NEW ZEALAND COLLEGE OF MIDWIVES (INC)

Report on

MMPO MIDWIVES

Care activities and outcomes

2004

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Report prepared by MMPO Midwifery and Maternity PROVIDERS ORGANISATION

MMPO MIDWIVES 2004 ANNUAL REPORT ON CARE ACTIVITIES AND OUTCOMES

In 1997, the Midwifery and Maternity Providers Organisation (MMPO) was established by the New Zealand College of Midwives (NZCOM). The main purpose was to provide midwife members with a supportive practice management and quality assurance infrastructure, thereby enabling high quality continuity of care for women throughout Aotearoa, New Zealand.

The key objectives of the MMPO are:

- to ensure midwives continue to have an environment where they can provide maternity care to women within the midwifery model of care as articulated in the NZCOM Standards for Practice, by providing information, management systems, and support to midwives
- to collect relevant maternity outcome data to ensure midwives can review their work against the standards of the profession, and to guide the achievement of high quality outcomes from midwifery led maternity care
- to ensure that all midwife members take part in quality assurance activities and are members of their national recognised professional body, the NZCOM
- to support the professional role of the NZCOM to position, develop, and service the profession of midwifery in New Zealand
- to provide aggregated clinical information to member midwives and the New Zealand College of Midwives

From small beginnings the MMPO has grown, with the support of the NZCOM, to become the largest maternity provider organisation in New Zealand. The MMPO is located in Christchurch, New Zealand, where a small team of data entry staff manage both hard copy and electronic data related to midwifery activities and care outcomes. The data is gathered in a standardised manner through the use of a specifically designed set of maternity notes. These notes function as both a clinical record for the woman and midwife during care, in addition to being a mechanism for recording the data required to generate clinical outcomes reports, and for claiming service payment from HealthPac.

Over time, MMPO has worked with 'Solutions Plus' (our Maternity Practice Management System (MPMS)) designers to refine our data management and reporting frameworks. This course of action has given midwife members and the NZCOM confidence in the reliability of data that is available from 2004 onwards.

The MMPO would like to take the opportunity to thank all the midwives and women who have contributed to this inaugural annual MMPO Midwives' Report 2004. A report on midwives' outcomes has been promised for a number of years, and we are delighted that at last this is now available. We plan to have the 2005, 2006, and 2007 reports available sequentially over the next eighteen months.

ACKNOWLEDGEMENTS

The following people are acknowledged for their contribution to the completion of this report. It has been a collaborative effort to ensure the data was complete and correct and the writers are grateful for their invaluable assistance:

- Dr Chris Hendry, Executive Director of MMPO (primary advisor), for editorial critiques of the data analysis
- Dr Ray Kirk, Director of The University of Canterbury Health Sciences Centre (UCHSC), for data collation and aggregation
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EXECUTIVE SUMMARY

All Lead Maternity Carer (LMC) midwives in New Zealand have the opportunity to join the MMPO, which is a nationwide organisation that offers a practice management service for community based LMC midwives. In return for free membership, the midwives contribute to a national midwifery activities and outcomes database, namely the NZCOM database. The information obtained by MMPO LMC midwife registrations of expectant mothers is entered into the database, which is supported by an independent software vendor. This report, produced by University of Canterbury Health Sciences Centre researchers and contracted by the MMPO, is an objective descriptive summary of the data collation from the 2004 cohort of birthing mothers from the MMPO registrations.

In 2004, 390 registered MMPO midwives throughout New Zealand contributed data, with the largest proportion coming from the Canterbury and Otago regions of the South Island, where the MMPO had a longer establishment base. From these midwives:

- 9953 mothers who gave birth between 01 January and 31 December 2004 had been registered into the system
- 10,064 babies were born to these women

This report summarises the outcomes for mothers and babies based on birthing facility types, personal status (including age and ethnicity), parity, and types of third stage of labour procedures. It also includes information about maternal smoking status before and after giving birth.

HIGHLIGHTS

Mothers and pregnancy

- More than half of the women who registered with MMPO midwives were aged between 25 and 34 years old
- 18 per cent of women were over the age of 35 years
- Most women identified their ethnicity as NZ European/ Pakeha (68.5 per cent), followed by Maori (almost 17 per cent) and the ethnic group recorded as 'Other' (8.4 per cent)
- Almost 45 per cent of this cohort had one or more pre-existing medical condition
- 42 per cent of the women were giving birth for the first time
- 85 per cent of women aged over 30 years did not smoke during their pregnancy
- 48.5 per cent of younger mothers (under 20 years of age) smoked antenatally

Labour and births

- The largest proportion of births (43.4 per cent) occurred in secondary facilities
- 7.4 per cent of babies were born at home
- Of all mothers, multiparous women gave birth at home more often (10.2 per cent) than women giving birth for the first time (3.4 per cent)
- 6.9 per cent of all mothers had an episiotomy
- Primiparous women, compared to multiparous women, tended to have:
  - slightly longer labours (43.5 per cent over eight hours versus 14.2 per cent over eight hours)
  - more inductions (20.8 per cent versus 13.3 per cent)
  - more epidurals (35.4 per cent versus 13.0 per cent)
  - more episiotomies (12.2 per cent versus 3.1 per cent)
  - more active management of the third stage of labour (72.6 per cent versus 59.5 per cent)
- Almost one third of women (32 per cent) used water as a labour pain management technique, with one in ten of these women continuing on to give birth to their babies in water
- Women who had active management of the third stage of labour experienced greater blood loss (more than 500mls) than those who did not (61.8 per cent versus 31.8 per cent)

Babies

- The majority of babies (72 per cent) were born by a normal vaginal birth
- Almost 20 per cent of babies were born by caesarean section (elective and emergency)
- A further 7.9 per cent of babies were born by operative vaginal births
- Primiparous women had lower rates of normal vaginal births compared to multiparous women (60.0 per cent versus 80.5 per cent).
- Primiparous women also had higher rates of operative births and emergency caesarean procedures (25.0 per cent versus 16.0 per cent)
- Maori babies were more likely to be born vaginally (81.8 per cent), whereas babies born to mothers in the 'Other' ethnic category had higher rates of caesarean sections (27.4 per cent)
- Babies born to younger mothers (up to 24 years of age) also had higher normal vaginal birth rates (an average of 81.7 per cent), with the rates of caesareans increasing as the mothers' ages increased (peaking at 29.9 per cent at 40+ years of age)
- Babies born to primiparous mothers, as compared to multiparous mothers, tended to:
    - weigh slightly less (54.5 per cent under 3500gm versus 47.1 per cent)
    - be born at earlier gestations (14.1 per cent before 36 weeks gestation versus 12.8 per cent)

Postnatal period

- The vast majority of babies born at home were exclusively or fully breastfed (91.5 per cent)
- The majority of women (78 per cent) were fully or exclusively breastfeeding at two weeks
- Asian women had the lowest breastfeeding rate (60 per cent) at two weeks
- 88 per cent of mothers over 30 years of age were not smoking postnatally
- Of those under 20 years of age, 42.6 per cent were smoking
- Overall, smoking rates decreased postnatally compared with antenatal smoking rates.

1 INTRODUCTION

The following chapter begins with an introduction to the 'Midwifery and Maternity Providers Organisation' (MMPO). It then proceeds to explain the purpose of this report, which is then followed by an outline of the report's structure. Finally, the data collation, data sources, and data limitations are described.

1.1 THE MIDWIFERY AND MATERNITY PROVIDERS ORGANISATION (MMPO)

The MMPO was established by the New Zealand College of Midwives (NZCOM) in 1997 to provide a practice management system for Lead Maternity Carer (LMC) midwives. The MMPO, a registered company with charitable status, is co-located with the NZCOM National Office in Christchurch. MMPO personnel include a part-time Executive Director, a National Manager, and data entry staff who process claims and provide data management services for midwives. The organisation also has a representative board comprised of midwives and consumers.

Through the organisation's partnership with NZCOM, a number of initiatives were implemented to enhance the development of LMC services, particularly for self-employed midwives. In 2002, the MMPO (which was previously restricted to the provision of services to South Island midwives) extended membership to midwives throughout the country. Their services are free to NZCOM members, with operational costs met by the sale of MMPO Maternity Notes and a stand-alone version of the database. This allows midwives to enter their own data and have an electronic interface with the MMPO.

1.2 PURPOSE OF THIS REPORT

The MMPO provides a practice management service to midwife members, which in 2004 included claiming payment for maternity services on the schedule specified in the Primary Maternity Services Notice pursuant to Section 88 of the Public Health and Disability Act 2000 (Ministry of Health, 2002). A 'national midwifery activities and outcomes database' was developed to extract relevant midwifery care and outcome data out of this process. This data is used to provide individual midwives with personalised care outcome reports and is aggregated into regional and national midwifery outcome reports. This data provides a benchmark for:

- Individual midwife LMCs: against which they can measure their own activities and care outcomes
- The midwifery profession: to guide education, planning and to improve care outcomes
- Maternity service founders and providers
- Midwifery researchers

The University of Canterbury Health Sciences Centre (UCHSC) was contracted by the MMPO to provide an objective analysis of data collated from the 390 MMPO midwife members throughout New Zealand in 2004. An independent software vendor collated the data provided by the midwives following provision of care. The data was then aggregated and analysed by UCHSC. This report is the final analysis of the data presented; however, it is important to note it is not a technical report with statistically significant analysis, but rather, an annual report of the data analysed from the 2004 database. It can be seen as an annual report for 2004 of birthing women receiving the LMC services from MMPO midwives.

1.3 REPORT STRUCTURE

Chapter 1 – Introduction
This chapter gives a general overview of the data collation and analysis process, and information about the MMPO registered midwives.

Chapter 2 – Mothers and Pregnancies
This section is based on the data obtained regarding the birthing women registered with MMPO LMC midwives in 2004. The information includes maternal features at the time of registration and the maternal health status.

Chapter 3 – Labour and Births
The third chapter is based on the data obtained from the number of birthing mothers registered with MMPO LMC midwives in 2004. It contains labour statistics (in particular labour management statistics), and data on different birth types.

Chapter 4 – Babies

This chapter is based on the data obtained in relation to the babies born in 2004. The data presented relates to birth outcomes and neonatal outcomes. According to the Ministry of Health (2007), the total number of liveborn babies in New Zealand in 2004 was 58,723, of which 10,064 babies were born to mothers who had registered with a MMPO LMC midwife and are included within this report.

Chapter 5 – Postnatal Period

This chapter is based on the number of babies birthed in 2004. Whereas for the most part the data relates specifically to the babies born, for example: postnatal care provided, some of the information does relate to the mothers, for example: postnatal health.

Appendix

The appendix describes the MMPO Maternity Notes dataset.

Glossary

This section explains terminology used in this report, and is sourced from the Ministry of Health Report on Maternity 2003 (Ministry of Health, 2006).

References

A list of references completes the report.

1.4 'THE MMPO MATERNITY NOTES' DATASET

The data in this report is obtained from data collected by the midwives, via the MMPO maternity notes, which is either captured in hard copy or electronically.
The process of data collection includes:

1. MMPO midwife members purchase a set of MMPO Maternity Notes to be used with each woman who registers with that midwife for lead maternity care. These notes contain a pink carbonated form (which is situated beneath each page of clinical notes the midwife uses for her assessment), and care documentation. The forms are generally set out as optional tick boxes or as blank boxes for midwives to fill in, and include information such as: dates; times; and specified aspects of care or outcomes. They also include information required for Health Payments Agreements & Compliance (HealthPAC)[1] to process Section 88 claims.
2. Once completed by the midwife, the pink carbonated copy is sent to the MMPO by post. Unique codes are used on these forms to de-identify the woman, thereby retaining her confidentiality.
3. On receipt of the forms, MMPO data professionals enter the midwives' handwritten data into electronic format and submit the required claiming component to HealthPAC for payment electronically.
   This claiming data, plus additional clinical data submitted in the forms is retained and aggregated electronically to form a series of midwifery activities and outcomes reports within the MMPO database.
4. Midwives also have the option of submitting their data electronically through a replica of the master database on their own computer. Data accuracy and database sophistication ensures an overall HealthPAC claim rejection rate (following registration) of less than three per cent in both systems.
5. MMPO staff deal with HealthPAC claim rejections and data queries, in addition to managing inadequate and inaccurate data prior to submission for midwives. This ensures that only the most accurate and complete data is entered into in the MMPO database.
6. Midwife members are regularly informed of Section 88 compliance responsibilities and the need to submit 'clean' data (a list of definitions is provided in the back of each set of notes to ensure data consistency).

1 Health Payments Agreements & Compliance (HealthPAC) is a business unit of the Ministry of Health and is responsible for making and monitoring payments to various health providers. Ministry of Health, N.Z. (20.07.2007). "HealthPAC." Retrieved 28.11.2007, from http://www.moh.govt.nz/healthpac.

1.5 KEY DATA SOURCES

The data for this report was sourced from all pregnant women who registered with MMPO LMC midwives during their pregnancy and who gave birth between 01 January and 31 December 2004. Therefore, the information in this report does not include any data relating to pregnancies ending in terminations or miscarriages. The data was generated using a Microsoft Access database split into two separate sections that each had the same date and cohort parameters. Actual cohort numbers vary between the two sections. The reasons for this are firstly, the exclusion of elective caesarean sections for particular aspects such as labour management, and secondly, multiple births, which increase the cohort of babies in the 'births and babies' section of this report.

1.5.1 REGIONAL PROFILE OF DATA CONTRIBUTORS

In 2002, the MMPO opened membership to midwives nationally. Prior to this point, membership was restricted by contract with the Ministry of Health to the South Island. This accounts for the disproportionately high numbers of midwife members in the South Island at this time. The following tables (tables 1.1 and 1.2) show the distribution of MMPO LMC throughout the country based on District Health Board (DHB) and NZCOM regions respectively.

Table 1.1: Number and percentage of data contributors by DHB region.

DHB Region	Number and percentage of LMC midwives contributing data	
	Number (n)	Percentage (%)
Northland	25	6.4
Waitemata	2	0.6
Auckland	18	4.6
Counties Manakau	4	1.1
Waikato	10	2.7
Bay of Plenty	15	3.6
Lakes	16	3.9
Taranaki	11	2.8
Tairawhiti	13	3.3
Hawkes Bay	13	3.3
Wairarapa	5	1.3
Wanganui	3	0.8
Mid central	29	7.4
Hutt	6	1.5
Capital and Coast	37	9.5
Nelson/Marlborough	11	2.9
Canterbury	90	23.1
West Coast	2	0.6
South Canterbury	3	0.8
Otago	56	14.4
Southland	21	5.4
TOTAL	**390**	**100.0**

Table 1.2: Number and percentage of data contributors by NZCOM region.

NZCOM Region	Number and percentage of MMPO member LMC midwives contributing data	
	Number (n)	Percentage (%)
Northland	25	6.4
Auckland	25	6.4
Waikato	9	2.3
Bay of Plenty	44	11.3
Central North Island	44	11.3
Taranaki	12	3.1
Wellington	48	12.3
Nelson/Marlborough	11	2.8
Canterbury / West Coast / South Canterbury	95	24.4
Otago	56	14.4
Southland	21	5.3
TOTAL	**390**	**100.0**

Both of the tables above show that the highest proportion of midwives came from the Canterbury region, whereas Auckland and Waikato had relatively low proportions. However, approximately 53 per cent of MMPO LMC midwives were located in the North Island, and this number has been steadily increasing since 2004.

1.5.2 PROFESSIONAL PROFILE OF DATA CONTRIBUTORS

The following table summarises the MMPO midwives' professional experience as at 2004, reported as the number of years experience as a 'Continuity of Care' midwife. NOTE: The term 'Continuity of Care' midwife is used here as opposed to a 'Lead Maternity Carer' (LMC) midwife, because the LMC term was not introduced until 1996 and 12.1 per cent of MMPO midwives reported having professional experience prior to this date.

Table 1.3: Number and percentage of years as 'Continuity of Care' midwives, by data source.

Years as 'Continuity of Care' midwife	Number (n)	Percentage (%)	Cumulative Percentage (%)
Not stated	0	0.0	0.0
Less than 1 year	77	19.7	19.7
1 - 4 years	203	52.1	71.8
5 - 9 years	63	16.2	88.0
10 - 14 years	14	3.6	91.6
15 - 19 years	17	4.3	95.9
20 - 24 years	12	3.1	99.0
More than 24 years	4	1.0	**100.0**
TOTAL	**390**	**100.0**	

This table shows that during 2004, the majority of midwives (71.8 per cent) had less than four years professional experience as a 'Continuity of Care' midwife.

1.6
DATA QUALITY AND LIMITATIONS

The MMPO midwifery practice management system has a number of inbuilt features that reduce the risk of data entry error. The system is also continually being improved. The data used in this report was able to be cross-checked and audited using a number of processes, namely:

1. Individual Lead Maternity Carer reports are produced using the same data. Midwives use these reports for their NZCOM Midwifery Standards Review process (MSR)[2] . Midwives then check their individual reports for gaps in data, which can then be followed up by MMPO data entry staff.
2. The MMPO manager audits the data entry quality by generating random reports and then checking for data accuracy.
3. Group reports are run to identify data gaps.
4. HealthPAC will only accept and pay out complete claims, therefore midwives are motivated to submit an accurate set of data.

2 MSR is a quality assurance process that LMC midwives undertake annually. It includes reviewing statistical outcome data about their practice. Individualised reports for MSR are generated from the data submitted by midwives through the MMPO maternity notes dataset.

2 MOTHERS AND PREGNANCY

This chapter is based on the data obtained from the number of birthing mothers registered with MMPO LMC midwives in 2004. It includes maternal features at the time of registration and the status with regard to maternal health.

2.1 DEMOGRAPHIC PROFILE

The following section includes: data on registered births; gestational age at registration; information about the place of birth; maternal age; and finally, maternal ethnicity.

