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**Maternity Services in Capital  
and Coast District Health Board**

**Working Towards a Maternity  
Strategy**

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*May 2004*



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# Maternity Services in Capital and Coast District Health Board – Working towards a Maternity Strategy, May 2004

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## WHAKATAUAKI

E tipu e rea mö ngä rä o tö ao  
Ko tö ringa ki ngä räkau a te Pakehä hei oranga mö tö tinana  
Ko tö ngäkau ki ngä taonga o ö tipuna Maori hei tikitiki mo tö mahunga  
Ko tö wairua ki te Atua nänä nei ngä mea katoa

*Ta Apirana Ngata*

*As you grow  
Fulfil the desires of your generation  
Take hold of the opportunities of this world  
never forgetting the value of your ancestry  
Let the past guide you knowingly into the future  
And let your spirit be guided by God who is the creator of all things*

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## Acknowledgments

The following people are acknowledged for their assistance in compiling this report:-

- The Maternity Advisory Group who were consulted at an early stage and identified relevant issues and the need for a strategic approach to the ongoing development of maternity services.
- The service users of maternity services (women and their families) who have provided the inspiration to ensure that maternity services in C&CDHB are designed and delivered to meet their needs.
- Sylvia Watson from the Technical Advisory Service who provided an initial report detailing local and national statistical information on maternity services.
- Staff at the Women's Health Service of C&CDHB who prepared comprehensive information on maternity services from 1997-2002.<sup>1</sup> Relevant data has been utilised in this report.
- Carey Virtue who undertook a report on maternity services in Porirua in 2000<sup>2</sup>, and also Dilip Das, a public medicine registrar who last year undertook further analysis of maternity services in Porirua while working at the Ministry of Health.<sup>3</sup>
- Two local reports on health services in Porirua and the Kapiti Coast commissioned by the Ministry of Health provided useful background information on maternity services in the district.<sup>4,5</sup>
- A range of staff employed by the Women's Health Service were consulted and provided information for this report.
- A range of health providers and LMCs were consulted and provided detail on their services.
- Many community groups and agencies contributed information on their services. This has helped to provide a useful summary of groups in the community available to support mothers and their families.
- Many other people provided helpful feedback on aspects of this report.

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<sup>1</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

<sup>2</sup> Virtue C. 2000. *Maternity review: Porirua report of the Advisory Group to the Health Funding Authority*.

<sup>3</sup> Ministry of Health. 2004. *Porirua maternity project* (unpublished).

<sup>4</sup> Ministry of Health. 2000. *Kapiti district health and disability report and plan*. Wellington: Ministry of Health.

<sup>5</sup> Ministry of Health. 2000. *Porirua City health and disability report and plan*. Wellington. Ministry of Health.

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## **Maternity Services in Capital and Coast District Health Board – Working towards a Maternity Strategy, February 2004**

### **Executive Summary**

This report provides a detailed review of maternity services provided by C&CDHB. The review is timely in that it will assist C&CDHB to take stock of current services and consider future options and opportunities. At the end of each chapter information has been summarised and options for further consideration are identified.

Significant issues identified in this report are the following:-

- There is a need to consider options for reducing rates of intervention in women who deliver in C&CDHB.
- The trend for mothers in Wellington to be older impacts on the costs of providing maternity care.
- The need for services which support Maori women and their whanau.
- The need for dedicated Pacific maternity support services.
- Smoking cessation has the potential to make a considerable impact on Maori child health outcomes.
- Overall, the rates of exclusive and full breastfeeding in C&CDHB are consistent with other DHBs. However, lower rates are evident in Maori, Pacific and Asian women.
- Given the fact that many mothers now spend a relatively short time in hospital postnatally there is a need to strengthen breastfeeding support services in the community.
- Asian women have a high rate of diabetes in pregnancy and are the group most likely to deliver by emergency caesarean section. Asian women are also much less likely to be exclusively breastfeeding than other groups.
- There is high rate of teen pregnancy in the Porirua-Titahi Bay area, particularly among Maori.
- There is a need for improved availability of support services for women and families with special needs requiring additional psychosocial support and intervention.
- Options are explored for more coordinated services for mothers with drug and alcohol problems.
- Maternity services could be strengthened by improved information to clients and providers on the range of community support services available.

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- There is potential to reduce the current numbers of women seeking termination of pregnancy and to explore funding options that provide couples with better contraception and a choice of sterilisation procedures.
  - There is a need to explore options to enable maternity ultrasound scans to be at no cost to pregnant women and women undergoing termination of pregnancy.
  - There is a need to strengthen pregnancy and parenting education services in C&CDHB. Cultural appropriateness of services is an important consideration and also services designed for teenagers.
  - Consideration is given to exploring service options that facilitate more coordinated care for mothers whose care has been transferred to the secondary sector
  - The Women's Health Service and LMCs should continue to review the quality of services provided so that the experience of consumers is consistently favourable.
  - While additional services to at risk groups will be of benefit, improvements to the social and environmental determinants of health, for example income, education and employment will also assist. C&CDHB should therefore continue to be involved in intersectoral work and advocacy in this area.

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# 1. Introduction

## Overview

The purpose of this report is to provide information on a range of services and issues relating to maternity services. It incorporates commentary on maternal and neonatal outcomes, breastfeeding and antenatal and postnatal services, as well as discussion on workforce, access and quality issues. It is hoped that this draft report will provide a starting point for further discussion on a proposed Maternity Strategy. Following consultation with key groups and stakeholders a final report will be prepared.

The area covered by Capital and Coast District Health Board (C&CDHB) includes Wellington City, Porirua City, and most of the Kapiti Coast territorial authority.

## Data sources and data integrity

Data on maternal and child outcomes utilised in this report have been obtained from two recent national maternity reviews<sup>6,7</sup>, a maternity report undertaken by the Women's Health Service of C&CHDB<sup>8</sup>, and also a recent review of maternity services in Porirua.<sup>9</sup> While all of these reports have utilised local data, each represents a different data source and can not necessarily be compared. Gaps and possible biases in the data are identified below.

Throughout the report portions of statistical tables which compare C&CDHB with national data have been highlighted using shading, and areas of attention or improvement for C&CDHB have been marked with a bold outline. Unless otherwise specified data relates to calendar years.

### *Perinatal Information Management System*

Statistics used in the C&CDHB Maternity Report 1997-2002 have been obtained from the Perinatal Information Management System (PIMS) database implemented in the Delivery Suite of Wellington Hospital during 1993. In 2002 the PIMS system was extended to the Kenepuru Maternity Unit, but has yet to be connected to the Paraparaumu Maternity Unit. Thus, up until to 2002 (unless otherwise specified) PIMS data contains information for births at Wellington Hospital. Similarly, unless otherwise specified, data gathered in 2002 contains information pertaining to Wellington Hospital and Kenepuru Maternity Unit and not Paraparaumu Maternity Unit.

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<sup>6</sup> Ministry of Health. 2001. *Report on maternity 1999*. Wellington: Ministry of Health.

<sup>7</sup> Ministry of Health. 2003. *Report on maternity 2000 & 2001*. Wellington: Ministry of Health.

<sup>8</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

<sup>9</sup> Ministry of Health. 2004. *Porirua maternity project* (unpublished).

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A possible source of error in the system is data entry. A range of personnel add data to the PIMS database including clerical staff, hospital doctors and midwives and Lead Maternity Carers (LMCs). As a quality check non-clinical coordinators located in the Delivery Suite check the PIMS delivery report daily against a manually compiled diary of important patient details. The Information Systems Supervisor also checks for missing or incorrect data in important data fields each month.<sup>10</sup>

### *Maternal and Newborn Information System*

In the past, national maternity statistics have been limited and incomplete. In order to overcome previous deficiencies the Health Funding Authority initiated the establishment of a Maternal and Newborn Information System (MNIS) in 1999. At the present time the MNIS contains extracts of data from the National Minimum Data Set (NMDS) and data from payment claims submitted to Health Benefits. Since the establishment of the MNIS the Ministry of Health has used data to undertake two national reviews of maternity services in New Zealand for the years 1999<sup>6</sup> and 2000-2001.<sup>7</sup>

Following the establishment of the MNIS a number of issues have been identified with respect to data quality. This relates to incorrect and duplicate NHI numbers, incorrect gravida numbers (so that not all events for a pregnancy have been able to be linked), and also non-section-51 contract data. In 2000 and 2001, approximately 30% of women received pregnancy care from non-Section-51 LMC providers, and MNIS information did not include this data. These contracts were terminated in June-September 2002 and all providers now work from the new Section 88 Maternity Notice. Thus, in future reports all LMC data will be available. Another difficulty has been identifying home births, but this will change from 2002.

Coding by providers may also affect data quality. It is estimated that coding of the NMDS is 84% accurate.<sup>11</sup>

### **Funding for maternity services**

The Ministry of Health funds primary maternity services through the service specification and payment schedules outlined in Section 88 of the New Zealand Public Health and Disability Act 2000<sup>12</sup> effective from 1 July 2002.

Secondary and tertiary obstetric services are purchased using national purchase units and prices. One purchase unit funds the facilities based upon the number of deliveries in the facility, that is <199, 200-599 and over 600 births. A second purchase unit funds postnatal service based upon facility size and the number of postnatal services. Terminations of pregnancy are funded separately using a national purchase unit. Specialist maternal mental health services are funded through the mental health funding stream.

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<sup>10</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

<sup>11</sup> NZHIS. 2002. *Coders update 35*.

<sup>12</sup> Ministry of Health. 2002. *Maternity services – Notice pursuant to section 88 of the New Zealand Public Health and Disability Act, 2000*. Wellington: Ministry of Health.

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## 2. Frameworks for the delivery of health services

### Introduction

The following frameworks for the delivery of health services are included in this report as they provide valuable insights into the way in which maternity services should be managed. Key factors are ensuring improved health outcomes for the child, mother and whanau/family, and that quality, culturally-appropriate health services are delivered.

### Vision statement

The vision statement for maternity services outlined in the Section 88 Maternity Notice<sup>13</sup> provides important guidance:-

*Each woman, and her whanau and family, will have every opportunity to have a fulfilling outcome to her pregnancy and childbirth, through the provision of services that are safe and based on partnership, information and choice. Pregnancy and childbirth are a normal life-stage for most women, with appropriate additional care available to those women who require it. A Lead Maternity Carer chosen by the woman with responsibility for assessment of her needs, planning her care with her and the care of her baby and being responsible for ensuring provision of Maternity Services, is the cornerstone of maternity care in New Zealand.*

### Primary health care

The understanding of pregnancy care as primarily resting in primary health care is an important philosophical concept. This is consistent with the fact that in the primary health care sector the LMC cares for the client throughout pregnancy and labour, and responsibility continues until the mother and baby are transferred to a Well Child Provider.<sup>14</sup> A proportion of women experiencing complications or with a clinical need have their care managed either wholly or partly by the hospital Secondary Maternity Service. Women return to the care of an LMC when the need for secondary services ceases.<sup>15,16</sup>

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<sup>13</sup> Ministry of Health. 2002. *Maternity services – Notice pursuant to section 88 of the New Zealand Public Health and Disability Act, 2000*. Wellington: Ministry of Health.

<sup>14</sup> Ministry of Health. 2003. *Health and independence report 2003 – Director-General's annual report on the state of public health*. Wellington. Ministry of Health.

<sup>15</sup> Ministry of Health. 2003. Secondary maternity services specification.

<sup>16</sup> Ministry of Health. 2002. Final report: Maternity services: incentives and sustainability. September (unpublished).

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## **The New Zealand Health Strategy**

The New Zealand Health Strategy<sup>17</sup> identifies seven fundamental principles that should be reflected across the health and disability sector. Any new strategies for the development of maternity services should relate to these principles:-

- Acknowledging the special relationship between Maori and the Crown under the Treaty of Waitangi
- Good health and wellbeing for New Zealanders throughout their lives
- An improvement in health status of those currently disadvantaged
- Collaborative health promotion and disease and injury prevention by all sectors
- Timely and equitable access for all New Zealanders to a comprehensive range of health and disability services, regardless of ability to pay
- A high-performing system in which people have confidence
- Active involvement of consumers and communities at all levels

Several of these fundamental principles will be referred to in this report.

The New Zealand Health Strategy also highlights 13 priority population health objectives chosen for their ability to improve the health status of the population and their potential to reduce health inequalities. Several of these are relevant to maternity services, namely the need to:-

- Reduce smoking
- Improve nutrition
- Reduce obesity
- Increase the level of physical activity
- Reduce violence in interpersonal relationships, families, schools and communities

Public health programmes support the New Zealand Health Strategy, and several of these are relevant to maternity services, for example preventing Sudden Infant Death Syndrome and improving levels of breastfeeding.

## **He Korowai Oranga – Maori Health Strategy**

He Korowai Oranga – Maori Health Strategy<sup>18</sup> expands on the Government's principles and objectives for Maori health. The vision for achieving these objectives is the concept of whanau ora. Key ways to realise this vision are whanau, hapu, iwi and Maori community development, increasing Maori provider capacity, service integration between providers, and re-orienting the health services to a strengths-based approach for whanau. There is also a need for health services to examine their own practices critically, to invite Maori input and to focus on health priorities which improve Maori health outcomes and reduce inequalities.

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<sup>17</sup> Minister of Health. 2000. *The New Zealand health strategy*. Wellington: Ministry of Health.

<sup>18</sup> Ministry of Health. 2002. *He korowai oranga - Maori health strategy*. Wellington: Ministry of Health.

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## The Pacific Health and Disability Action Plan

The Pacific Health and Disability Action Plan<sup>19</sup> outlines the Government's strategic direction for improving health outcomes for Pacific people. Two key health priorities identified in the plan relevant to maternity services are the need to strengthen primary health care and preventive services, and promoting healthy lifestyles and wellbeing. Ways in which these priorities will be achieved include developing the capacity of Pacific providers, supporting mainstream providers to be more responsive to the health needs of Pacific communities, coordinating care across service areas, and supporting Pacific-led initiatives.

## The New Zealand Disability Strategy

The New Zealand Disability Strategy<sup>20</sup> outlines fifteen objectives that will facilitate change towards a "non-disabling and fully-inclusive" society. Key objectives that are relevant to maternity services are the need to promote the participation of disabled women in order to improve their quality of life, to protect and promote the rights of disabled people and to foster an aware and responsive public health service.

