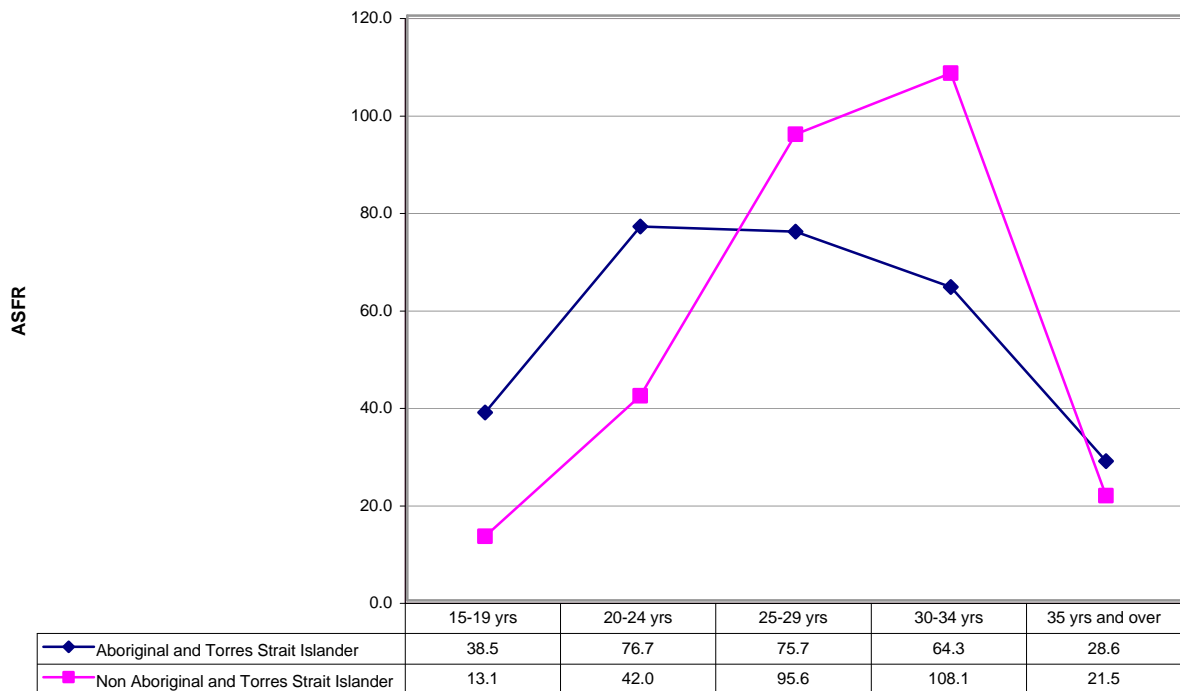


Source: ACT Maternal Perinatal Data Collection, 1994 - 2001 data

The following analyses have used pooled data from 1997 to 2001, because of the small annual number of Aboriginal and Torres Strait Islander women giving birth in the ACT. During this period 285 Aboriginal and Torres Strait Islander women gave birth to 290 babies. Seventy-nine per cent (79.3%; 226) of those Aboriginal and Torres Strait Islander women were residents of the ACT and the remaining twenty-one per cent (20.7%; 59) were NSW residents.

Age specific fertility rates for Aboriginal and Torres Strait Islander women (1997-2001) and non-Aboriginal and Torres Strait Islander women (1999) are presented in Figure 9. Aboriginal and Torres Strait Islander women are giving birth at younger ages, with the rates for women aged less than 25 years being almost double the rates for non-Aboriginal and Torres Strait Islander women.

Figure 9: Age specific fertility rates for Aboriginal and Torres Strait Islander and non-Aboriginal and Torres Strait Islander, ACT resident women, 1997 - 2001



Note: 2001 population figures were used to calculate rates for Aboriginal and Torres Strait Islander women. 1997-2001 pooled data was used to calculate rates for Aboriginal and/or Torres Strait Islander women. Non-Aboriginal and/or Torres Strait Islander rates are for 1999.

Source: ACT Maternal and Perinatal Data Collection, 1997 – 2001 data

Approximately nine out of ten Aboriginal and Torres Strait Islander women (88.4%; 95% CI 84.7 - 92.1) who gave birth in the ACT between 1997 and 2001 gave birth at a public hospital compared with seven out of ten non-Aboriginal and Torres Strait Islander women (72.2%; 95% CI 71.6 - 72.8). Ten per cent (9.8%; 95% CI 6.4 - 13.3) of Aboriginal and Torres Strait Islander women gave birth in an ACT private hospital compared with twenty-seven per cent (26.9%; 95% CI 26.4 - 27.5) of non-Aboriginal and Torres Strait Islander women.

Table 64: Type of birth facility where women gave birth by Aboriginal and Torres Strait Islander identification by state of residence, ACT, 1997 - 2001

	Aboriginal and Torres Strait Islander women					Non-Aboriginal and Torres Strait Islander women			
	ACT residents women		Non-ACT residents women		Total	ACT & Non-ACT resident women			
	No.	%	No.	%		No.	%	No.	%
ACT Public Hospital	197	87.2	55	93.2	252	88.4	16,414	72.2	
ACT Private Hospital	24	10.6	4	6.8	28	9.8	6,126	26.9	
Home birth/born before arrival	5	2.2	0	0.0	5	1.8	192	0.8	
Total	226	100.0	59	100.0	285	100.0	22,732	100.0	

Note: Excludes 20 women for whom Aboriginal and/or Torres Strait Islander identification was not stated.

Source: ACT Maternal and Perinatal Data Collection, 1997 – 2001 data

Women who give birth in the ACT have access to a range of options for antenatal care. Aboriginal and Torres Strait Islander women in the ACT who gave birth between 1997 and 2001 were most likely to choose the Antenatal Clinic (36.7%) or Shared Care (29.2%) for their antenatal care (Table 65). Aboriginal and Torres Strait Islander women were significantly more likely to choose to attend the Antenatal Clinic (36.7%, 95% CI 30.4 – 43.0; non-Aboriginal women 22.0%, 95% CI 21.4 – 22.6) and significantly less likely to choose to attend an obstetrician (10.6%, 95% CI 6.6 – 14.6; non-Aboriginal women 23.3%, 95% CI 22.7 – 23.9) or the Birth Centre/CMP (5.3%, 95% CI 2.4 – 8.2; non-Aboriginal women 10.4%, 95% CI 10.0 – 10.8). During 2000 and 2001, 29% of Aboriginal and Torres Strait Islander women had less than six antenatal visits (95% CI 19.9 - 37.2, non-Aboriginal women 6.8%, 95% CI 6.3 - 7.3)²⁶.

Table 65: Responsibility for antenatal care by Aboriginal and Torres Strait Islander identification, ACT residents, 1997 - 2001

	Aboriginal and Torres Strait Islander women		Non-Aboriginal and Torres Strait Islander women	
	No.	%	No.	%
Obstetrician	24	10.6	4,632	23.3
General Practitioner	27	11.9	3,279	16.5
Antenatal Clinic	83	36.7	4,373	22.0
Shared Care	66	29.2	4,931	24.8
Midwife (max 2 GP)	3	1.3	292	1.5
BC / CMP protocols	12	5.3	2,071	10.4
No antenatal care	8	3.5	28	0.1
Not Stated	3	1.3	263	1.3
Total	226	100.00	19,870	100.0

Note: Excludes 19 ACT resident women for whom Aboriginal and/or Torres Strait Islander identification was not stated.

Source: ACT Maternal and Perinatal Data Collection, 1997 – 2001 data

Five multiple births to Aboriginal and Torres Strait Islander women occurred between 1997 and 2001. This represents 1.8% of all births and is similar to the non-Aboriginal and Torres Strait Islander women percentage of multiple births (1.9%) for the same period²⁵.

The majority of Aboriginal and Torres Strait Islander women (67.0%) who gave birth in the ACT had a spontaneous onset of labour (Table 66). 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 13.7%; non-Aboriginal and Torres Strait Islander women 12.0%).

Table 66: Onset of labour by Aboriginal and Torres Strait Islander Identification, ACT, 1997 - 2001

	Aboriginal and Torres Strait Islander women		Non-Aboriginal and Torres Strait Islander women	
	No.	%	No.	%
Spontaneous	191	67.0	15,093	66.4
Induced	55	19.3	4,911	21.6
No Labour	39	13.7	2,728	12.0
Total	285	100.0	22,732	100.0

Note: Excludes 20 women for whom Aboriginal and/or Torres Strait Islander identification was not stated.

Source: ACT Maternal and Perinatal Data Collection, 1997 – 2001 data

Seven in ten Aboriginal and Torres Strait Islander women (69.5%) who gave birth in the ACT had a normal birth (Table 67) and one in five women (22.1%) had a caesarean section. These rates were similar to those for non-Aboriginal and Torres Strait Islander women. Five vaginal breech births occurred for Aboriginal and Torres Strait Islander women between 1997 and 2001. During this time the practice of vaginal breech births has declined with findings from the Breech Trial showing planned caesarean section as the preferred method of birth for a breech presentation at term¹⁵. The number of instrumental births is significantly lower among Aboriginal and Torres Strait Islander women (6.7%; 95% CI 3.8 – 9.6) compared to non-Aboriginal and Torres Strait Islander women (12.4%; 95% CI 12.0 - 12.8).

Table 67: Method of birth by Aboriginal and Torres Strait Islander identification, ACT, 1997 - 2001

	Aboriginal and Torres Strait Islander women		Non-Aboriginal and Torres Strait Islander women	
	No.	%	No.	%
Normal birth	198	69.5	15,092	66.4
Caesarean Section	63	22.1	4,687	20.6
Instrumental birth	19	6.7	2,821	12.4
Vaginal Breech	5	1.8	132	0.6
Total	285	100.0	22,732	100.0

Note for method of birth "other" has been recoded to normal birth. Excludes 20 women for whom Aboriginal and/or Torres Strait Islander identification was not stated. There were less than five non-Aboriginal women for whom method of birth was not stated. These were included in "Normal birth".

Source: ACT Maternal and Perinatal Data Collection, 1997-2001.

The average postnatal length of stay in hospital for Aboriginal and Torres Strait Islander women (3.6 days) was only slightly lower when compared with the average postnatal length of stay in hospital for non-Aboriginal and Torres Strait Islander women (3.9 days) in 2001 (Table 68).

Table 68: Postnatal length of stay in hospital by Aboriginal and Torres Strait Islander identification, ACT, 2001

Postnatal length of stay	Aboriginal and Torres Strait Islander women		Non- Aboriginal and Torres Strait Islander women	
	No.	%	No.	%
3 days or less	26	55.3	1,943	45.8
4 to 6 days	16	34.0	1,871	44.1
7 days or more	5	10.6	429	10.1
Total	47	100.0	4,243	100.0
Average postnatal stay	3.6 days		3.9 days	

Note: For postnatal length of stay only hospital births are included; transfers are also excluded for postnatal length of stay. Excludes 9 women for whom Aboriginal and/or Torres Strait Islander identification was not stated.

Source: ACT Maternal Perinatal Data Collection, 2001 data

Aboriginal and Torres Strait Islander women discharged from hospital, were equally likely to be discharged home (2001: 50%; 2000: 45.3%) or referred to Midcall or the Canberra Midwifery Program (2001: 44.0%; 2000: 47.2%)²⁶.

4.2.1 Babies characteristics for Aboriginal and Torres Strait Islanders

Two hundred and ninety babies were born to Aboriginal and Torres Strait Islander women between 1997 and 2001. Ninety-eight per cent (97.9%) of babies born to Aboriginal and Torres Strait Islander women were live born and six babies were stillborn.

Ninety-seven per cent (96.6%) of births were singleton births and the remaining three per cent were multiple births (3.4%) (Table 69). Of the multiple births all were twins between 1997 and 2001.

Over nine in ten babies were vertex presentation (the first presenting part was the crown of the head), seven per cent (6.9%) were breech (the first presenting part was the buttocks) and the remainder (1.4%) were face, brow or other (usually compound presentation eg. hand and head).

Table 69: Babies' characteristics by Aboriginal and Torres Strait Islander identification, ACT, 1997 - 2001

		Aboriginal and Torres Strait Islander women		Non- Aboriginal and Torres Strait Islander women	
		No.	%	No.	%
Sex	Male	155	53.4	11,759	50.7
	Female	135	46.6	11,415	49.3
	Total	290	100.0	23,174	100.0
Plurality	Singleton	280	96.6	22,299	96.2
	Multiple births	10	3.4	875	3.8
	Total	290	100.0	23,174	100.0
Presentation	Vertex	265	91.4	21,598	93.2
	Breech	20	6.9	1,179	5.1
	Other (including Face & Brow)	4	1.4	215	0.9
	Not Stated	1	0.3	182	0.8
	Total	290	100.0	23,174	100.0
Birthweight	Less than 1500 grams	23	7.9	447	1.9
	1500 to 2499 grams	31	10.7	1,252	5.4
	Greater than 2500 grams	236	81.4	21,461	92.6
	Not stated	0	0.0	14	0.1
	Total	290	100.0	23,174	100
Gestational age	Less than 31 weeks	25	8.6	508	2.2
	32 to 36 weeks	34	11.7	1,465	11.7
	37 weeks or more	229	79.0	21,135	91.2
	Not stated	2	0.7	66	0.7
	Total	290	100.0	23,174	93.6

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 20 women for whom Aboriginal and/or Torres Strait Islander identification was not stated.