2.1.1 REGISTERED BIRTHS

In 2004, there were 58,723 (Ministry of Health, 2007) liveborn babies registered in New Zealand. This same year, 10,064 of these babies (including 10,001 liveborn babies) were captured in the MMPO database. They represent 17 per cent of the New Zealand registered liveborn babies in 2004. The number of mothers registered with MMPO LMC midwives was 9,953 (as reported in Table 2.1), which indicates there were one hundred and eleven more babies than there were mothers. Sixty-three babies (0.63 per cent) born in 2004 with MMPO registered midwives were classified as stillborn[3].

Table 2.1: Number of mothers and babies, by data source.

MMPO Registrations 2004	Total (n)	Details
Total birthing women	9,953	
Total liveborn babies	10,001	9,984 liveborn babies + 17 neonatal deaths 0-27 days
TOTAL BABIES	**10,064**	**10,001 liveborn babies + 63 stillborns**

2.1.2 GESTATION AT REGISTRATION

Section 88 regulations in 2002 stipulated that a woman must be at least 14 weeks gestation before registering with a LMC midwife (Ministry of Health, 2002). Therefore, as Table 2.2 demonstrates, the majority of registrations (approximately 80 per cent) occurred immediately after the first trimester of pregnancy and before week 20. Only ten per cent of registrations occurred between week 28 and 40 or later.

Table 2.2: Number and percentage of birthing women by weeks gestation at registration.

Weeks gestation	Number (n)	Percentage (%)
< 15 weeks	1,133	11.4
15 - 20 weeks	6,787	68.2
21 - 27 weeks	1,051	10.6
28 - 34 weeks	575	5.8
35 - 39 weeks	291	2.9
>= 40 weeks	113	1.1
Not stated	3	0.03
TOTAL	**9,953**	**100.0**

3 Definition stillborn: refer to glossary.

2.1.3 PLACE OF BIRTH

This section looks into the geographic distribution of births in the North and South Island; in the DHB regions; and in rural areas.

2.1.3.1 BIRTH PLACE TYPE AND GEOGRAPHIC DISTRIBUTION

In 2004, the women registered with a MMPO LMC midwife who gave birth in the North Island equated to a slight majority of 52.6 per cent. The overwhelming majority of North Island births occurred in secondary birthing facilities, whereas in the South Island the majority occurred in tertiary facilities. This difference is accounted for by the low representation of midwives from the Auckland and Hamilton areas in this report (refer to Table 2.3).

The locations of the tertiary birthing facilities in New Zealand are: Auckland; Hamilton; Wellington; Canterbury; and Otago. The South Island is the only place to have a primary plus facility (a primary facility that can perform elective caesareans). Just over 20 per cent of women registered with a LMC MMPO midwife gave birth in primary facilities or at home. Overall, the 2004 cohort shows the majority of births occurred in secondary facilities (Table 2.3).

Table 2.3: Number and percentage of birthing women, by birth place type and geographic distribution.

Birth place type	North Island		South Island		New Zealand	
	n	%	n	%	n	%
Primary facility	598	11.4	512	10.9	1,110	11.1
Primary plus*	0	0.0	223	4.7	223	2.2
Secondary facility	3,479	66.4	849	18.0	4,328	43.5
Tertiary facility	748	14.3	2,783	59.0	3,531	35.5
Home births	404	7.7	339	7.2	743	7.5
Not stated	9	0.2	9	0.2	18	0.2
TOTAL	**5,238**	**100.0**	**4,715**	**100.0**	**9,953**	**100.0**

* A primary maternity hospital that is contracted to carry out elective caesareans

2.1.3.2
BIRTHS IN RURAL AREAS

Section 88 Maternity Notice 2002 (Ministry of Health, 2002) defines the domicile of the mother according to the rurality of the place of residence. The data obtained from the 2004 MMPO cohort is presented in Table 2.4 (numbers) and Figure 2.1 (percentages).

Table 2.4: Number of births, by birth place type and rurality.

Rurality	Home (h)	Primary (n)	Primary + facility* (n)	Secondary facility (n)	Tertiary facility (n)	Total (n)
Not rural	397	201	155	2,293	2,487	5,533
Semi - rural	68	120	4	624	284	1,100
Rural	226	585	63	1224	649	2,747
Remote rural	52	208	2	240	182	684
TOTAL	**743**	**1114**	**224**	**4,381**	**3,602**	**10,064**

* A primary maternity hospital that is contracted to carry out elective caesareans.

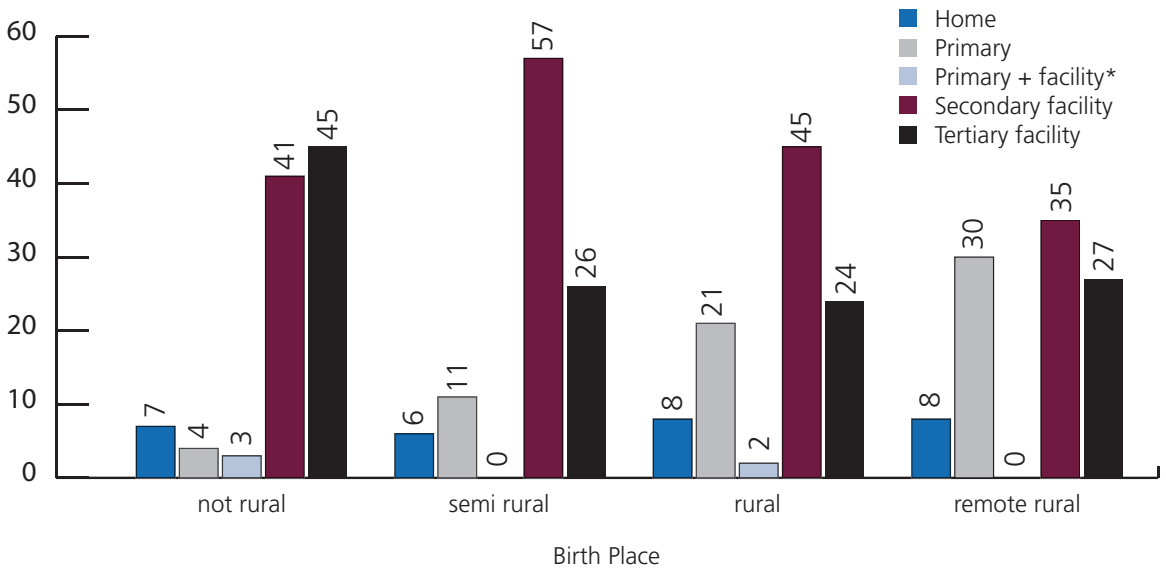


Figure 2.1: Percentage of births, by birth place type and rurality.

Overall, close to 55 per cent of the babies born to women registered with MMPO LMC midwives were from urban ('not rural') domiciles, with most birthing in tertiary facilities (45 per cent). This was followed closely by secondary facilities (41 per cent), and then home births (seven per cent).

Women in semi-rural, rural, and remote rural domiciles gave birth predominantly in secondary facilities, followed by either tertiary or primary. The urban based primary plus facility had the lowest rate of use by semi-rural, rural and remote rural women for childbirth.

The percentage use for each birth place shown in Figure 2.1 indicates the spread of rurality for the mothers of the babies born at each facility. Semi-rural, rural and remote rural women made up 82 per cent of all primary facility births and almost half (47 per cent) of all home births.

Urban women predominantly used the secondary and tertiary facilities. Secondary facilities had the largest number of babies born. Secondary facilities, based in provincial cities, had a high proportion of rural women as well.

2.1.4
MATERNAL AGE

Figure 2.2 indicates that most (57 per cent) of the MMPO birthing women in 2004 were aged between 25 to 34 years at registration. Just over 6 per cent were under 20 years of age and 17.6 per cent were over 35 years of age. Only 3.3 per cent of the women were over the age of 40 years.

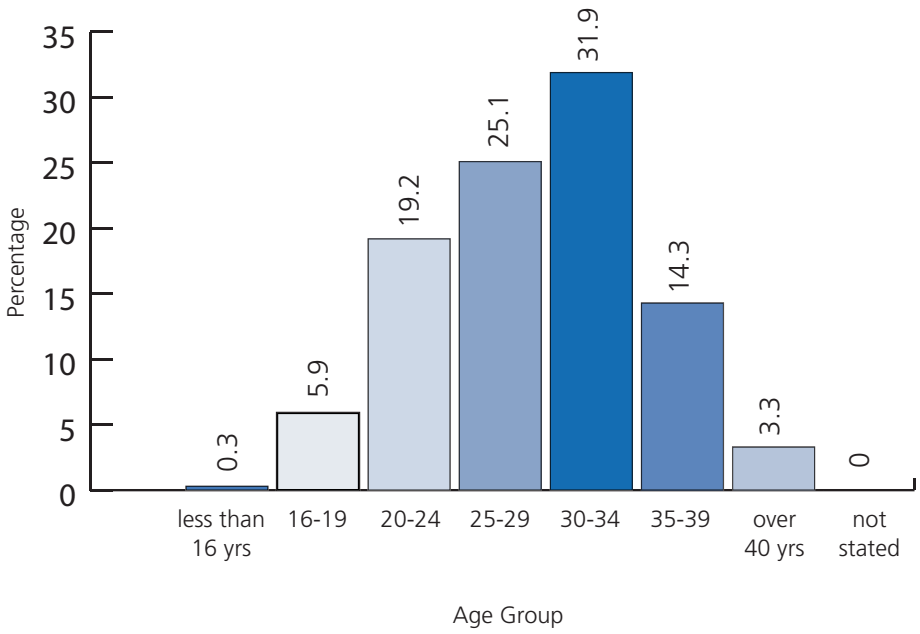


Figure 2.2: Percentage of birthing women, by age group at registration.

2.1.5
MATERNAL ETHNICITY

Ethnicity data is recorded at the time of registration with an MMPO LMC midwife (refer to table 2.5). Within the 2004 group of birthing women, the majority identified themselves as 'NZ European', followed by those who identified themselves as 'Maori'. The third highest ethnic group was recorded as 'Other', which included women from Africa, the Middle East, and Latin America. Less than three per cent identified themselves as 'Pacific', which reflects a predominantly South Island cohort of women (refer to Figure 2.3).

Table 2.5: Number of birthing women, by ethnicity.

Ethnicity	Number (n)
NZ European	6,818
Maori	1,685
Other	831
Asian	338
Pacific Islander	278
Not stated	3
TOTAL	**9,953**

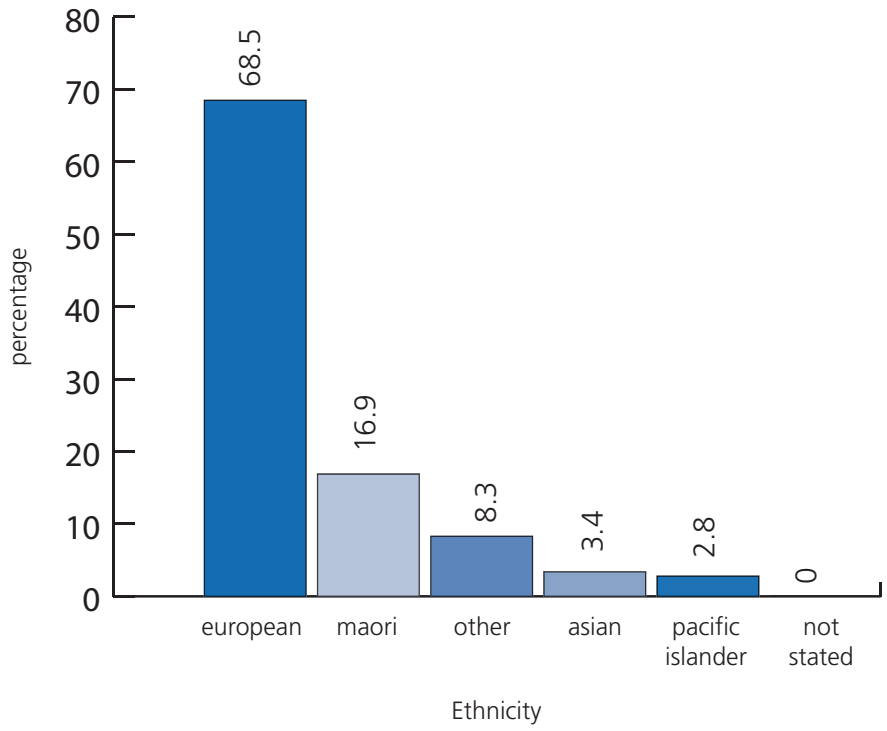


Figure 2.3: Percentage of birthing women, by ethnicity.

2.2 ANTENATAL

This section includes data on selected maternal antenatal features. The first aspect is parity, followed by gravida; risk factors; and finally, smoking status during pregnancy.

2.2.1 PARITY

Parity refers to the number of previous pregnancies resulting in live births or stillbirths. Women who have never given birth to a viable infant are called nulliparous. Primiparous is the term for women who have given birth only once. Women who had subsequent births are called multiparous.

Table 2.6 and Figure 2.4 show that 41.9 per cent of the MMPO women had never given birth before to a viable baby. One in three women had a previous pregnancy resulting in a liveborn or stillborn baby.
One in four women reported having had two or more previous pregnancies.

Table 2.6: Number and percentage of birthing women, by parity.

Parity		Number (n)	Percentage (%)
Nulliparous	0	4,168	41.9
Primiparous	1	3,264	32.8
Multiparous	2 to 5	2,430	24.4
	more than 5	88	0.9
Not stated		3	0.03
TOTAL		**9,953**	**100.0**

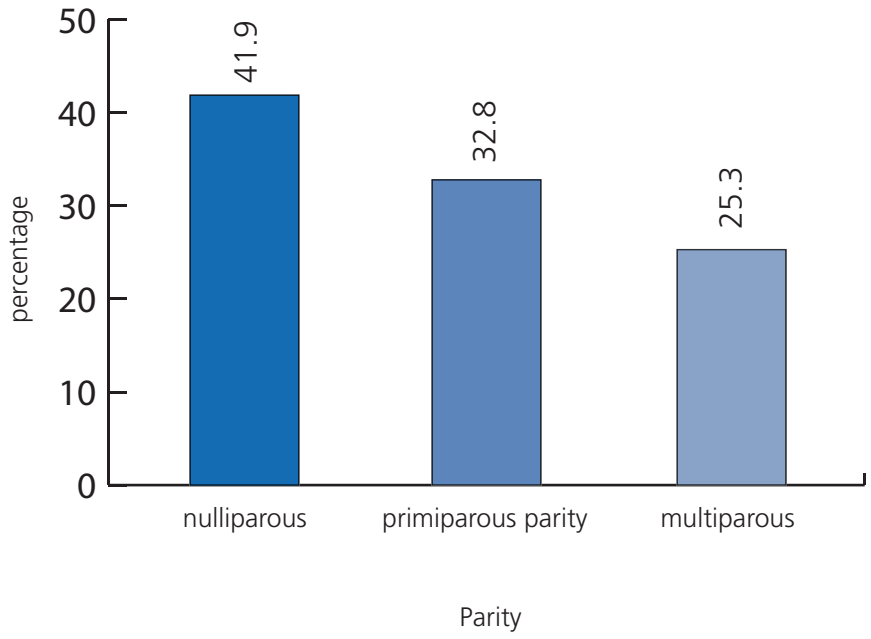


Figure 2.4: Percentage of birthing women, by parity - multi vs nulliparous

2.2.2 GRAVIDA

Gravida refers to the total number of pregnancies a woman has had including the current one, regardless of whether they were carried to term or not. Multiple pregnancies count as one birth. For example, a woman who had one previous pregnancy and is currently pregnant is designated as 'gravida 2'. Almost one third of all women who registered with an MMPO midwife in 2004 were experiencing their first pregnancy (refer to Table 2.7 and Figure 2.5).

Table 2.7: Number and percentage of birthing women, by gravida.

Parity		Number (n)	Percentage (%)
Primigravida	0	3,048	30.6
Multigravida	2-5	6,289	63.2
	> 5	615	6.2
Not stated		1	0.01
TOTAL		**9,953**	**100.0**

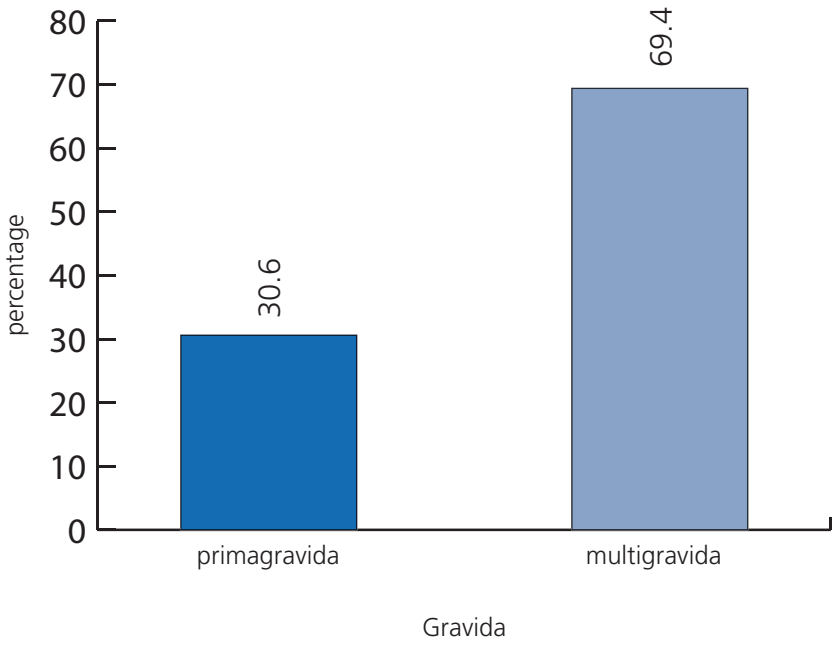


Figure 2.5: Percentage of birthing women, by gravida - primi vs multigravida

2.2.3
PRE-EXISTING RISK FACTORS

In the 2004 cohort of birthing mothers, some exhibited features of interest that could be classified as 'risk factors'. As Table 2.8 demonstrates, almost 45 per cent of all the 2004 MMPO birthing women had one or more of these features, for example: being over 39 years of age, or giving birth for the first time over the age of 37 years. There were 54 women with a multiple pregnancy. By far the most common feature reported was a coexisting medical condition such as asthma, diabetes, and others (41.6 per cent). In addition, almost 9 per cent of the 2004 cohort had experienced a previous caesarean section.