## General principles of maternity services

The following generic principles are described in detail in the document *Maternity Services: A Reference Document, 2000*.<sup>21</sup> These are all basic factors that should be present in maternity services:-

- *Quality services* – The need to develop effective, high quality maternity services for women
- *Cost effectiveness* - Ensuring that available funding achieves the maximum possible health gain
- *Equitable access* - Ensuring equitable access to maternity services
- *Acknowledging of the Treaty of Waitangi*. Inherent in the Treaty are the principles of participation, protection and partnership:-
  - *Partnership*: working together with whanau, hapu, iwi and Maori communities to develop strategies to improve the health of Maori
  - *Participation*: encouraging Maori participation in providing services
  - *Protection*: working ensure that Maori have at least the same level of health as non-Maori and that Maori cultural concepts, values and practices are safeguarded<sup>22</sup>
- *Acceptability* – Women are involved in the management of their care and are given sufficient and unbiased information

In addition, the Health and Independence Report 2003<sup>23</sup> outlines the need for all services to develop an *intersectoral focus*.

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<sup>19</sup> Ministry of Health. 2002. *The Pacific health and disability action plan*. Wellington: Ministry of Health.

<sup>20</sup> Minister of Disability Issues. 2001. *The New Zealand disability strategy – making a world of difference – Whakanui oranga*. Wellington: Ministry of Health.

<sup>21</sup> Health Funding Authority. 2000. *Maternity services: a reference document*. Hamilton: Health Funding Authority.

<sup>22</sup> Ministry of Health. 2003. *Health and independence report 20003 – Director-General's annual report on the state of public health*. Wellington: Ministry of Health.

<sup>23</sup> Ministry of Health. 2003. *Health and independence report 20003 – Director-General's annual report on the state of public health*. Wellington: Ministry of Health.

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## Measures of best practice

Maternity services may be measured against a range of standards. The Maternity Incentives Project<sup>24</sup> identified eleven Best Practice Standards for maternity services:-

- An optimal safe normal delivery rate
- Collection of clinically relevant information
- Improved cohesive relationships between primary and secondary services and within secondary services
- Women's informed choice and informed decisions through standardised information and availability of service provision data
- The efficient use of maternity facility resources
- The need for services to be comprehensive, culturally acceptable and have equity of access
- Appropriate but not unnecessary involvement of specialist services
- Continuity of care for women
- Viability of existing primary units so that women use primary units rather than secondary units
- Sustainability of the workforce, including funding for teaching/training and not just recruitment and retention
- Funding of services needs to be equitable

Current progress in identifying measures and finalising standards is not known.

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<sup>24</sup> Wilson, J. 2001. *Maternity incentives final report*. Project led by the Ministry of Health with input from HHS providers.

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### 3. Hospital Facilities and Services

#### Overview of hospital facilities

The C&CDHB Women's Health Service has three maternity facilities – one at Wellington Hospital, one at Kenepuru Hospital in Porirua, and the other on the Kapiti Coast at Paraparaumu.

*Wellington Hospital* is a regional tertiary maternity care facility<sup>25</sup> for the central region of the North Island. The next closest tertiary facility is Waikato. The Delivery Suite has 8 rooms and 4 delivery rooms available for women labouring or requiring care antenatally in Delivery Suite. In addition, the Lepori Suite is available for women wishing to pursue an active birth. It consists of 2 birthing rooms each with a large bath. Caesarean sections are carried out within the unit. Ward 11 has 22 beds (mixed antenatal, and high risk antenatal/postnatal beds) and Ward 12 has 25 postnatal beds. A Neonatal Intensive Care Unit is on the same site.

*Kenepuru Maternity Unit* is a primary maternity facility<sup>26</sup> with 2 labour and delivery rooms and 4 postnatal beds. With planned changes to the redevelopment of Kenepuru Hospital as part of the new regional hospital development the number of postnatal beds will be increased to six.

The other primary obstetric maternity facility at C&CDHB is the *Paraparaumu Maternity Unit*. The unit was recently reconfigured as part of the newly completed Kapiti Health Centre which opened in late October 2003. The new facility houses a range of community services and the maternity unit on one site. The unit has a new birthing suite and two postnatal rooms.

#### Numbers of deliveries, place of delivery, and transfers

Since 1997 there has been a general trend to an increased number of deliveries in the region (Table 1). Between 1997 and 2001 numbers of women delivering at Kenepuru and Paraparaumu Maternity Units were relatively stable. However, in 2002 and 2003 less women delivered at these facilities.

However, while numbers delivering at these two facilities are reducing, a number of women transfer to these facilities postnatally. In 2003, 122 women were transferred postnatally from Wellington Hospital to the Paraparaumu Maternity Unit. There were a further 29 occasions in this year when a woman wanted to transfer or birth at the unit but was unable to do so because the unit was full. Similarly, in the 12 months from November 2002 – October 2003 307 women were transferred from Wellington Hospital to Kenepuru Maternity Unit for their postnatal stay.

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<sup>25</sup> *Tertiary maternity services* provide a multidisciplinary specialist team for women and babies with complex and/or rare maternity needs who require access to a multidisciplinary specialist team.

<sup>26</sup> A *primary maternity facility* is a facility that does not have inpatient secondary maternity services or 24-hour on-site availability of specialist obstetricians, paediatricians and anaesthetists.

**Table 1 – Place of delivery in C&CDHB (numbers of mothers)**

	1997	1998	1999	2000	2001	2002	2003*
<b>Wellington</b>	3064	3329	3301	3389	3293	3305	3541
<b>Kenepuru</b>	320	370	342	334	352	277	263
<b>Paraparaumu</b>	120	135	107	111	125	106	99
<b>TOTAL</b>	3504	3834	3750	3834	3770	3688	3903

Source PIMS

\*2003 – provisional data

**Table 2 – Place of delivery in C&CDHB (%)**

	1997	1998	1999	2000	2001	2002	2003*
<b>Wellington</b>	87.4%	86.8%	88.0%	88.4%	87.3%	89.6%	90.7%
<b>Kenepuru</b>	9.1%	9.7%	9.1%	8.7%	9.3%	7.5%	6.7%
<b>Paraparaumu</b>	3.4%	3.5%	2.9%	2.9%	3.3%	2.9%	2.5%

Source PIMS

\*2003 – provisional data

## Outpatient services

### *Outpatient clinics*

Five outpatient obstetric clinics are held each week at Wellington Hospital. One is a high risk pregnancy clinic, one a diabetic clinic, and two are general (secondary) antenatal clinics. A fetal medicine clinic is also held once a week involving ultrasound scanning and counselling of women with fetal abnormalities. Women can also be seen during the week depending the urgency of the problem and the availability of specialists.

As a way to increase access of this service to outlying areas Kenepuru Hospital has one antenatal clinic each week, and Paraparaumu has a combined Obstetric and Gynaecology clinic once a fortnight.

### *Materno-Fetal Medicine Team (“Hospital team”/“High risk team”) and ambulatory midwives*

The Materno-Fetal Medicine service is one of two materno-fetal medicine services in New Zealand. The service focuses on the wellbeing of pregnant women and newborns with complex needs.

The Materno-Fetal Medicine Team is a multi-disciplinary team comprising 3 specialist obstetricians and 2 midwives. The midwives within the team are known as ambulatory midwives and midwifery care is provided to women attending the high risk and diabetic clinics and women receiving total pregnancy care through the secondary antenatal clinics. Mothers with a range of complex medical problems requiring specialist monitoring attend this service. Women with disabilities or social problems that it is believed would be better managed by this specialist team are also referred. In 2002, 325 women were delivered by this service.<sup>27</sup> This represents 8.8% of women who delivered in C&CDHB facilities that year.

<sup>27</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

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Clients referred to this service are monitored and supported by the ambulatory midwives, and also seen regularly at the Outpatients Clinic by specialists. Women using this service do not have an independent LMC as the specialist takes overall responsibility. During labour and delivery the women are managed by the midwives working in delivery suite and the obstetrician on call. On discharge, the ambulatory midwives provide follow-up postnatal care to women living in central Wellington, but clients living in outlying areas are referred to other midwives.

A Materno-Fetal Medicine Coordinator (a midwife) is also employed to coordinate the care of women diagnosed during their pregnancy as having a baby with a fetal abnormality. A sensitive part of her role is supporting women considering termination of pregnancy.

Between 1998-2003 the "Hospital Team" had up to five LMC midwives and the midwifery service was known as the "Midwifery Group Practice" (MGP). Following changes in funding in 2003 the MGP was disbanded and reorganised into an ambulatory midwifery service (described above). New funding guidelines at this time prevented hospital maternity services from claiming primary LMC fees in women attending secondary maternity services. In 2002, 325 women were cared for by this service, however in earlier years this number was much higher.

Feedback from several consumers and LMCs have identified concern about lack of continuity of care for clients managed by the Materno-Fetal Medicine Team/High Risk Team. Clients report a feeling of unease having to establish new relationships with new providers in labour and delivery. In addition, there is potential clinical risk when care is split between a range of providers. While patients are very grateful for the care they receive, it would appear that with the large number of clients attending the clinic it is difficult for the ambulatory midwives to provide non-clinical aspects of care, for example advice and support relating to smoking cessation, breastfeeding, drug and alcohol use and psychosocial aspects of care.

It needs to be clarified with the Ministry of Health whether patients referred to secondary services can still have a primary LMC midwife. It may depend on interpretation of Section 88.

### **Women's Health Assessment Service**

Women requiring rapid assessment of an obstetric or gynaecological condition are able to be assessed by one of two midwives in the Women's Health Assessment Service. The service operates from 8 a.m. to 6 p.m. Monday to Friday. If attending outside of these hours women are assessed by staff in the Delivery Suite or Ward 14 (gynaecology).

### **Antenatal inpatient services**

Kenepuru and Paraparaumu Maternity Units are not licensed to provide antenatal beds. Numbers of women recorded as being admitted antenatally to these facilities represent women who fail to establish in labour and are discharged home (Table 3).

As identified in Table 4 the average antenatal length of stay at Wellington Hospital in 2000 and 2001 was slightly higher than the average stay at other tertiary maternity providers.

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**Table 3 - Number of antenatal admissions – 2000-2001**

	<b>2000</b>	<b>2001</b>
Wellington	793	750
Kenepuru	55	61
Paraparaumu	19	16

Source NMDS

**Table 4- Average antenatal length of stay – 2000-2001**

	<b>2000</b>	<b>2001</b>
Wellington	2.6	2.5
National tertiary maternity facility average	1.8	1.6
Kenepuru	0.7	0.4
Paraparaumu	0.1	0.1
National primary maternity facility average	0.7	1.0

Source NMDS

### **Delivery and postnatal services**

The Women's Health Service receives a facility fee calculated on the expected number of births and the anticipated stay in hospital. This calculation is based on assumptions that a woman with a normal delivery is expected to stay approximately 2 days in hospital, and women who have had a caesarean section stay approximately 4-5 days. The service has no set policy on length of stay - women may stay a shorter or longer period depending on personal choice or clinical factors.

In 2001 the average length of stay at Wellington Hospital for the delivery and postnatal period for women with a low patient clinical complexity level (PCCL) was 2.8 days. This was consistent with the national tertiary maternity care facility average of 2.5 days (Table 5).

The Patient Clinical Complexity Level (PCCL) measures the complexity of conditions for each woman relative to all other women of the same condition. A classification of PCCL 0 indicates there were no complicating diagnoses or co-morbidities.<sup>28</sup>

In 2001 the average length of stay at Wellington Hospital for the delivery and postnatal period for women with a low PCCL was 2.8 days. This was consistent with the national tertiary maternity care facility average of 2.5 days (Table 5).

In the same year, women stayed on average 1.5 days at Kenepuru Maternity Unit and 1.1 days at Paraparaumu Maternity Unit in 2001 (Table 5). This is considerably less than the primary maternity care facility average of 2.7 days. It is likely that one reason for the low length of stay relates to an increased number of transfers back to this facility compared to other primary maternity units at some distance from the base hospital.

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<sup>28</sup> Ministry of Health. 2003. *Report on maternity 2000 & 2001*. Wellington: Ministry of Health.

**Table 5 - Average length of stay (days) by PCCL - 2001**

	PCCL0	PCCL1	PCCL2	PCCL3	Most severe	Total
Wellington	2.8	0	5.4	6.4	11.0	3.0
National tertiary maternity care facility average	2.5	5.8	4.8	6.0	10.1	2.9
Kenepuru	1.5	0	1.0	0	0	1.5
Paraparaumu	1.1	0	0	0	0	1.1
Primary maternity care facility average	2.7	4.0	4.3	6.1	4.6	2.8

Source NMDS

In 2001 92.5% of births at Wellington Hospital were uncomplicated and the balance had a higher PCCL. As expected, the large majority of births at Kenepuru and Paraparaumu Maternity Units (as primary obstetric facilities) had a low PCCL (Table 6).

**Table 6 – Patient Clinical Complexity Level (%) - 2001**

	PCCL0	PCCL1	PCCL2	PCCL3	Most severe
Wellington	92.4	0	5.7	1.5	0.3
Tertiary Maternity Care Facility Average	86.5	0	8.7	3.9	0.8
Kenepuru	99.2	0	0.8	0	0
Paraparaumu	99.3	0	0.7	0	0
Primary Maternity Care Facility Average	96.5	0	2.6	0.7	0.1

Source NMDS

### Neonatal intensive care services

Neonatal intensive care services at Wellington Hospital are managed by the C&CDHB Child Health Service. In 2002 PIMS data identified that 552 neonates born at Wellington and Kenepuru Hospitals were admitted to the Neonatal Intensive Care Unit (NICU). Further information on neonates admitted to the NICU is provided in Chapter 5 – Outcomes.

### Delivery in other DHB facilities

In 2000 and 2001 C&CDHB facilities provided care to approximately 3800 mothers of which 9% were from another DHB.

As shown in the table below, in the 2001/02 financial year 4.5% of mothers living in Wellington, 6.5% mothers in Porirua and 6.3% of Kapiti mothers gave birth in other DHB facilities. This may relate to consumer preference or the locality when in labour, may be a provider issue (the location of the LMC chosen), or be due to geographic accessibility to the other DHB. This relates particularly to women living on the Kapiti Coast and the Hutt Valley.