Source: ACT Maternal Perinatal Data Collection, 2001 data

A significantly higher percentage of babies born to Aboriginal and Torres Strait Islander women in the ACT weighed less than 2,500grams (18.6%; 95% CI 14.1 – 23.1) compared with babies born to non-Aboriginal and Torres Strait Islander women (7.3%; 95% CI 7.0 – 7.7). However, the majority of the low birthweight babies were born to non-ACT residents. Almost two thirds (61.1%) of babies weighing less than 2,500 grams born to Aboriginal and Torres Strait Islander women were non-ACT residents²⁵. The average birthweight for babies born to ACT residents who identified as Aboriginal was significantly higher (3,258 grams; p=0.00) than non-ACT residents (2,449 grams).

Nine per cent (9.2%; 95% CI 5.4 – 12.9) of babies born to Aboriginal and Torres Strait Islander women who were ACT residents weighed less than 2,500 grams²⁵. This rate was not significantly different from babies of non-Aboriginal and Torres Strait Islander ACT resident women (5.9%; 95% CI 5.6 - 6.3).

A similar pattern was seen for gestational age with nine per cent (20.3%; 95% CI 15.7 – 25.0) of babies born to Aboriginal and Torres Strait Islander women being born pre-term (less than 37 weeks gestation). This is significantly higher than the percentage for non-Aboriginal and Torres Strait Islander women (8.5%; 95% CI 8.2 – 8.9). Over half (55.9%) of babies born to Aboriginal and Torres Strait Islander women at less than 37 weeks gestation were non-ACT residents.

Eleven per cent (11.4%; 95% CI 7.2 – 15.5) of babies born to Aboriginal and Torres Strait Islander women who were ACT residents were born at less than 37 weeks gestation²⁵. This rate was not significantly different from babies of non-Aboriginal and Torres Strait Islander ACT resident women (7.0%; 95% CI 6.6 – 7.3).

These results reflect the maternity services in the ACT and surrounding regions with non-ACT residents using specialist services at The Canberra Hospital for high risk births.

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 was formed in January 2002 when the Population Information Unit (PIU) and the Clinical Epidemiology and Health Outcomes Centre (CEHOC) amalgamated.

A major goal of the PHRC is to produce publications using the data derived from the collection in consultation with key stakeholders. This is the fifth publication in the Health Series developed in consultation with the ACT Maternal Perinatal Information Network.

Computerisation of the collection is a major goal of ACT Maternal Perinatal Information Network (ACT MPIN). From October 1996 to October 2002, The Canberra Hospital (TCH) collected data for the ACT MPDC in an Access database called "OBICARE". TCH Women's and Children's Health Service Management Team launched and implemented a new database for the collection of the Maternity Unit's data in November 2002. This database was called the Perinatal and Newborn Data Access (PANDA).

5.1 Scope of the data

The scope of the ACT MPDC includes data on all births, both live and stillborn, of at least 20 weeks gestation or 400 grams in birthweight, that occur in ACT hospitals, birth centres and the community. Therefore the ACT MPDC includes births that occur in the ACT to both ACT residents and non-ACT residents. These data form part of the Perinatal National Minimum Data Set²⁷ 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. Identification and retrieval of missing records from all ACT birth facilities are extensive to improve the completeness of the collection. Comparisons are made below between the Australian Bureau of Statistics (ABS) Birth reports and the figures obtained in this report, thus providing an indication of the completeness of the ACT Maternal Perinatal Data Collection.

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 1999 (0.1%) or 2000 (13.3%) that are registered in 2001¹ are included, and births occurring in 2001 that are registered in the following year are not included. In the ACT, there were a total of 3,938 registered births with 1,995 registered male births and 1,943 registered female births in 2001¹. Among these registered births there were 62 births to ACT residents where the births were registered in other states¹. Therefore the ABS reports 3,876 registered births to ACT residents where the births occurred in the ACT.

The ACT Maternal Perinatal Data Collection showed that during 2001 there were a total of 3,887 births with 1,988 male births and 1,899 female births to ACT residents⁹. A further 626 births to non-ACT residents were reported to the ACT Maternal Perinatal Data Collection for 2001 with 317 males and 309 females. The ABS reports 664 ACT birth registrations to non-ACT residents for 2001¹.

The ACT MPDC aims to collect information for all births that occur in the ACT during a calendar year regardless of registration date. The different methods of collection will account for small differences in the numbers between the two collections.

5.2 Methods

The analysis for this report was conducted using an SPSS 11.5 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 $p < .05$ level.

Where population rates are presented, these represent 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 in the ACT, including those to non-ACT residents.

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 how each organisation reports the rates:

1. The ABS reports deaths by their 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 completed 20 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 where the birth occurred outside of the ACT. The ACT MPDC only reports perinatal deaths to ACT residents who gave birth in the ACT at this time.

5.2.1 The data

The ACT Maternal Perinatal Data Collection (ACT MPDC) is managed in an Access database. All data linkage and data quality issues are managed in individual year databases. The individual year's Access database is considered to be the master copy, with data cleaning edits done only in the master copy. Edited data are recorded in an Access table, SPSS recoding syntax is generated for the specific edits. Records from the ACT MPDC were exported from Access and analysed in SPSS for this report using SPSS syntax files.

An overall SPSS data file combines records from multiple years to facilitate reporting on the data over time. Any edited data is updated in the multiple year database files. Generally the files that contain multiple years of data are not created until all the edits have been completed.

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 dramatically 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 was obtained from ACT APC data collection or by direct request to the medical record departments, or homebirth midwife.

The sources of death data checked to present 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's database;
- OBICARE database 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 and 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 birth defects, 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. These exclude homebirths for the mothers and babies records, as there is no hospital admission for the birth, and stillbirths for the baby records as the details of stillbirths are held in the mother's record. In 2001, 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.

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

The data item for the "responsibility for antenatal care" is 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 70: 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 and reported on for 1997 data. Recoding error corrected.

Source: ACT Maternal Perinatal Data Collection (ACT MPDC)

Table 71: Recodes from ACT MDCF for responsibility of antenatal care, ACT, 1997 - 2001

ACT MDCF Description	Recoded 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

Source: ACT Maternal Perinatal Data Collection (ACT MPDC)

5.3 Data sources

The ACT Maternal and Perinatal Data Collection (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;
- 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 is 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 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 is currently being revised for implementation in January 2005 to change the collection of breastfeeding data in the ACT MPDC.

Figure 10: ACT Midwives Data Collection Form for 1999 to 2000 data



ACT Midwives Data Collection Form

MOTHER		BABY'S PLACE OF BIRTH		BABY																												
PIN (Mother's) <input type="text"/> Mother's Birthdate <input type="text"/> Suburb <input type="text"/> Postcode <input type="text"/> Admission Date <input type="text"/> Family Status Separated <input type="checkbox"/> 4 Married/Defacto <input type="checkbox"/> 5 Divorced <input type="checkbox"/> 3 Never Married <input type="checkbox"/> 1 Widowed <input type="checkbox"/> 2 Country of birth <input type="text"/> Indigenous Status Not Indigenous <input type="checkbox"/> 4 Aust. Aboriginal <input type="checkbox"/> 1 Torres Strait Islander <input type="checkbox"/> 2 Class of Patient Public <input type="checkbox"/> 1 Private <input type="checkbox"/> 2		The Canberra Hospital <input type="checkbox"/> 1 John James Memorial <input type="checkbox"/> 5 TCH Birth Centre <input type="checkbox"/> 2 National Capital Private <input type="checkbox"/> 6 Calvary Public <input type="checkbox"/> 3 Homebirth <input type="checkbox"/> 7 Calvary Private <input type="checkbox"/> 4 Born before arrival <input type="checkbox"/> 8 Intended place of birth at onset of labour Hospital <input type="checkbox"/> 1 Birth Centre <input type="checkbox"/> 2 Home <input type="checkbox"/> 4 Was mother transferred Antenatally? No <input type="checkbox"/> 1 Prior to labour <input type="checkbox"/> 2 During labour <input type="checkbox"/> 3 Transferred FROM Planned Homebirth <input type="checkbox"/> 1 Another ACT hospital <input type="checkbox"/> 3 Birth Centre <input type="checkbox"/> 2 Interstate hospital <input type="checkbox"/> 4 Reason for transfer <input type="text"/> Did mother smoke during pregnancy? No <input type="checkbox"/> 2 Yes <input type="checkbox"/> 1 Average number of cigarettes per day during the second half of pregnancy <input type="text"/>		PIN (Baby's) <input type="text"/> Baby's Birthdate <input type="text"/> Birth Condition Live Birth <input type="checkbox"/> 1 Stillbirth <input type="checkbox"/> 2 Sex Male <input type="checkbox"/> 1 Female <input type="checkbox"/> 2 Indeterminate <input type="checkbox"/> 3 Plurality Single <input type="checkbox"/> 1 Twins <input type="checkbox"/> 2 Triplets <input type="checkbox"/> 3 Birth order (enter 1 if singleton birth) <input type="text"/> Birth weight (grams) <input type="text"/> Head circumference (cm) <input type="text"/> Length (cm) <input type="text"/> APGAR: 1 minute <input type="text"/> 5 minutes <input type="text"/> Resuscitation - Active Measures None <input type="checkbox"/> 1 Suction <input type="checkbox"/> 2 IPPV - bag & mask <input type="checkbox"/> 4 O ₂ Therapy <input type="checkbox"/> 3 IPPV - intubation <input type="checkbox"/> 5 Laryngoscopy <input type="checkbox"/> 7 External cardiac massage + ventilation <input type="checkbox"/> 6 Resuscitation - Drug Therapy None <input type="checkbox"/> 1 Narcotic antagonist <input type="checkbox"/> 2 Adrenalin <input type="checkbox"/> 4 Sodium Bicarbonate <input type="checkbox"/> 3 Other drugs related to resuscitation <input type="checkbox"/> 5 Admission to SCN / NICU No <input type="checkbox"/> 2 Yes <input type="checkbox"/> 1 length of stay in days <input type="text"/>																												
PREVIOUS PREGNANCIES 0 <input type="checkbox"/> No previous pregnancies Last pregnancy Number <input type="text"/> Outcome <input type="text"/> 1 <input type="checkbox"/> Yes Live Births <input type="text"/> 1 Neonatal Deaths <input type="text"/> 2 Stillbirths <input type="text"/> 3 Spontaneous Abortions <input type="text"/> 4 Induced Abortions <input type="text"/> 5 Ectopic Pregnancies <input type="text"/> 6 Other <input type="text"/> 7 Date of completion of last pregnancy <input type="text"/> Plurality of last pregnancy: Single <input type="checkbox"/> 1 Multiple <input type="checkbox"/> 2		LABOUR, BIRTH AND PUERPERIUM Onset and type of Labour No Labour <input type="checkbox"/> 1 Method: A.R.M. <input type="checkbox"/> 1 Spontaneous <input type="checkbox"/> 2 Oxytocin <input type="checkbox"/> 2 Spontaneous + Augmented <input type="checkbox"/> 3 Induction <input type="checkbox"/> 4 Prostaglandins <input type="checkbox"/> 3 Reason for augmentation or induction <input type="text"/> Analgesia / Anaesthesia None <input type="checkbox"/> 1 Local <input type="checkbox"/> 2 Spinal <input type="checkbox"/> 5 Nitrous Oxide <input type="checkbox"/> 2 Pudendal <input type="checkbox"/> 3 General <input type="checkbox"/> 6 IMI Narcotic <input type="checkbox"/> 3 Epidural <input type="checkbox"/> 4 Other <input type="text"/> 8 Presentation Vertex <input type="checkbox"/> 1 Face <input type="checkbox"/> 3 Other (compound) <input type="checkbox"/> 8 Breech <input type="checkbox"/> 2 Brow <input type="checkbox"/> 4 Method of Birth Spontaneous <input type="checkbox"/> 1 Caesarean Section <input type="checkbox"/> 4 Forceps <input type="checkbox"/> 2 Vacuum Extraction <input type="checkbox"/> 5 Vaginal Breech <input type="checkbox"/> 3 Other <input type="text"/> 8 Perineal status Intact <input type="checkbox"/> 1 3° Laceration <input type="checkbox"/> 4 1° Laceration <input type="checkbox"/> 2 4° Laceration <input type="checkbox"/> 7 2° Laceration <input type="checkbox"/> 3 Episiotomy <input type="checkbox"/> 5 Was the vulva, vagina or perineum sutured? Yes <input type="checkbox"/> 1 No <input type="checkbox"/> 2 Complications of Labour & Birth None <input type="checkbox"/> PPH <input type="checkbox"/> Fetal Distress <input type="checkbox"/> Retained Placenta <input type="checkbox"/> Cord Prolapse <input type="checkbox"/> Major Infection <input type="checkbox"/> Obstructed Labour <input type="checkbox"/>		Neonatal morbidity requiring treatment Nervous system <input type="checkbox"/> Circulatory system <input type="checkbox"/> Respiratory system <input type="checkbox"/> Digestive system <input type="checkbox"/> Musculoskeletal system <input type="checkbox"/> Skin & subcutaneous <input type="checkbox"/> Endocrine or Metabolic disease <input type="checkbox"/> Chromosomal <input type="checkbox"/> Does the baby have birth defect(s)? Yes <input type="checkbox"/> 1 Suspected <input type="checkbox"/> 3 No <input type="checkbox"/> 2 Describe briefly - Complete a more detailed form <input type="text"/> Autopsy Yes <input type="checkbox"/> 1 No <input type="checkbox"/> 2 N/A <input type="checkbox"/> 3																												
THIS PREGNANCY Gravidity <input type="text"/> Parity <input type="text"/> Date of Last Menstrual Period <input type="text"/> Clinically estimated gestation (weeks) <input type="text"/> Maternal medical conditions while pregnant Diabetes Mellitus <input type="checkbox"/> Epilepsy <input type="checkbox"/> Chronic Renal Disease <input type="checkbox"/> Cardiac Disease <input type="checkbox"/> Essential Hypertension <input type="checkbox"/> Other Condition <input type="checkbox"/> Obstetric Complications APH - Placenta Praevia <input type="checkbox"/> Abruption Placenta <input type="checkbox"/> APH - Other <input type="checkbox"/> Pre-eclampsia <input type="checkbox"/> Prelabour Ruptured Membranes <input type="checkbox"/> Gestational Diabetes <input type="checkbox"/> Threatened Abortion <input type="checkbox"/> Threatened Preterm Labour <input type="checkbox"/> Procedures and Operations Number of Ultrasounds <input type="text"/> Cardiotocography <input type="checkbox"/> Assisted Conception <input type="checkbox"/> Chorionic Villus Sampling <input type="checkbox"/> X-Ray <input type="checkbox"/> Amniocentesis < 20 wks <input type="checkbox"/> CT Scan <input type="checkbox"/> Amniocentesis > 20 wks <input type="checkbox"/> Cervical Suture <input type="checkbox"/>		TYPE OF FEEDING at birth on discharge Breast <input type="checkbox"/> 1 <input type="checkbox"/> 1 Breast feeding problems Yes <input type="checkbox"/> 1 No <input type="checkbox"/> 2 EBM <input type="checkbox"/> 2 <input type="checkbox"/> 2 Formula <input type="checkbox"/> 3 <input type="checkbox"/> 3 (tick more than one type of feeding if needed)		DISCHARGE STATUS Mother's Discharge <input type="text"/> Baby's Discharge <input type="text"/> <table border="1"> <thead> <tr> <th></th> <th>Mother</th> <th>Baby</th> </tr> </thead> <tbody> <tr> <td>Discharged home</td> <td><input type="checkbox"/> 1</td> <td><input type="checkbox"/> 1</td> </tr> <tr> <td>Midcall</td> <td><input type="checkbox"/> 2</td> <td><input type="checkbox"/> 2</td> </tr> <tr> <td>Neonatal & Parent Support Service</td> <td><input type="checkbox"/> 3</td> <td><input type="checkbox"/> 3</td> </tr> <tr> <td>Canberra Midwifery Program</td> <td><input type="checkbox"/> 4</td> <td><input type="checkbox"/> 4</td> </tr> <tr> <td>Died</td> <td><input type="checkbox"/> 5</td> <td><input type="checkbox"/> 5</td> </tr> <tr> <td>Transferred to QEII</td> <td><input type="checkbox"/> 6</td> <td><input type="checkbox"/> 6</td> </tr> <tr> <td>Transferred to ACT Hospital</td> <td><input type="checkbox"/> 7</td> <td><input type="checkbox"/> 7</td> </tr> <tr> <td>Transferred to Interstate Hospital</td> <td><input type="checkbox"/> 8</td> <td><input type="checkbox"/> 8</td> </tr> </tbody> </table>			Mother	Baby	Discharged home	<input type="checkbox"/> 1	<input type="checkbox"/> 1	Midcall	<input type="checkbox"/> 2	<input type="checkbox"/> 2	Neonatal & Parent Support Service	<input type="checkbox"/> 3	<input type="checkbox"/> 3	Canberra Midwifery Program	<input type="checkbox"/> 4	<input type="checkbox"/> 4	Died	<input type="checkbox"/> 5	<input type="checkbox"/> 5	Transferred to QEII	<input type="checkbox"/> 6	<input type="checkbox"/> 6	Transferred to ACT Hospital	<input type="checkbox"/> 7	<input type="checkbox"/> 7	Transferred to Interstate Hospital	<input type="checkbox"/> 8	<input type="checkbox"/> 8
	Mother	Baby																														
Discharged home	<input type="checkbox"/> 1	<input type="checkbox"/> 1																														
Midcall	<input type="checkbox"/> 2	<input type="checkbox"/> 2																														
Neonatal & Parent Support Service	<input type="checkbox"/> 3	<input type="checkbox"/> 3																														
Canberra Midwifery Program	<input type="checkbox"/> 4	<input type="checkbox"/> 4																														
Died	<input type="checkbox"/> 5	<input type="checkbox"/> 5																														
Transferred to QEII	<input type="checkbox"/> 6	<input type="checkbox"/> 6																														
Transferred to ACT Hospital	<input type="checkbox"/> 7	<input type="checkbox"/> 7																														
Transferred to Interstate Hospital	<input type="checkbox"/> 8	<input type="checkbox"/> 8																														
Responsibility for Antenatal Care No of visits Obstetrician <input type="checkbox"/> 1 None <input type="checkbox"/> 1 General Practitioner <input type="checkbox"/> 2 1 to 5 <input type="checkbox"/> 2 Midwife (with max 2 GP) <input type="checkbox"/> 3 6 to 10 <input type="checkbox"/> 3 Antenatal Clinic <input type="checkbox"/> 4 11 to 15 <input type="checkbox"/> 4 Antenatal Clinic & GP <input type="checkbox"/> 5 16 to 20 <input type="checkbox"/> 5 Other shared care <input type="checkbox"/> 6 More than 20 <input type="checkbox"/> 6 Duration of pregnancy at first visit (wks) <input type="text"/>		Return this page of the completed form to: Clinical Health Outcomes Centre The Canberra Hospital		Midwife completing the form at birth (print surname & initial) _____ (date) ____/____/____ Midwife completing the form on discharge (print surname & initial) _____ (date) ____/____/____																												