Table 2.8: Number and percentage of birthing women, by pre existing risk factors.

Parity	Number (n)	Percentage (%)
Nulliparous > 37 years of age	177	1.8
Over 39 years of age	376	3.8
Previous caesarean section	884	8.9
Multiple pregnancy (2+ babies)	54	0.5
Other medical conditions	4,139	41.6
Woman with one or more of the above factors	**4,449**	**44.7**
Women with none of the above factors	**5,504**	**55.3**
TOTAL	**9,953**	**100.0**

2.2.4 SMOKING STATUS DURING PREGNANCY

Smoking status, including number of cigarettes per day, is recorded at the time of registration with an MMPO LMC midwife. In 2004, the majority of registrations (95 per cent) recorded the woman's smoking status. This data indicates that, overall, 23.6 per cent of these women smoked during their pregnancy (Figure2.6). Almost half of the women under the age of 20 (48.5 per cent) smoked.

The number of women who smoked decreased with age, where 85 per cent of women over 30 years of age were reported as non-smoking. Those who did smoke most commonly reported having between five to ten cigarettes per day (refer to Tables 2.9 & 2.10, and Figure 2.7).

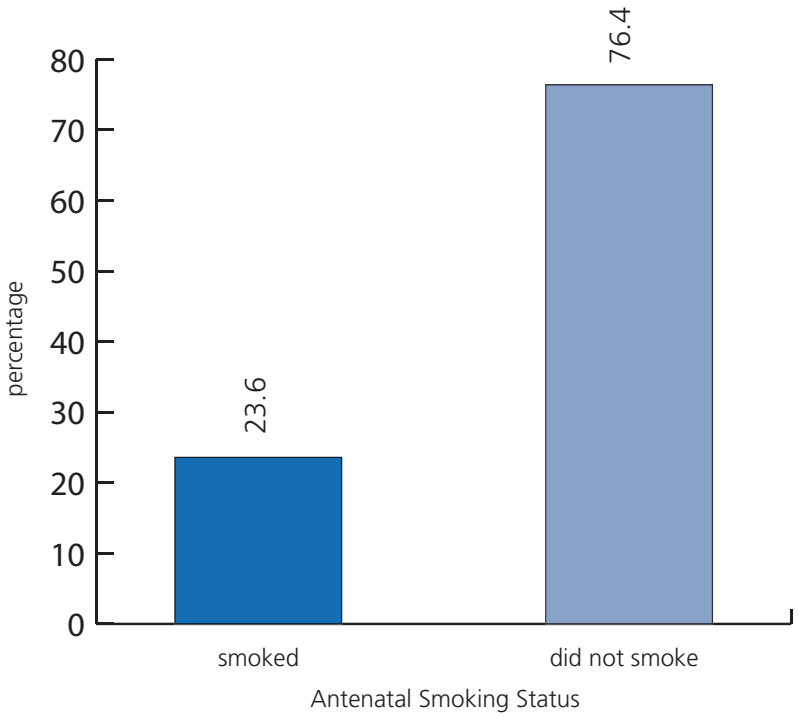


Figure 2.6: Percentage of all women who reported smoking during pregnancy, by data source as at time of registration.

Table 2.9: Number of women who reported smoking during pregnancy, by age group and number of cigarettes smoked per day.

Cigarettes smoked per day	Number of women in age group (years)				
	< 20	20 - 29	30 - 39	40+	TOTAL
Nil	303	2,745	3,896	306	7,250
1 - 4	95	296	155	6	552
5 - 10	125	533	275	27	960
10 - 19	58	356	214	18	646
20+	7	44	32	2	85
TOTAL	**588**	**3,974**	**4,572**	**359**	**9,493**

Table 2.10: Percentage of women who reported smoking during pregnancy, by age group and number of cigarettes smoked per day.

Cigarettes smoked per day	Percentage of women in age group (years)				
	< 20	20 - 29	30 - 39	40+	TOTAL
Nil	51.5	69.1	85.2	85.2	76.4
1 - 4	16.2	7.4	3.4	1.7	5.8
5 - 10	21.3	13.4	6.0	7.5	10.1
10 - 19	9.8	9.0	4.7	5.0	6.8
20+	1.2	1.1	0.7	0.6	0.9
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

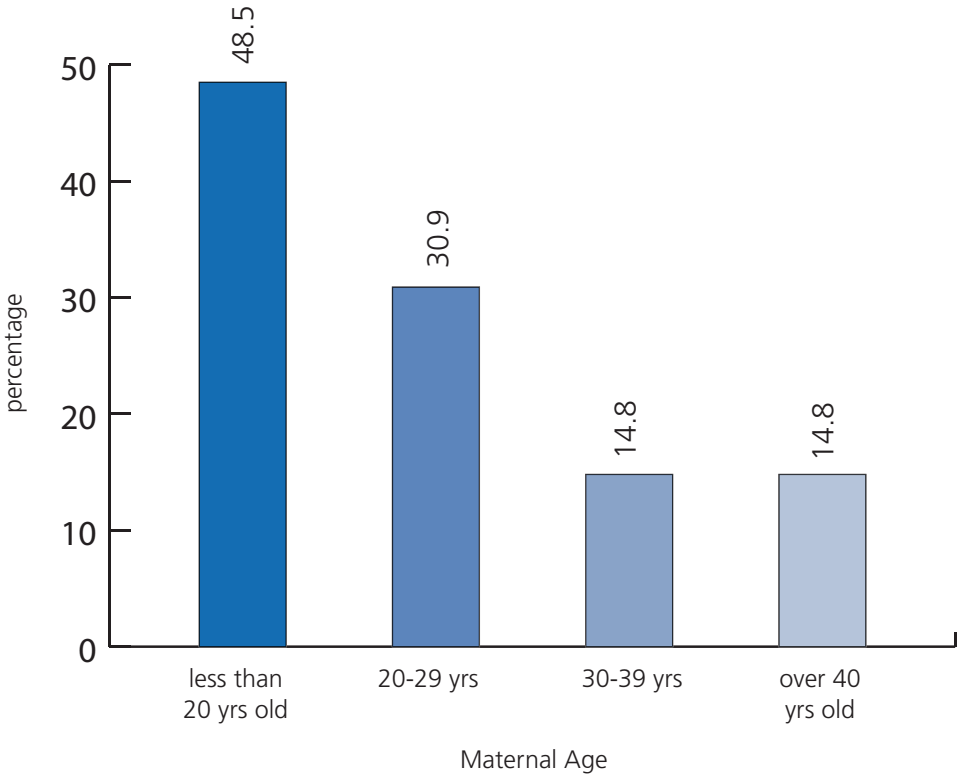


Figure 2.7: Percentage of women who reported smoking during pregnancy, by age group.

3 LABOUR AND BIRTHS

This chapter is based upon the data obtained from the 9,953 women registered with MMPO LMC midwives who gave birth in 2004. It presents labour statistics, including: duration of pregnancy; length of labour; transfers; and labour management. Also included in this chapter is data on different birth types. Finally, the last section of the chapter is based upon the number of actual births, which was 10,064.

3.1 DURATION OF PREGNANCY

Table 3.1 demonstrates that the majority of women (82 per cent) gave birth between 37 to 41 weeks gestation. The number of women who had very premature labours (before 32 weeks gestation) accounts for 1.3 per cent of the total cohort; 8.3 per cent of pregnancies were over 42 weeks gestation at the commencement of labour.

Table 3.1: Number and percentage of birthing women, by weeks gestation at labour commencement or elective caesarean (all women).

Weeks gestation	Number (n)	Percentage (%)	Cumulative Percentage (%)
20 - 23	25	0.3	0.3
24 - 27	27	0.3	0.6
28 - 31	73	0.7	1.3
32 - 36	597	6.0	7.3
37 - 41	8,190	82.2	89.5
42+	826	8.3	97.8
Not stated	215	2.2	**100.0**
TOTAL	**9,953**	**100.0**	

3.2 LENGTH OF LABOUR

Overall, regarding length of labour, the numbers confirm that primiparous women had longer labours than the multiparous women, with 43.5 per cent of first-time mothers reported as having labours that lasted longer than eight hours. This was compared with 13.2 per cent of the multiparous women in this category. Conversely, 53.2 per cent of the multiparous women had labours of less than six hours, whereas only 31.8 per cent of the primiparous women did. The most common length of labour for primiparous women was between six to eight hours; for multiparous women, between four to six hours. When these lengths of labour are combined, almost 40 per cent of all women (who went into labour) experienced a labour of between four to eight hours.

NOTE: MMPO midwives report separately 'onset of contractions' and 'labour established'. The data on length of labour is taken from 'labour established', which is timed as later than 'onset of contractions'.

NOTE: The information in Table 3.2 excludes the mothers who had an elective caesarean, because the assumption was these women would not have had labours prior to the caesarean operation.

Table 3.2: Number and percentage of birthing women, by hours of labour and parity (excluding elective caesareans).

Hours of labour	Primiparous		Multiparous		Totals	
	n	%	n	%	n	%
< 1	214	5.3	301	5.6	515	5.5
1 - 2	185	4.6	1,302	24.3	1,487	15.8
2 - 4	237	5.9	844	15.8	1,081	11.5
4 - 6	647	16.1	1,264	23.6	1,911	20.4
6 - 8	955	23.7	885	16.5	1,840	19.6
8 - 10	519	12.9	277	5.2	796	8.5
10 - 15	755	18.7	260	4.9	1,015	10.8
> 15	480	11.9	168	3.1	648	6.9
Not stated	39	0.9	54	1.0	93	1.0
TOTAL	**4,031**	**100.0**	**5,355**	**100.0**	**9,386**	**100.0**

3.3 TRANSFERS DURING LABOUR

The information presented in Tables 3.3 and 3.4 shows the number of mothers who had to transfer to another birthing facility or setting during labour from their original planned place of birth.

NOTE: These figures do not include the elective caesareans, because these women would not have experienced labour, and where the place of birth was pre-arranged at the time of the caesarean booking.

Table 3.3: Number and percentage of birthing women, transferring from primary birthing localities during labour (excluding elective caesareans).

Planned birthplace	Planned place of birth* (n)	Transfers (n)	Transfers (%)
Home	963	220	22.9
Primary facility	1,300	190	14.6
Primary plus facility	168	11	6.5
Not stated	19	0	0.0
TOTAL	**2,450**	**421**	**18.2**

* (excluding elective caesareans)

Table 3.3 above shows the number and percentage of transfers for all women who had planned to birth and who did actually birth for each facility type or setting. This means, for example: while 963 women had planned to give birth at home, 220 (22.9 per cent) were transferred to another birthing facility during labour and therefore, 743 women actually gave birth at home.

Table 3.4: Total number and percentage of birthing women, by transfers during labour and birth place type (excluding elective caesareans).

Planned birthplace	Transfers (n)	Transfers (%)
Home	220	2.3
Primary facility	190	2.0
Primary plus facility	11	0.1
Secondary facility*	21	0.2
Tertiary facility*	4	0.04
Total transferred	**446**	**4.8**
Total not transferred	**8,940**	**95.2**
TOTAL	**9,386**	**100.0**

* NOTE: Transfers from secondary and tertiary facilities are likely to be due to unavailability of a neonatal service in the planned place of birth.

The second table (Table 3.4) shows the number and percentage of transfers for each facility type or setting based on the total 2004 mothers' cohort. For example: the 220 women who had to be transferred from home to another facility represent 2.3 per cent of the total 9,386 birthing women.

Overall, the above figures indicate the mothers who had planned to birth at home had the highest rate of transfers, with those in the tertiary facilities having the lowest. In addition to this, only 4.8 per cent of all mothers registered with MMPO LMC midwives had to transfer at all during their labours.

3.4 LABOUR AND BIRTH PROCEDURES

This section begins with a summary of labour outcomes and birth procedure outcomes. The section then proceeds to present third stage labour statistics. It concludes with describing aspects of perineal trauma.

3.4.1 SUMMARY

The majority of women (79 per cent) commenced labour spontaneously. However, nearly 21 per cent of primiparous women were induced in 2004, which equates to a higher rate than multiparous women (13 per cent) during the same time period.

The numbers of anaesthetic procedures were also higher for primiparous women. The rates of epidurals (including those combined with spinals) for this group was over 35 per cent, compared with 13 per cent for the multiparous women. There were only very slight increases in the rates of general, local and spinal anaesthetics for primiparous women as compared to multiparous women. Overall, the majority of multiparous women (80 per cent) did not have any anaesthetic procedures during labour, but of those that did, epidurals were the most common.

In 2004, only 3.1 per cent of the multiparous women in the MMPO cohort had an episiotomy. Generally, the rates for procedures were higher in primiparous women compared with multiparous women.

Table 3.5: Number and percentage of data contributors by NZCOM region.

Procedure	Primiparous		Multiparous		Total	
	n	%	n	%	n	%
INDUCTION						
Yes	869	20.9	772	13.4	1,641	16.5
No	3,132	75.1	4,723	81.6	7,855	78.9
Not stated	167	4.0	290	5.0	457	4.6
TOTAL	**4,168**	**100.0**	**5,785**	**100.0**	**9,953**	**100.0**
ANAESTHETIC PROCEDURES						
Epidural	1,351	32.4	656	11.3	2,007	20.2
Epidural and spinal	125	3.0	97	1.7	222	2.2
General anaesthetic	27	0.7	30	0.5	57	0.6
Local anaesthetic	9	0.2	7	0.1	16	0.2
Spinal	259	6.2	358	6.2	617	6.2
Nil used	2,391	57.4	4,631	80.1	7,022	70.5
Not stated	6	0.1	6	0.1	12	0.1
TOTAL	**4,168**	**100.0**	**5,785**	**100.0**	**9,953**	**100.0**
EPISIOTOMIES						
Yes	508	12.2	177	3.1	685	6.9
No	3,658	87.8	5,603	96.8	9,261	93.0
Not stated	2	0.0	5	0.1	7	0.1
TOTAL	**4,168**	**100.0**	**5,785**	**100.0**	**9,953**	**100.0**

NOTE: The information in Table 3.5 includes women who had an elective caesarean, as anaesthetic procedures would be part of the surgical process.

3.4.2 THIRD STAGE

This section consists of two parts: firstly, the third stage labour outcomes for all births; and secondly, labour statistics for all non-operative births.

3.4.2.1 THIRD STAGE LABOUR OUTCOMES FOR ALL BIRTHS

MMPO midwives report on four categories for management of the third stage of labour (placental delivery), namely:

1. 'Active', which involves the administration of an ecbolic following the birth of the baby to facilitate the birth of the placenta
2. 'Active and treatment' women who had 'active' management then required more ecbolic procedures following the delivery of the placenta
3. 'Physiological' management involves a 'hands off' approach to delivery of the placenta without the use of an ecbolic
4. 'Physiological and treatment' refers to women who were initially managed physiologically, but then required an ecbolic

The following table (Table 3.6) and figure (Figure 3.1) combine the data from the tables following (refer to Tables 3.7 and 3.8) into two main categories, namely: 'active management with an ecbolic' (active), or no ecbolic given to manage the third stage, even if subsequently an ecbolic was given as a treatment (physiological). The numbers and percentages from Table 3.6 indicate that those women who had an 'active management with an ecbolic' during the third stage experienced higher blood loss, with 21 per cent having lost more than 500 ml, compared to eight per cent for those women who experienced a physiologically managed third stage.

Table 3.6: Number and percentage of births, by postpartum blood loss by ecbolic procedures - active vs. physiological - following all births.

Postpartum blood loss (ml)	Active		Physiological		Total	
	n	%	n	%	n	%
0 - 500	4,848	74.1	2,911	82.7	7,759	77.1
501 - 749	951	14.5	193	5.5	1,144	11.4
750 - 1000	300	4.6	65	1.8	365	3.6
> 1000	122	1.9	27	0.8	149	1.5
Not stated	323	4.9	324	9.2	647	6.4
TOTAL	**6,544**	**100.0**	**3,520**	**100.0**	**10,064**	**100.0**

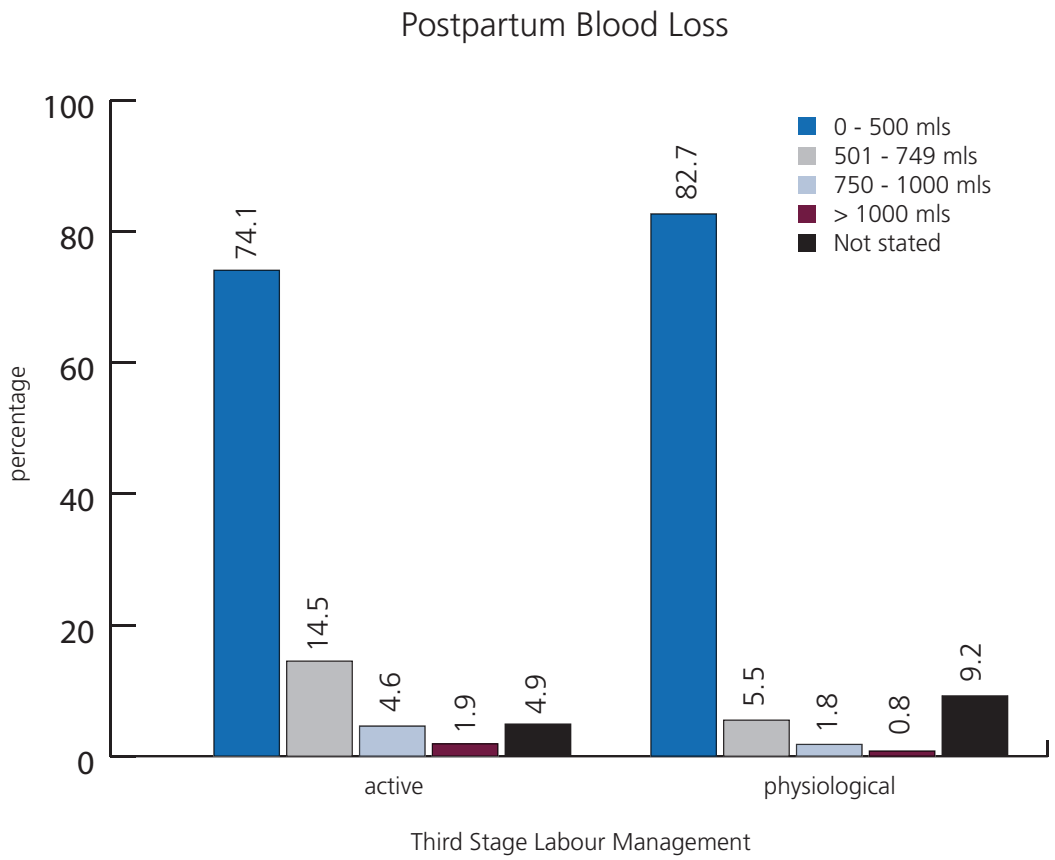


Figure 3.1: Percentage of births, by postpartum blood loss and third stage labour management - active vs physiological - following all births.