**Table 7 - DHB of delivery for women living in the C&CDHB district  
July 2001-June 2002**

Area of residence	DHB of Delivery				
	C&CDHB	Hutt Valley DHB	MidCentral DHB	Other DHBs	Total
Wellington	95.5%	3.8%	0.4%	0.3%	100.0%
Porirua	93.4%	6.3%	0.1%	0.1%	100.0%
Kapiti Coast	93.7%	2.7%	3.3%	0.3%	100.0%

Source NMDS (Data prepared by Technical Advisory Services)

### Use of primary and tertiary maternity services

Porirua and Kapiti women give birth in Wellington Hospital for a number of reasons. This includes the presence of risk factors, personal choice, specialist choice, choice of LMC, and access to epidural and specialist services. As Kenepuru and Paraparaumu Maternity Units conduct only normal vaginal deliveries women may choose to deliver at Wellington as facilities are readily available in the event of complications. The need for epidural analgesia also requires delivery at Wellington Hospital.<sup>29</sup> Another reason for admission or transfer to Wellington Hospital relates to a periodic shortage of beds at the primary maternity facility.<sup>30,31</sup>

The choice of birthing facility may also be made by the LMC according to the perceived risk profile of the client.<sup>32</sup> Staff working in Nga Tapuhi Whakawhanau (Maori and Pacific Island Midwifery Service) note that some of their mothers from Porirua are considered to be "at risk" and the choice to birth at Wellington Hospital relates to safety considerations.

Consultation with women in Kapiti in 2000 identified that women prefer to deliver at the Paraparaumu Maternity Unit rather than go to Wellington Hospital.<sup>33</sup>

<sup>29</sup> Ministry of Health. 2003. *Porirua maternity project* (unpublished).

<sup>30</sup> Ministry of Health. 2003. *Porirua maternity project* (unpublished).

<sup>31</sup> Ministry of Health. 2000. *Porirua City health and disability report and plan*. Wellington: Ministry of Health.

<sup>32</sup> Ministry of Health. 2003. *Porirua maternity project* (unpublished).

<sup>33</sup> Ministry of Health. 2000. *Kapiti district health and disability report and plan*. Wellington: Ministry of Health.

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## Summary of key points and discussion

The maternity unit at Wellington Hospital is a tertiary facility providing specialist maternity and neonatal services to women in the central and lower parts of the North Island. Paraparaumu and Kenepuru Maternity Units are primary maternity facilities.

In 2002 and 2003 a reduced number of women delivered at Kenepuru and Paraparaumu Maternity Units compared to previous years. These figures do not reflect the numbers of women who transfer postnatally to these facilities. Women have a shorter stay at Kenepuru and Paraparaumu Maternity Units postnatally compared to other primary care facilities in other DHBs, however this is likely to be due to transfers back to these facilities.

Pregnant women with a range of complex needs are managed by the Materno-Fetal Medicine ("High Risk") team. In the current arrangement, women cared for by this service do not have an LMC based in the primary sector or midwifery continuity of care in delivery. This relates to the maternity purchasing framework and the inability to claim primary care LMC fees if the woman's full care is transferred into the secondary sector. Reorganisation of the Hospital Midwifery Group Practice service may have resulted in a service gap for women with special needs who used to be managed by this service.

Travel to outpatient clinics at Wellington Hospital presents a possible barrier to access and clinics are provided at Paraparaumu and Porirua.

### Options for Consideration

- The capacity of maternity inpatient and outpatient services at Wellington Hospital and Kenepuru and Paraparaumu Maternity Units continues to be monitored by the Women's Health Service and Service Planning and Funding.
- Consideration is given to exploring service options that facilitate more coordinated care for mothers whose care has been transferred to secondary maternity services.
- Consideration is given to exploring service options for "at risk" women and with women with "special needs".



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## 4. Women in the District

### Fertility rate

Latest statistics on the New Zealand population identify a national fertility rate of 1.96 births per woman. The rate for European and Asian women is lower (1.76 and 1.67 respectively), while the rate for Maori women is 2.59 and Pacific women is 2.94.<sup>34</sup> In Maori this represents a substantial decline from 1963 when the average number of children born per Maori woman was 6.3.<sup>35</sup> Replacement level is considered to be 2.1 births per woman.<sup>36</sup>

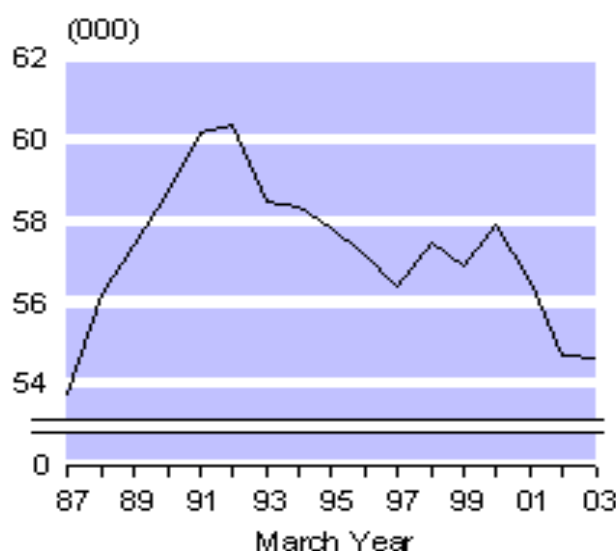
Between 2000-2002 women who gave birth in the Wellington region had a fertility rate of 1.79.<sup>37</sup>

### Birth rate

Between 1997 and 2000 there were an increased number of births for the whole of New Zealand, followed by a marked decline in the next two years (Figure 1). The number of births for the year ending March 2003 was very similar to the previous year.<sup>38</sup>

From 1992 to 1998 the birth rate declined more rapidly in C&CDHB compared to the rest of New Zealand. Between 1992-1998 the number of births in the greater Wellington region reduced from 7,118 to 6,337. This represented a decline in the birth rate of 11%, compared to a decline of 5% for New Zealand in the same period.<sup>39</sup>

**Figure 1 - New Zealand total live births 1987–2003**



Source: Statistics NZ March 2003

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<sup>34</sup> Information obtained from Statistics New Zealand, 11 February 2003

<sup>35</sup> Information obtained on line from Statistics New Zealand ([www.stats.govt.nz](http://www.stats.govt.nz)), February 2004, *New Zealand Now*.

<sup>36</sup> Information obtained on line from Statistics New Zealand ([www.stats.govt.nz](http://www.stats.govt.nz)), 11 February 2004.

<sup>37</sup> Information obtained on line from Statistics New Zealand ([www.stats.govt.nz](http://www.stats.govt.nz)), 11 February 2004.

<sup>38</sup> Statistics NZ, March 2003

<sup>39</sup> Virtue C. 2000. *Maternity review: Porirua report of the Advisory Group to the Health Funding Authority*.

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Between 1997 and 2002 the total number of births has remained relatively stable in C&CDHB, however a small increase was evident in 2003 (Table 8).

**Table 8 – Births in C&CDHB**

	<b>Paraparaumu</b>	<b>Kenepuru</b>	<b>Wellington</b>	<b>Total</b>
<b>1997</b>	120	320	3130	3570
<b>1998</b>	135	370	3410	3915
<b>1999</b>	107	342	3377	3826
<b>2000</b>	111	334	3474	3919
<b>2001</b>	125	352	3372	3849
<b>2002</b>	106	277	3399	3782
<b>2003</b>	99	263	3633	3995

Source PIMS

### **Home births**

In the recent past, data from the MNIS was able to identify a home birth if the LMC submitted a home birth and birthing unit claim form to Health Benefits. However, not all home births were able to be captured through this claim form. The identification of home births has improved from 1 July 2002 as the new Section 88 Maternity Notice has a mandatory field to indicate whether or not the birth occurred at home.<sup>40</sup>

In the financial year 1 July 2002 to 30 June 2003, 57 home births were performed in the C&CDHB district.

### **Ethnicity**

In 2001, NZ Census data indicated that 69.8% of the New Zealand population were European, 14.1% were Maori, 6.1% were Asian, 5.4% were Pacific and 4.6% were identified as Other.<sup>41</sup> This compares to 70.1% of the population in C&CDHB being European, 9.9% Maori, 7.6% Pacific, 7.5% Asian, and 4.9% Other. In the same year, Porirua had a significantly higher number of Maori (19.8%) and Pacific people (22.9%), compared to the Wellington region or New Zealand as a whole. In 2001 the Asian population in the central Wellington area was 10%.<sup>42</sup>

Data from PIMS indicate that in 2002, 67.8% of women who gave birth in C&CDHB facilities were European/Other, 11.7% were Maori, 11.2% were Pacific, and 9.3% were Asian.

Women of “other” ethnicity includes a number of new migrants to the district, for whom English is a new language. In order to better cater for the needs of this group LMCs have identified the need for written maternity resources to be translated into a range of different languages. The cost of interpreting services can also be prohibitive for LMCs (see Chapter 9).

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<sup>40</sup> Ministry of Health. *Report on maternity 2000 & 2001*. Wellington: Ministry of Health.

<sup>41</sup> NZ Census, 2001.

<sup>42</sup> NZ Census, 2001.

## Ethnicity of mothers by facility

A proportion of mothers living in Porirua and Paraparaumu give birth in Wellington Hospital. Table 9 and Figure 2 provide information on the ethnicity of mothers birthing in the three facilities. Kenepuru Maternity Unit has a higher proportion of mothers who are Maori and Pacific compared to other facilities.

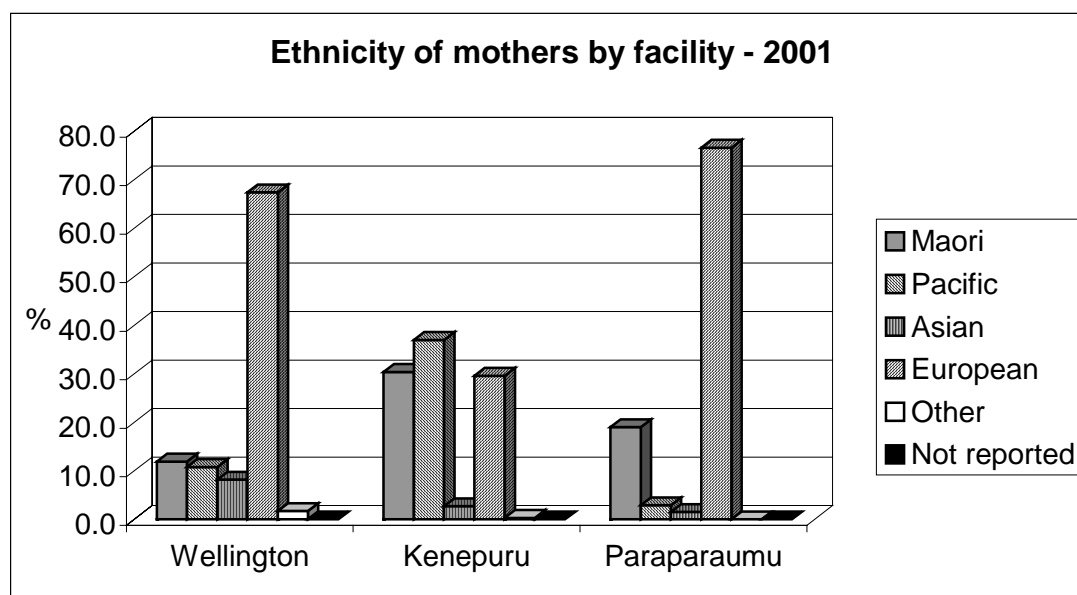
**Table 9 - Ethnicity of mothers (%) by facility – 2000 - 2001**

2000	Maori	Pacific	Asian	European	Other	Not reported
Wellington	11.2	9.7	9.1	67.5	2.0	0.6
Kenepuru	23.4	42.5	3.0	30.0	0.5	0.5
Paraparaumu	17.4	1.7	4.3	75.7	0.0	0.9

2001	Maori	Pacific	Asian	European	Other	Not reported
Wellington	11.9	10.8	8.2	67.4	1.7	0.0
Kenepuru	30.4	37.0	2.7	29.6	0.3	0.0
Paraparaumu	19.0	2.9	1.5	76.6	0.0	0.0

Source NMDS

**Figure 2 - Ethnicity of mothers (%) by facility – 2001**



Source NMDS

## Age of mother

In the last 20 years the number of women giving birth over 30 years of age has steadily increased.<sup>43</sup> In 2001 the average age for New Zealand women giving birth was 29.4.

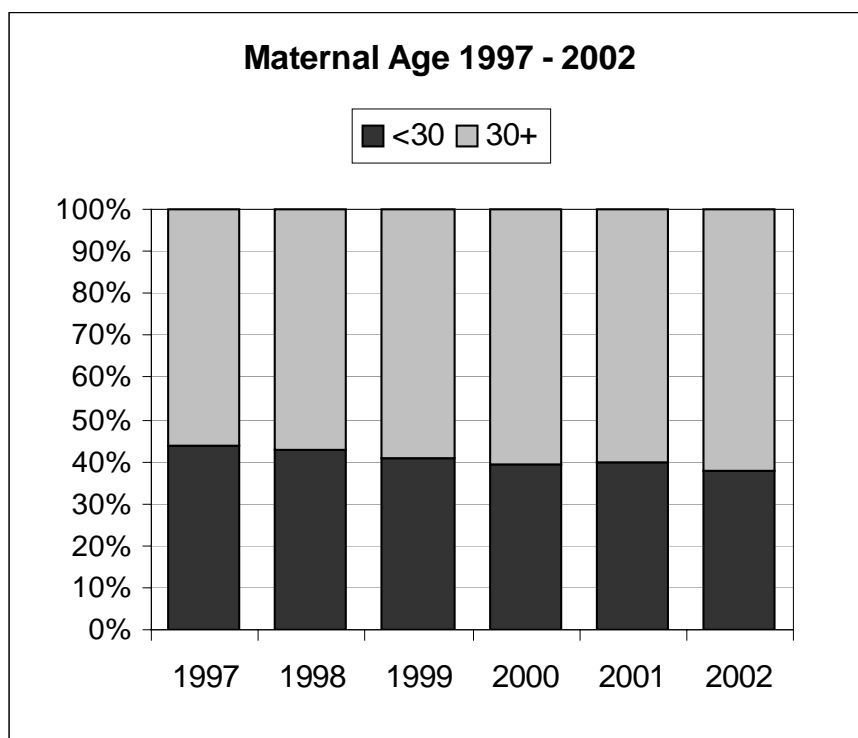
Statistics compiled from the NMDS for the 2001/02 financial year indicate that the average age of women giving birth in the Wellington region was 1.5 years higher than the national average. The table and graph below indicate the trend for mothers to be older in the last 6 years. In 2002, 62% of mothers giving birth in C&CDHB were 30 years or older.