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Figure 11: ACT Midwives Data Collection Form for 2001 data



ACT Midwives Data Collection Form

MOTHER		BABY'S PLACE OF BIRTH		BABY	
PIN (Mother's) <input type="text"/> Mother's Birthdate <input type="text"/> Suburb <input type="text"/> Postcode <input type="text"/> Admission Date <input type="text"/> Family Status: Married/Defacto <input type="checkbox"/> 5, Divorced <input type="checkbox"/> 3, Never Married <input type="checkbox"/> 1, Widowed <input type="checkbox"/> 2, Separated <input type="checkbox"/> 4 Country of birth <input type="text"/> Indigenous Status: Aust. Aboriginal <input type="checkbox"/> 1, Torres Strait Islander <input type="checkbox"/> 2, Not Indigenous <input type="checkbox"/> 4 Class of Patient: Public <input type="checkbox"/> 1, Private <input type="checkbox"/> 2		The Canberra Hospital <input type="checkbox"/> 1, TCH Birth Centre <input type="checkbox"/> 2, Calvary Public <input type="checkbox"/> 3, Calvary Private <input type="checkbox"/> 4, John James Memorial <input type="checkbox"/> 5, National Capital Private <input type="checkbox"/> 6, Home <input type="checkbox"/> 7, Born before arrival <input type="checkbox"/> 8 Intended place of birth at onset of labour: Hospital <input type="checkbox"/> 1, Birth Centre <input type="checkbox"/> 2, Home <input type="checkbox"/> 4 Was mother transferred Antenatally? No <input type="checkbox"/> 1, Prior to labour <input type="checkbox"/> 2, During labour <input type="checkbox"/> 3 Transferred FROM: Planned Homebirth <input type="checkbox"/> 1, Another ACT hospital <input type="checkbox"/> 3, Birth Centre <input type="checkbox"/> 2, Interstate hospital <input type="checkbox"/> 4 Reason for transfer <input type="text"/> Did mother smoke during pregnancy? No <input type="checkbox"/> 2, Yes <input type="checkbox"/> 1, Average number of cigarettes per day during the second half of pregnancy <input type="text"/>		PIN (Baby's) <input type="text"/> Baby's Birthdate <input type="text"/> Birth Condition: Live Birth <input type="checkbox"/> 1, Stillbirth <input type="checkbox"/> 2 Sex: Male <input type="checkbox"/> 1, Female <input type="checkbox"/> 2, Indeterminate <input type="checkbox"/> 3 Plurality: Single <input type="checkbox"/> 1, Twins <input type="checkbox"/> 2, Triplets <input type="checkbox"/> 3 Birth order (enter 1 if singleton birth) <input type="text"/> Birth weight (grams) <input type="text"/> Head circumference (cm) <input type="text"/> Length (cm) <input type="text"/> APGAR: 1 minute <input type="text"/> 5 minutes <input type="text"/>	
PREVIOUS PREGNANCIES <input type="checkbox"/> No previous pregnancies <input type="checkbox"/> Yes: Live Births <input type="text"/> 1, Neonatal Deaths <input type="text"/> 2, Stillbirths <input type="text"/> 3, Spontaneous Abortions <input type="text"/> 4, Induced Abortions <input type="text"/> 5, Ectopic Pregnancies <input type="text"/> 6 Date of completion of last pregnancy <input type="text"/> Plurality of last pregnancy: Single <input type="checkbox"/> 1, Multiple <input type="checkbox"/> 2		LABOUR, BIRTH AND PUERPERIUM Onset and type of Labour: No Labour <input type="checkbox"/> 3, Spontaneous <input type="checkbox"/> 1, Spontaneous + Augmented <input type="checkbox"/> 4, Induction <input type="checkbox"/> 2 Method: Oxytocin <input type="checkbox"/> 1, Prostaglandins <input type="checkbox"/> 2, A.R.M. <input type="checkbox"/> 3, Other <input type="checkbox"/> 4 Reason for augmentation or induction <input type="text"/> Analgesia: None <input type="checkbox"/> 1, Nitrous Oxide <input type="checkbox"/> 2, IM/Narcotic <input type="checkbox"/> 3, Epidural <input type="checkbox"/> 4, Spinal <input type="checkbox"/> 5, Other <input type="checkbox"/> 6 Anaesthesia: None <input type="checkbox"/> 1, Local <input type="checkbox"/> 2, Pudendal <input type="checkbox"/> 3, Epidural <input type="checkbox"/> 4, Spinal <input type="checkbox"/> 5, General <input type="checkbox"/> 6, Other <input type="checkbox"/> 9 Presentation: Vertex <input type="checkbox"/> 1, Face <input type="checkbox"/> 3, Other (compound) <input type="checkbox"/> 8, Breech <input type="checkbox"/> 2, Brow <input type="checkbox"/> 4 Method of Birth: Spontaneous <input type="checkbox"/> 1, Forceps <input type="checkbox"/> 2, Vaginal Breech <input type="checkbox"/> 3, Caesarean Section <input type="checkbox"/> 4, Vacuum Extraction <input type="checkbox"/> 5, Other <input type="checkbox"/> 6 Perineal status: Intact <input type="checkbox"/> 1, 1° Laceration <input type="checkbox"/> 2, 2° Laceration <input type="checkbox"/> 3, 3° Laceration <input type="checkbox"/> 4, 4° Laceration <input type="checkbox"/> 7, Episiotomy <input type="checkbox"/> 8 Was the vulva, vagina or perineum sutured? Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 Complications of Labour & Birth: PPH <input type="checkbox"/> 1, Retained Placenta <input type="checkbox"/> 2, Major Infection <input type="checkbox"/> 3, Fetal Distress <input type="checkbox"/> 4, Cord Prolapse <input type="checkbox"/> 5, Obstructed Labour <input type="checkbox"/> 6 Return this page of the completed form to: Clinical Epidemiology and Health Outcomes Centre, The Canberra Hospital		Resuscitation - Active Measures: Suction <input type="checkbox"/> 2, O ₂ Therapy <input type="checkbox"/> 3, Laryngoscopy <input type="checkbox"/> 7, IPPV - bag & mask <input type="checkbox"/> 4, IPPV - intubation <input type="checkbox"/> 5, External cardiac massage + ventilation <input type="checkbox"/> 6 Resuscitation - Drug Therapy: Narcotic antagonist <input type="checkbox"/> 2, Sodium Bicarbonate <input type="checkbox"/> 3, Adrenalin <input type="checkbox"/> 4, Other drugs related to resuscitation <input type="checkbox"/> 5 Admission to SCN / NICU: No <input type="checkbox"/> 2, Yes <input type="checkbox"/> 1, length of stay in days <input type="text"/> Does the baby have birth defect(s)? Yes <input type="checkbox"/> 1, Suspected <input type="checkbox"/> 3, No <input type="checkbox"/> 2 Describe briefly - Complete a more detailed form <input type="text"/>	
THIS PREGNANCY Gravidity <input type="text"/> Parity <input type="text"/> (exclude this preg) Date of Last Menstrual Period <input type="text"/> Clinically estimated gestation (weeks) <input type="text"/> Maternal medical conditions while pregnant: Diabetes Mellitus <input type="checkbox"/> 1, Chronic Renal Disease <input type="checkbox"/> 2, Essential Hypertension <input type="checkbox"/> 3, Epilepsy <input type="checkbox"/> 4, Cardiac Disease <input type="checkbox"/> 5, Other Condition <input type="checkbox"/> 6 Obstetric Complications: APH - Placenta Praevia <input type="checkbox"/> 1, APH - Other <input type="checkbox"/> 2, Abruption Placenta <input type="checkbox"/> 3, Pre-eclampsia <input type="checkbox"/> 4, Prelabour Ruptured Membranes <input type="checkbox"/> 5, Gestational Diabetes <input type="checkbox"/> 6, Threatened Abortion <input type="checkbox"/> 7, Threatened Preterm Labour <input type="checkbox"/> 8 Procedures and Operations: Number of Ultrasounds <input type="text"/> Cardiotocography <input type="checkbox"/> 1, Assisted Conception <input type="checkbox"/> 2, Chorionic Villus Sampling <input type="checkbox"/> 3, Amniocentesis < 20 wks <input type="checkbox"/> 4, Amniocentesis > 20 wks <input type="checkbox"/> 5, X-Ray <input type="checkbox"/> 6, CT Scan <input type="checkbox"/> 7, Cervical Suture <input type="checkbox"/> 8 Responsibility for Antenatal Care: No of visits: Obstetrician <input type="checkbox"/> 1, General Practitioner <input type="checkbox"/> 2, Midwife (with max 2 GP) <input type="checkbox"/> 3, Antenatal Clinic <input type="checkbox"/> 4, Antenatal Clinic & GP <input type="checkbox"/> 5, Other shared care <input type="checkbox"/> 6, None <input type="checkbox"/> 1, 1 to 5 <input type="checkbox"/> 2, 6 to 10 <input type="checkbox"/> 3, 11 to 15 <input type="checkbox"/> 4, 16 to 20 <input type="checkbox"/> 5, More than 20 <input type="checkbox"/> 6 Duration of pregnancy at first visit (wks) <input type="text"/>		TYPE OF FEEDING at birth on discharge Breast <input type="checkbox"/> 1, EBM <input type="checkbox"/> 2, Formula <input type="checkbox"/> 3 Breast feeding problems: Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 (tick more than one type of feeding if needed)		DISCHARGE STATUS Mother's Discharge <input type="text"/> Baby's Discharge <input type="text"/> Discharged home: Mother <input type="checkbox"/> 1, Baby <input type="checkbox"/> 1, Midcall <input type="checkbox"/> 2, Neonatal & Parent Support Service <input type="checkbox"/> 3, Canberra Midwifery Program <input type="checkbox"/> 4, Transferred to QEII <input type="checkbox"/> 6, Transferred to ACT Hospital <input type="checkbox"/> 7, Transferred to Interstate Hospital <input type="checkbox"/> 8, Died <input type="checkbox"/> 5, Autopsy: Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2, N/A <input type="checkbox"/> 3 Midwife completing the form at birth: (print surname & initial) _____ (date) _____ Midwife completing the form on discharge: (print surname & initial) _____ (date) _____	