The type of management of the third stage of labour (placental birth) for all births (caesareans included) is compared to the mother's parity and is presented in the following table (Table 3.7).

Table 3.7: Number and percentage of births, by ecbolic procedures and parity following all births.

Ecbolic procedures	Primiparous		Multiparous		Total	
	n	%	n	%	n	%
Active	2,917	69.1	3,286	56.3	6,203	61.6
Active and treatment	150	3.5	188	3.2	338	3.4
Nil - physiological	952	22.6	2,096	35.9	3,048	30.3
Physiological and treatment	198	4.7	269	4.6	467	4.6
Not stated	5	0.1	3	0.03	8	0.1
TOTAL PROCEDURES	**4,222**	**100.0**	**5,842**	**100.0**	**10,064**	**100.0**

Following from this, the outcome of the third stage is compared to the type of management and presented in Table 3.8 (numbers) and Figure 3.2 (percentages).

Table 3.8 indicates although the vast majority of placentas (96 per cent) are delivered complete (intact) for all types of third stage management, the rates for birth of a complete placenta are lowest for those who had the third stage actively managed. Those reported as having 'physiological management' appear to have had the best outcomes with the lowest rates of incomplete expulsion, and manual removal of the placenta.

Table 3.8: Number and total percentage of births, by placenta condition and ecbolic procedures following all births.

Placenta condition	Active (n)	Active and treatment (n)	Nil - Physiological (n)	Physiological and treatment (n)	Total	
					n	%
Complete	5,989	285	2,941	441	9,661	96.0
Ragged membranes	50	10	28	7	95	0.9
EUA/Manual removal	7	8	1	3	19	0.2
Incomplete	144	34	57	16	251	2.5
Not stated	16	1	26	0	38	0.4
TOTAL	**6,206**	**338**	**3,053**	**467**	**10,064**	**100.0**

NOTE: the following figure (figure 3.2) has excluded the data where the placenta was delivered 'complete'.

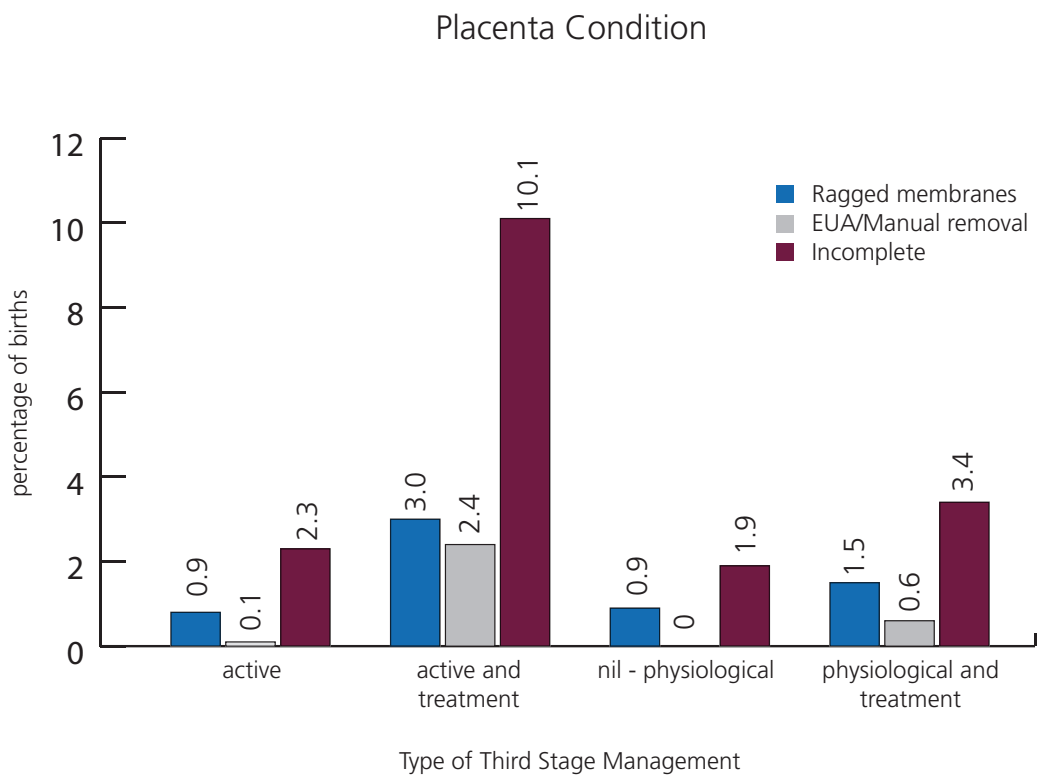


Figure 3.2: Percentage of all births with incomplete delivery of the placenta by ecbolic type.

The mother's recorded blood loss following the third stage is also compared to the type of management, and this information is presented in Table 3.9 (numbers) and Figure 3.3 (percentages). Although 15 per cent of the women who had a 'physiological' managed third stage required further active treatment with an ecbolic compared with 5.4 per cent of those who had their third stage actively managed, the 'physiological and treated' group had a lower rate of blood loss compared to that same 'active and treatment' group. Therefore, women who had a 'physiological' management of the third stage of labour had a smaller blood loss than the other 'actively' managed women.

Table 3.9: Number and total percentage of births, by postpartum blood loss and ecbolic procedures following all births.

Postpartum blood loss (ml)	Active (n)	Active and treatment (n)	Nil - Physiological (n)	Physiological and treatment (n)	Total	
					n	%
0 - 500	4,688	160	2,600	311	7,759	77.1
501 - 749	865	86	110	83	1,144	11.4
750 - 1000	254	46	25	40	365	3.6
> 1000	95	27	9	18	149	1.5
Not stated	304	19	309	15	647	6.4
TOTAL	**6,206**	**338**	**3,053**	**467**	**10,064**	**100.0**

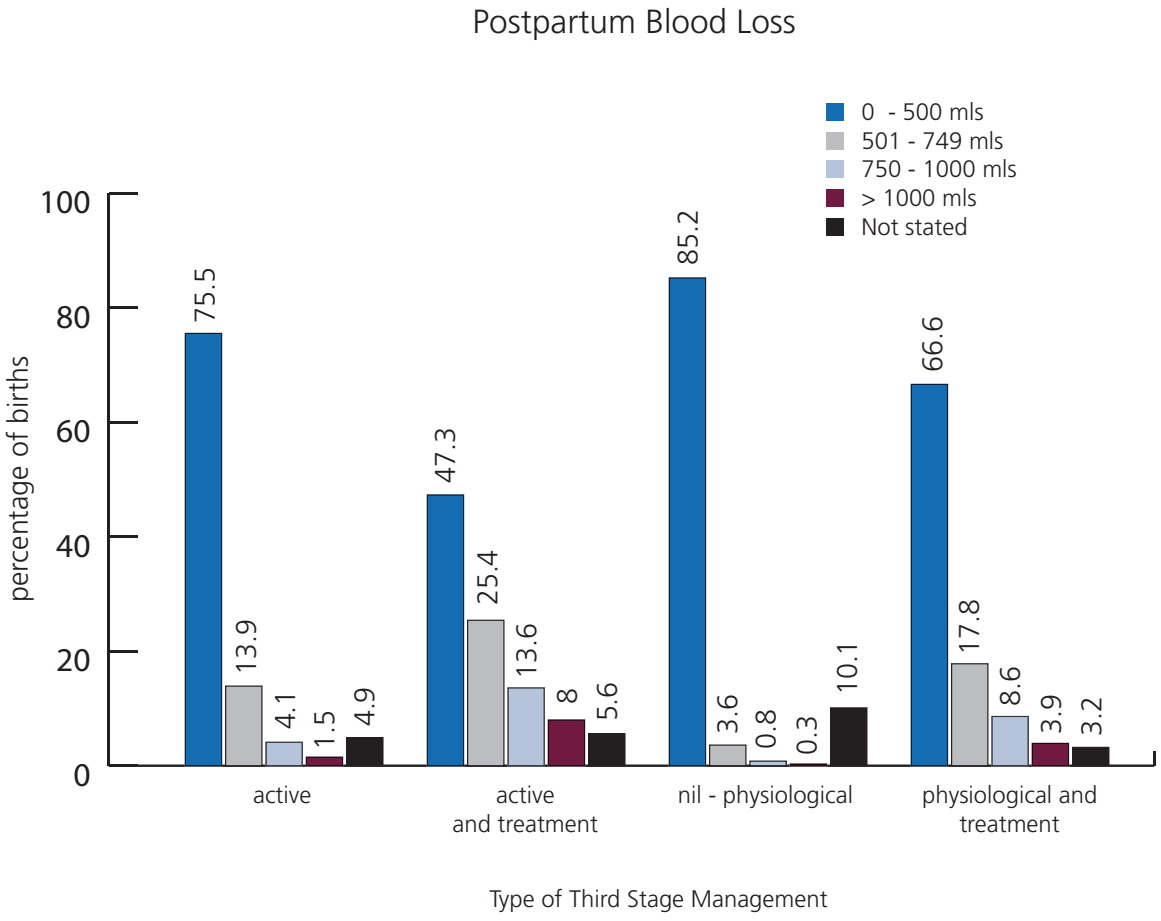


Figure 3.3: Percentage of births, by postpartum blood loss and ecbolic proecdures following all births.

Overall, the majority of babies birthed in the 2004 MMPO cohort had active management of the third stage of labour. Primiparous mothers had a higher rate of 'active' management of the third stage of labour, whereas multiparous mothers had a higher rate of 'physiological' management.

3.4.2.2 THIRD STAGE LABOUR OUTCOMES FOR NON-OPERATIVE BIRTHS

The data in the following tables is similar to the previous section that discussed third stage labour outcomes for all births. However in this section, all operative breech births, assisted deliveries, and caesareans have been excluded from the data.

The following table (3.10) and figure (3.4) combine the data from the tables following (refer to Tables 3.11 and 3.12) into two main categories, which are: 'active' management, and 'non active' (physiological) management. As shown previously (refer to Figure 3.1), those women who had an ecbolic to manage the third stage experienced higher blood losses (500ml or more) compared to those women managed physiologically. However, the difference between those two types of third stage management for the non-operative births was less pronounced than that recorded for all births (as observed in the previous section). Overall, of the women who had experienced a non-operative birth, approximately 17 per cent more of these women had an 'active' compared to a 'physiological' managed third-stage of labour.

Table 3.10: Number and percentage of births, by postpartum blood loss by ecbolic procedures - active vs physiological - following all non-operative births.

Postpartum blood loss (ml)	Active		Physiological		Total	
	n	%	n	%	n	%
0 - 500	3,740	87.9	2,696	89.2	6,436	88.4
501 - 749	242	5.7	113	3.7	355	4.9
750 - 1000	99	2.3	47	1.6	146	2.0
> 1000	57	1.4	18	0.6	75	1.0
Not stated	116	2.7	149	4.9	265	3.7
TOTAL	**4,254**	**100.0**	**3,023**	**100.0**	**7,277**	**100.0**

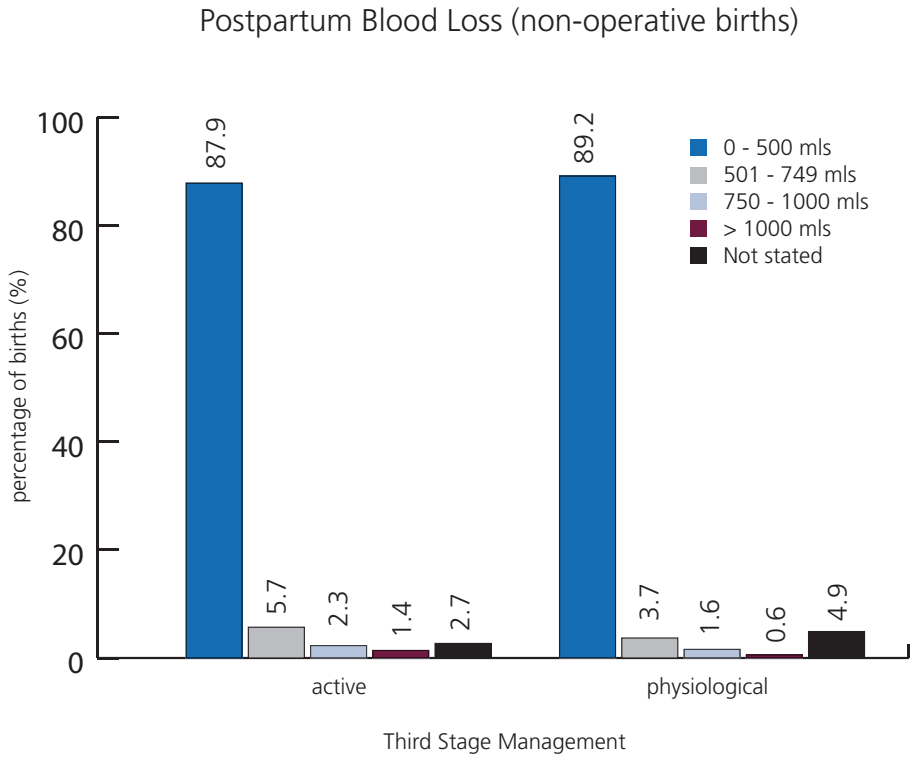


Figure 3.4: Percentage of births, by postpartum blood loss by ecbolic procedures - active vs physiological - following all non-operative births.

The following table (refer to Table 3.11) reveals that the rate (percentage) for primiparous women who had 'active' management following a non-operative vaginal birth was 8 per cent higher than for multiparous women.

Table 3.11: Number and percentage of births, by ecbolic procedures and parity following all non-operative births.

Ecbolic procedures	Primiparous		Multiparous		Total	
	n	%	n	%	n	%
Active	1,533	60.2	2,498	52.8	4,031	55.4
Active and treatment	80	3.1	143	3.0	223	3.1
Nil - physiological	762	29.9	1834	38.8	2,596	35.7
Physiological and treatment	169	6.6	256	5.4	425	5.8
Not stated	1	0.04	1	0.02	2	0.03
TOTAL	**2,545**	**100.0**	**4,732**	**100.0**	**7,277**	**100.0**

The outcomes of third stage management following either a normal vaginal or non-operative breech birth are listed in Table 3.12 (numbers) and Figure 3.5 (percentages). The trends follow a similar pattern to the previous set of data where the mothers who had 'active' management followed by treatment had the most ragged placental membranes, required the most manual removals, and had the highest rate of incomplete placental expulsion.

Table 3.12: Number and total percentage of births, by placenta condition and ecbolic procedures following all non-operative placental births.

Placenta condition	Active (n)	Active and treatment (n)	Nil - Physiological (n)	Physiological and treatment (n)	Total	
					n	%
Complete	3,881	187	2,503	399	6,970	95.8
Ragged membranes	39	8	25	7	79	1.1
EUA/Manual removal	3	6	1	3	13	0.2
Incomplete	101	21	55	16	193	2.6
Not stated	7	1	14	0	22	0.3
TOTAL	**4,031**	**223**	**2,598**	**425**	**7,277**	**100.0**

NOTE: the following figure has excluded the data where the placenta was delivered 'complete'.

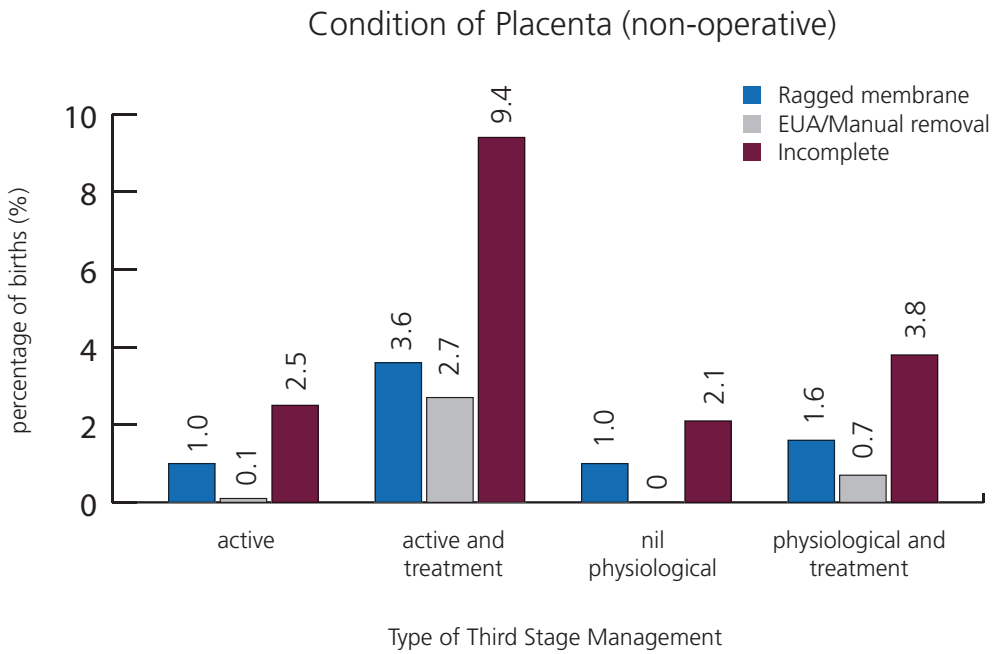


Figure 3.5: Percentage of non-operative births with incomplete delivery of the placenta by ecbolic type.