**Table 10 - Maternal age (%) 1997-2002**  
(Wellington only 1997-2001, Wellington and Kenepuru 2002)

Mothers	1997	1998	1999	2000	2001	2002
<20 years	4.2	4.4	4.8	3.9	4.3	4.5
20-24	13.4	12.3	12.1	12.4	12.2	11.7
25-29	26.3	25.9	23.8	22.8	23.2	21.8
30-34	34.5	35.4	35.1	35.9	35.0	34.9
35-39	18.4	18.7	20.6	21.1	20.7	22.7
≥40	3.2	3.3	3.6	4.0	4.4	4.4

Source PIMS

**Figure 3 - Maternal age (%) 1997-2002**  
(Wellington only 1997-2001, Wellington and Kenepuru 2002)



Source PIMS

<sup>43</sup> Ministry of Health. *Report on maternity 2000 & 2001*. Wellington: Ministry of Health.

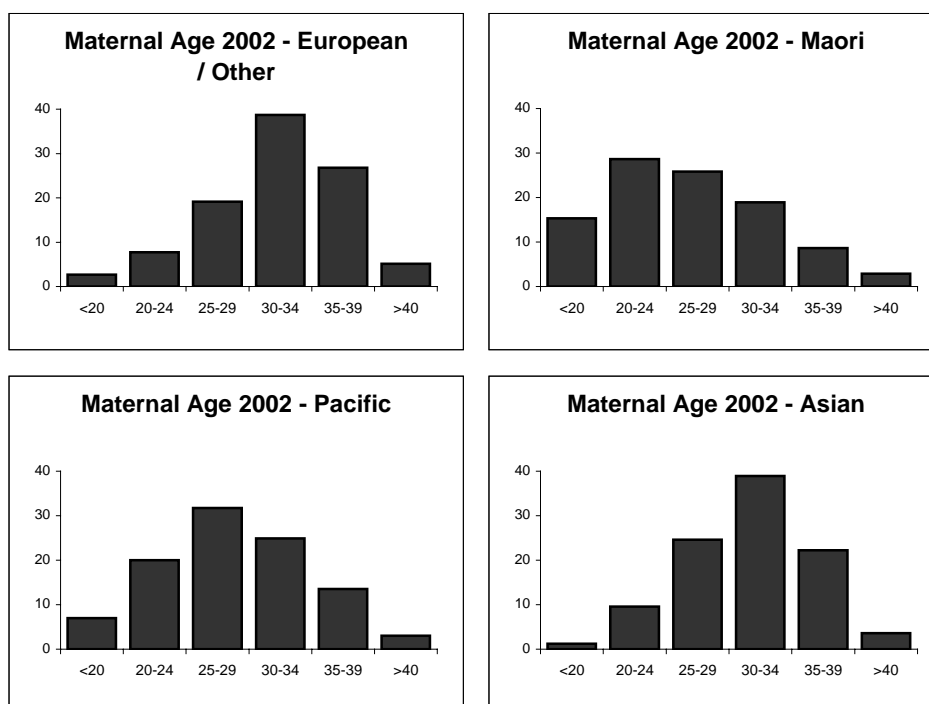
Nationally, Maori women have children at a younger age. In 2002, 15.3% of Maori women in C&CDHB were less than 20 years of age and 54.4% were 20-29 years (Table 11, Figure 4). European and Asian women were older than women in other ethnic groups. In the same period 70.6% of European/Other women and 64.7% of Asian women were 30 years or older. This compares to Pacific women (41.4%) and Maori women (30.4%) being 30 years of age or older.

**Table 11 – Maternal age (%) by ethnicity 2002 (excludes Paraparaumu)**

	European/ other	Maori	Pacific	Asian	Total
<b>&lt;20</b>	2.7	15.3	7.0	1.2	4.5
<b>20-24</b>	7.7	28.6	20.0	9.6	11.7
<b>25-29</b>	19.0	25.8	31.7	24.6	21.8
<b>30-34</b>	38.7	18.9	24.9	38.9	34.9
<b>35-39</b>	26.8	8.6	13.5	22.2	22.7
<b>≥40</b>	5.1	2.9	3.0	3.6	4.4

Source PIMS

**Figure 4 – Maternal age by ethnicity 2002 (excludes Paraparaumu)**



Source PIMS

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## Teenage births

The discharge rate of women by age provides useful information on teen pregnancy. Provisional information from NMDS identifies that an overall discharge rate of 5.9 per 1,000 women aged 17 years or younger from a C&CDHB facility in 2002/3.<sup>44</sup> However, while European/Other women have a discharge rate of 2.4, the Maori rate is 22.0 and the Pacific rate is 8.2 per 1,000 births in C&CDHB.

In 2002 PIMS statistics identify that 161 women under 20 years of age gave birth in C&CDHB. This includes 18 women who came from other DHBs to deliver. A small proportion of this group (n=7) were very young mothers under 16 years of age. Of those domiciled in C&CDHB who were under 20 years 41.2% were European/Other, 39.7% were Maori, 16.9% were Pacific and 2.2% were Asian.

When PIMS data are further analysed by suburb 53.6% of teen births under 20 years of age were to women living in Porirua and the surrounding suburbs of Ascot Park, Cannons Creek, Elsdon and Titahi Bay. Suburbs with the greatest numbers of mothers under 20 were Porirua and Cannons Creek (n=42), Titahi Bay (n=22), Paraparaumu (n=9) and Ascot Park (n=7). Within Paraparaumu the majority of teen mothers were European, while in Porirua and the surrounding suburbs (mentioned above) 53.4% were Maori and 21.9% were Pacific.

In 2002 a much smaller number of teen mothers lived in Wellington South suburbs with the exception of Strathmore (n=4) and Miramar (n=4).

The high numbers of teen pregnancies in Porirua and surrounding district identifies the need for improved sexuality education, access to contraceptives and parenting support in this local area. Maori are a priority group in the development of services. Improvement in the social and environmental determinants of health, for example income, education and employment also has the potential to reduce the rate of teenage pregnancy.

## Deprivation level

Nationally, there is a correlation between deprivation level and birth rates, with women in more deprived areas having higher birth rates.

As identified in Table 12 and Figure 5 in 2002 the majority of women who gave birth at Kenepuru Maternity Unit lived in the most deprived areas, whereas those women giving birth in Wellington Hospital tended to be from less deprived areas. Women who gave birth at Paraparaumu Maternity Unit tended to be from the middle deprivation levels (quintiles 2–4).

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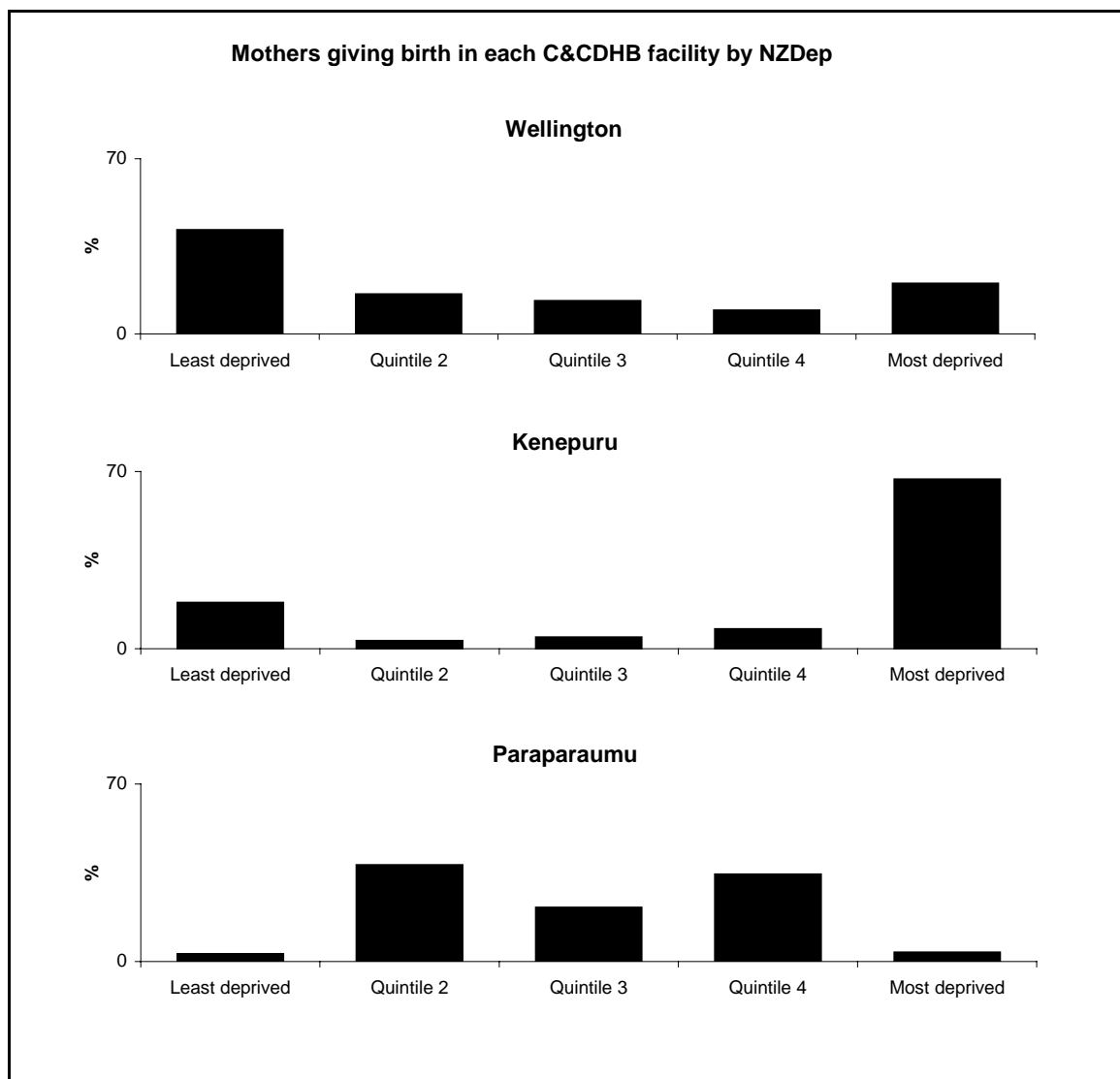
<sup>44</sup> Ministry of Health. 2004. *Negotiation brief –2004/5 indicators of DHB performance*. Wellington: Ministry of Health.

**Table 12 – NZ Deprivation level of mothers (%) by maternity facility – 2001**

	<b>Least deprived</b>	<b>Quintile 2</b>	<b>Quintile 3</b>	<b>Quintile 4</b>	<b>Most deprived</b>
Wellington (n=3228)	41.5%	15.8%	13.2%	9.3%	20.1%
Kenepuru (n=365)	18.1%	3.0%	4.4%	7.7%	66.8%
Paraparaumu (n=137)	2.9%	38.0%	21.2%	34.3%	3.6%

Source NMDS

**Figure 5 - NZ Deprivation level of mothers (%) by maternity facility – 2001**



Source NMDS

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## **Pregnancy rate (gravida)**

Gravida is defined as the total number of pregnancies experienced, including the current pregnancy.<sup>45</sup> Using PIMS data from 2002, 30.6% of births in C&CDHB were to first-time mothers (gravida 1) and 32% were women pregnant for the second time. Maori women (17.8%) and Pacific women (19.9%) were much more likely to have been pregnant 5 times or more compared to European/Other women (6.5%) and Asian women (5.4%).

## **Parity**

Parity is defined as the number of times a woman has borne children alive or dead after 20 weeks gestation, with multiple births counted as one.<sup>46</sup> Using data from PIMS, between 1997 and 2002 this was a first birth (para 0) for approximately 45% of women in C&CDHB, and a second birth (para 1) for approximately 34%.

## **Women with disabilities**

Women with disabilities are a group with special needs. It is likely that consumers with disabilities experience a range of difficulties and frustrations with various parts of the health care system. As a result, there is a continuing need for health funders and maternity providers to undertake actions that support women with disabilities. This includes –

- Ensuring that disabled women are treated with dignity and respect
- Ensuring that health services do not perpetuate the myth that disabled people are ill, while recognising that disabled people need access to health services without discrimination
- Facilitating access to information about support services available
- Making all information and communication methods offered to the general public available in formats appropriate to the different needs of disabled people.
- Identifying unmet need and developing affordable solutions to fill these gaps
- Improving timeliness of service provision

## **Non-residents**

Non-residents who receive clinical care in pregnancy are charged the full price for each antenatal visit and delivery. In women with limited financial resources this can mean that primary and secondary care is avoided with consequent clinical risk. Consultation with LMCs identified the need for more discussion to facilitate safe options for women in this situation with limited financial resources.

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<sup>45</sup> Ministry of Health. 2002. *Maternity services – notice pursuant to section 88 of the New Zealand Public Health and Disability Act 2000*. Wellington: Ministry of Health.

<sup>46</sup> Ministry of Health. 2002. *Maternity services – Notice pursuant to section 88 of the New Zealand Public Health and Disability Act, 2000*. Wellington: Ministry of Health.

## Maternal smoking

Smoking reduces oxygen supply and blood flow to the placenta blood flow and increases the risk of spontaneous abortion, perinatal death, low birth weight, and preterm birth.<sup>47</sup> In addition, “second hand” smoke is known to be a risk factor in the development of glue ear, asthma, croup, bronchiolitis, pneumonia and SIDS.<sup>48,49</sup>

Tables 13 and 14 provide information on smoking by ethnicity. Using data from PIMS in 2002, Asian mothers were least likely to be smoking while pregnant (1.8%) followed by European/Other women (10.8%). In this year nearly half (47.9%) Maori women and a quarter of Pacific women (24.9%) reported that they smoked. Pacific women had the highest rate of giving up smoking in pregnancy (8.7%), followed by Maori (6%) and European/other women (4%).

**Table 13 – Maternal smoking (%) 2002**

	European/other	Maori	Pacific	Asian
<b>Nil</b>	83.6	45.3	64.8	95.5
<b>Smoking</b>	10.8	47.9	24.9	1.8
<b>Given up</b>	4.0	6.0	8.7	2.1
<b>Not known</b>	1.6	0.7	1.5	0.6

Source PIMS

**Table 14 – Maternal smoking (%) – Number of cigarettes per day**

	European/other	Maori	Pacific	Asian
<b>1-4 per day</b>	4.2	12.2	10.5	0.9
<b>5-10 per day</b>	4.0	19.8	10.0	0.6
<b>10-20 per day</b>	2.3	12.6	3.7	0.3
<b>20+ per day</b>	0.3	3.3	0.7	0.0
<b>TOTAL</b>	<b>10.8</b>	<b>47.9</b>	<b>24.9</b>	<b>1.8</b>

Source PIMS

A survey undertaken by Cowan (1999) of maternity service providers identified high levels of assessing smoking status, but low levels of smoking cessation support in pregnant women who smoke.<sup>50</sup>

In pregnant women ready to quit, nicotine replacement therapy (NRT) avoids the harmful effects of other substances in tobacco and patches produce lower, longer lasting steadier concentrations of NRT. However, possible risks include too much exposure to nicotine and that little is known about dosage and administration. As a result, in the UK and US guidelines for managing smoking cessation in women who are pregnant identify that “the use of [nicotine replacement therapy] by pregnant smokers may benefit mother and foetus if it leads to smoking cessation” and that “special consideration” is needed before using it.<sup>51</sup>

<sup>47</sup> Health Funding Authority. 2000. *Maternity services: a reference document*. Hamilton: Health Funding Authority.