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Figure 12: ACT Midwives Data Collection Form from June 2002 to 2004



ACT Midwives Data Collection Form

MOTHER		BABY'S PLACE OF BIRTH		BABY	
PIN (Mother's) <input type="text"/> Mother's Birthdate <input type="text"/> Suburb <input type="text"/> Postcode <input type="text"/> Admission Date <input type="text"/> Family Status: Married/Defacto <input type="checkbox"/> 5, Divorced <input type="checkbox"/> 3, Never Married <input type="checkbox"/> 1, Widowed <input type="checkbox"/> 2 Country of birth <input type="text"/> Indigenous Status: Aust. Aboriginal <input type="checkbox"/> 1, Torres Strait Islander <input type="checkbox"/> 2, Not Indigenous <input type="checkbox"/> 4 Classification of Patient: Public <input type="checkbox"/> 1, Private <input type="checkbox"/> 2		The Canberra Hospital <input type="checkbox"/> 1, TCH Birth Centre <input type="checkbox"/> 2, Calvary Public <input type="checkbox"/> 3, Calvary Private <input type="checkbox"/> 4, John James Memorial <input type="checkbox"/> 5, National Capital Private <input type="checkbox"/> 6, Home <input type="checkbox"/> 7, Born before arrival <input type="checkbox"/> 8 Intended place of birth at onset of labour: Hospital <input type="checkbox"/> 1, Birth Centre <input type="checkbox"/> 2, Home <input type="checkbox"/> 4 Was mother transferred Antenatally? No <input type="checkbox"/> 1, Prior to labour <input type="checkbox"/> 2, During labour <input type="checkbox"/> 3 Transferred FROM: Planned Homebirth <input type="checkbox"/> 1, Another ACT hospital <input type="checkbox"/> 2, Birth Centre <input type="checkbox"/> 2, Interstate hospital <input type="checkbox"/> 4 Reason for transfer <input type="text"/> Did mother smoke during pregnancy? Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 Average number of cigarettes per day during the second half of pregnancy <input type="text"/> Alcohol consumption during pregnancy: Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 Number of standard drinks per week <input type="text"/> Was substance abuse documented? Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2		PIN (Baby's) <input type="text"/> Baby's Birthdate <input type="text"/> Birth Condition: Live Birth <input type="checkbox"/> 1, Stillbirth <input type="checkbox"/> 2 Sex: Male <input type="checkbox"/> 1, Female <input type="checkbox"/> 2, Indeterminate <input type="checkbox"/> 3 Plurality: Single <input type="checkbox"/> 1, Twins <input type="checkbox"/> 2, Triplets <input type="checkbox"/> 3 Birth order (enter 1 if singleton birth) <input type="text"/> Birth weight (grams) <input type="text"/> Head circumference (cm) <input type="text"/> Length (cm) <input type="text"/> APGAR: 1 minute <input type="text"/> 5 minutes <input type="text"/> Resuscitation - Active Measures: None <input type="checkbox"/> 1, Suction <input type="checkbox"/> 2, IPPV - bag & mask <input type="checkbox"/> 4, O ₂ Therapy <input type="checkbox"/> 3, IPPV - intubation <input type="checkbox"/> 5, External cardiac massage + ventilation <input type="checkbox"/> 6, Laryngoscopy: Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 Resuscitation - Drug Therapy: None <input type="checkbox"/> 1, Narcotic antagonist <input type="checkbox"/> 2, Adrenalin <input type="checkbox"/> 4, Sodium Bicarbonate <input type="checkbox"/> 3, Other drugs related to resuscitation <input type="checkbox"/> 5 Admission to SCN / NICU: Yes <input type="checkbox"/> 1, length of stay in days <input type="text"/> No <input type="checkbox"/> 2 Does the baby have birth defect(s)? Yes <input type="checkbox"/> 1, Suspected <input type="checkbox"/> 3, No <input type="checkbox"/> 2 Describe briefly - Complete a more detailed form <input type="text"/>	
PREVIOUS PREGNANCIES <input type="checkbox"/> No previous pregnancies <input type="checkbox"/> Yes: Live Births <input type="text"/> 1, Neonatal Deaths <input type="text"/> 2, Stillbirths <input type="text"/> 3, Spontaneous Abortions <input type="text"/> 4, Induced Abortions <input type="text"/> 5, Ectopic Pregnancies <input type="text"/> 6 Plurality of last pregnancy: Single <input type="checkbox"/> 1, Multiple <input type="checkbox"/> 2 Was the last birth a caesarean section? Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 Number of previous caesarean sections: <input type="text"/>		LABOUR, BIRTH AND PUERPERIUM Onset and type of Labour: Spontaneous <input type="checkbox"/> 1, Augmented: Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2, Induction <input type="checkbox"/> 2, No Labour <input type="checkbox"/> 3, Method: Oxytocin <input type="checkbox"/> 1, Prostaglandins <input type="checkbox"/> 2, A.R.M. <input type="checkbox"/> 3, Other <input type="checkbox"/> 4 Reason for augmentation or induction <input type="text"/> Analgesia: None <input type="checkbox"/> 1, Nitrous Oxide <input type="checkbox"/> 2, IMI Narcotic <input type="checkbox"/> 3, Epidural <input type="checkbox"/> 4, Spinal <input type="checkbox"/> 5, Other <input type="checkbox"/> 6 Anaesthesia: None <input type="checkbox"/> 1, Local to perineum <input type="checkbox"/> 2, Pudendal <input type="checkbox"/> 3, Epidural <input type="checkbox"/> 4, Spinal <input type="checkbox"/> 5, General <input type="checkbox"/> 6, Other <input type="checkbox"/> 8 Presentation: Vertex <input type="checkbox"/> 1, Face <input type="checkbox"/> 3, Other (compound) <input type="checkbox"/> 8, Breech <input type="checkbox"/> 2, Brow <input type="checkbox"/> 4 Method of Birth: Spontaneous cephalic <input type="checkbox"/> 1, Forceps <input type="checkbox"/> 2, Vaginal Breech <input type="checkbox"/> 3, Caesarean Section <input type="checkbox"/> 4, Vacuum Extraction <input type="checkbox"/> 5, Other <input type="checkbox"/> 6 Perineal status: Intact <input type="checkbox"/> 1, 1° Laceration <input type="checkbox"/> 2, 2° Laceration <input type="checkbox"/> 3, 3° Laceration <input type="checkbox"/> 4, 4° Laceration <input type="checkbox"/> 7, Episiotomy <input type="checkbox"/> 5 Was the vulva, vagina or perineum sutured? Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 Complications of Labour & Birth: PPH <input type="checkbox"/> 1, Retained Placenta <input type="checkbox"/> 1, Major Infection <input type="checkbox"/> 1, Fetal Distress <input type="checkbox"/> 1, Cord Prolapse <input type="checkbox"/> 1, Obstructed Labour <input type="checkbox"/> 1		TYPE OF FEEDING at birth on discharge Breast <input type="checkbox"/> 1, EBM <input type="checkbox"/> 2, Formula <input type="checkbox"/> 3 Breast feeding problems: Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2 (tick more than one type of feeding if needed)	
THIS PREGNANCY Gravidity <input type="text"/> Parity <input type="text"/> (exclude this preg) Date of Last Menstrual Period <input type="text"/> Clinically estimated gestation (weeks) <input type="text"/> Maternal medical conditions while pregnant: Diabetes Mellitus <input type="checkbox"/> 1, Chronic Renal Disease <input type="checkbox"/> 2, Essential Hypertension <input type="checkbox"/> 3, Epilepsy <input type="checkbox"/> 4, Cardiac Disease <input type="checkbox"/> 5, Other Condition <input type="checkbox"/> 6 Obstetric Complications: APH - Placenta Praevia <input type="checkbox"/> 1, Abruptio Placenta <input type="checkbox"/> 2, Other (unspecified) <input type="checkbox"/> 3, Pre-eclampsia <input type="checkbox"/> 4, Gestational Diabetes <input type="checkbox"/> 5, Threatened Abortion <input type="checkbox"/> 6, Threatened Preterm Labour <input type="checkbox"/> 7, Prelabour Ruptured Membranes <input type="checkbox"/> 8 Procedures and Operations: Cardiotocography <input type="checkbox"/> 1, Amniocentesis < 20 wks <input type="checkbox"/> 2, Amniocentesis > 20 wks <input type="checkbox"/> 3, Assisted Conception <input type="checkbox"/> 4, X-Ray <input type="checkbox"/> 5, CT Scan <input type="checkbox"/> 6, Cervical Suture <input type="checkbox"/> 7 Responsibility for Antenatal Care: No of visits: Obstetrician <input type="checkbox"/> 1, General Practitioner <input type="checkbox"/> 2, Midwife (with max 2 GP) <input type="checkbox"/> 3, Antenatal Clinic <input type="checkbox"/> 4, BC or CMP Protocols <input type="checkbox"/> 7, Shared care <input type="checkbox"/> 6, None <input type="checkbox"/> 1, 1 to 5 <input type="checkbox"/> 2, 6 to 10 <input type="checkbox"/> 3, 11 to 15 <input type="checkbox"/> 4, 16 to 20 <input type="checkbox"/> 5, More than 20 <input type="checkbox"/> 6 Duration of pregnancy at first visit (wks) <input type="text"/>		DISCHARGE STATUS Mother's Discharge <input type="text"/> Baby's Discharge <input type="text"/> Discharged home: Mother <input type="checkbox"/> 1, Baby <input type="checkbox"/> 1 Midcall: Mother <input type="checkbox"/> 2, Baby <input type="checkbox"/> 2 Neonatal & Parent Support Service: Mother <input type="checkbox"/> 3, Baby <input type="checkbox"/> 3 Canberra Midwifery Program: Mother <input type="checkbox"/> 4, Baby <input type="checkbox"/> 4 Transferred to QEII: Mother <input type="checkbox"/> 6, Baby <input type="checkbox"/> 6 Transferred to ACT Hospital: Mother <input type="checkbox"/> 7, Baby <input type="checkbox"/> 7 Transferred to Interstate Hospital: Mother <input type="checkbox"/> 8, Baby <input type="checkbox"/> 8 Died or Stillborn: Mother <input type="checkbox"/> 5, Baby <input type="checkbox"/> 5 Autopsy: Yes <input type="checkbox"/> 1, No <input type="checkbox"/> 2, N/A <input type="checkbox"/> 3 Midwife completing the form at birth: (print surname & initial) _____ (date) _____ Midwife completing the form on discharge: (print surname & initial) _____ (date) _____			
Return completed form to Population Health Research Centre The Canberra Hospital					

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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 mother progressed through the pre admission, 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 was extracted from OBICARE and added to the ACT MPDC.

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. In the future data will be extracted from PANDA for the ACT MPDC, although at this time the data extraction process of the The Canberra Hospital data to the ACT MPDC is still to be developed.

5.3.3 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). Now new arrangements are 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.

5.3.4 ACT Admitted Patient Care Data Collection

Data from the ACT Admitted Patient Care (ACT APC) data collection are obtained from the Data Management Unit in the Information Technology and Management branch within 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 agreed by the National Health Information Management Group for mandatory collection and reporting at a national level. The Perinatal NMDS is a data set that includes information on live and stillborn babies, of at least 20 weeks gestation or 400 grams in birthweight, occurring in Australia in hospitals, birth centres and the community.

Data items are developed or revised by the National Perinatal Data Development Committee (NPDDC) with the agreement of all the States and Territories. Data items are submitted to the National Health Data Committee for approval prior to publishing in the National Health Data Dictionary (NHDD). Data items are added to the minimum data set only after the data item has been published in the National Health Data Dictionary with a set date for implementation.