The blood loss data in Table 3.13 (numbers) and Figure 3.6 (percentages) once again illustrates a similar pattern to those previously discussed, with women who had the 'active' management followed by treatment reported as having the highest blood loss, whereas those who 'physiological' management reported the least amount of blood loss.

Table 3.13: Number and total percentage of births, by postpartum blood loss and ecbolic procedures following all non-operative placental births.

Postpartum blood loss (ml)	Active (n)	Active and treatment (n)	Nil - Physiological (n)	Physiological and treatment (n)	Total	
					n	%
0 - 500	3,629	111	2,405	291	6,436	88.4
501 - 749	190	52	41	72	355	4.9
750 - 1000	64	35	10	37	146	2.0
> 1000	38	19	4	14	75	1.0
Not stated	110	6	138	11	265	3.7
TOTAL	**4,031**	**223**	**2,598**	**425**	**7,277**	**100.0**

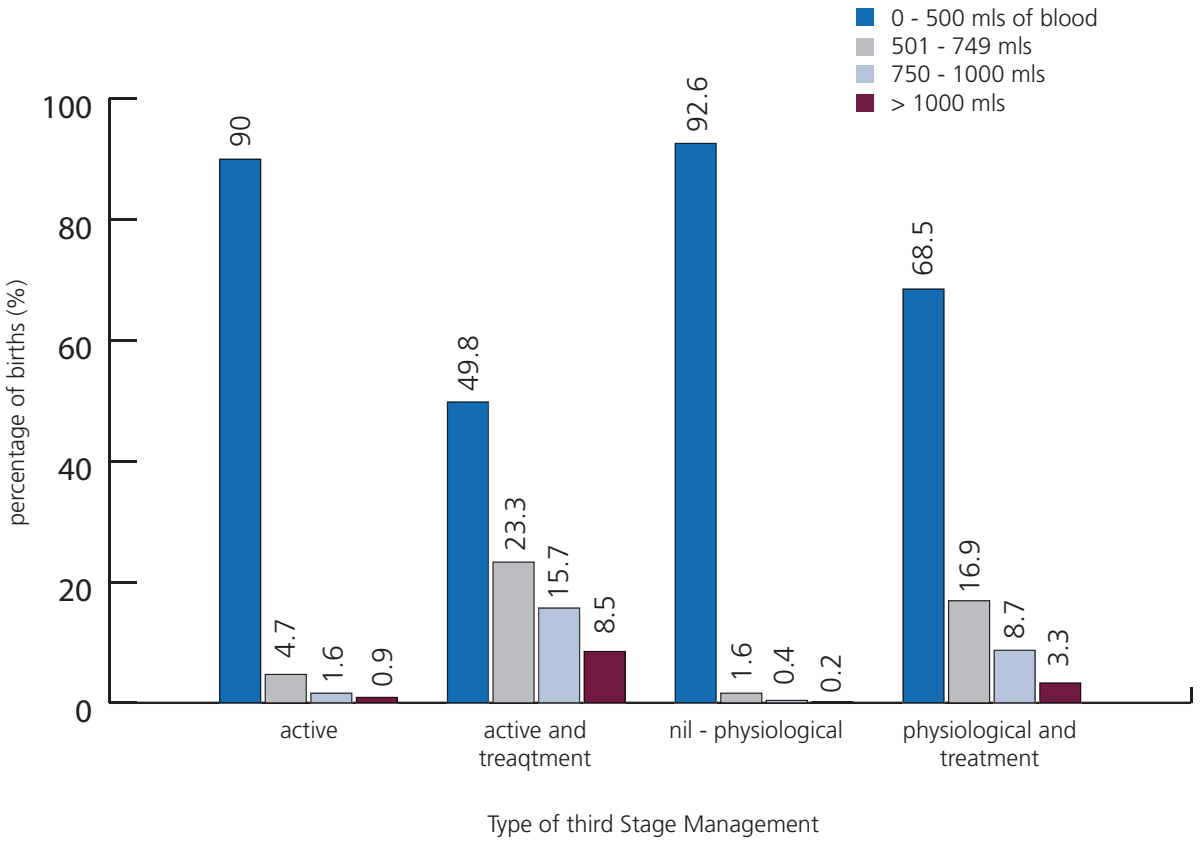


Figure 3.6: Percentage of births, by postpartum blood loss by ecbolic procedures following all non-operative births.

3.4.3 PERINEAL TRAUMA

The information presented in Table 3.14 includes only the women who had a vaginal birth. Primiparous women had the highest rate of perineal trauma, with 44.5 per cent having a first, second, third degree tear, or an episiotomy. Almost two thirds of the multiparous women (63.2 per cent) either had an intact perineum or a graze. Just over half of all women (54.5 per cent) had an intact perineum or a graze.

Table 3.14: Number and percentage of births, by perineal trauma and parity following all vaginal births.

Perineum	Primiparous		Multiparous		All women	
	n	%	n	%	n	%
Intact / graze	1,556	41.9	3,392	63.2	4,948	54.5
First degree	709	19.1	1050	19.6	1,759	19.4
Second degree	854	23.0	710	13.2	1,564	17.2
Third degree	88	2.4	34	0.6	122	1.3
Episiotomies	506	13.6	177	3.3	683	7.5
Not stated	1	0.0	3	0.1	4	0.1
TOTAL	**3,714**	**100.0**	**5,366**	**100.0**	**9,080***	**100.0**

*The total number of perineal trauma equals more than the total number of women because some women may have an extended tear from their episiotomy or may have labial tears or grazes.

3.5
TYPE OF BIRTH

The information in this section is based upon the actual number of babies born, which was 10,064. The data here includes statistics regarding the different types of birth related to parity, ethnicity, maternal age, and birth facility type.

3.5.1
BIRTH TYPE AND PARITY

The mother's parity is compared to the type of birth she experienced, and this is presented in Table 3.15. The types of births are divided into vaginal births and caesareans, with each being subdivided into the types of procedures for each type of birth.

Overall, the majority of women (71.9 per cent) were reported as having a normal vaginal birth. However, this was more common for multiparous women (80.5 per cent) than primiparous (60.0 per cent). Of the total vaginal births, 7.9 per cent of babies were born by operative vaginal births. Almost 20 per cent of babies were born by caesarean section.

Primiparous women tended to have more birthing interventions, for example: Ventouse vacuum suction (9.6 per cent) and forceps deliveries (4.9 per cent) compared with multiparous women (2.3 per cent and 0.7 per cent respectively). The most common assisted vaginal birth technique for both groups was by Ventouse vacuum. Very few women in both categories had a breech birth. Of those who had a breech birth, primiparous women were the only ones who needed any operative assistance.

The rates of caesarean sections varied between the two groups; primiparous women had almost half the rate of elective caesareans than multiparous births, but over double the emergency caesareans. The total rate of caesareans reported for primiparous women equated to one in four births. Among multiparous women, less than one in six had a caesarean.

Table 3.15: Number and percentage of births, by birth type and parity.

Birth type	Primiparous		Multiparous		Total	
	n	%	n	%	n	%
Normal vaginal	2,534	60.0	4,704	80.5	7,238	71.9
Vaginal breech	11	0.3	27	0.5	38	0.4
Operative breech	8	0.2	0	0.0	8	0.1
Ventouse	403	9.6	135	2.3	538	5.4
Forceps	205	4.9	41	0.7	246	2.4
Total vaginal	**3,161**	**74.9**	**4,907**	**84.0**	**8,068**	**80.2**
Elective caesarean	155	3.7	446	7.6	601	5.9
Emergency caesarean	902	21.4	486	8.3	1,388	13.8
Total caesarean	**1,057**	**25.0**	**932**	**15.9**	**1,989**	**19.7**
Not stated	4	0.1	3	0.1	7	0.1
TOTAL	**4,222**	**100.0**	**5,842**	**100.0**	**10,064**	**100.0**

3.5.2 BIRTH TYPE AND MATERNAL ETHNICITY

The following table (Table 3.16) and figures (Figures 3.7 and 3.8) refer to the numbers of births by birth type and by maternal ethnicity. When the mother's ethnicity is compared to the type of birth, Maori mothers had the highest rate of normal vaginal births (82 per cent) and the lowest caesarean rates (13 per cent). Conversely, the mothers identified in the 'Other' ethnic category had the lowest rate of normal vaginal births (64 per cent) and the highest rates of caesareans, both elective and emergency (27 per cent).

Asian mothers had the highest rate proportionally of assisted vaginal births (Ventouse or forceps). They also had the second highest rate of emergency caesareans. Pacific Island mothers had the second highest reported rate of elective caesareans however, they only accounted for 2.8 per cent of the total reported births.

The New Zealand European/ Pakeha women, who were the ethnical group most highly represented in the cohort, had the third highest rate of both types of caesareans.

Table 3.16: Number and percentage of births, by birth type and maternal ethnicity.

Birth type	Asian (n)	Maori (n)	Pacific Island (n)	NZ European (n)	Other (n)	Total (n)
Normal vaginal	227	1,396	207	4,870	539	7,239
Vaginal breech	0	8	1	29	0	38
Operative breech	1	0	0	6	1	8
Ventouse	15	19	3	182	27	246
Forceps	28	54	7	405	44	538
Total vaginal	**271**	**1,477**	**218**	**5,492**	**611**	**8,069**
Elective caesarean	15	57	25	413	91	601
Emergency caesarean	54	172	39	985	139	1,389
Total caesarean	**69**	**229**	**64**	**1,398**	**230**	**1,990**
Not stated	0	0	0	5	0	5
TOTAL	**340**	**1,706**	**282**	**6,895**	**841**	**10,064**

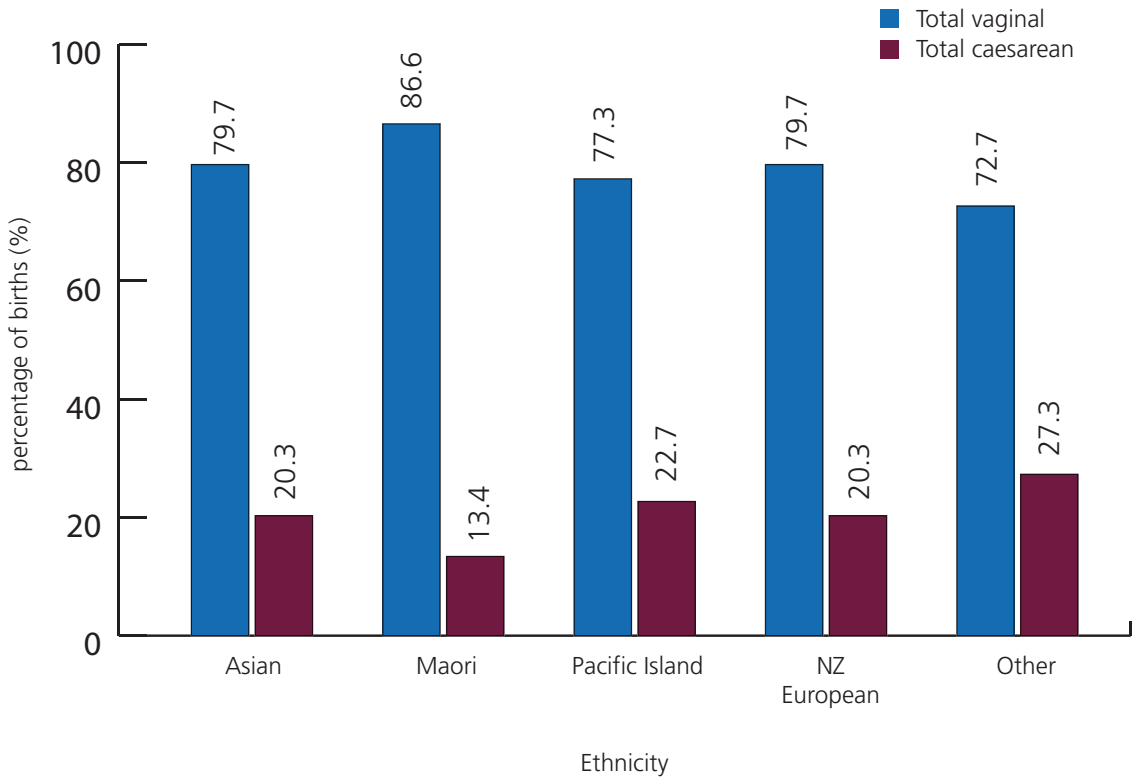


Figure 3.7: Percentage of births, by birth type - vaginal vs caesarean and ethnicity.

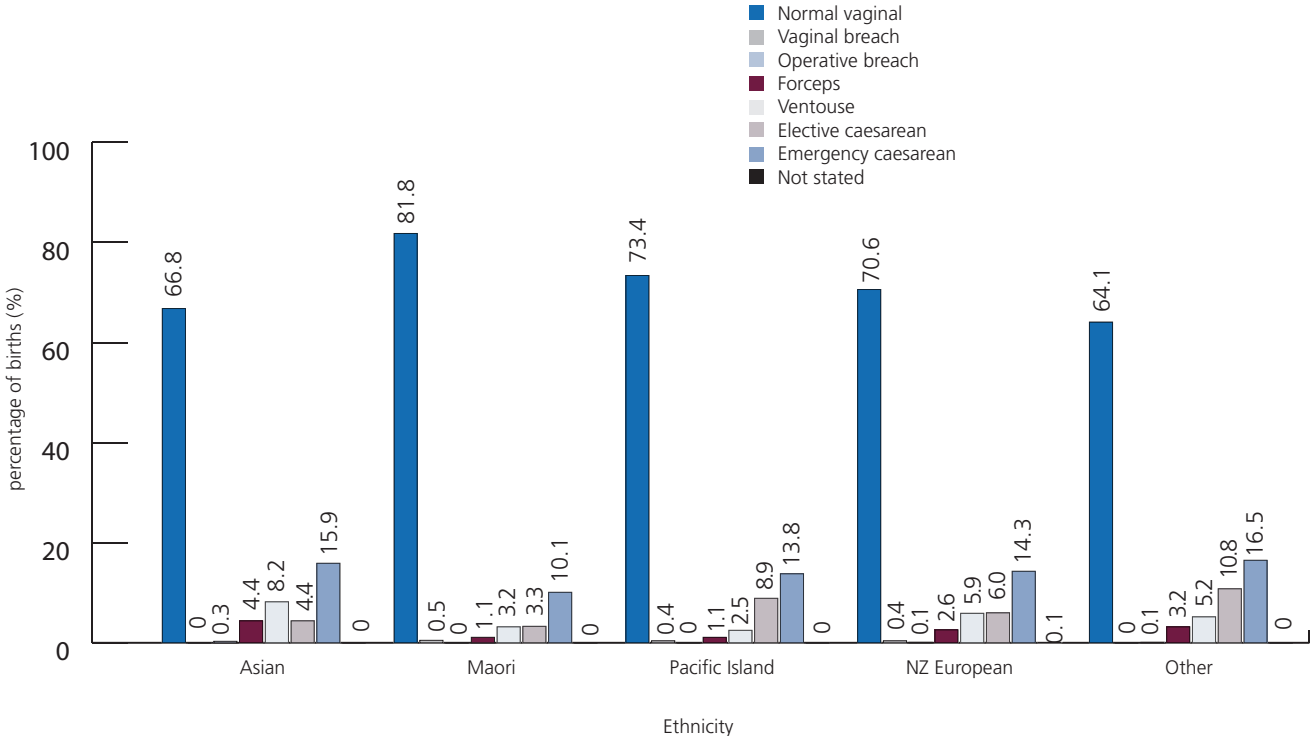


Figure 3.8: Percentage of births, by birth type and maternal ethnicity.

3.5.3
BIRTH TYPE AND MATERNAL AGE

The type of birth is compared between age groups in Table 3.17 (numbers) and in Table 3.18 (percentages). Just over half of all babies were born to women aged between 25 to 34 years old. Almost one in three women was aged between 30 to 34 years old. Approximately 9.7 per cent of the babies were born to mothers under the age of 20 and while 2.5 per cent to women aged 40+ years.

Overall, there appears to be a trend where the younger the maternal age, the lower the rate of birth intervention required; the 35 plus age group had the highest rate of operative births. In line with this trend, the caesarean rates showed a steady increase throughout the age brackets, with older mothers having had the most elective and emergency caesareans.

Table 3.17: Number of births, by birth type and maternal age.

Birth type	Maternal age (years)							
	< 16 (n)	16 - 19 (n)	20 - 24 (n)	25 - 29 (n)	30 - 34 (n)	35 - 39 (n)	40+ (n)	Total (n)
Normal vaginal	17	743	1,431	1,901	2,142	845	161	7,240
Vaginal breech	0	2	9	9	11	4	3	38
Operative breech	0	0	1	3	3	1	0	8
Ventouse	1	56	82	152	185	55	7	538
Forceps	1	23	38	75	75	27	7	246
Total vaginal	**19**	**824**	**1,561**	**2,140**	**2,416**	**932**	**178**	**8,070**
Elective caesarean	0	9	70	144	235	112	31	601
Emergency caesarean	0	122	208	344	471	199	45	1,389
Total caesarean	**0**	**131**	**278**	**488**	**706**	**311**	**76**	**1,990**
Not stated	0	0	0	2	2	0	0	4
TOTAL	**19**	**955**	**1,839**	**2,630**	**3,124**	**1,243**	**254**	**10,064**

Table 3.18: Percentage of births, by birth type and maternal age.