<sup>48</sup> Ministry of Health. 2001. *Inhaling inequality – tobacco’s contribution to health inequalities in New Zealand. Public Health Intelligence Occasional Bulletin 7*. Wellington: Ministry of Health.

<sup>49</sup> National Advisory Committee on Health and Disability. 2002. *Guidelines for smoking cessation, 2<sup>nd</sup> edition*. Wellington: National Advisory Committee on Health and Disability.

<sup>50</sup> Cowan, S. 1999. *Addressing smoking in pregnancy: a national survey of maternity service providers. Report to the HFA*.

<sup>51</sup> Editorial. 2004. Nicotine replacement therapy in pregnancy is probably safer than smoking. *BMJ*, 328:965-966.

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Even if clients are not ready to quit, LMCs can be instrumental in motivating clients along the “cycle of change”.<sup>52</sup> A recent review of smoking cessation in C&CDHB identified a service gap for pregnant women, and the fact that there is potential to improve cessation services by improved service coordination and provider development.<sup>53</sup> Feedback from LMCs identified that referral for cessation would be improved by knowing who to refer to.

The New Zealand College of Midwives in partnership with Education for Change runs Smoke Change workshops for midwives. These have been available to all LMCs and DHB midwives in the region, but have not been run locally due to lack of uptake. C&CDHB support of these workshops may facilitate midwives attending.

## **Alcohol and other drugs**

Alcohol intake during pregnancy increases the risk of foetal alcohol syndrome resulting in lower birth weight, delayed psychomotor development, learning and behavioural problems and hyperactivity. Maternal drinking in the critical “window of pregnancy” from days 6-16 post-conception can result in full fetal alcohol syndrome.<sup>54</sup>

A New Zealand study of 505 pregnant women identified that 81% drank alcohol before confirmation of pregnancy, 29% were still drinking following confirmation of pregnancy, and 8% were regularly drinking to intoxicating levels.<sup>55</sup> The effects of fetal alcohol syndrome have long term implications for the health, justice and education sectors.<sup>56</sup>

Use of other drugs in pregnancy (for example cannabis and ecstasy) also impacts on neonatal outcomes and the long-term health of children. There is anecdotal evidence of increasing addiction to methamphetamine (“P”) in the community, but the effects on neonates in C&CDHB is not documented.

LMCs are in a good position to identify women abusing drugs and alcohol or who are at risk of fetal alcohol syndrome and provide appropriate education, support and referral. Several LMCs identified the need for more coordinated services for pregnant women with drug and alcohol problems.

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<sup>52</sup> Prochaska, J, Diclemente, C. Transtheoretical therapy. 1982. Towards a more integrative model of change. *Psychotherapy Theory Res Prac*, 19: 276-88.

<sup>53</sup> Capital and Coast District Health Board. 2003. *Review of smoking cessation in Capital and Coast District Health Board*. Wellington: Capital and Coast District Health Board.

<sup>54</sup> Ministry of Health. 2003. *Health and independence report 2003. Director-General's annual report on the state of public health*. Wellington: Ministry of Health.

<sup>55</sup> Watson P, & McDonald B (Massey University, Albany). 1999. Nutrition during pregnancy. Cited in Health Funding Authority. 2000. *Maternity services: A reference document*. Hamilton: Health Funding Authority, p. 24.

<sup>56</sup> National Health Committee. 1999. *Guidelines for recognising, assessing and treating alcohol and cannabis abuse in primary care*. Wellington: Ministry of Health.

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## **Pregnancy in prison**

More women prisoners are likely to deliver at Wellington Hospital compared to any other hospital as Arohata Women's Prison is the only female prison with mother and baby self care units. Approximately 50 pregnant women are received into Arohata Prison each year. Some women keep their baby in prison, while others have their baby with caregivers. If the baby is with a caregiver access is granted on a daily basis. A ministerial release can be granted after delivery if the baby is born close to the release date.

Women pregnant in prison are a group with special needs. They are more likely to have not had antenatal care prior to coming to prison, and to not know their dates. Aside from support by an LMC there is no opportunity to attend pregnancy and parenting education courses while in prison. Following delivery women are sometimes offered an extra day in hospital to facilitate bonding.

Feedback from LMCs identified that midwives enjoy working with women at the prison but find the "system" difficult. LMCs report that prison protocols for women who are pregnant would be helpful.

## **Summary of key points and discussion**

Key points relating to this section are as follows:-

- The fertility rate of Wellington women is lower than the national rate. Maori women and Pacific women have a higher fertility rate. Between 1997-2002 the birth numbers have been stable, however an increase was evident in 2003.
- It is noted that the trend for women to start child bearing at a later age and to have fewer babies impacts on clinical outcomes and increases the costs of providing maternity care (see Chapter 5 Outcomes).
- Maori women give birth at a younger age compared to other groups.
- Maori are over-represented in the group of mothers under 20 years of age. Half of all mothers under 20 are from the Porirua-Titahi Bay area.
- In 2002 hospital data indicated that 67.8% of women giving birth were European or Other, 11.7% were Maori, 11.2% were Pacific, and 9.3% were Asian. Thus, the proportions of Maori, Pacific and Asian mothers are relatively similar. In addition to the high numbers of Maori and Pacific women in C&CDHB with special needs, staff working in maternity services are alerted to high numbers of Asian women giving birth in C&CDHB with special cultural and clinical needs (see Chapter 5 – Outcomes, and Chapter 7 Breastfeeding). In addition, within the group of women of "other" ethnicity are migrant women with special needs.
- Using the NZ Deprivation Index more women who deliver at the Kenepuru Maternity Unit live in deprived areas compared to women delivering at other facilities.
- Maori women and Pacific women are much more likely than European women to have been pregnant at least five times.

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- All health providers are asked to consider ways in which services may be improved for women with disabilities.
  - Pregnancy provides an appropriate “window of opportunity” for women to consider reduction or cessation. High numbers of Maori women smoke while pregnant. Smoking cessation has the potential to make a considerable impact on Maori maternal and child health outcomes and is therefore a service priority (see Chapter 5 – Outcomes). LMC knowledge of smoking cessation services would increase the rate of referral to these services.
  - Alcohol and other drugs taken in pregnancy have long term effects on children. LMCs are in a good position to identify women who are at risk and to provide appropriate education, support and referral. Consideration is given to exploring options to ensure more coordinated services for women with drug and alcohol problems.
  - Arohata Women’s Prison could be an important setting for health promotion, for example smoking cessation) and pregnancy and parenting education courses. Protocols for the care of women pregnant in prison would be helpful for LMCs.

### **Options for Consideration**

- C&CDHB notes the trend for mothers to be older, and that increasing age impacts on the number of women having normal deliveries and the cost of health care.
- The design and delivery of maternity services needs to recognise the differing needs of Maori and Pacific women, Asian women and migrant women.
- C&CDHB explores options for increased smoking cessation services in the district and smoking cessation workshops with LMCs.
- Regional Public Health is asked to assist with health promotion initiatives relating to use of alcohol and other drugs in pregnancy.
- C&CDHB suggests to the Department of Corrections that consistent implementation of prison protocols for women in prison who are pregnant would be helpful.
- C&CDHB and the Department of Corrections discuss pregnancy and parenting programmes at Arohata Women’s Prison.
- The availability of maternity resources in a range of languages is explored.

## 5. Maternal and Neonatal Outcomes

### Introduction

This section reviews maternity outcomes in C&CDHB. In recent months staff in the Women's Health Service of C&CDHB have compiled data on maternal outcomes for the period 1997-2002. This section of the report is not intended to duplicate this work, but rather to summarise key areas and compare C&CDHB with other regions.

### Data integrity

Those reading this section of the report are reminded of discrepancies in data from the MNIS/NMDS and PIMS (see Chapter 1 – Introduction) and that data from different sources can not necessarily be compared. However, in several areas trends are apparent which provide important information for C&CDHB.

### Mode of delivery - overview

Table 15, Table 16 and Figure 6 below provide summaries of relevant data on deliveries which will be referred to in subsequent sections of this chapter.

Table 15 clearly identifies that C&CDHB has a consistently higher rate of epidurals and episiotomies compared to the national average. The rate of caesarean section in C&CDHB was higher than the national average in 1999 and 2000, but reduced to close to the national average in 2001.

**Table 15 –Overview of deliveries with C&DHB/NZ comparisons, 1999-2001**

Year		MODE OF DELIVERY (%)			INTERVENTIONS (Rate per 100 births)			
		Normal Deliveries	Caesarean Section	Operative Deliveries	Inductions	Epidurals	Episiotomy	Other Events*
1999	C&CDHB	65.1	24.6	10.3	27.3	42.9	21.0	13.4
1999	NZ Average	68.7	20.4	11.0	27.2	22.8	12.1	11.1
2000	C&CDHB	67.2	24.7	8.2	16.9	36.4	14.9	9.9
2000	NZ Average	68.4	20.8	10.8	20.7	25.3	11.0	10.65
2001	C&CDHB	65.5	22.4	12.1	20.6	41.4	15.4	10.8
2001	NZ Average	67.6	22.1	10.3	20.9	25.4	11.0	10.4

Source NMDS

\*Operative Deliveries include forceps deliveries, vacuum extraction and vaginal breech deliveries

\*\*Other events include manual removal of placenta, hysterectomy, and postpartum haemorrhage

Table 16 below demonstrates that with the trend to an increased number of caesarean sections decreasing proportions of women in C&CDHB have a spontaneous vaginal delivery.

**Table 16 - Mode of delivery (%) C&CDHB, 1997-2002**

Mothers	1997	1998	1999	2000	2001	2002
Spontaneous vaginal delivery	66.5	66.9	65.6	65.6	64.4	64.0
Operative (assisted) delivery	12.5	11.1	10.3	7.8	11.6	10.9
Caesarean section	21.0	22.0	24.2	26.6	24.0	25.1
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source PIMS

Table 17 and Figure 6 identify that in 2002 Maori women and Pacific women were more likely to have a spontaneous, unassisted vaginal delivery and that Maori women were least likely to have an elective caesarean section.

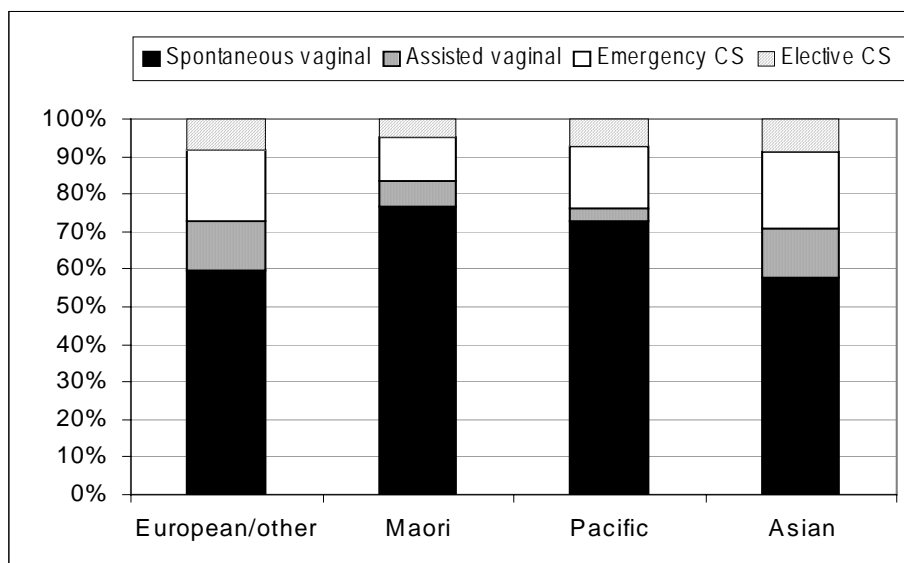
**Table 17 – Mode of delivery (%) by ethnicity in C&CDHB, 2002**

	European/Other	Maori	Pacific	Asian
Spontaneous vaginal	59.7	76.8	72.6	57.8
Operative (assisted) vaginal*	13.0	6.7	3.6	13.2
Emergency caesarean	18.9	11.7	16.5	20.3
Elective caesarean	8.4	4.8	7.2	8.7
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source PIMS

\*Operative or assisted vaginal deliveries include use of forceps, ventouse, manual rotation and vaginal breech deliveries

**Figure 6 – Mode of delivery (%) by ethnicity in C&CDHB, 2002**



Source PIMS

\*Assisted vaginal deliveries include use of forceps, ventouse, manual rotation and vaginal breech deliveries

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## Caesarean section

### *The trend to increasing caesarean sections*

The World Health Organisation has adopted an acceptable caesarean section rate of 5-15% for global use, however there is an international trend to increasing rates of intervention. It is believed this increase is due to a range of factors including medical, social and financial factors, “defensive medicine” and changing attitudes and values of care givers and pregnant women.<sup>57</sup> A previous caesarean section also increases the chance of another.

Standardised caesarean section rates are the ratios of observed to expected caesarean birth rates per 100 births multiplied by the overall national caesarean section rate for all women. Expected rates are calculated using the age and ethnic population structure of each DHB district.<sup>58</sup> National and local statistics (Table 18, Figure 7) indicate increasing caesarean rates in the decade preceding 1998, and that C&CDHB was consistently above the national average for caesarean section during this time. This increase continued in 1999 and 2000 (Table 15).