State and Territory health authorities provide the data to the National Perinatal Statistics Unit (NPSU) of the Australian Institute of Health and Welfare for national collation and reporting, on an annual basis. Listed in Table 72 is the National Minimum Data Set for the perinatal collection as documented in the National Health Data Dictionary (NHDD) (Version 10, 2001).

Table 72: Perinatal Minimum Perinatal Data Set

Knowledgebase ID	Data item	Page no. hard copy	Online page no.
000003	Actual place of birth, version 1	210	237
000019	Birth order, version 1	262	289
000020	Birth plurality, version 1	263	290
000035	Country of birth, version 3 (m)	22	49
000036	Date of birth, version 3 (m)	23	50
000050	Establishment identifier, version 3 (m)	184	211
000056	First day of last menstrual period, version 1	149	176
000060	Gestational age, version 1	151	178
000001	Aboriginal and Torres Strait Islander status, version 3	26	53
000010	Infant weight, neonate, stillborn, version 3	152	179
000093	Method of birth, version 1	266	293
000113	Onset of labour, version 2	267	294
000127	Person identifier, version 1	258	285
000043	Separation date, version 5	388	415
000149	Sex, version 2	30	57
000155	State/Territory of birth, version 1	214	241
000159	Status of the baby, version 1	173	200

Note: (m) modified in NMDS this version

Source: National Health Data Dictionary Version 10, 2001

State and Territory health authorities also provide the data to the NPSU on a number of data items contained in the NHDD had have not been identified as part of the minimum data set (Table 73), as well as some data items that are not currently in the NHDD.

Table 73: Data elements in the National Health Data Dictionary that relates to the perinatal data collection

Data element name	Knowledge-base ID	NMDS	NPSU requests	ACT provides	Agreed start All states
Actual place of birth, version 1	000003	✓	✓	✓	1996
Admission date, version 4	000008		✓	✓	1999
Admitted patient election status, version 1	000415		✓	✓	
Anaesthesia administered during labour, version 1	000013		✓	✓	2000
Analgesia administered during labour, version 1	000014		✓		2000
Apgar score at 1 minute, version 1	000344		✓	✓	1998
Apgar score at 5 minutes, version 1	000345		✓	✓	1998

Data element name	Knowledge- base ID	NMDS	NPSU requests	ACT provides	Agreed start All states
Area of usual residence, version 3	000016		✓	✓	1998
Birth order, version 1	000019	✓	✓	✓	1996
Birth plurality, version 1	000020	✓	✓	✓	1997
Complication of labour and birth, version 2	000027		✓	✓	
Complications of pregnancy, version 2	000028		✓	✓	
Congenital malformations, version 2 (uses ICD-10-AM codes)	000030			✓	2000
Congenital malformations—BPA code, version 1	000029		✓		
Country of birth, version 3	000035	✓	✓	✓	1997
Date of birth, version 3 (mother & baby)	000036	✓	✓	✓	1996
Date of completion of last previous pregnancy, version 1	000037				
Establishment identifier, version 3	000050	✓			
Establishment number, version 3	000377		✓	✓	1997
Establishment sector, version 3	000379				
Establishment type, version 1	000327				
First day of the last menstrual period, version 1	000056	✓	✓	✓	1996
Gestational age, version 1	000060	✓	✓	✓	1996
Aboriginal and Torres Strait Islander status, version 3	000001	✓	✓	✓	1999
Infant weight, neonate, stillborn, version 3	000010	✓	✓	✓	1996
Intended place of birth, version 1	000077		✓	✓	1996
Length of stay (antenatal), version 1	000635		✓	✓	
Length of stay (including leave days), version 1 (used for Baby's LOS)	000636		✓	✓	
Length of stay (postnatal), version 1	000637		✓	✓	
Marital status, version 3	000089		✓	✓	1998
Maternal medical conditions, version 2	000090		✓	✓	
Method of birth, version 1	000093	✓	✓	✓	1997
Mode of separation, version 3 (Perinatal collection has different coding needs)	000096		✓	✓	1997
Neonatal morbidity, version 2	000102				
Number of days in special/neonatal intensive care, version 2	000009		✓	✓	
Onset of labour, version 2	000113	✓	✓	✓	
Outcome of last previous pregnancy, version 1	000114				
Perineal status, version 1	000125		✓	✓	2000
Person identifier, version 1	000127	✓	✓	✓	1996
Postpartum complication, version 2	000131		✓	✓	
Presentation at birth, version 1	000133		✓	✓	2000
Previous pregnancies, version 1	000134		✓	✓	
Region code, version 2	000378				
Resuscitation of baby, version 2	000145		✓	✓	2000
Separation date version 5 (mother & baby)	000043	✓	✓	✓	1996
Sex, version 2	000149	✓	✓	✓	1997
State identifier, version 2	000380				
State/Territory of birth, version 1	000155	✓	✓	✓	1996
Status of the baby, version 1	000159	✓	✓	✓	1996
Type of augmentation of labour, version 2	000167		✓	✓	2000
Type of labour induction, version 1	000171		✓	✓	2000

Source: National Health Data Dictionary Version 10, 2001, National Perinatal Statistics Unit (NPSU) and ACT Maternal Perinatal Data Collection (MPDC) specifications & Data Agreement at NPDAC held in Alice Springs in 1998

5.4.2 Current data items

Current data items from ACT Midwives Data Collection Form are listed below in Table 74. 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 birth defects.

Table 74: List of data items from ACT Midwives Data Collection Form, 2001

No.	Data Item	Requested by NPSU	Data item discontinued	Administrative or recoding
1	Form number – stamped on form in PHRC			✓
2	Mother's PIN (Personal Identifier Number)	✓		
3	Mother's date of birth	✓		
4	Mother's suburb of usual residence	✓		
5	Mother's postcode of usual residence	✓		
6	Admission date of mother	✓		
7	Family status of mother	✓		
8	Country of birth of mother	✓		
9	Aboriginal and Torres Strait Islander status of mother	✓		
10	Classification of patient (Public/Private)	✓		
11	Previous pregnancies (Yes/No)	✓		
12	Total number of previous:			
	Live births	✓		
13	Neonatal deaths			✓
14	Stillbirths	✓		
15	Spontaneous abortions	✓		
16	Induced abortions	✓		
17	Ectopic pregnancies			✓
18	Outcome of last pregnancy			✓
19	Plurality of last pregnancy			✓
20	Gravidity			
21	Parity (excluding current pregnancy)	✓		
22	Date of last menstrual period	✓		
23	Clinically estimated gestation	✓		
24	Maternal medical conditions while pregnant:			
	Diabetes Mellitus	✓		
25	Chronic Renal Disease	✓		
26	Essential Hypertension	✓		
27	Epilepsy	✓		
28	Cardiac Disease	✓		
29	Other conditions	✓		
30	Obstetric complications:	✓		
	APH			
31	Pre-eclampsia	✓		
32	Gestational Diabetes	✓		
33	Threatened abortion	✓		
34	Threatened preterm labour	✓		
35	Prelabour ruptured membranes	✓		

No.	Data Item	Requested by NPSU	Data item discontinued	Administrative or recoding
36	Procedures and operations:			
	Number of ultrasounds			
37	Cardiotocography (CTG)			
38	Chorionic villus sampling (CVS)			
39	Amniocentesis <20 weeks			
40	Amniocentesis =>20 wks			
41	Assisted conception			
42	X-Ray			
43	CT Scan			
44	Cervical Suture			
45	Responsibility for antenatal care			
46	Number of antenatal visits			
47	Duration of pregnancy at first visit			
48	Place of baby's birth	✓		✓
49	Intended place of birth at onset of labour	✓		
50	Mother's transferred antenatally			
51	Mother's transferred from			
52	Mother smoked during pregnancy			
53	Avg number smoked per day during the second half of pregnancy			
54	Alcohol consumption during pregnancy			
55	Number of standard drinks per week			
56	Was substance abuse documented?			
57	Onset of labour	✓		
58	Augmented			✓
59	Method of augmentation or induction (multiple data items)	✓		✓
60	Reason for augmentation or induction			
61	Analgesia during labour	✓		
62	Anaesthesia during labour	✓		
63	Presentation	✓		
64	Method of birth	✓		
65	Perineal status	✓		
66	Vulva, vaginal or perineal sutures			
67	Complications of labour and birth:			
	None			
68	PPH	✓		
69	Retained placenta	✓		
70	Major infection	✓		
71	Fetal distress	✓		
72	Complications of labour and birth (Continued)	✓		
	Cord prolapse			
73	Obstructed labour	✓		
74	Baby's PIN (Personal Identifier Number)	✓		
75	Baby's birth date	✓		
76	Birth condition	✓		
77	Sex of baby	✓		

No.	Data Item	Requested by NPSU	Data item discontinued	Administrative or recoding
78	Plurality	✓		
79	Birth order (Rank)	✓		
80	Birthweight	✓		
81	Head circumference			
82	Length			
83	Apgar at 1 minute	✓		
84	Apgar at 5 minutes	✓		
85	Resuscitation:			
	Active measures	✓		
86	Laryngoscopy			
87	Drug therapy	✓		
88	Admission to SCN or NICU	✓		
89	Length of stay in SCN or NICU	✓		
90	Birth defects	✓		
91	Type of feeding at birth			
92	Type of feeding at on discharge			
93	Breast feeding problems			
94	Date of mother's discharge	✓		
95	Date of baby's discharge	✓		
96	Discharge status for mother	✓		
97	Discharge status for baby	✓		
98	Autopsy	✓		

Note: NPSU is the National Perinatal Statistic Unit

Source: ACT Maternal Perinatal Collection, Current Data items on ACT Midwives Data Collection Form

5.5 Committees associated with Maternal Perinatal Health Information

5.5.1 Committee structure

Figure 13 outlines the current ACT representatives and structure of various committees associated with Maternal Perinatal Health Information in the ACT. There has been a restructure to the national committee structure with the National Health Management Information Group replaced by the National Health Information Group. The Statistical Information Management Committee has been added to the committee structure and the National Health Data Committee was replaced by the Health Data Standards Committee.

Figure 13: Committee structure for Maternal Perinatal Health Information, ACT



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, Queen Elizabeth II Family Centre, Child, Family and Youth Health Services, the Data Management Unit, the Population Health Research Centre, 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 Maternal and Perinatal Data Collection and the reporting of the information 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;
 - regularly 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 Status in ACT, including:
 - Multiple years trend reports; and
 - yearly report of a set of tables that are agreed to by the network.

The terms of reference of the network are:

- to influence data collection and reporting issues in the ACT and nationally;
- to set the scope of the information collected to include pregnancy to one year after birth, except for specific subgroups eg. preterm infants where the time frame may be increased (this would include extending the collection to outcomes of pregnancy under 20 weeks and improving collection related to birth defects);
- to interact nationally through the National Perinatal Data Development Committee which is organised by the National Perinatal Statistic Unit;
- to report to the Chief Health Officer through the Population Health Research Centre and have a reporting structure through the Chief Health Officer to the Senior Executive of ACT Health; and
- to report on the progress of the network and discuss data collection issues within each representative's area with 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 prepare submissions to the Health Data Standards Committee (NHDC) on perinatal health metadata standards. The NPDDC obtains information and assistance from the National Health Information Development Unit when preparing these submissions for the National Health Data Dictionary. 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 Group (NHIG). This body was established under the Australian Health Ministers Advisory Council to oversee development of health data standards²⁸.

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 National Health Information Group on revisions and additions to each successive version of the Dictionary. The National Health Data Dictionary, Version 12, 2003, 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/hwi/nhdd12/index.html>.

5.5.5 National Health Information Group

The National Health Information Group (NHIG) was established by Australian Health Ministers to provide advice on national health information requirements and related technology planning and management requirements. NHIG manages and allocates resources to health information projects and working groups where joint Commonwealth/State and Territory resources are involved²⁹. Additional information on AIHW National Committees is available at http://www.aihw.gov.au/committees/nat_committees.html.

6 NATIONAL AND STATE PUBLICATIONS

6.1 National publications

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

- Perinatal Statistics Series
- Assisted Conception Series
- Birth Defects Series
- Maternal morbidity and mortality series
- Neonatal Network Series
- Reproductive Health Indicators

The most recent publications in these series are as follows:

- Australia's mothers and babies 2001
- Reproductive Health Indicators Australia 2002
- Aboriginal and Torres Strait Islander mothers and their babies, Australia 1994 - 1996
- Assisted conception Australia and New Zealand 2000 and 2001
- Congenital malformations Australia 1997
- Report on Maternal Deaths in Australia, 1997 -1999
- Australia and New Zealand Neonatal Network 1998

National contact:

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Randwick, Sydney, NSW

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

A list of Australian Institute of Health and Welfare (AIHW) health publications is at <http://www.aihw.gov.au/publications/health.html>.