Birth type	Maternal age (years)							
	< 16 (%)	16 - 19 (%)	20 - 24 (%)	25 - 29 (%)	30 - 34 (%)	35 - 39 (%)	40+ (%)	Total (%)
Normal vaginal	89.5	77.8	77.8	72.3	68.6	68.0	63.4	71.9
Vaginal breech	0.0	0.2	0.5	0.3	0.4	0.3	1.2	0.4
Operative breech	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1
Ventouse	5.3	5.9	4.5	5.8	5.9	4.4	2.8	5.4
Forceps	5.3	2.4	2.0	2.9	2.4	2.2	2.8	2.4
Total vaginal	**100.0**	**86.3**	**84.9**	**81.4**	**77.4**	**75.0**	**70.1**	**80.2**
Elective caesarean	0.0	1.0	3.8	5.5	7.5	9.0	12.2	6.0
Emergency caesarean	0.0	12.8	11.3	13.1	15.1	16.0	17.7	13.8
Total caesarean	**0.0**	**13.7**	**15.1**	**18.6**	**22.6**	**25.0**	**29.9**	**19.8**
Not stated	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.02
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

3.5.4 BIRTH TYPE AND BIRTH PLACE TYPE

The following section contains data regarding the type of birthing facility in relation with parity, type of birth, and water births.

3.5.4.1 BIRTH PLACE TYPE AND PARITY

Information in Table 3.19 compares the place of the baby's birth with the mother's parity. For primiparous women, the majority (87 per cent) gave birth in either a secondary or tertiary facility, with an even distribution between the two. The primiparous women had the lowest percentage of births in a primary plus facility (1.5 per cent), followed closely by the home births (3.4 per cent).

Multiparous women had higher rates of home birthing, primary and primary plus facilities, but had a very similar rate of births in a secondary facility as primiparous women (43.2 per cent and 43.8 per cent respectively). They had a lesser rate of use of tertiary facilities (30.4 per cent) than primiparous women (43.1 per cent). Overall, for both groups, the highest rates of births occurred in secondary facilities.

Table 3.19: Number and percentage of births, by birth place type and parity.

Place of birth	Primiparous		Multiparous		Total	
	n	%	n	%	n	%
Home birth	145	3.4	597	10.2	742	7.4
Primary facility	335	7.9	779	13.3	1,114	11.1
Primary plus facility	62	1.5	162	2.8	224	2.2
Secondary facility	1,850	43.9	2,521	43.1	4,371	43.4
Tertiary facility	1,821	43.1	1,773	30.4	3,594	35.7
Not stated	9	0.2	10	0.2	19	0.2
TOTAL	**4,222**	**100.0**	**5,842**	**100.0**	**10,064**	**100.0**

3.5.4.2 BIRTH PLACE TYPE AND BIRTH TYPE

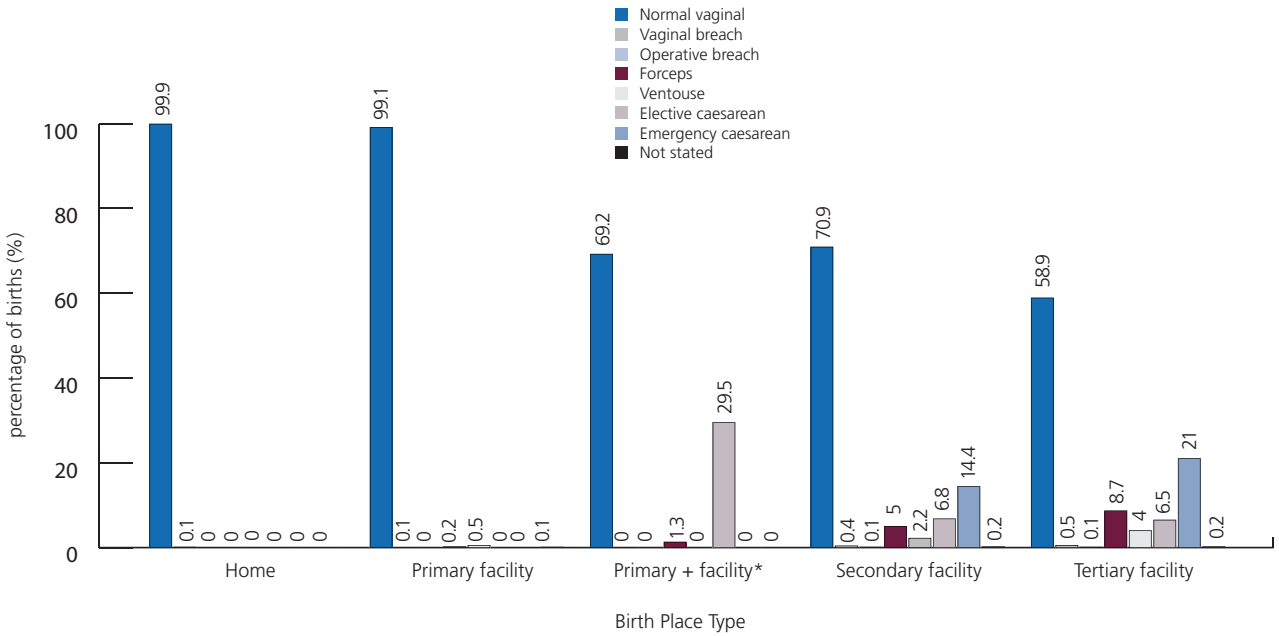
The birth place type is compared to the type of birth the mother had and is presented in Table 3.20 (numbers) and Figures 3.9 & 3.10 (percentages). The primary plus facility is authorised to carry out elective caesareans, which accounts for about 11 per cent of all the elective caesareans reported in this birth cohort. This facility also had the highest total caesarean procedure rate per births by birth place type.

Both secondary and tertiary facilities show a similar rate of elective caesareans however, 21 per cent of the tertiary facility births were emergency caesareans compared with 14 per cent in secondary facilities. Tertiary facilities also show the highest rate of Ventouse vacuum-assisted and forceps deliveries for vaginal births.

Table 3.20: Number of births, by birth type and birth place type.

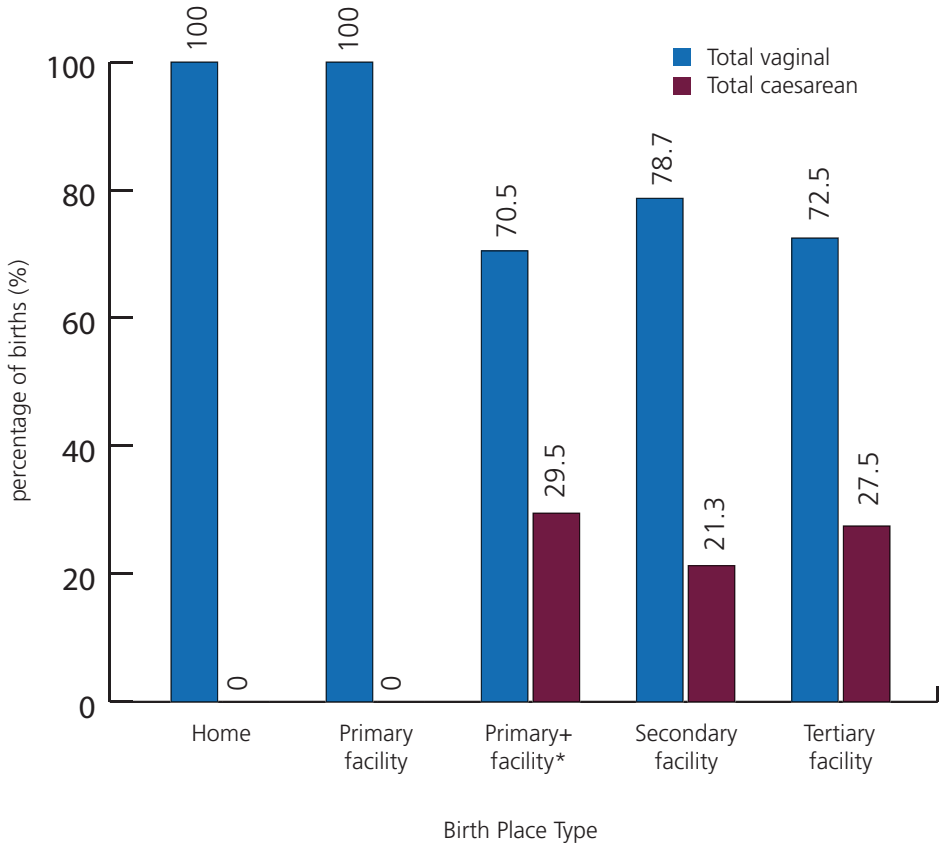
Birth type	Home (n)	Primary facility (n)	Primary + facility* (n)	Secondary facility (n)	Tertiary facility (n)	Total (n)
Normal vaginal	742	1,104	155	3,106	2,122	7,229
Vaginal breech	1	1	0	17	19	38
Operative breech	0	0	0	3	5	8
Ventouse	0	2	3	219	314	538
Forceps	0	6	0	95	144	245
Total vaginal	**743**	**1,113**	**158**	**3,440**	**2,604**	**8,058**
Elective caesarean	0	0	66	300	233	599
Emergency caesarean	0	0	0	631	757	1,388
Total caesarean	**0**	**0**	**66**	**931**	**990**	**1,987**
Not stated	0	1	0	10	8	19
TOTAL	**743**	**1,114**	**224**	**4,381**	**3,602**	**10,064**

* A primary maternity hospital that is contracted to carry out elective caesareans



** A primary maternity hospital that is contracted to carry out elective caesareans.*

Figure 3.9: Percentage of births, by birth type and birth place type.



* A primary maternity hospital that is contracted to carry out elective caesareans.

Figure 3.10: Percentage of births, by birth type - vaginal vs caesarean - and birth place type.

3.5.4.3
WATER BIRTHS

The 2004 MMPO data on the use of water during labour and/or during the birthing process is presented in Table 3.21 (numbers) and Figure 3.11 (percentages). Almost one third of women used water for pain management, although fewer than 10 per cent of these women actually birthed in water. It is important to note that this only equates to three per cent of all births, therefore whilst water is used frequently for labour pain management, its use for the actual birth is not common.

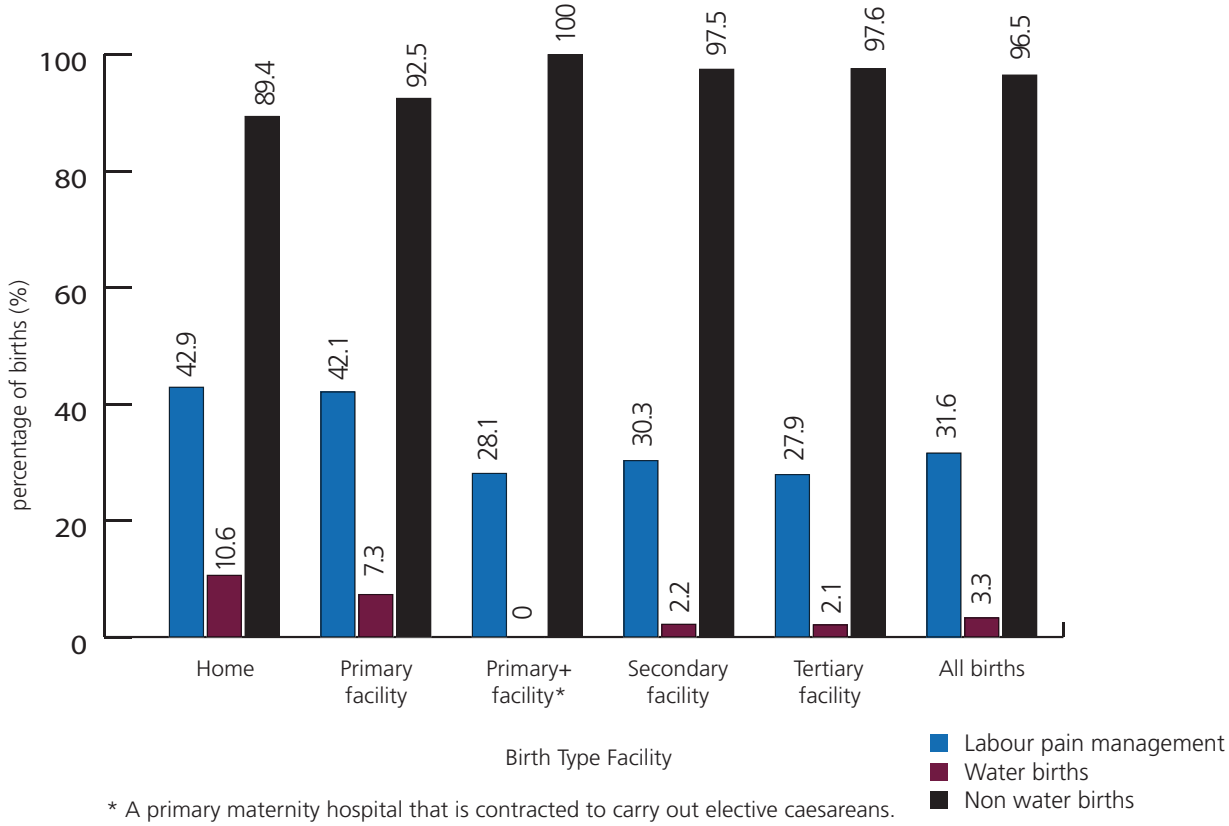
The highest use of water in labour was reported for home births, with the ratio of using water for labour pain management at one in four. Primary facilities also had a higher rate of water use for pain management, but their rate of water births was reported as one in six. Secondary and tertiary facilities had lower rates of water use for labour pain management and for birth.

Table 3.21: Number of births, by water labours - births and birth place type.

Use of water	Home (n)	Primary facility (n)	Primary + facility* (n)	Secondary facility (n)	Tertiary facility (n)	Total (n)
Labour pain management	319	469	63	1,328	1,003	3,182
Water births	79	81	0	97	77	334
Total water use **	398	550	63	1,425	1,080	3,516
Non water births	664	1031	224	4,272	3,517	9,708
Not stated	0	2	0	12	8	22
TOTAL	**743**	**1,114**	**224**	**4,381**	**3,602**	**10,064**

* A primary maternity hospital that is contracted to carry out elective caesareans

** This includes those women who used water for labour pain management and for water births



* A primary maternity hospital that is contracted to carry out elective caesareans.

Figure 3.11: Percentage of births, by water labours - births and birth place type.

4 BABIES

This chapter is based upon the number of babies born to mothers registered with an MMPO midwife in 2004. The total number of babies born in New Zealand in 2004 was 58,203 (Ministry of Health, 2007) of which 10,064 babies (17.3 per cent) are included within this report. The increase in the baby cohort is accounted for by multiple births. The data presented relates to birth outcomes and neonatal outcomes with particular focus upon birth status, gestational age at birth, Apgar score, and birth weight.

4.1 BIRTH STATUS

Table 4.1 shows the numbers and Figure 4.1 the percentages, of babies that were born alive in each of the birth locality types.

Table 4.1: Number of live births, by birth place type.

Birth place type	Live Birth (n)
Home	742
Primary facility	1,111
Primary plus facility*	222
Secondary facility	4,331
Tertiary facility	3,560
Not stated	18
TOTAL	**9,984**

* A primary maternity hospital that is contracted to carry out elective caesareans

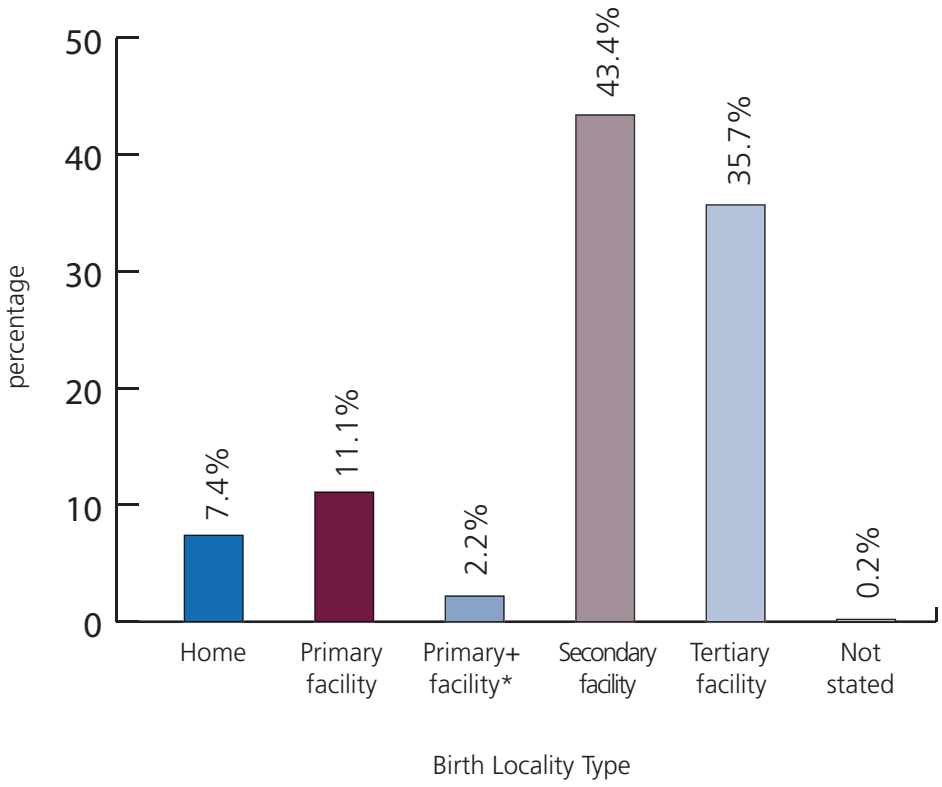


Figure 4.1: Percentage of live births, by birth place type.

Table 4.2 gives an overview of stillborn babies and neonatal mortalities. A stillborn baby is one who weighs 400 grams or more, or is at least twenty weeks of gestation, and born without showing any signs of life. A neonatal mortality refers to a baby who was born alive after twenty weeks of gestation but dies before reaching twenty-seven days of age.

Among the babies born to the MMPO registered women 2004, a total of 63 babies were stillborn, with the majority occurring at secondary facilities (where the highest proportion of MMPO births occurred). The number of neonatal mortalities is highest at tertiary facilities. One stillbirth was reported at a primary facility as were two neonatal mortalities. The primary plus facility also had two neonatal mortalities recorded. One stillbirth occurred at home.