**Table 18 - Caesarean section - C&CDHB & NZ 1988-1998**  
Age standardised rate per 100 births

	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
<b>C&amp;CDHB</b>	12.4	13.7	14.5	16.3	17.2	17.3	17.4	18.1	20.6	19.3
<b>National</b>	12.1	12.4	13.5	13.1	13.4	14.6	14.8	15.5	16.5	17.7

Source: Health Funding Authority. 2000.<sup>59</sup>

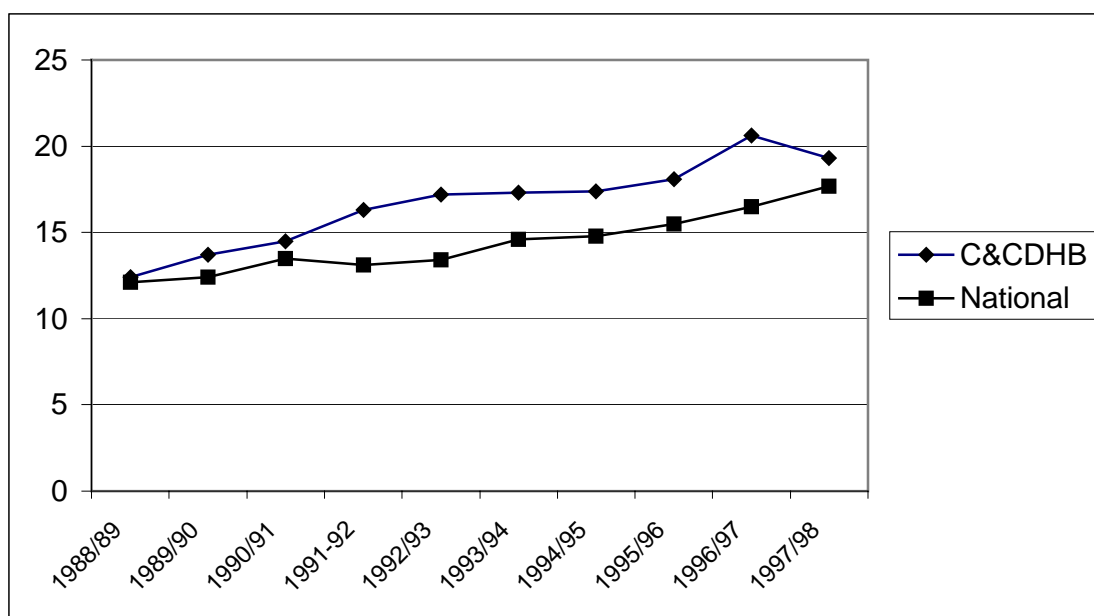
**Figure 7 - Caesarean section - C&CDHB & NZ 1988-1998**  
Age standardised rate per 100 births

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<sup>57</sup> [www.maternitywise.org/mw/topics/cesarean/booklet\\_body.html](http://www.maternitywise.org/mw/topics/cesarean/booklet_body.html). Printed 10 May 2004.

<sup>58</sup> Ministry of Health. 2003. *Report on maternity 2000 & 2001*. Wellington: Ministry of Health.

<sup>59</sup> Health Funding Authority. 2000. *Maternity services: A reference document*. Wellington: Health Funding Authority.



Source: Health Funding Authority. 2000<sup>60</sup>.

More recent data from PIMS identify that after 1999 at least 24% of births in C&CDHB were by caesarean section (Table 19). Of these, on average 17% were not planned and 7% were elective. The ratio of emergency caesarean section to elective caesarean section is constant.

**Table 19 – Caesarean sections (%) by type in C&CDHB, 1997-2002  
(Wellington, Kenepuru and Paraparaumu combined)**

Mothers	1997	1998	1999	2000	2001	2002
Emergency CS	15.2	15.4	17.5	19.2	16.7	17.4
Elective CS	5.8	6.6	6.7	7.4	7.3	7.6

<sup>60</sup> Health Funding Authority. 2000. *Maternity Services: A reference document*. Wellington: Health Funding Authority.

<b>TOTAL</b>	<b>21.0</b>	<b>22.0</b>	<b>24.2</b>	<b>26.6</b>	<b>24.0</b>	<b>25.1</b>
<b>Emergency/elective caesarean ratio</b>	2.6	2.3	2.6	2.6	2.3	2.3

Source PIMS

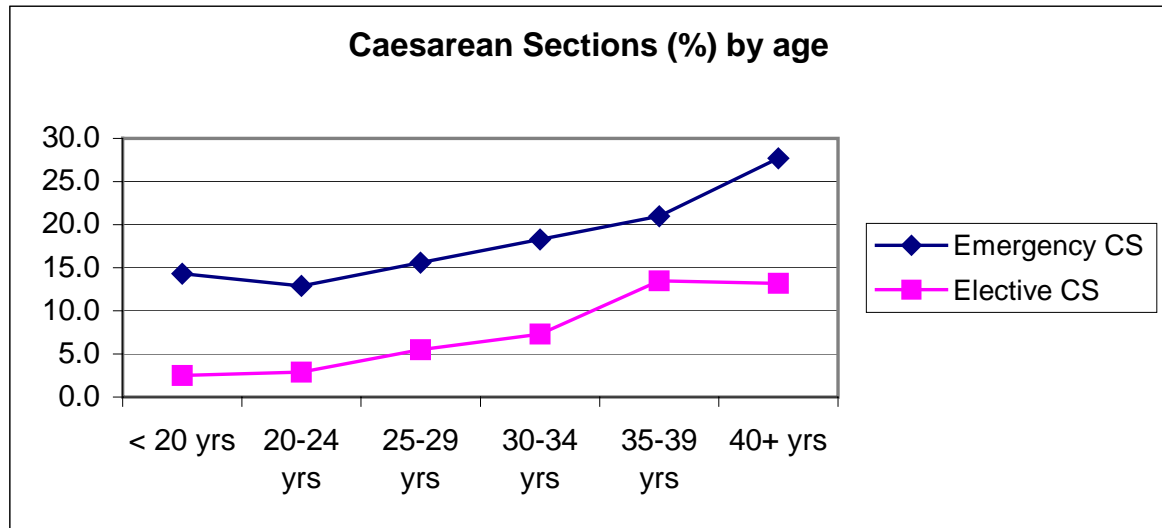
*Ethnicity and caesarean section*

In 2002 PIMS data (Table 17, Figure 6) identified that Maori women were least likely to have either an elective or emergency caesarean section (combined total 16.5%) while Asian women were more likely to do so (combined total 29%). Maori women were least likely to have an elective caesarean section (4.8%) compared to other groups (7-8%).

*Age and caesarean section*

Figure 8 below demonstrates the increased likelihood of having a caesarean section as women get older.

**Figure 8 – Caesarean section (%) by age in C&CDHB, 2002**



Source PIMS

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### Other factors

In the recent C&CDHB Maternity Report<sup>61</sup> specific analysis of maternal outcomes identified that in 2002 caesarean section rates were highest for women requiring induction of labour, and that a history of a previous caesarean section increased the likelihood of having another caesarean. Multipara with a previous caesarean section were identified as having approximately a 65.5% chance of having another caesarean.

A New Zealand reference document on maternity services<sup>62</sup> recommends that national guidelines for caesarean section be developed and that caesarean sections be audited to ensure conformity with best practice.

### Operative (assisted) deliveries

Operative deliveries are defined as deliveries including forceps, vacuum extraction and vaginal breech deliveries.

In 1999 and 2000 the rate of operative deliveries in C&CDHB was lower than the national average, but increased to slightly above the national average (12.1 per 100 births) in 2001 (Table 15). Statistics obtained over a longer period of time (Table 20) demonstrate an overall reduction in operative deliveries from 1997-2001 with a small increase in 2001.

There is a trend to a reduction in forceps and vaginal breech deliveries, and increasing use of ventouse-assisted deliveries in this period.

**Table 20 - Operative deliveries (%) in C&CDHB, 1997-2002**

Mothers	1997	1998	1999	2000	2001	2002
<b>Spontaneous vaginal delivery</b>	<b>66.5</b>	<b>66.9</b>	<b>65.6</b>	<b>65.6</b>	<b>64.4</b>	<b>64.0</b>
<b>Forceps</b>	9.2	8.2	7.9	5.1	6.4	6.5
<b>Ventouse</b>	2.0	2.0	1.4	2.0	4.7	3.7
<b>Manual rotation</b>	0.1	0.1	0.1	0.1	0.0	0.1
<b>Vaginal breech</b>	1.1	0.8	0.9	0.6	0.5	0.6
<b>Subtotal</b>	<b>12.4</b>	<b>11.1</b>	<b>10.3</b>	<b>7.8</b>	<b>11.6</b>	<b>10.9</b>
<b>TOTAL</b>	<b>78.9</b>	<b>78.0</b>	<b>75.9</b>	<b>73.4</b>	<b>76.0</b>	<b>74.9</b>

Source PIMS

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<sup>61</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

<sup>62</sup> Health Funding Authority. 2000. *Maternity services: A reference document*. Wellington: Health Funding Authority.

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## Operative deliveries and ethnicity

Utilising PIMS data from 2002 (Table 17), Pacific women (3.6%) and Maori women (6.7%) were least likely to have an assisted vaginal delivery compared to Asian women and European/Other women (13% respectively). Asian women (57.8%) and European women (59.7%) were least likely to have a spontaneous vaginal delivery compared to Maori women (76.8%) and Pacific women (72.6%).

There has been recent media publicity about a Japanese baby who suffered skull fractures and subsequently died as the result of a difficult forceps delivery at Christchurch Women's Hospital.<sup>63</sup> Asian women have a smaller pelvis compared to other groups. One recommendation from the inquiry was that research be undertaken to establish the normal range of pelvis size for Asian women and that guidelines be developed for the prenatal care of Asian women. However, feedback from LMCs identified that one case of adverse publicity should not stigmatise all Asian women, and local guidelines, if developed, should be developed with care.

## Epidurals

Table 15 indicates the high rate of epidurals in C&CDHB women. Between 1999-2001 the rate was nearly double that of the national average ranging from 36.4 – 42.9 per 100 births. Data from PIMS in 2002 is consistent indicating an adjusted epidural rate of 46.1% (excluding epidurals performed for elective caesarean section).<sup>64</sup>

National statistics (Table 21, Figure 9) indicate clearly that Asian and European women are more likely to have an epidural, while Maori women and Pacific women are least likely to have one. Within C&CDHB data on ethnicity is not known.

**Table 21 – Epidurals in NZ (rate per 100 births) by age and ethnicity – 2001**

	<b>Maori</b>	<b>Pacific</b>	<b>Asian</b>	<b>European</b>	<b>Other</b>	<b>Not reported</b>
<b>Total</b>	14.2	17.6	33.6	29.0	26.4	24.8

Source NMDS

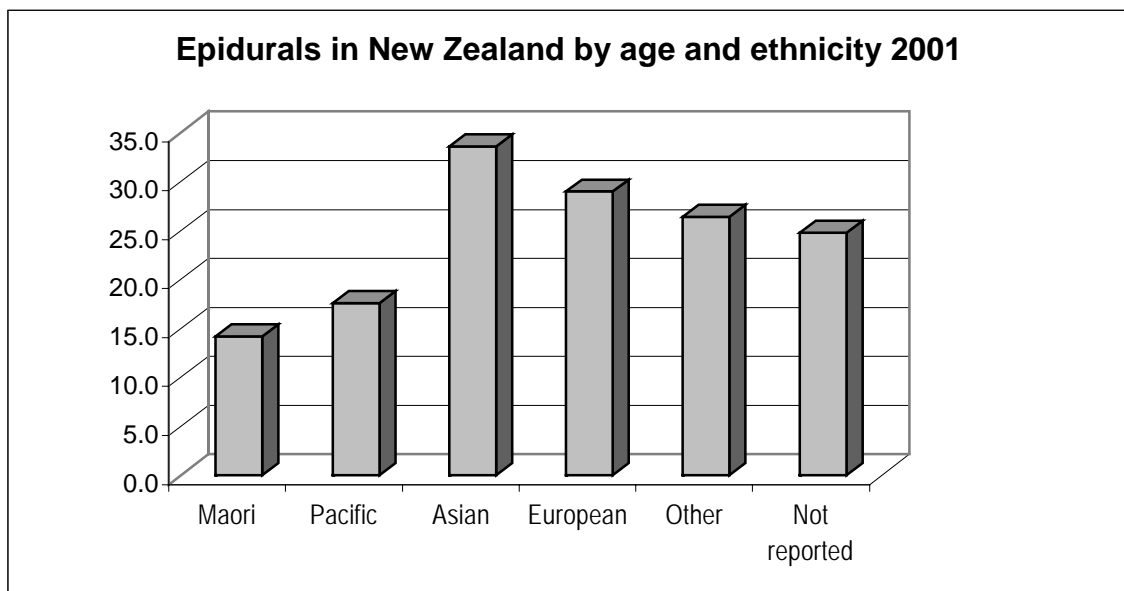
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<sup>63</sup> Dominion, Weekend Herald December 27-28 2003.

<sup>64</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

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**Figure 9 – Epidurals in NZ (rate per 100 births) by age and ethnicity – 2001**



Source NMDS

### **Inductions**

Comparison with other DHBs identifies that the rate of induction at C&CDHB is consistent with the national average (Table 15).

Table 22 and Figure 10 indicate that European women are more likely to be induced (23.1 per 100 births) compared to Maori, Pacific and Asian women (16.0 per 100 for all three groups). European women have a high rate of induction overall, and Maori and Pacific mothers under 16 and over 40 years of age.

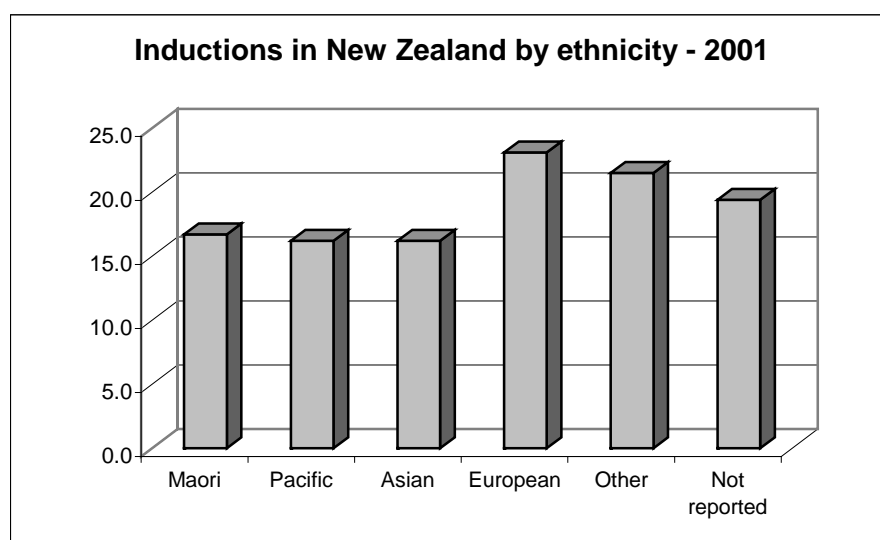
Locally, PIMS statistics identify that in 2002 approximately 30% of all women and more than one-third (35.9%) of primipara were induced.<sup>65</sup> The main indications for this procedure were gestation >41 weeks, pre-labour spontaneous rupture of membranes and hypertensive conditions. A local policy for induction of labour is in place.