The **Australian Bureau of Statistics** (ABS) publishes reports on births and causes of infant and child deaths. These two publications are annual reports that bring together statistics and indicators for births and perinatal deaths registration in Australia. The State figures are based on registered live births for the mother's usual state of residence. The ABS 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. Recent states and territories publications on maternal and/or perinatal health status are:

Australian Capital Territory:

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 – 96

ACT Maternal and Perinatal Health publications are available from the **ACT Health web sites** at <http://www.health.act.gov.au/>.
First select [Publications](#) for the ACT Health publications index.
Select M from the index then select [Maternal & perinatal health publications](#)

New South Wales:

2002 Mothers and Babies Report
<http://www.health.nsw.gov.au/public-health/mdc/mdcrep02.html>

2001 Mothers and Babies Report
<http://www.health.nsw.gov.au/public-health/mdc/mdcrep01.html>

[Report on Breast Feeding in NSW 2004](#)

Internet site for a comprehensive list of NSW Health publications
<http://www.health.nsw.gov.au/public-health/pubs.html>

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

Victoria:

Births in Victoria 2001 – 2002
Births in Victoria 1999 – 2000
Birth Defects in Victoria, 1999 – 2000

Victorian Government Health Information – Perinatal Web site
<http://www.health.vic.gov.au/perinatal/>
Victorian Perinatal Data Collection Unit
Publications: <http://www.health.vic.gov.au/perinatal/pubs.htm>
The Consultative Council on Obstetrics and Paediatrics Mortality and Morbidity,
Birth Defects Register

Victorian Health publications
<http://www.dhs.vic.gov.au/pubs.htm>

Queensland:

Perinatal Statistics, Queensland, 1999
http://www.health.qld.gov.au/hic/peri99/peri_99.htm

Maternal, Perinatal and Paediatric Mortality in Queensland 1999
Maternal, Perinatal and Paediatric Mortality in Queensland 1998
<http://www.uq.net.au/qcopmm/pdf/qcopmm98.pdf>

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

Western Australia:

Perinatal Statistics in Western Australia. Seventeenth Annual Report of the Western Australian Midwives' Notification System 2002

TVW Telethon Institute for Child Health Research, Perth, WA
<http://www.ichr.uwa.edu.au/>

Western Australia <http://www.health.wa.gov.au/publications/>

South Australia:

Pregnancy Outcomes in South Australia 2002
Pregnancy Outcomes in South Australia 2001

Maternal, Perinatal and Infant Mortality in SA 2002
Maternal, Perinatal and Infant Mortality in SA 2001

SA Birth Defects Register. Annual Report 2002. Women's and Children's Hospital

Pregnancy Outcome Statistics Unit publications are available at
<http://www.dhs.sa.gov.au/pehs/pregnancyoutcome.htm>

South Australia Health publications
<http://www.dhs.sa.gov.au/home.asp?nav=publications>

Northern Territory:

NT Mothers and Babies Report 1999
http://www.nt.gov.au/health/health_gains/epidemiology/mothers_babies_reports.shtml

Trends in the health of mothers and babies, Northern Territory 1986 – 95
http://www.nt.gov.au/health/health_gains/epidemiology/mothers_babies_1986.pdf

Northern Territory publications can be accessed via
<http://www.nt.gov.au/health/publications.shtml>

Tasmania:

The Council of Obstetric & Paediatric Mortality & Morbidity Tasmania Combined Annual Report 2000 - 2001

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

6.2.1 Contacts for information on midwives data collections

Australian Capital Territory:	Maureen Bourne Population Health Research Centre, Population Health, ACT Health maureen.bourne@act.gov.au
New South Wales:	Lee Taylor/Frank Beard Epidemiology and Surveillance Branch, Public Health Division, NSW Health ltayl@doh.health.nsw.gov.au Margaret Pym Information Management and Clinical Systems Branch Public Health Division, NSW Health mpym@doh.health.nsw.gov.au
Victoria:	Michael Batchelor Manager, Genetics and Perinatal Programs Prevention and Perinatal Health, Department of Human Services michael.batchelor@dhs.vic.gov.au Odette Taylor Victorian Perinatal Data Collection Unit, Victoria Health perinatal.data@dhs.vic.gov.au http://www.dhs.vic.gov.au/phd/perinatal/index.htm
Queensland:	Sue Cornes and Meegan Snell Data Services Unit, Health Information Centre Queensland Department of Health Suzanne_Cornes@health.qld.gov.au Meegan_Snell@health.qld.gov.au
Western Australia:	Vivien Gee and Margo O'Neill Health Information Centre, Health Department of WA Vivien.Gee@health.wa.gov.au
South Australia:	Annabelle Chan, Joan Scott and Robyn Kennare Pregnancy Outcome Unit, Epidemiology Branch Department of Human Services Annabelle.Chan@dhs.sa.gov.au
Northern Territory:	Margaret Stewart Northern Territory Midwives Collection Corporate Information Services Branch Department of Health and Community Services Margaret.Stewart@nt.gov.au
Tasmania:	Karen Hinton Manager of Clinical Data Hospitals & Ambulance Service Division Department of Health & Human Services karen.hinton@dhhs.tas.gov.au

APPENDIX

Table 75: ACT Hospitals where women gave birth in the ACT by state of residence, ACT, 2000

ACT Hospitals	Maternal state of residence					
	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
ACT Public Hospital	3,020	74.2	407	70.1	3,427	73.7
The Canberra Hospital	1,887	46.4	310	53.4	2,197	47.2
Calvary Public	1,133	27.8	97	16.7	1,230	26.4
ACT Private Hospital	1,051	25.8	174	29.9	1,225	26.3
Calvary Private	302	7.4	29	5.0	331	7.1
John James Memorial Hospital	749	18.4	145	25.0	894	19.2
Total	4,071	100.0	581	100.0	4,652	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, 2000 data

Table 76: Maternal demographic characteristics, ACT, 1997 - 2001

	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Age group										
Less than 20 years	195	4.1	171	3.7	176	3.8	162	3.5	145	3.3
20 - 24 years	686	14.6	645	13.9	619	13.5	608	13.0	548	12.4
25 - 29 years	1,557	33.0	1,495	32.2	1,424	31.1	1,470	31.4	1,316	29.8
30 - 34 years	1,524	32.4	1,494	32.2	1,465	31.9	1,567	33.5	1,516	34.3
35 - 39 years	647	13.7	709	15.3	764	16.7	754	16.1	758	17.2
40 years or more	99	2.1	131	2.8	138	3.0	123	2.6	131	3.0
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0
Country of birth										
Australia	3,792	80.5	3,765	81.1	3,708	80.9	3,814	81.4	3,561	80.7
Other Oceania	113	2.4	108	2.3	131	2.9	88	1.9	108	2.4
Europe	316	6.7	302	6.5	276	6.0	263	5.6	273	6.2
Africa inc. Middle East	57	1.2	47	1.0	60	1.3	62	1.3	82	1.9
Asia	338	7.2	334	7.2	331	7.2	355	7.6	302	6.8
Americas	82	1.7	75	1.6	73	1.6	100	2.1	84	1.9
Not stated	10	0.2	14	0.3	7	0.2	2	0.0	4	0.1
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0
Aboriginal and Torres Strait Islander status										
Aboriginal/Torres Strait Is.	58	1.2	63	1.4	59	1.3	53	1.1	52	1.2
Non-Aboriginal	4,650	98.8	4,582	98.6	4,522	98.6	4,625	98.7	4,353	98.6
Not stated	0	0.0	0	0.0	5	0.1	6	0.1	9	0.2
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0
Usual place of residence										
ACT residents	4,104	87.2	4,050	87.2	4,047	88.3	4,103	87.6	3,811	86.3
North Side	1,776	37.7	1,757	37.8	1,840	40.1	1,923	41.1	1,826	41.4
North Canberra	379	8.1	374	8.1	388	8.5	372	7.9	381	8.6
Belconnen	1,012	21.5	981	21.1	1,000	21.8	1,042	22.2	968	21.9
Gungahlin - Hall	385	8.2	402	8.7	452	9.8	509	10.9	477	10.8
South Side	2,328	49.4	2,293	49.4	2,207	48.2	2,180	46.5	1,985	45.0
South Canberra	238	5.1	246	5.3	220	4.8	236	5.0	249	5.6
Woden Valley	367	7.8	368	7.9	328	7.2	359	7.7	317	7.2
Weston Creek	224	4.8	249	5.4	245	5.3	215	4.6	249	5.6
Tuggeranong	1,499	31.8	1,430	30.8	1,414	30.9	1,370	29.2	1,170	26.5
Non-ACT residents	604	12.8	595	12.8	539	11.7	581	12.4	603	13.7
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0
Marital status										
Married (inc, de facto)	4,202	89.3	4,167	89.7	4,148	90.4	4,246	90.6	3,966	89.9
Never married	434	9.2	416	9.0	367	8.0	370	7.9	377	8.5
Other	64	1.4	58	1.2	60	1.3	65	1.4	68	1.5
Not stated	8	0.2	4	0.1	11	0.2	3	0.1	3	0.1
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	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, 1997 - 2001 data

Table 77: Maternal age by hospital of birth, ACT, 2000

Age groups	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Less than 20 years	113	5.1	44	3.6	3	0.9	2	0.2
20 – 24 years	359	16.3	202	16.4	18	5.4	24	2.7
25 – 29 years	704	32.0	457	37.2	91	27.5	211	23.6
30 – 34 years	673	30.6	351	28.5	149	45.0	380	42.5
35 – 39 years	298	13.6	148	12.0	58	17.5	244	27.3
40 years or more	50	2.3	28	2.3	12	3.6	33	3.7
Total	2,197	100.0	1,230	100.0	331	100.0	894	100.0
Average age	28.9 years		28.8 years		31.2 years		32.3 years	

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

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 78: Total fertility rate by ACT subdivision, 1997 - 2001

ACT subdivisions	1997	1998	1999	2000	2001
	TFR	TFR	TFR	TFR	TFR
North Canberra/Belconnen	1,376.9	1,368.2	1,438.2	1,441.1	1,357.7
Woden/Weston Creek/South Canberra	1,411.0	1,528.4	1,419.2	1,469.0	1,444.0
Tuggeranong	1,863.4	1,865.3	1,906.6	1,469.0	1,628.2
Gungahlin/Hall	2,084.6	1,977.9	2,094.9	2,246.4	1,740.8

TFR - Total Fertility Rates * By definition, all births for mothers aged less than 15 years are included in the 15-19 age group.

Source: ACT Maternal Perinatal Data Collection and ABS Cat. No: 3235.8 and Population By Age and Sex, Australia, 2001, ABS Cat. No. 3235.0.55.001.

Table 79: Age specific fertility rates and total fertility rates for all live births by subdivision, ACT residents, 2001

Age Group	North Canberra/Belconnen	Woden/Weston Creek/Sth Canberra	Tuggeranong	Gungahlin-Hall
	ASFR	ASFR	ASFR	ASFR
15-19 yrs	8.8	10.6	11.2	9.4
20-24 yrs	27.0	30.3	59.6	51.8
25-29 yrs	81.0	68.5	108.4	121.9
30-34 yrs	93.1	106.1	97.2	112.5
35-39 yrs	52.2	63.3	42.5	41.6
40-44 yrs	8.6	9.4	6.4	11.0
45-49 yrs	0.9	0.7	0.3	0.0

ASFR - Age Specific Fertility Rates * By definition, all births for mothers aged less than 15 years are included in the 15-19 age group.

Source: ACT Maternal Perinatal Data Collection and Population By Age and Sex, Australia, 2001, ABS Cat. No. 3235.0.55.001.

Table 80: Birthweight by smoking status during pregnancy , ACT residents, 2000

Birthweight	Non smoker		Smoker	
	No.	%	No.	%
Less than 2500 grams	141	4.3	62	10.8
2500 grams or more	3162	95.7	512	89.2
Total	3303	100.0	574	100.0

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 81: Parity by hospital of birth, ACT, 2000

Parity	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
No previous births	917	41.7	551	44.8	141	42.6	423	47.3
One previous birth	726	33.0	414	33.7	128	38.7	312	34.9
Two previous births	360	16.4	181	14.7	47	14.2	122	13.6
Three previous births	124	5.6	60	4.9	13	3.9	31	3.5
Four or more previous births	70	3.2	24	2.0	2	0.6	6	0.7
Total	2,197	100.0	1,230	100.0	331	100.0	894	100.0

Note: Parity refers to the number of children a woman has borne that are either live births or stillbirths; 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.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 82: Selected maternal characteristics by pregnancy status, ACT, 2000

		Primigravida		Multigravida	
		No.	%	No.	%
Age groups	Less than 20 years	113	7.6	49	1.5
	20 - 24 years	261	17.5	347	10.9
	25 - 29 years	554	37.1	916	28.7
	30 - 34 years	393	26.3	1,174	36.8
	35 - 39 years	153	10.2	601	18.8
	40 years or more	19	1.3	104	3.3
	Total		1,493	100.0	3,191
Usual place of residence	ACT residents	1,312	87.9	2,791	87.5
	North Side	650	43.5	1,273	39.9
	South Side	662	44.3	1,518	47.6
	Non-ACT residents	181	12.1	400	12.5
	Total	1,493	100.0	3,191	100.0
Marital status	Married (inc. de facto)	1,301	87.1	2,945	92.3
	Never married	180	12.1	190	6.0
	Widowed, Divorced or Separated	10	0.7	55	1.7
	Total	1,493	100.0	3,191	100.0

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

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 83: Multiple birth by hospital of birth, ACT, 2000

Plurality	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Singleton	2,141	97.5	1,216	98.9	327	98.8	882	98.7
Multiple birth	56	2.5	14	1.1	4	1.2	12	1.3
Total	2,197	100.0	1,230	100.0	331	100.0	894	100.0

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 84: Maternal age by multiple births, ACT, 2000 - 2001

Maternal age	Multiple birth		Singleton	
	No.	%	No.	%
2001				
Less than 25 years	9	9.2	685	15.9
25 to 29 years	31	31.6	1,286	29.8
30 to 35 years	38	38.8	1,478	34.2
35 and over years	20	20.4	869	20.1
Total	98	100.0	4,318	100.0
2000				
Less than 25 years	6	7.0	764	16.6
25 to 29 years	30	34.9	1,440	31.3
30 to 35 years	31	36.0	1,536	33.4
35 and over years	19	22.1	858	18.7
Total	86	100.0	4,598	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, 2000 - 2001 data