Table 4.2: Number and percentage of perinatal mortalities, by birth place type.

Birth place type	Still births		Neonatal mortalities	
	(n)	%	(n)	%
Home	1	1.6	0	0.0
Primary facility	1	1.6	2	11.8
Primary plus facility*	0	0.0	2	11.8
Secondary facility	35	55.5	5	29.4
Tertiary facility	26	41.3	8	47.0
TOTAL	**63**	**100.0**	**17**	**100.0**

The summary in Table 4.3 shows that there were relatively low numbers of adverse outcomes for babies in this cohort, with the overwhelming majority being liveborn (99.2 per cent). The vast majority of these babies were also born with no congenital abnormalities (almost 97 per cent).

Table 4.3: Number and percentage of births, by neonatal status.

Neonatal status	%	Neonatal mortalities	(n)
Liveborn	99.2	Live born	9,731
		Liveborns with congenital abnormality	10
		Neonatal referrals	241
Perinatal mortality	0.7	Stillborns	63
		Early neonatal mortality (less than 7 days)	4
Neonatal mortality	0.1	Late Neonatal mortality (7 to 27 days)	13
Not stated	0.02		2
TOTAL	**100.0**		**10,064**

4.2
GESTATIONAL AGE AT BIRTH

Of this cohort of babies, 78 per cent were born between 37 to 41 weeks gestation, and the remaining 22 per cent were born outside these gestations. The pattern remains similar for both primiparous and multiparous mothers, although the multiparous mothers had slightly more babies reach full-term than the primiparous mothers.

The primiparous mothers had more births at 42+ weeks (10.2 per cent) compared with multiparous women (7.4 per cent). There were only very slight differences between primiparous and multiparous mothers with regard to premature delivery.

Table 4.4: Number and percentage of babies, by gestational age at birth and parity.

Gestational age (weeks)	Primiparous		Multiparous		All births	
	n	%	n	%	n	%
20 - 23	18	0.4	13	0.2	31	0.3
24 - 27	13	0.3	18	0.3	31	0.3
28 - 31	38	0.9	42	0.7	80	0.8
32 - 36	526	12.5	675	11.6	1,201	11.9
37 - 41	3,194	75.7	4,652	79.6	7,846	78.0
42+	432	10.2	434	7.4	866	8.6
Not stated	1	0.02	8	0.1	9	0.1
TOTAL	**4,222**	**100.0**	**5,842**	**100.0**	**10,064**	**100.0**

NOTE: The numbers in this table will differ from those given in Table 3.1, because this table is based on babies and Table 3.1 is based upon births (mothers).

4.3
APGAR SCORES

Five minutes after birth, a set of observations are made of newborns and their responses to certain stimuli are rated according to an Apgar score. The results for the 2004 MMPO birth cohort are presented in Tables 4.5 (numbers) and 4.6 (percentages).

Over 93 per cent of babies born in the 2004 MMPO cohort had an Apgar score of 10 at five minutes. The number of babies that showed a zero after five minutes is close to the figure for the number of stillborns and neonatal deaths.

Table 4.5: Number of births, by Apgar score at five minutes and birth place type.

Apgar score	Home (n)	Primary facility (n)	Primary + facility* (n)	Secondary facility (n)	Tertiary facility (n)	Total (n)
0	1	1	0	37	31	70
1 - 4	0	2	4	23	16	45
5 - 8	20	37	4	246	200	507
9 - 10	722	1,073	216	4,066	3,347	9,424
Not stated	0	1	0	9	8	18
TOTAL	**743**	**1,114**	**224**	**4,381**	**3,602**	**10,064**

Table 4.6: Percentage of births, by Apgar score at five minutes and birth place type.

Apgar score	Home %	Primary facility %	Primary + facility* %	Secondary facility %	Tertiary facility %	Total %
0	0.1	0.1	0.0	0.9	0.9	0.7
1 - 4	0.0	0.2	1.8	0.5	0.4	0.5
5 - 8	2.7	3.3	1.8	5.6	5.6	5.0
9 - 10	97.2	96.3	96.4	92.8	92.9	93.6
Not stated	0.0	0.1	0.0	0.2	0.2	0.2
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

4.4
BIRTH WEIGHTS

The table below (Table 4.7) shows the birth weight of the babies born in the 2004 MMPO cohort. Over 65 per cent of the babies born weighed between 3000 to 3999 grams at birth. About 1.2 per cent of the babies weighed less than 1000 grams, and around 6 per cent weighed less than 2500 grams.

Overall, it appears the primiparous mothers had babies of less weight at birth than the multiparous, with multiparous women having had more babies in the top two heavier categories.

Table 4.7: Number and percentage of births, by birth weight of babies and parity.

Birth weight (grams)	Primiparous		Multiparous		All babies	
	n	%	n	%	n	%
0 - 999	51	1.2	69	1.2	120	1.2
1000 - 1499	29	0.7	21	0.4	50	0.5
1500 - 1999	57	1.3	48	0.8	105	1.0
2000 - 2499	179	4.2	159	2.7	338	3.4
2500 - 2999	598	14.2	642	11.0	1,240	12.3
3000 - 3499	1,499	35.5	1,810	31.0	3,309	32.9
3500 - 3999	1,284	30.4	1,995	34.2	3,279	32.6
4000 +	523	12.4	1,095	18.7	1,618	16.1
Not stated	2	0.1	3	0.05	5	0.05
TOTAL	**4,222**	**100.0**	**5,842**	**100.0**	**10,064**	**100.0**

5 POSTNATAL PERIOD

This chapter is based on the number of babies birthed in 2004. However, some of the information relates to the mothers, for example: postnatal health; whereas most data relates specifically to the babies born, for example: postnatal care provided. The first part of this section examines neonatal transfers. Data regarding breastfeeding and maternal postnatal health form the last two sections of this report.

5.1 NEONATAL TRANSFERS FROM HOME AND PRIMARY FACILITIES

Babies can be transferred after birth to either a neonatal unit (NNU), or a special care baby unit (SCBU) for neonatal care. The transfers that occurred from home or a primary facility in the 2004 MMPO baby cohort are shown in Table 5.1. Three home birth babies were transferred to a NNU/SCBU, and five primary facility babies were also transferred. No primary plus babies were transferred. Data on neonatal transfers within secondary and tertiary facilities was not considered reliable because some 'internal' transfers (from delivery suite to NNU in the same hospital) did not seem to be identified as a transfer.

Table 5.1: Number and percentage of admissions/transfers to NNU / SCBU of babies, by birth place type.

Transfer to NNU / SCBU	Home		Primary facility	
	n	%	n	%
Yes	3	0.4	5	0.5
No	740	99.6	1,109	99.5
TOTAL	**743**	**100.0**	**1,114**	**100.0**

* A primary maternity hospital that is contracted to carry out elective caesareans.

5.2
BREASTFEEDING

All babies born with MMPO LMC midwives have breastfeeding rates recorded at initial feed, 48 hours, two weeks, and on discharge from the LMC (between four to six weeks of age).

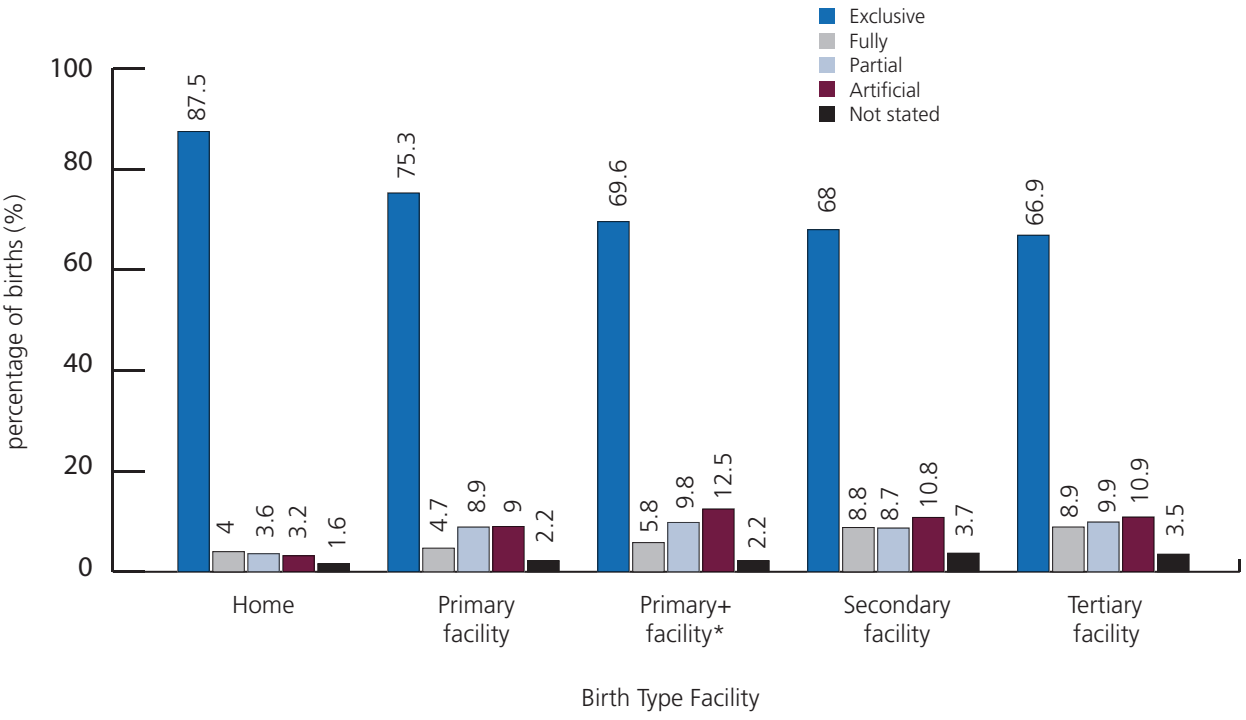
The tables below present the breastfeeding data for two weeks postpartum. This data has been collated according to birthing locality and maternal ethnicity.
The breastfeeding data by birth locality is presented in the following table and figure, Table 5.2 (numbers) and Figure 5.1 (percentages). Almost 78 per cent of 2004 MMPO babies were exclusively or fully breastfed. Babies born at home had the highest rate at 91.5 per cent.

There is a pattern of gradual decreasing exclusive breastfeeding rates for the birthing facilities, although the secondary and tertiary facilities had higher rates of babies that were fully breastfed. The highest rate of artificial feeding (bottle-feeding) occurred in the primary plus facility.

Table 5.2: Number and total percentage of births, by breastfeeding at two weeks and birth place type.

Breast feeding at two weeks	Home (n)	Primary facility (n)	Primary + facility* (n)	Secondary facility (n)	Tertiary facility (n)	Total	
						(n)	%
Exclusive	650	839	156	2,981	2,408	7,034	69.8
Fully	30	52	13	385	320	800	8.0
Sub total	**680**	**891**	**169**	**3,366**	**2,728**	**7,834**	**77.8**
Partial	27	99	22	379	357	884	8.8
Artificial	24	100	28	474	391	1,017	10.1
Not stated	12	24	5	162	126	329	3.3
TOTAL	**743**	**1,114**	**224**	**4,381**	**3,602**	**10,064**	**100.0**

* A primary maternity hospital that is contracted to carry out elective caesareans.



* A primary maternity hospital that is contracted to carry out elective caesareans.

Figure 5.1: Percentage of births, by breasfeeding at two weeks and birth place type.

The breastfeeding data based on maternal ethnicity is presented in the following tables, Table 5.3 (numbers) and Figure 5.2 (percentages). The ethnic category of 'Other' (African, Middle Eastern, etc.) had the highest rates per ethnic group at over 83 per cent of babies having been exclusive and fully breastfed. Asian babies showed the lowest exclusive breastfeeding rate in 2004 but the highest rate of fully breastfeeding, in addition to having the second lowest rate of artificial feeding (bottle-fed). Babies born to Maori mothers had the highest artificial feeding rates (bottle-feeding) in 2004 at 12.7 per cent. Pacific Island babies showed the second lowest rate of exclusive breastfeeding, but the second highest rate of fully breastfeeding.

Table 5.3: Number and total percentage of births, by breastfeeding at two weeks and ethnicity.

Breast feeding at two weeks	Asian (n)	Maori (n)	Pacific Island (n)	NZ European (n)	Other (n)	Total	
						(n)	%
Exclusive	204	1,106	180	4,907	647	7,044	70.0
Fully	39	142	29	540	53	803	8.0
Sub total	**243**	**1,248**	**209**	**5,447**	**700**	**7,847**	**78.0**
Partial	64	166	33	558	63	884	8.8
Artificial	22	217	28	700	52	1,019	10.1
Not stated	11	75	12	190	26	314	3.1
TOTAL	**340**	**1,706**	**282**	**6,895**	**841**	**10,064**	**100.0**

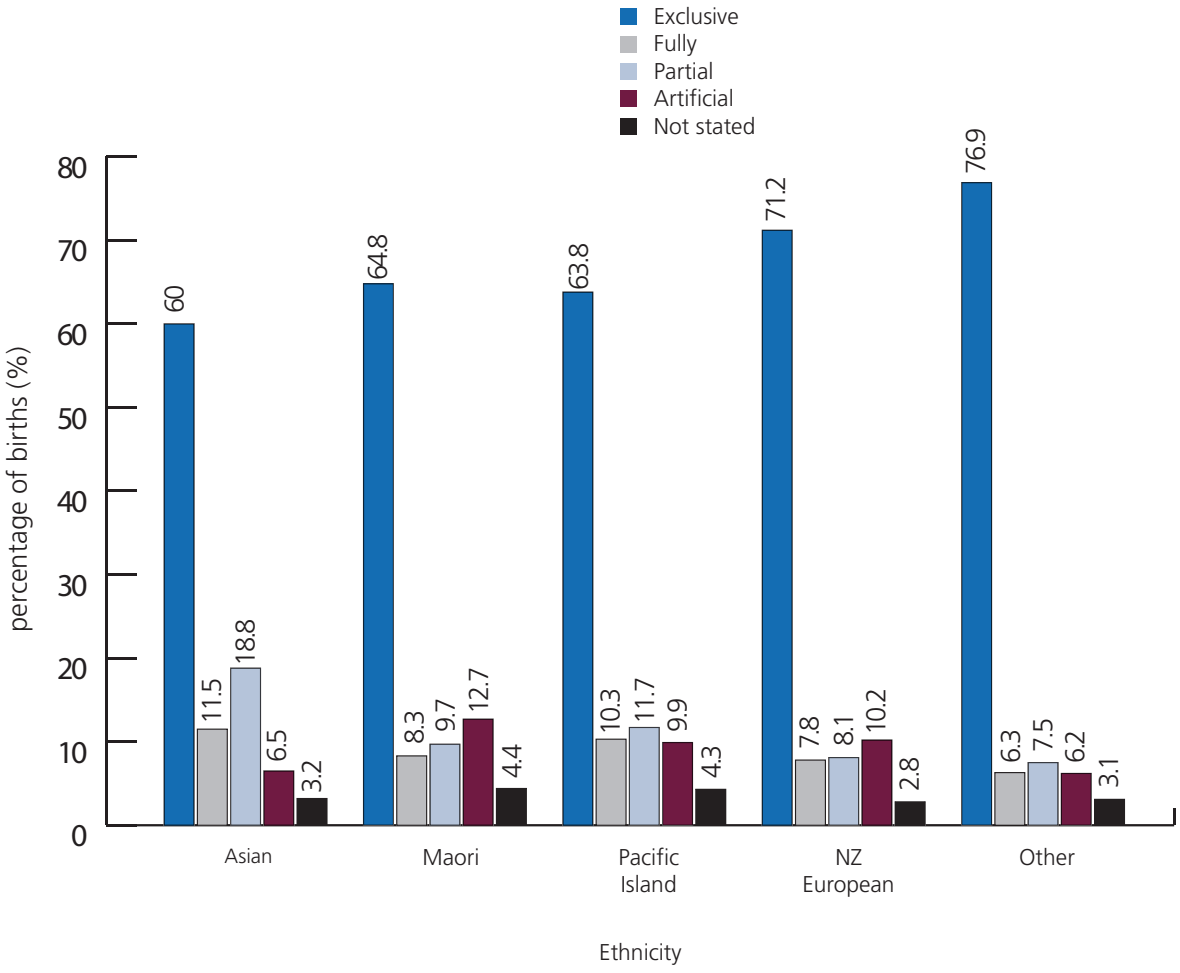


Figure 5.2: Percentage of births, by breastfeeding at two weeks and ethnicity.

5.3 POSTNATAL HEALTH: SMOKING STATUS AFTER PREGNANCY

Smoking status, including number of cigarettes smoked, is also recorded by MMPO midwives postnatally. Overall, the data indicates a general decrease in smoking rates following the birth.

During pregnancy 23.6 per cent of women smoked (refer to Figure 2.6 in chapter 2). This rate dropped by 3.7 per cent to less than 20 per cent postnatally (Figure 5.3). In the group with the highest reported smoking rate (the mothers who were under 20 years of age) there was a 5.9 per cent decrease in smoking, followed by a 4.7 per cent decrease in the mothers aged 20 to 29.

Only one mother under the age of 20 increased her smoking to over 20 cigarettes a day, but in all other categories the numbers decrease compared to antenatal smoking status. The only other category of smoking that showed a slight increase was the mothers aged between 20 and 29, smoking one to four cigarettes a day. That may be due to mothers that have cut down their smoking from the higher frequencies. In direct comparison to the antenatal smoking figures, those women who did smoke most commonly reported having between five to ten cigarettes per day (refer to Tables 5.4 and 5.5).

Table 5.4: Number of women who reported smoking after pregnancy, by age group and number of cigarettes smoked per day.