**Table 22 – Inductions in NZ by ethnicity 2001 (rate per 100 babies)**

	<b>Maori</b> n=1792	<b>Pacific</b> n=917	<b>Asian</b> n=569	<b>European</b> n=7376	<b>Other</b> n=443	<b>Not reported</b> n=164
<b>Under 16</b>	22.7	50.0	0.0	20.5	0.0	0.0
<b>16-19</b>	14.3	15.3	7.0	22.9	28.5	14.4
<b>20-24</b>	15.7	15.6	15.1	23.7	19.6	17.0
<b>25-29</b>	16.5	15.6	17.6	23.3	18.5	23.9
<b>30-34</b>	17.9	15.4	14.7	22.9	22.3	19.7
<b>35-39</b>	20.2	18.3	18.5	22.3	22.9	18.9
<b>40+</b>	25.7	26.5	16.9	27.1	28.6	16.7
<b>Total</b>	16.7	16.2	16.2	23.1	21.5	19.4

Source NMDS

**Figure 10 – Inductions in NZ by ethnicity 2001(rate per 100 babies)**



Source NMDS

<sup>65</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

## Impact of demographic trends on delivery type

Table 23 demonstrates that increasing age increases the likelihood of a caesarean section. The reduced likelihood of having a normal birth as mothers get older is fully accounted for by caesarean sections and not operative or assisted births, which remains unchanged. The trend to women having fewer babies and starting child bearing at a later age will invariably impact on the likelihood of intervention and the costs of providing maternity care. Maori mothers are on the whole younger than other groups. This provides a possible explanation for the lower rate of caesarean section in this group. Other client and provider factors may also contribute to the lower rate.<sup>66</sup>

Table 24 demonstrates that women who are having a first child (para 0) are much more likely to have an operative/assisted vaginal delivery or a caesarean section.

**Table 23 – Type of birth (%) by age, New Zealand 2001**

	Normal birth	Total caesarean birth (acute and elective)	Operative/assisted birth
<b>Under 16</b>	76.5	12.8	10.7
<b>16-19</b>	76.5	13.5	10.0
<b>20-24</b>	75.5	15.4	9.2
<b>25-29</b>	69.2	20.4	10.5
<b>30-34</b>	63.8	25.1	11.1
<b>35-39</b>	60.7	29.2	10.2
<b>40+</b>	57.3	33.2	9.5

Source NMDS

**Table 24 – Type of birth (%) by parity, New Zealand 2001**

	Normal birth	Caesarean birth (acute and elective)	Operative/assisted birth
<b>Para 0</b>	52.3	26.2	21.6
<b>Para 1</b>	71.5	20.6	7.9
<b>Para 2</b>	77.3	19.2	3.4
<b>Para 3</b>	79.0	18.0	3.0
<b>Para 4</b>	80.9	14.1	5.0
<b>Para 5</b>	80.5	15.8	3.7
<b>Para 6</b>	80.8	14.5	4.7
<b>Para 7+</b>	83.5	13.1	3.4

Source NMDS

<sup>66</sup> Health Funding Authority. 2000. *Maternity services: A reference document*. Wellington: Health Funding Authority, p. 16.

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## Episiotomy

Between 1999 and 2001 the rate of episiotomy in C&CDHB (15.4 per 100 births) was significantly higher than the national average of 11.0 (Table 15).

## Birth weight

Low birth weight is defined as a baby born with a birth weight <2500g, and very low birth weight is a baby born weighing <1500g.

Low birth weight is a major cause of perinatal and infant mortality. In New Zealand low birth weight infants are 23 times more likely to die in the post-natal period compared to other infants, and are more likely to have poor health outcomes and increased disabilities. They are also more susceptible to serious illness during infancy and early childhood and in adulthood.<sup>67</sup> Thus, the costs of low birth weight babies to the health care sector are significant.

Risk factors for low birth weight include low maternal socioeconomic status, a younger or older mother, living with an abusive partner, maternal smoking, maternal alcohol use and poor maternal nutrition. Low birth weight is also related to obstetric complications and lack of prenatal care.<sup>68</sup>

Table 25 provides NMDS data from 2001-2003 indicating that in 2002/3 the overall discharge rate of babies in C&CDHB with a birth weight of <2,500g was 56.7 per 1,000. In the same period the Maori rate was 73.0 and the Pacific rate 51.5.<sup>69</sup> This represents an improvement from 2000/1 in which the overall rate in C&CDHB was 69.6 and the Maori rate was 96.4. Across the three years a lower proportion of Pacific neonates were discharged with a low birth weight.

**Table 25 – Discharge rate of low birth weight babies (<2500g)  
C&CDHB compared to NZ (rate per 1000 hospital births)**

	<b>Total</b>	<b>Maori</b>	<b>Pacific</b>	<b>Other</b>
<b>C&amp;CDHB 2000/1</b>	69.6	96.4	60.8	66.3
<b>National 2000/1</b>	63.6	77.3	49.8	61.8
<b>C&amp;CDHB 2001/2</b>	71.4	56.9	55.4	76.4
<b>National 2001/2</b>	63.4	79.1	44.2	61.9
<b>C&amp;CDHB 2002/3*</b>	56.7	73.0	51.5	54.7
<b>National 2002/3*</b>	60.7	71.3	45.7	59.9

Source NMDS

\*Provisional data

Statistics from PIMS provide additional information on birth weight related to ethnicity (Table 26, Figure 11). Figure 11 demonstrates the pattern for Asian babies born at ≥37 weeks gestation to have a lower birth weight and for Pacific babies to have a higher birth weight compared to other ethnic groups. In 2002 at least a quarter

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<sup>67</sup> Ministry of Health. 2003. *Health and independence report 2003. Director-General's annual report on the state of public health*. Wellington: Ministry of Health.

<sup>68</sup> Ministry of Health. 2003. *Health and independence report 2003. Director-General's annual report on the state of public health*. Wellington: Ministry of Health.

<sup>69</sup> Ministry of Health. 2004. *Negotiation brief –2004/5 indicators of DHB performance*. Wellington: Ministry of Health.

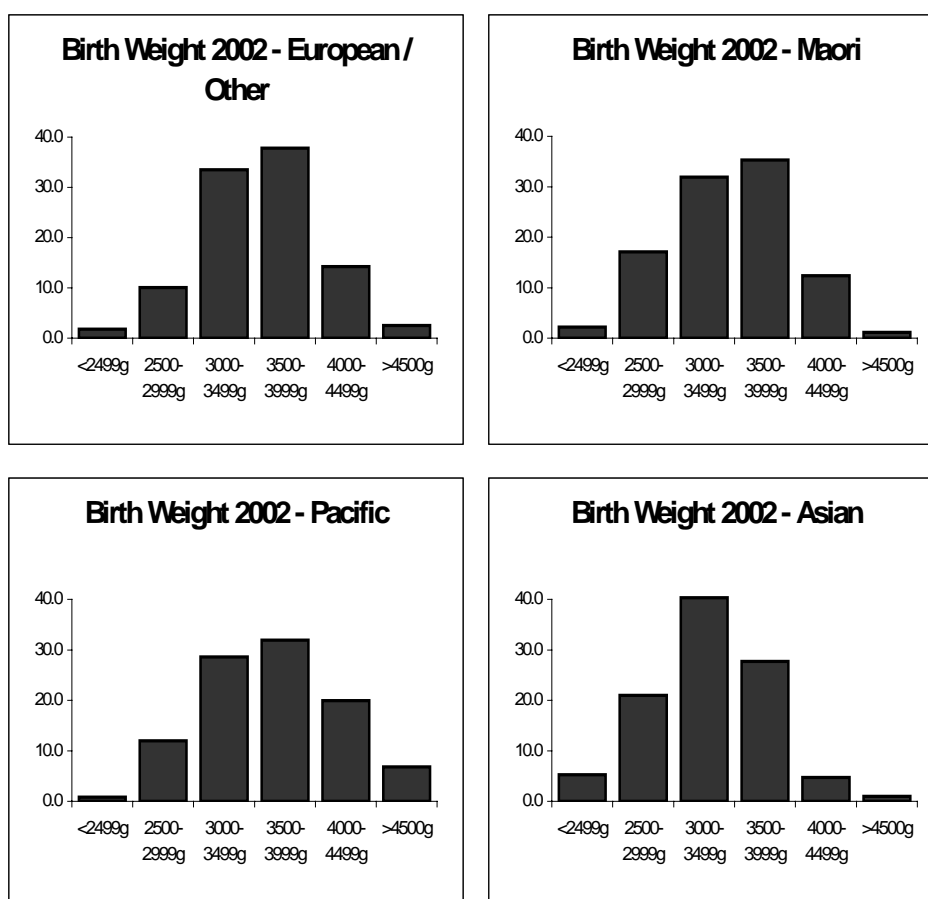
(26.3%) of Asian babies born at term were <3000g. However, next to Asian babies Maori babies (19.3%) were more likely to weigh <3000g.

**Table 26 – Birth weight (%) in term babies (≥37 weeks gestation) in C&CDHB, 2002**

	European/ other	Maori	Pacific	Asian	Total
<2499g	1.8	2.2	0.8	5.3	2.1
2500-2999g	10.1	17.1	12.0	21.0	12.1
3000-3499g	33.5	31.9	28.6	40.3	33.4
3500-3999g	37.8	35.3	31.9	27.7	35.9
4000-4499g	14.2	12.4	19.9	4.7	13.7
>4500g	2.5	1.1	6.8	1.0	2.6

Source PIMS

**Figure 11 – Birth weight (%) in term babies (≥37 weeks gestation) in C&CHDB, 2002**



Source PIMS

## Still births and perinatal deaths

A stillbirth is a birth that takes place after 20 weeks gestation, and/or over 400grams, where the baby shows no signs of life. Perinatal deaths are all stillbirths and babies from 20 weeks gestation and/or over 400 grams who died within 7 days of birth.

In 1999 C&CDHB had a high perinatal death rate of 13.4 per 1000 births compared to the national average of 10.7. This rate had reduced to slightly below the national average in 2001. Between 1999 and 2001 the rate of stillbirths in C&CDHB was slightly higher than national average (Table 27). One reason for an increased stillbirth and perinatal mortality rate in C&CDHB is that data include late terminations of pregnancy for fetal abnormality. Wellington Hospital is one of two tertiary materno-fetal medicine services in New Zealand and undertakes a high number of mid-trimester pregnancy terminations for fetal abnormality. Thus, stillbirths and perinatal deaths are expected to be higher than the national average.

**Table 27 - Live births and rates per 1000 births of stillbirths and perinatal deaths by DHB of mother's place of residence: C&CDHB & NZ 1999-2001**

		Live Births	Stillbirths	Deaths <7 Days	Total Perinatal Deaths	Deaths 7-28 Days
		Number	Rate per 1000 births			
1999	C&CDHB	3,536	10.6	2.8	13.4	0.0
1999	National	52,834	8.2	2.4	10.7	0.3
2000	C&CDHB	3,759	9.5	0.8	10.3	0.0
2000	National	55,447	7.3	3.0	10.2	0.5
2001	C&CDHB	3,657	7.6	1.1	8.7	0.0
2001	National	54,228	6.9	2.1	9.0	0.4

Source NMDS

A recent review of maternity services<sup>70</sup> looked more closely at perinatal mortality in babies born to women with a Porirua domicile code. In-hospital perinatal mortality rates were compared for babies born to mothers domiciled in Porirua, C&CDHB (excluding Porirua) and New Zealand (excluding Porirua). Four years data from 1999-2002 was aggregated due to small numbers. Results identified that perinatal mortality rates were higher in Porirua babies compared to other TLAs in C&CDHB. As data is now relatively old this will require further analysis.

<sup>70</sup> Ministry of Health, 2004. *Porirua maternity project* (unpublished).

## Premature Delivery

Pre-term labour is defined as labour before 37 completed weeks of gestation.<sup>71</sup> In 2002, 8.7% of babies born in C&CDHB were preterm ( $\leq 36 + 6$  weeks) and required admission to the Neonatal Intensive Care Unit.<sup>72</sup> Early delivery is a significant factor in perinatal death and babies born with a low birth weight. Neonates born at less than 37 weeks gestation make up between 65% and 70% of perinatal deaths and have a high risk of long term disability.<sup>73</sup> Smoking in pregnancy increases the risk of preterm birth due to reduced placental blood flow and decreased oxygen supply.<sup>74</sup>

Data from PIMS<sup>75</sup> identified that in 2002 Maori women experienced the highest rate of pre-term birth (14.3%) and Pacific women the lowest (9.0%). For European/other and Asian women 10% were in this category. In the same year, Pacific women had the highest percentage of post-term birth ( $\geq 42$  weeks) at 4.2%, and Asian women the lowest (1.5%). Two percent (2%) of European/other and Maori women were in this category.

Utilising NMDS data 7.7% of babies were born prematurely in C&CDHB in 2001/02 (Table 28). This compares to a national average of 6.9%. In the same period Kapiti women had a slightly higher percentage of premature deliveries compared to women living in Wellington and Porirua. Also, the average case weight (CWD) per premature birth to Kapiti women was almost double the C&CDHB average. This indicates that, on average, children born prematurely to Kapiti women required more complex care than children born prematurely to either Porirua or Wellington women. Babies born prematurely to women in Porirua also had a higher case weight than the C&CDHB average. However, small numbers may skew the data.

**Table 28 - Premature birth and average case weight by mother's residence  
July 2001 - June 2002**

	Total Births	Premature Births	Prem Births as % of total	Tot Prem CWD	Average CWD per Prem Birth
<b>Kapiti Coast</b>	307	26	8.4%	183	7.04
<b>Porirua</b>	767	56	7.3%	247	4.40
<b>Wellington City</b>	2,364	186	7.8%	550	2.96
<b>C&amp;CDHB Total</b>	3,438	268	7.7%	980	3.66
<b>New Zealand Total</b>	53,004	3,662	6.9%	13,614	3.72

Source NMDS – Data prepared by Technical Advisory Services

<sup>71</sup> Ministry of Health. 2003. *Report on maternity 2000 & 2001*. Wellington: Ministry of Health.

<sup>72</sup> C&CDHB. *Maternity Report 1997-2002*. Women's Health Service, Wellington: Capital and Coast District Health Board.

<sup>73</sup> Ministry of Health. 2003. *Health and independence report 2003. Director-General's annual report on the state of public health*. Wellington: Ministry of Health.