Table 85: Antenatal visits, ACT, 2000 - 2001

ANTENATAL VISITS		2000		2001	
		NO.	%	NO.	%
Antenatal visits for The Canberra Hospital (TCH)	No visits	<5	0.2	<5	0.2
	1 - 5 visits	177	8.0	208	11.0
	6 or more visits	1,910	86.8	1,668	88.5
	Not stated	110	5.0	5	0.3
	Total	2,201	100.0	1,885	100.0
Antenatal visits for Calvary, JJMH & Homebirth	No visits	<5	0.1	8	0.3
	1 - 5 visits	109	4.4	128	5.1
	6 - 10 visits	1,120	45.1	1,178	46.6
	11 - 15 visits	1,075	43.3	954	37.7
	More than 15 visits	42	1.7	47	1.9
	Not stated	135	5.4	214	8.5
Total	2,483	100.0	2,529	100.0	

Note: Additional categories were introduced for antenatal visits on the ACT Midwives Data Collection Form in 1999 to expand the number of antenatal visits reported. Difficulties with the introduction of the new antenatal visit categories within OBICARE and PANDA have delayed the reporting with the expanded categories

Source: ACT Maternal Perinatal Data Collection, 2000 - 2001 data

Table 86: Responsibility for antenatal care, ACT, 2000

	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
Obstetrician	1,395	34.0	215	37.0	1,610	34.4
General Practitioner	23	0.6	22	3.8	45	1.0
Midwife (max 2 GP)	38	0.9	5	0.9	43	0.9
Antenatal Clinic	957	23.4	95	16.4	1,052	22.5
CMP	469	11.4	50	8.6	519	11.1
Shared Care	1,152	28.1	186	32.0	1,338	28.6
Not Stated	63	1.5	8	1.4	71	1.5
Total	4,097	100.0	581	100.0	4,678	100.0

Note: CMP refers to the Canberra Midwifery Program that commenced in 1999. 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. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 87: Responsibility for antenatal care, ACT, 1997 - 2001

Service providers	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Obstetrician	1,914	40.7	1,790	38.6	1,626	35.5	1,610	34.4	1,644	37.3
GP	285	6.1	256	5.5	136	3.0	45	1.0	19	0.4
Midwife	64	1.4	95	2.1	102	2.2	43	0.9	21	0.5
Antenatal clinic	1,154	24.5	876	18.9	916	20.0	1,052	22.5	909	20.6
BC/CMP or CMP	271	5.8	544	11.7	494	10.8	519	11.1	457	10.4
Shared care	989	21.0	985	21.3	1,228	26.8	1,338	28.6	1,315	29.9
Not stated	24	0.5	86	1.9	77	1.7	71	1.5	37	0.9
Total	4,701	100.0	4,632	100.0	4,579	100.0	4,678	100.0	4,402	100.0

Note: BC/CMP refers to the combined Birth Centre/ Community Midwifery Program from 1997 to 1998. CMP refers to the Canberra Midwifery Program that commenced in 1999. CMP figures in 1999 from the birth register births were counted as 529 (11.6%) which is very similar to the 1998 figures. 2000 and 2001 CMP figures may also be under-reported. 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. Twelve records where no antenatal care was recorded have been excluded. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 1997 - 2001 data

Table 88: Responsibility for antenatal care by age groups, ACT, 2000 - 2001

Service providers	Less than 20 yrs		20-24 yrs		25-29 yrs		30-34 yrs		35 yrs plus	
	No.	%	No.	%	No.	%	No.	%	No.	%
2001										
Obstetrician	7	4.9	84	15.4	385	29.3	725	47.9	443	49.9
General Practitioner	<5	2.1	<5	0.4	<5	0.2	6	0.4	5	0.6
Midwife (max 2 GP visits)	0	0.0	<5	0.4	<5	0.3	10	0.7	5	0.6
Antenatal Clinic	40	27.8	154	28.2	353	26.9	242	16.0	120	13.5
BC / CMP or CMP	11	7.6	61	11.2	132	10.0	162	10.7	91	10.3
Shared care	82	56.9	238	43.5	424	32.3	355	23.5	216	24.4
Not Stated	<5	0.7	6	1.1	13	1.0	13	0.9	7	0.8
Total	144	100.0	547	100.0	1,314	100.0	1,513	100.0	887	100.0
2000										
Obstetrician	9	5.6	77	12.7	429	29.2	650	41.5	446	50.9
General Practitioner	<5	2.5	13	2.1	11	0.7	15	1.0	<5	0.2
Midwife (max 2 GP visits)	<5	1.9	7	1.2	11	0.7	15	1.0	7	0.8
Antenatal Clinic	45	28.1	192	31.7	373	25.4	289	18.4	153	17.5
BC / CMP protocols	14	8.8	68	11.2	170	11.6	180	11.5	87	9.9
Shared care	84	52.5	246	40.6	457	31.1	389	24.8	162	18.5
Not Stated	<5	0.6	<5	0.5	19	1.3	29	1.9	19	2.2
Total	160	100.0	606	100.0	1,470	100.0	1,567	100.0	876	100.0

Note: Records where responsibility for antenatal care was "no antenatal care" were excluded.

Source: ACT Maternal Perinatal Data Collection, 2000 – 2001 data

Table 89: Responsibility for antenatal care by accommodation status, ACT, 2000

Service providers	Public		Private		Total	
	No.	%	No.	%	No.	%
Obstetrician	390	11.7	1,221	90.0	1,611	34.4
Shared care	41	1.2	4	0.3	45	1.0
Antenatal clinic	30	0.9	13	1.0	43	0.9
CMP	1,044	31.4	8	0.6	1,052	22.5
GP	506	15.2	13	1.0	519	11.1
Midwife	1,297	39.0	41	3.0	1,338	28.6
Not stated	14	0.4	57	4.2	71	1.5
Total	3,322	100.0	1,357	100.0	4,679	100.0

Note: Five records where responsibility for antenatal care was "no antenatal care" were excluded. Women who gave birth at home have been included under private accommodation status. CMP means Canberra Midwifery Program.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 90: Antenatal length of stay in hospital by state of residence, ACT, 2000

	ACT residents		Non-ACT residents	
	No.	%	No.	%
Less than 1 day	2,455	60.3	311	53.5
1 day	1,383	34.0	215	37.0
2-6 days	186	4.6	37	6.4
7 or more days	47	1.2	18	3.1
Total	4,071	100.0	581	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, 2000 data

Table 91: Obstetric complications for women that gave birth in the ACT by usual state of residence, ACT, 2000

	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
No complications	1,940	50.9	240	39.8	2,180	49.4
One complication	1,303	34.2	230	38.1	1,533	34.7
Multiple complications	568	14.9	133	22.1	701	15.9
Total	3,811	100.0	603	100.0	4,414	100.0

Note: Less than one per cent of women giving birth in the ACT give 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, 2000 data

Table 92: Labour characteristics, ACT, 1997 - 2001

	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Onset of labour										
Spontaneous	3,129	66.5	3,091	66.5	3,104	67.7	3,068	65.5	2,908	65.9
Induced	1,019	21.6	1,023	22.0	939	20.5	1,048	22.4	938	21.2
No labour	560	11.9	531	11.4	543	11.8	568	12.1	568	12.9
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0
Type of labour										
Spontaneous	2,308	49.0	2,272	48.9	2,143	46.7	2,086	44.5	1,603	36.3
Augmentation	811	17.2	819	17.6	961	21.0	982	21.0	1,305	29.6
Medical	281	6.0	291	6.3	340	7.4	326	7.0	424	9.6
Surgical	412	8.8	353	7.6	416	9.1	436	9.3	664	15.1
Combined	118	2.5	175	3.8	205	4.5	220	4.7	217	4.9
Induced	1,012	21.5	1,023	22.0	939	20.5	1,048	22.4	938	21.2
Medical	383	8.1	399	8.6	322	7.0	389	8.3	378	8.6
Surgical	81	1.7	82	1.8	108	2.4	93	2.0	83	1.9
Combined	548	11.6	542	11.7	501	10.9	560	12.0	472	10.7
Other	0	0.0	0	0.0	8	0.2	6	0.1	5	0.1
No labour	560	11.9	531	11.4	543	11.8	568	12.1	568	12.9
Total	4,708	100.0	4,645	100.0	4,586	100.0	4,684	100.0	4,414	100.0

Note: In 1997, four records where 'labour' and 17 records where 'type of labour' was "Not stated" were recoded as "Spontaneous".
Source: ACT Maternal Perinatal Data Collection, 1997 - 2001 data

Table 93: Labour characteristics by public or private hospital, ACT, 2000

		ACT Public Hospitals		ACT Private Hospitals	
		No.	%	No.	%
Onset of labour	Spontaneous	2,345	68.4	691	56.4
	Induced	732	21.4	316	25.8
	No labour	350	10.2	218	17.8
	Total	3,427	100.0	1,225	100.0
Type of labour	Spontaneous	1,604	46.8	450	36.7
	Augmentation	741	21.6	241	19.7
	Induced	732	21.4	316	25.8
	No labour	350	10.2	218	17.8
	Total	3,427	100.0	1,225	100.0

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 94: Method of birth by type of labour, ACT, 2000

Method of birth	Spontaneous		Augmentation		Induction		No Labour	
	No.	%	No.	%	No.	%	No.	%
Normal birth*	1,754	84.1	647	65.9	696	66.4	0	0.0
Caesarean section	157	7.5	118	12.0	173	16.5	**568	100.0
Forceps	92	4.4	121	12.3	91	8.7	0	0.0
Vacuum extraction	83	4.0	96	9.8	88	8.4	0	0.0
Total	2,086	100.0	982	100.0	1,048	100.0	568	100.0

Note: *Includes vaginal breech births due to small numbers of vaginal breech births. **Women who have no labour have had an elective caesarean section (12.1%). Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 95: Method of birth by hospital of birth, ACT, 2000

Method of birth	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Normal birth *	1,555	70.8	868	70.6	194	58.6	448	50.1
Caesarean section	407	18.5	251	20.4	81	24.5	278	31.1
Forceps	94	4.3	73	5.9	30	9.1	107	12.0
Vacuum extraction	141	6.4	38	3.1	26	7.9	61	6.8
Total	2,197	100.0	1,230	100.0	331	100.0	894	100.0

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

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 96: Method of birth by state of residence, ACT, 2000

Method of birth	ACT residents		Non-ACT residents	
	No.	%	No.	%
Normal birth	2,751	67.0	330	56.8
Caesarean Section	836	20.4	180	31.0
Forceps	266	6.5	38	6.5
Vacuum Extraction	234	5.7	33	5.7
Vaginal breech	16	0.4	*	*
Total	4,103	100.0	581	100.0

Note: Normal births for Non-ACT residents include less than 5 vaginal breech births.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 97: Selected characteristics for caesarean section, ACT, 2000

		No.	% of Caesareans	Rate per 1,000 births
Accommodation	Public	617	60.7	180.0
	Private	399	39.3	325.7
	Total	1,016	100.0	
Parity	Primipara	490	48.2	240.2
	Multipara	526	51.8	198.9
	Total	1,016	100.0	
Plurality	Singleton	971	95.6	211.2
	Multiple	45	4.4	523.3
	Total	1,016	100.0	
Maternal Aboriginal and Torres Strait	Aboriginal and Torres Strait Islanders	19	1.9	358.5
	Non-Aboriginal and Torres Strait Islanders	993	97.7	214.7
	Not stated	<5	0.4	
Islander Identification	Total	1,016	100.0	
Maternal age	Less than 24 years	115	11.3	149.4
	25-29 years	278	27.4	189.1
	30-34 years	361	35.5	230.4
	35 years or more	262	25.8	298.7
	Total	1,016	100.0	
Presentation (of first born)	Vertex (inc. POP)	809	79.6	180.1
	Breech	186	18.3	794.9
	Other (inc. brow & face)	21	2.1	700.0
	Total	1,016	100.0	
Birthweight (of first born)	Less than 1,500 grams	37	3.6	402.2
	1,500 to 2499 grams	90	8.9	330.9
	2500 to 3999 grams	723	71.2	192.4
	4000 grams or more	166	16.3	254.6
	Total	1,016	100.0	
Gestational age	Preterm (20 to 36 weeks)	135	13.3	313.2
	Term (37 to 41 weeks)	845	83.2	200.0
	Post term (42 weeks or more)	36	3.5	310.3
	Total	1,016	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. Caesarean section rates may fluctuate from year to year due to the small number of caesarean sections in the ACT.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 98: Caesarean section by ACT hospitals, ACT, 2000

	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Elective Caesarean	220	10.0	130	10.6	49	14.8	169	18.9
Emergency Caesarean	187	8.5	120	9.8	32	9.7	109	12.2
Caesarean section	407	18.5	250	20.4	81	24.5	278	31.1

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 99: Perineal status for vaginal births by method of birth, ACT, 2000

Perineal status	Normal birth*		Instrumental birth	
	No.	%	No.	%
Intact	1,364	44.0	49	8.6
1st degree laceration	604	19.5	54	9.5
2nd degree laceration	797	25.7	150	26.3
3rd degree laceration	29	0.9	12	2.1
Episiotomy	298	9.6	299	52.4
Laceration and episiotomy	5	0.2	7	1.2
Total	3,097	100.0	571	100.0

Note: *Includes 19 vaginal breech births in 2000. Instrumental births include forceps and vacuum extraction assisted births. There were no fourth degree lacerations in 2000.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 100: Perineal status for vaginal births by hospital of birth, ACT, 2000

Perineal status	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Intact	825	46.1	356	36.3	65	26.0	150	24.4
1st degree laceration	281	15.7	200	20.4	46	18.4	125	20.3
2nd degree laceration	491	27.4	259	26.4	80	32.0	110	17.9
3rd degree laceration	33	1.8	<5	*	0	0.0	<5	*
Episiotomy	149	8.3	161	16.4	59	23.6	228	37.0
Laceration & episiotomy	11	0.6	<5	*	0	0.0	<5	*
Total	1,790	100.0	980	100.0	250	100.0	616	100.0

Note: There were no fourth degree lacerations reported in 2000.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 101: Postnatal length of stay in hospital, ACT, 1997 - 2001

Postnatal length of stay	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 1 day	143	3.1	142	3.2	160	3.6	192	4.3	174	4.0
1 day	453	9.9	470	10.5	440	10.0	428	9.5	404	9.4
2 days	602	13.2	594	13.2	712	16.2	730	16.2	632	14.7
3 days	846	18.6	874	19.5	898	20.5	929	20.6	765	17.8
4 days	731	16.1	734	16.3	745	17.0	732	16.2	736	17.1
5 days	680	14.9	610	13.6	561	12.8	640	14.2	688	16.0
6 days	507	11.1	474	10.6	425	9.7	408	9.1	467	10.9
7 days or more	592	13.0	594	13.2	447	10.2	447	9.9	434	10.1
Total	4,554	100.0	4,492	100.0	4,388	100.0	4,506	100.0	4,300	100.0
Average postnatal stay	4.0 days		4.0 days		3.8 days		3.7 days		3.9 days	

Note: Postnatal length of stay includes only hospital admissions not transferred for further care to another hospital.