Cigarettes per day	Number of women in age group (years)				
	< 20	20 - 29	30 - 39	40+	Total
Nil	332	2,894	3,958	314	7,498
1 - 4	79	299	155	8	541
5 - 10	120	516	265	24	925
10 - 19	39	177	100	9	325
20+	8	37	28	0	73
TOTAL (reported)	**578**	**3,923**	**4,506**	**355**	**9,362**

Table 5.5: Percentage of women who reported smoking after pregnancy, by age group and number of cigarettes smoked per day.

Cigarettes per day	Percentage of women in age group (years)				
	< 20	20 - 29	30 - 39	40+	Total
Nil	57.4	73.7	87.9	88.5	80.1
1 - 4	13.7	7.6	3.4	2.2	5.8
5 - 10	20.7	13.2	5.9	6.8	9.9
10 - 19	6.8	4.5	2.2	2.5	3.4
20+	1.4	1.0	0.6	0.0	0.8
TOTAL (reported)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

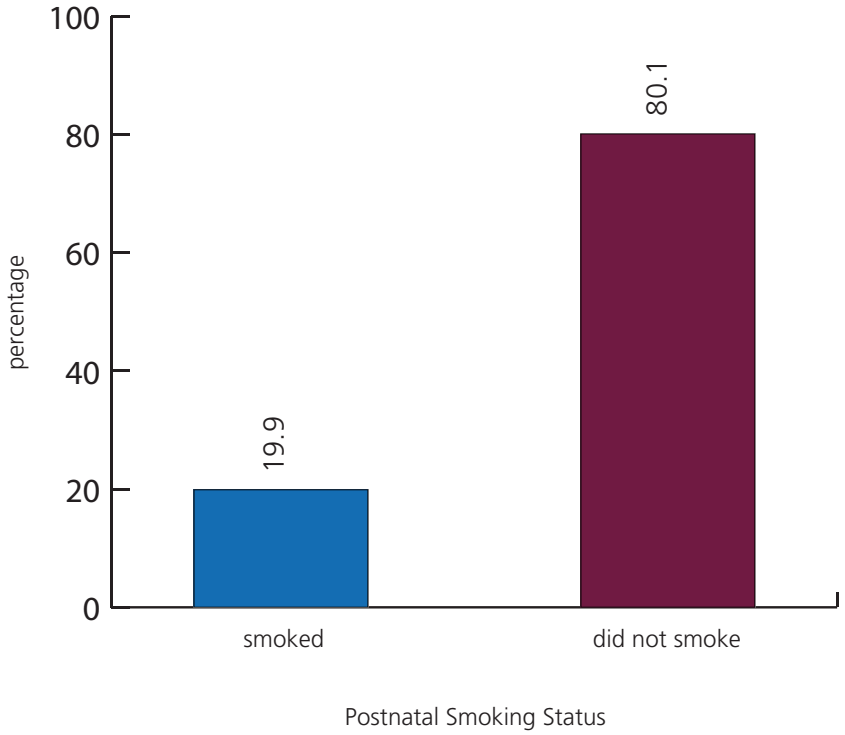


Figure 5.3: Percentage of women who reported smoking after pregnancy, by data source.

The following figure (Figure 5.4) shows that 43 per cent of women younger than 20 years of age reported smoking postnatally. The older the woman was, the less likely it was that they smoked. In the age group of 30 plus the majority of women (88 per cent) did not smoke at all.

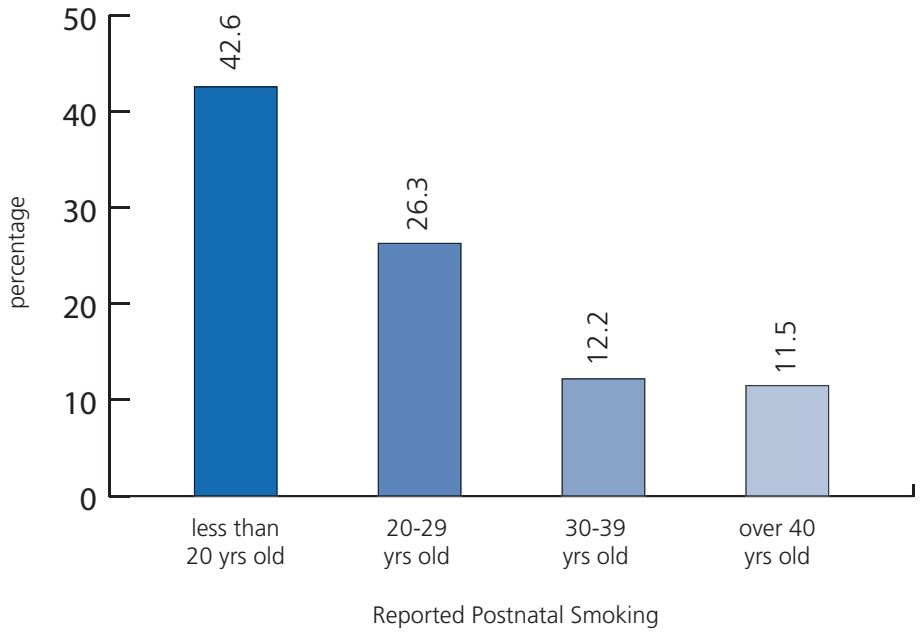


Figure 5.4: Percentage of women who reported smoking after pregnancy, by age group.

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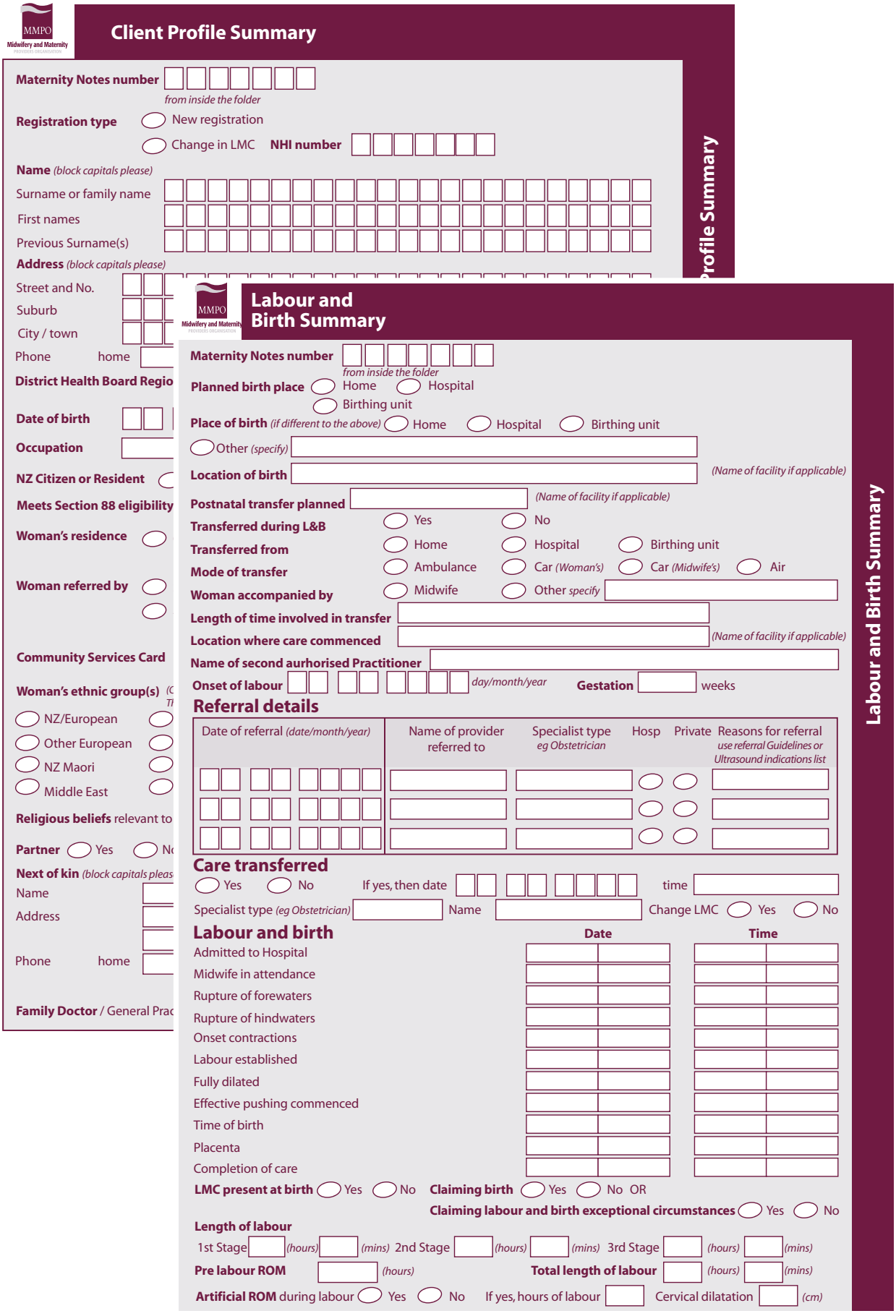
APPENDIX:
A SAMPLE OF MMPO MATERNITY NOTES



MMPO Midwifery and Maternity Providers Organisation

Client Profile Summary

Maternity Notes number
from inside the folder

Registration type ◯ New registration
◯ Change in LMC **NHI number**

Name *(block capitals please)*
Surname or family name
First names
Previous Surname(s)

Address *(block capitals please)*
Street and No.
Suburb
City / town
Phone home

District Health Board Regio

Date of birth

Occupation

NZ Citizen or Resident

Meets Section 88 eligibility

Woman's residence

Woman referred by

Community Services Card

Woman's ethnic group(s) *(C Th*
◯ NZ/European ◯
◯ Other European ◯
◯ NZ Maori ◯
◯ Middle East ◯

Religious beliefs relevant to

Partner ◯ Yes ◯ No

Next of kin *(block capitals pleas*
Name
Address
Phone home

Family Doctor / General Prac

Profile Summary

MMPO Midwifery and Maternity Providers Organisation

Labour and Birth Summary

Maternity Notes number
from inside the folder

Planned birth place ◯ Home ◯ Hospital ◯ Birthing unit

Place of birth *(if different to the above)* ◯ Home ◯ Hospital ◯ Birthing unit
◯ Other *(specify)*

Location of birth *(Name of facility if applicable)*

Postnatal transfer planned *(Name of facility if applicable)*

Transferred during L&B ◯ Yes ◯ No

Transferred from ◯ Home ◯ Hospital ◯ Birthing unit

Mode of transfer ◯ Ambulance ◯ Car *(Woman's)* ◯ Car *(Midwife's)* ◯ Air

Woman accompanied by ◯ Midwife ◯ Other *specify*

Length of time involved in transfer

Location where care commenced *(Name of facility if applicable)*

Name of second aurhorised Practitioner

Onset of labour *day/month/year* **Gestation** weeks

Referral details

Date of referral *(date/month/year)*	Name of provider referred to	Specialist type *eg Obstetrician*	Hosp	Private	Reasons for referral *use referral Guidelines or Ultrasound indications list*
			◯	◯	
			◯	◯	
			◯	◯	

Care transferred

◯ Yes ◯ No If yes, then date time

Specialist type *(eg Obstetrician)* Name Change LMC ◯ Yes ◯ No

Labour and birth

	Date	Time
Admitted to Hospital		
Midwife in attendance		
Rupture of forewaters		
Rupture of hindwaters		
Onset contractions		
Labour established		
Fully dilated		
Effective pushing commenced		
Time of birth		
Placenta		
Completion of care		

LMC present at birth ◯ Yes ◯ No **Claiming birth** ◯ Yes ◯ No OR
Claiming labour and birth exceptional circumstances ◯ Yes ◯ No

Length of labour
1st Stage *(hours)* *(mins)* 2nd Stage *(hours)* *(mins)* 3rd Stage *(hours)* *(mins)*

Pre labour ROM *(hours)* **Total length of labour** *(hours)* *(mins)*

Artificial ROM during labour ◯ Yes ◯ No If yes, hours of labour Cervical dilatation *(cm)*

Labour and Birth Summary

GLOSSARY[4]

Apgar score	Numerical score used to evaluate the infant's condition at one and five minutes after birth. Five variables are scored: colour, breathing, heart rate, reactivity to stimulation, and muscle tone. A baby may be able to be resuscitated after an initial one-minute score of zero, but a five-minute score of zero usually means that the infant cannot be resuscitated. If no heart rate had been heard before or during resuscitation, then this would be documented as a stillbirth. If a heart rate had been heard, but the baby could not be fully resuscitated, this would be called a live birth and neonatal death.
Birth	Delivery of a baby (or babies for a multiple birth) after a minimum of 20.0 weeks gestation and/or with a birth weight of more than 400 grams.
Birthing unit	A facility that has a contract for labour and birth, but not for inpatient postnatal care.
Birth weight	The first weight of the baby obtained after birth (usually measured to the nearest five grams and obtained within one hour of birth). Low = < 2500 grams Very low = < 1500 grams Extremely low = < 1000 grams
Breastfeeding, exclusive	The infant has never, to the mother's knowledge, had any water, formula, or other liquid or solid food. Only breast milk from the breast or expressed and prescribed medicines defined as per the Medicines Act 1981 have been given to the baby from birth.
Breastfeeding, fully	The infant has taken breast milk only. No other liquids or solids except for a minimal amount of water or prescribed medicines in the previous 48 hours.
Breastfeeding, partial	The infant has taken some breast milk and some infant formula or other solid food in the past 48 hours.
Breastfeeding, artificial	The infant has had no breast milk, but has had alternative liquid such as infant formula with or without solid food in the past 48 hours.
Caesarean section	Operative birth through an abdominal incision.
Caesarean section, emergency (acute)	Caesarean section performed urgently for clinical reasons (such as the health of the mother or baby is endangered) once labour has started.
Caesarean section, elective	Caesarean section performed as a planned procedure before or following the onset of labour when the decision was made before labour commenced.
District Health Board (DHB)	An organisation established as a District Health Board by or under Section 19 of the New Zealand Public Health and Disability Act 2000.
Domicile code	A code representing the mother's usual residential address.
Epidural	Injection of analgesic agent outside the dura mater that covers the spinal canal; includes lumbar, spinal and epidural anaesthetics.

4 Adapted from: Ministry of Health, N.Z. (2006). "Report on Maternity: Maternal and Newborn Information 2003." Retrieved 29.11.2007, from http://www.nzhis.govt.nz/publications/maternityreport.html

Ministry of Health, N.Z. (2007). "Report of Maternity, Maternal and Newborn Information 2004." Retrieved 28.11.2007, from http://www.nzhis.govt.nz/publications/maternityreport.html.

Episiotomy	An incision of the perineal tissue surrounding the vagina at the time of birth.
Ethnic code	The code that defines the mother's ethnic group.
Facility	The place that mothers attend or are resident in for the primary purpose of receiving maternity care.
Foetal death	Death that occurs prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. The death is indicated by the fact that after separation, the foetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definitive movement of voluntary muscles (WHO 1975).
Full-term birth / labour	Birth/labour at 37 or more gestational weeks.
Gestational age	The duration of pregnancy in completed weeks, calculated from the date of the first day of a woman's last menstrual period and her infant's date of birth, or derived from clinical assessment during pregnancy, or from examination of the infant after birth.
Gravida	The total number of pregnancies the woman has experienced, including the current one. For example, a woman who has one previous pregnancy and is currently pregnant is designated as 'gravida 2'.
Home birth	A birth that takes place in a person's home and not in a maternity facility or birthing unit, or a birth where management of the labour commences at home and there is a documented plan to give birth at home.
Induction of labour	An intervention undertaken to stimulate the onset of labour by pharmacological or other means.
Lead maternity carer (LMC)	An authorised practitioner who is a midwife or an obstetrician or a general practitioner with a Diploma of Obstetrics (or equivalent, as determined by the NZ College of General Practitioners), who has been selected by the women to provide her lead maternity care.
Live birth	The complete expulsion or extraction from its mother of a product of conception, irrespective of duration of pregnancy; which, after such separation, breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definitive movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born (WHO 1975).
Maternity facility	A facility that provides both labour and birth services as well as inpatient postnatal care, as described in the relevant service specification issued by the Ministry of Health.
MMPO	Midwifery and Maternity Providers Organisation; a practice management system provider for Lead Maternity Carer (LMC) midwives.
Neonatal deaths	Deaths occurring up to 27 days after birth. Early neonatal death = death before 7 days. Late neonatal death = death between 7 – 27 days.
Normal birth	The birth of a baby without obstetric operative intervention (vaginal birth).

NZCOM	New Zealand College of Midwives.
Operative vaginal birth	A vaginal birth that includes assistance using operative procedures.
Operative vaginal birth vaginal breech birth	Vaginal birth of a baby by the buttocks first, rather than the head.
Operative vaginal birth forceps	An assisted birth using a metallic obstetric instrument.
Operative vaginal birth, Ventouse	An assisted birth using a suction cup applied to the baby's head; a vacuum extraction.
Parity	The number of previous pregnancies resulting in live births or stillbirths.
Nulliparous	A woman who has never given birth to a viable infant.
Primiparous	A woman who has given birth only once.
Multiparous	A woman who had subsequent births.
Perinatal death	A category that includes foetal deaths of 20 weeks' gestation or 400g birth weight (stillbirth) plus infant deaths within less than 168 completed hours (seven days) after birth (early neonatal death).
Plurality	The number of births resulting from a pregnancy.
Postnatal	All pregnancy-related events following birth.
Registration	The documentation showing that a woman has selected a lead maternity carer; this includes the forwarding of this information to HealthPAC.
Reproductive age	Women aged 15-44 years.
Rural area	An area is defined as rural if the census area unit (domicile) is located in an area of fewer than 10,000 people.
Stillbirth	Death prior to the complete expulsion or extraction from its mother of a baby of 20 or more completed weeks of gestation, or of 400 grams or more birth weight. Death is indicated after separation either when the foetus does not breathe or show any other evidence of life.
Urban area	An area is defined as urban if the census area unit (domicile) is located in an area of more than 10,000 people.
Vacuum extraction (Ventouse)	Assisted birth using a suction cup applied to the baby's head.
Vaginal breech birth	Birth in which the baby's buttocks or lower limbs are the presenting parts, rather than the head.
WHO	World Health Organisation.

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