Source: ACT Maternal Perinatal Data Collection, 1997 – 2001 data

Table 102: Postnatal length of stay by hospital of birth, ACT, 2000

Postnatal length of stay	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
3 days or less	1,348	63.8	810	68.6	48	14.7	73	8.2
4 to 6 days	667	31.6	346	29.3	229	70.2	538	60.6
7 days or more	97	4.6	24	2.0	49	15.0	277	31.2
Total	2,112	100.0	1,180	100.0	326	100.0	888	100.0
Average postnatal stay	3.0 days		3.1 days		5.1 days		5.8 days	

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

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 103: Maternal discharge status by hospital of birth, ACT, 2000

Maternal discharge status	The Canberra Hospital		Calvary Public		Calvary Private		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Discharged home	470	21.4	456	37.1	306	92.4	841	94.1
Discharged on Midcall / CMP	1,641	74.7	724	58.9	20	6.0	47	5.3
Transferred	86	3.9	50	4.1	5	1.5	6	0.7
Total	2,197	100.0	1,230	100.0	331	100.0	894	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 2000. Less than five records where maternal discharge status was "not stated" have been included in the "discharged home" category. Homebirths and stillbirths have been excluded. There are some reporting inconsistencies between the number of mother and babies. Due to the rounding of percentages some totals may not equal 100.0.

Source: ACT Maternal Perinatal Data Collection, 2000 data

Table 104: Babies' characteristics, ACT, 1997 - 2001

	1997		1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%
Birth Condition										
Liveborn	4,743	99.1	4,691	99.0	4,637	99.2	4,736	99.2	4,478	99.2
Stillborn	42	0.9	46	1.0	38	0.8	38	0.8	35	0.8
Total	4,785	100.0	4,737	100.0	4,675	100.0	4,774	100.0	4,513	100.0
Plurality										
Singleton	4,631	96.8	4,555	96.2	4,499	96.2	4,598	96.3	4,316	95.6
Multiple births	154	3.2	182	3.8	176	3.8	176	3.7	197	4.4
Total	4,785	100.0	4,737	100.0	4,675	100.0	4,774	100.0	4,513	100.0
Sex										
Male	2,402	50.2	2,409	50.9	2,373	50.8	2,432	50.9	2,305	51.1
Female	2,383	49.8	2,328	49.1	2,302	49.2	2,342	49.1	2,208	48.9
Total	4,785	100.0	4,737	100.0	4,675	100.0	4,774	100.0	4,513	100.0
Presentation										
Vertex	4,450	93.0	4,387	92.6	4,358	93.2	4,493	94.1	4,193	92.9
Breech	234	4.9	263	5.6	213	4.6	234	4.9	257	5.7
Other (including Face & Brow)	62	1.3	42	0.9	35	0.7	30	0.6	50	1.1
Not Stated	39	0.8	45	0.9	69	1.5	17	0.4	13	0.3
Total	4,785	100.0	4,737	100.0	4,675	100.0	4,774	100.0	4,513	100.0
Birthweight										
Less than 1,000 grams	47	1.0	58	1.2	55	1.2	54	1.1	39	0.9
1,000 to 1,499 grams	51	1.1	41	0.9	43	0.9	38	0.8	44	1.0
1,500 to 2,499 grams	263	5.5	273	5.8	235	5.0	272	5.7	240	5.3
2,500 to 3,999 grams	3,852	80.5	3,776	79.7	3,684	78.8	3,758	78.7	3,621	80.2
4,000 or more grams	569	11.9	589	12.4	652	13.9	652	13.7	564	12.5
Not Stated	3	0.1	0	0.0	6	0.1	0	0.0	5	0.1
Total	4,785	100.0	4,737	100.0	4,675	100.0	4,774	100.0	4,513	100.0
Gestational age										
20 to 27 weeks	48	1.0	51	1.1	55	1.2	50	1.0	48	1.1
28 to 31 weeks	59	1.2	65	1.4	52	1.1	51	1.1	54	1.2
32 to 36 weeks	295	6.2	290	6.1	281	6.0	330	6.9	304	6.7
37 to 41 weeks	4,209	88.0	4,199	88.6	4,158	88.9	4,224	88.5	4,033	89.4
42 plus weeks	128	2.7	132	2.8	113	2.4	116	2.4	71	1.6
Not stated	46	1.0	0	0.0	16	0.3	3	0.1	3	0.1
Total	4,785	100.0	4,737	100.0	4,675	100.0	4,774	100.0	4,513	100.0

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.

Source: ACT Maternal Perinatal Data Collection, 1997 - 2001 data

Table 105: Birthweight and gestational age for live births by mother's usual state of residence, ACT, 2000

	ACT residents		Non-ACT residents		ACT & Non-ACT residents	
	No.	%	No.	%	No.	%
Birthweight						
Less than 1500 grams	40	1.0	28	4.7	68	1.4
1500 to 2499 grams	188	4.5	78	13.0	266	5.6
2500 grams or more	3,907	94.5	495	82.4	4,402	92.9
Total	4,135	100.0	601	100.0	4,736	100.0
Gestational age						
20 to 27 weeks	16	0.4	11	1.8	27	0.6
28 to 31 weeks	30	0.7	18	3.0	48	1.0
32 to 36 weeks	233	5.6	93	15.5	326	6.9
37 to 41 weeks	3,749	90.7	467	77.7	4,216	89.1
42 weeks or more	104	2.5	12	2.0	116	2.5
Total	4,132	100.0	601	100.0	4,733	100.0

Note: Three records where 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, 2000 data

Table 106: Birthweight and gestational age for live births by hospital of birth, ACT, 2000

	The Canberra Hospital		Calvary Public Hospital		Calvary Private Hospital		John James Memorial Hospital	
	No.	%	No.	%	No.	%	No.	%
Birthweight								
Less than 2,500 grams	241	10.8	47	3.8	18	5.4	28	3.1
2,500 grams or more	1,990	89.2	1,193	96.2	317	94.6	870	96.9
Total	2,231	100.0	1,240	100.0	335	100.0	898	100.0
Gestational age								
Less than 37 weeks	276	12.4	59	4.8	14	4.2	52	5.8
37 to 41 weeks	1,900	85.2	1,145	92.4	312	93.1	831	92.6
42 or more weeks	55	2.5	35	2.8	9	2.7	14	1.6
Total	2,231	100.0	1,239	100.0	335	100.0	897	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, 2000 data

Table 107: Birth outcome by maternal usual residence, ACT, 2000

	ACT residents		Non-ACT residents		Total	
	No.	%	No.	%	No.	%
Live births survived to 28 days	4,123	99.0	597	97.7	4,720	98.9
Stillbirth	28	0.7	10	1.6	38	0.8
Neonatal death	12	0.3	4	0.7	16	0.3
All births	4,163	100.0	611	100.0	4,774	100.0

Note: Post neonatal deaths have been excluded, as there were less than five for all births in the ACT.

Source: ACT Maternal Perinatal Data Collection, 2000 data

GLOSSARY

Aboriginal and Torres Strait Islander 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 mother, per 1,000 of the female resident population of the same age at 30 June. For calculating these rates, births to mothers under 15 are included in the 15-19 age group, and births to mothers 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 mother is not given¹.

Amniocentesis is the sampling of the amniotic fluid to help determine fetal maturity or disease, by aspiration of the fluid through the mother's abdomen.³⁰

Anomaly is a deviation from what is regarded as normal. An example would be a congenital malformation or birth defect.

Antenatal refers to the time period of pregnancy before birth.

Apgar score is a numerical scoring system (1-10) applied after birth to evaluate the condition of the baby (usually assessed at one minute and five minutes). 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 defects are the 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. Previously reported as congenital abnormalities or anomalies or malformations.

Birth status is the condition of the baby immediately after birth. The status may be a live birth or stillbirth.

Birthweight is the first weight of the baby (stillborn or live born) obtained after birth. It is usually measured to the nearest five grams and obtained within one hour of birth.

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.

Breech birth – see vaginal breech on page 99.

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, providing continuity of midwifery care by a team of midwives to women throughout their pregnancy, birth and up to two weeks after the birth.

Chorionic relates to the outermost of the fetal membranes (chorion).³¹

Chorionic villus sampling (CVS) is the aspiration of a sample of chorionic tissue for biochemical and chromosome analysis.³²

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 within the interval.

Confinement refers to a pregnancy resulting in at least one birth. A multiple pregnancy will be 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 or abnormalities are those malformations that are present at or existing from the time of birth. In this publication the term birth defects has been used instead of congenital anomalies.

Congenital malformations are the structural or anatomical abnormalities that are present at birth, usually resulting from abnormal development in the first trimester of pregnancy. In this publication the term birth defects has been used instead of congenital 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 through an abdominal incision performed before the onset of labour.

Emergency caesarean section refers to an operative birth through 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 on page 99.

First degree tear or graze is a perineal graze or laceration or tear involving one of the following: the fourchette, hymen, labia, skin, vagina or vulva.

Forceps refers 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 mucosa or rectal mucosa.

Gestation is the period of development of a baby from the time of conception (fertilisation of the ovum) to birth. In humans, this time is usually 37 to 40 weeks gestation.

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.

Incidence refers to the number of instances of illness commencing, or of persons falling ill, during a given period in a specified population.³³

Induced abortion refers to the termination of 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 to an assisted cephalic vaginal birth using forceps or vacuum extraction.

Live birth is 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 (**WHO definition**). The scope of the National Perinatal Collection differs from the WHO definition, in that it is not irrespective of the duration of the pregnancy. Live birth reported to the National Perinatal Collection are for babies 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.

Median is a measure of central tendency. It refers to the point between the upper and lower halves of the set of measurements.

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 on page 99.

Morbidity is a diseased state or the ratio of sick to well in the community.³⁴

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 number of children a woman has borne that are either live births or stillbirths.

Perinatal death refers to a stillbirth or a neonatal death.

Perinatal refers to the period from 20 weeks gestation to within 28 days after birth.

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.³⁵

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 37 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 36 weeks gestation.

Prevalence refers to the number of instances of a given disease or other condition in a given population at a designated time.

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 24 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).

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 fetus³⁶ (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 or 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. **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 such 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**).

Third degree tear is a perineal laceration or tear involving the anal sphincter or recto vaginal septum.

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 life¹.

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 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. Publications prepared after Health Series Number 13 are available online from the [Population Health Research Centre web site](#).

- 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, Carol Gilbert, Ursula White, January 1997
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- Number 12: Aboriginal and Torres Strait Islander Health in the ACT, Norma Briscoe, Josie McConnell, Michelle Petersen, July 1997
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- Number 14: Health status of the ACT by statistical sub divisions, Carol Kee, George Bodilson (Johansen), April 1998
- Number 15: Results from the 1996 ACT Secondary School Students' Survey, Hai Phung, Allison Webb, Norma Briscoe, June 1998
- Number 16: Childhood immunisation and preventable diseases in the ACT 1993 - 1997, Hai Phung, Michelle Petersen, June 1998
- Number 17: Health Related Quality of Life in the ACT 1994 - 97, Hai Phung, Ursula White, Brian Egloff, June 1998
- Number 18: Maternal and Perinatal Status, ACT, 1994 - 96, Maureen Bourne, Carol Kee, September 1998
- Number 19: Health risk factors in the ACT, Carol Kee, Michelle Petersen, Kate Rockpool, October 1998
- Number 20: Communicable diseases in the ACT, Linda Halliday, Michelle Petersen, November 1998
- Number 21: Illicit drug samples seized in the ACT, 1980 - 97, Dennis Pianca, November 1998
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- Number 23: Health Status of Older People in the A.C.T, Carol Kee, George Bodilsen, October 1999
- Number 24: Drug related health in the ACT, Josie Barac, Peter Luke, Olivia Phongkham, December 1999
- Number 25: ACT Maternal and Perinatal 1997 Tables, Maureen Bourne, March 2000
- Number 26: ACT Maternal and Perinatal 1998 Tables, Maureen Bourne, March 2001
- Number 27: Cancer in the Australian Capital Territory 1994 – 1999, Population Health Research Centre (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

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