<sup>74</sup> Health Funding Authority. 2000. *Maternity services: A reference document*. Hamilton: Health Funding Authority.

<sup>75</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

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## Children with disabilities

In some cases, parents are provided with information antenatally that their unborn child has a disability. In others, parents are aware the child has a disability at birth or in the first few months of life. In either situation, it is not uncommon for health professionals to communicate a sense of tragedy. A preferred approach is for health professionals to support families with a positive approach and to refer early to appropriate community-based support services.

## Readmission of newborns

After 1999 there were changes to the definition of what constituted the postnatal period<sup>76</sup> hence changes in NMDS data in 2000 and 2001. As can be seen, between 2000 and 2002 C&CDHB had a higher readmission rate of neonates compared to the national average (Table 29). This data requires further analysis as preliminary investigation suggests this may be a coding issue, with postnatal transfers of babies to Kenepuru and Paraparaumu Maternity Units counted as a discharge and not a transfer.

**Table 29- Readmission to hospital within 6 weeks of newborns born in hospital C&CDHB & NZ 1999-2002 – rate per 1000 live births**

	1999	2000	2001	2002
<b>C&amp;CDHB</b>	52.9	110.4	123.4	103.2*
<b>National</b>	71.0	78.1	78.4	76.8

Source NMDS

\*Provisional data

## Readmission of mothers

Using data from the NMDS (DRG codes Oo4Z and O61Z only)<sup>77</sup> approximately 5.2% of New Zealand mothers required postnatal admission in 2001 within 42 days of the birth.<sup>78</sup> (This represents a close estimate as data relates to readmission *events* and some mothers may have been admitted more than once in that period). Of those readmitted the most frequent diagnoses related to postpartum care and examination (38.7%), puerperal infection/puerperal sepsis (19.4%), breast infection or other breast problem associated with childbirth (12.1%), and postpartum haemorrhage (10%).

Local data from 2002 on readmission of mothers postnatally has been compared with national data in 2001 (Table 30). Nationally, readmission events accounted for 5.2% of all women who delivered compared to 2.6% of women who delivered in C&CDHB. However, it is noted that data from different data sources can not necessarily be compared.

In C&CDHB in 2002, 29 readmission events were associated with breast infections or other associated breast or breastfeeding problem following delivery. As a percentage of all readmissions this is consistent with national data. However, it is noted that one main reason for mastitis is poor drainage of milk related to

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<sup>76</sup> In 1999 the definition of the postnatal period was a month; in 2000 and 2001 it was 42 days (Ministry of Health. 2003. Report on maternity 2000 & 2001. Wellington: Ministry of Health).

<sup>77</sup> These codes relate to postpartum and post-abortion diagnoses.

<sup>78</sup> Ministry of Health. 2003. Report on maternity 2000 & 2001. Wellington: Ministry of Health.

breastfeeding technique, ineffective positioning, or poor latching by the neonate.<sup>79</sup> Thus, it is likely that a proportion of these admissions could be avoided by improved antenatal and postnatal education, and improved breastfeeding support postnatally.

**Table 30 – Readmission events within 42 days of delivery – C&CDHB 2002 (DRG Codes Oo4Z & O61Z only)**

Diagnosis	New Zealand 2001 Source NMDS			C&CDHB 2002 Source PIMS		
	Number of readmission events	As a % of readmission events n=2777	As a % of all women giving birth n=53,805	Number of readmission events	As a % of readmission events n=95	As a % of all women giving birth n=3,688
Postpartum care and delivery	1074	38.7%	2.0%	25	26.3%	0.67%
Infections of the breast associated with childbirth, other disorders of the breast and lactation	430	15.5%	0.79%	29	30.5%	0.78%
Post partum haemorrhage	279	10.0%	0.51%	12	12.6%	0.32%
Puerperal sepsis/ puerperal infections	539	19.4%	1.0%	18	18.9%	0.49%
Other	455	16.4%	0.84%	11	11.6%	0.3%
<b>Total</b>	<b>2777</b>	<b>100%</b>	<b>5.2%</b>	<b>95</b>	<b>100%</b>	<b>2.6%</b>

### Post-partum haemorrhage

Large blood loss during labour and delivery can compromise the mother's well being in the postnatal period, and is a potential threat to life. The exact amount of a postpartum haemorrhage (PPH) is difficult to quantify and estimates are made in three categories. There are two alternative ways of quantifying blood loss:-

A -  $\leq 500\text{ml}$ ,  $>500$  and  $\leq 1000\text{ml}$ , and  $>1000$  ml

B -  $<500\text{ml}$ ,  $\geq 500\text{ml}$  and  $<1000\text{ml}$ ,  $\geq 1000\text{ml}$

In the C&CDHB Maternity Report<sup>80</sup> two alternative definitions were utilised to analyse blood loss in women who delivered in 2002. Utilising Definition A (blood loss  $>1000\text{ml}$ ) 1.9% were categorised as having a PPH. Utilising Definition B (blood loss  $\geq 1000\text{ml}$ ) 3.4% were in this category. The majority (between 74-84%) had a blood loss of 500ml or less. In 3.2% blood loss was not stated, and the balance had a moderately-heavy blood loss of 500-1000ml.

International recommendations are that a PPH should be no greater than 1.3%. In 2000 a PPH quality project was initiated in C&CDHB in which protocols, training, patient information and key performance indicators were established.<sup>81</sup>

<sup>79</sup> Patient information on breastfeeding, developed by C&CDHB.

<sup>80</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

<sup>81</sup> C&CDHB Newsletter No 12, 21 November 2003.

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## Diabetes in pregnancy

The C&CDHB Maternity Report included information on the management of women with diabetes in 2002. A total of 75 mothers were managed at the Diabetes Outpatient Clinic. Of these, 73.3% had gestational diabetes and 26.7% had pre-gestational diabetes. Table 32 identifies that a high proportion of women with diabetes were Asian and Pacific (30.7% and 26.7% respectively), but a relatively small number were Maori (4.0%). Within the Asian group 15 were Indian and 8 were Chinese or from South East Asia.

**Table 31 – Ethnicity of pregnant women attending the WHS Diabetic Clinic – 2002**

<b>European/Other</b>	<b>Maori</b>	<b>Pacific</b>	<b>Asian</b>
38.7% (n=29)	4.0% (n=3)	26.7% (n=20)	30.7% (n=23)

Source PIMS

## Termination of pregnancy

C&CDHB provides a regional termination of pregnancy service. In 2003, 2966 terminations were performed, with 1210 (40.8%) being women from other DHBs.

As identified in the tables below, in 2003 19.2% were <20 years of age and 52.9% were between 20-29 years of age. As data has been compiled from a range of DHBs ethnicity can not be accurately identified for C&CDHB, however it is noted that Maori women are over-represented.

**Table 32 – Age distribution (%) of terminations of pregnancy C&CDHB – 2003**

<b>&lt;16 years</b>	<b>16-19 years</b>	<b>20-24 years</b>	<b>25-29 years</b>	<b>30-39 years</b>	<b>40-49 years</b>
1.1%	18.2%	33.4%	19.5%	23.2%	4.6%

Source Women's Health Service, C&CDHB

**Table 33 – Ethnicity (%) of terminations of pregnancy C&CDHB – 2003**

<b>European</b>	<b>Maori</b>	<b>Pacific</b>	<b>Asian</b>	<b>Other</b>
50.1%	26.6%	10%	12.3%	0.9%

Source Women's Health Service, C&CDHB

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## Sterilisation

An analysis of the discharge database examining tubal ligation and vasectomy procedures has been undertaken for two financial years from July 01 to June 03 (Table 34). There were a total of 647 tubal ligation and 4 vasectomy procedures performed at Wellington Hospital in this period. Laparoscopic sterilisation (76.7%) was the most common procedure used for tubal ligation, followed by sterilisation by open abdominal approach (18.7%), while vasectomy accounted for 0.6% of procedures.

**Table 34 – Sterilisation procedures performed in C&CDHB July 01-June 03**

Description of Procedure	No of Procedures	%
Electrodestruction of fallopian tubes	4	0.6%
Laparoscopic electrodestruction of fallopian tubes	14	2.2%
Laparoscopic sterilisation	496	76.2%
Sterilisation by open abdominal approach	121	18.6%
Sterilisation via vaginal approach	12	1.8%
Vasectomy, bilateral	4	0.6%
<b>TOTAL</b>	<b>651</b>	<b>100%</b>

Source NMDS

For low-income people the cost of a vasectomy in the private sector can be prohibitive (approximately \$300). There is anecdotal evidence in the community of unwanted pregnancies while women are on a waiting list to have a tubal ligation, or delays resulting from the inability to afford a vasectomy. However, vasectomies are not routinely performed at C&CDHB, with tubal ligation the only option. It would appear that vasectomy is an extremely cost-effective method of sterilisation that is currently under-utilised as a procedure at C&CDHB. The procedure also has a lower risk to a patient and would be able to be performed in a more timely manner than tubal ligation.

Beneficiaries who meet the appropriate WINZ criteria may be entitled to a non-recoverable Special Needs Grant of up to \$300 to have a vasectomy.

## Determinants of health

Strategies to improve perinatal outcomes usually focus on the pregnancy itself and risk factors related to poor pregnancy outcomes. However, as pointed out by Misra, Guyer & Allston (2003)<sup>82</sup> some of the most powerful influences on pregnancy outcomes are related to influences that occur long before pregnancy begins. These influences include behavioural, environmental and social factors such as income, education and employment. Attention to these determinants of health has the potential to make significant improvements in maternal and child health.

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<sup>82</sup> Misra DP, Guyer B & Allston A. 2003. Integrated perinatal health framework: A multiple determinants model with a life span approach. *American Journal of Preventive Medicine* 25 (12): 65-75.

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## Summary of key points and discussion

Outlined below are key points that arise out of analysis of maternal and neonatal outcomes:-

- C&CDHB has a higher rate of epidurals and episiotomy compared to other DHBs, and there is a trend to an increasing proportion of mothers to have a caesarean. The increasing rate of intervention is a concern and contributes to increasing costs in maternity care.
- Maori women are more likely to experience pre-term birth.
- Asian and Maori babies in C&CDHB born at term are more likely to have a lower birth weight compared to other groups.
- Perinatal mortality is higher for babies born to mothers with a Porirua domicile code.
- In 2001/02 babies born prematurely to Kapiti women and Porirua women had a higher case weight. However, small numbers may skew the data.
- A PPH is difficult to quantify and two alternative definitions have been provided. Using either definition the rate of PPH could continue to be improved in C&CDHB.
- Asian women and Pacific women have a high rate of diabetes in pregnancy
- Compared to other groups Asian women are less likely to have a spontaneous vaginal delivery.
- In 2003, 1756 women from the greater Wellington region had a termination of pregnancy. While all groups are well represented in the data, Maori women are more likely to have a termination of pregnancy compared to other groups.
- Vasectomy is a cost-effective and safe method of sterilisation that is currently under-utilised as a procedure in C&CDHB.
- Many readmissions to hospital for breast infections or abscesses are potentially preventable.
- Management of the determinants of health, for example improvements in education and unemployment and environmental and social factors affecting women's lives has the potential to make significant improvements in maternal and child health.

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### **Options for Consideration**

- A working group reviews the rates of intervention in C&CDHB and considers options.
- C&CDHB considers further analysis of premature babies admitted to the Neonatal Intensive Care Unit to identify relevant trends.
- Smoking cessation services in the district, particularly those for pregnant women and their family/whanau are strengthened.
- C&CDHB explores options with Regional Public Health and/or the New Zealand College of Midwives to increase participation in smoking cessation workshops for LMCs and other health professionals involved in pregnancy care.
- Effort is directed at identifying and reducing preventable readmissions of mothers to hospital, for example complications related to breastfeeding.
- C&CDHB explores options for reducing the number of women having a termination of pregnancy in the district.
- C&CDHB explores funding options that provide couples with a choice of sterilisation procedures.
- C&CDHB notes the potential for improvement in perinatal outcomes by intersectoral collaboration and government policies with respect to education, employment, income and other structural factors.



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## 6. Antenatal Support Services

### Information on antenatal services

A national 0800 number (0800 MUM 2 BE) managed by the Ministry of Health is provides information on LMCs. Women who make contact are also sent a copy of the Maternity Services Information Kit and are given verbal information on pregnancy and parenting education services if this is requested.

A number of women interviewed in Porirua identified that finding a midwife was “a difficult and arduous process.”<sup>83</sup> The 0800 number is not listed in the Wellington phone book and women phoning the number as “0800 Mum **To** Be” will not be connected. In addition, anecdotal information suggests that the list is often out-of-date and women find it distressing to phone many midwives to be informed that the midwife has a full caseload in the month the woman is due to give birth. Lack of a phone represents another barrier to accessing this service.

Within MATPRO, the coordinator contacts LMCs (including non-MATPRO LMCs) who meet the woman’s criteria and identifies availability until a suitable LMC is found for the woman concerned. LMCs identify that local coordination of this service would be preferred as it would be much more user-friendly and up-to-date.

### Pregnancy and parenting education

A national service specification for pregnancy and parenting education<sup>84</sup> has been developed and is being applied to all contracts.<sup>85</sup> The service specification moves providers away from duplicating education that LMCs are required to provide and focuses on empowering women to become partners in their maternity care.<sup>86</sup>

It is noted in the HFA reference document on maternity care<sup>87</sup> that pregnancy and parenting education courses allow women to be given unbiased information on maternity services. It is recommended that providers of these programmes are independent (i.e. neither LMCs or tamariki ora/Well Child providers). In urban areas that can support it, it is suggested that both a Maori and a mainstream provider are funded to provide this service.

It would appear that a number of LMCs provide group antenatal education programmes to clients. Part of this relates to the ease of providing certain information as a group compared to providing it individually, and also the lack of publicly-funded pregnancy and parenting education programmes in C&CDHB.

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<sup>83</sup> Ministry of Health. 2003. *Porirua maternity project* (unpublished).

<sup>84</sup> Supplementary paper: National service specification for pregnancy and parenting education.

<sup>85</sup> Health Funding Authority. 2000. *Maternity services: a reference document*. Hamilton: Health Funding Authority.

<sup>86</sup> Health Funding Authority. 2000. *Maternity services: a reference document*. Hamilton: Health Funding Authority.

<sup>87</sup> Health Funding Authority. 2000. *Maternity services: a reference document*. Hamilton: Health Funding Authority.

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he Women's Health Service is currently contracted to provide pregnancy and parenting education courses. In the last year 10 courses were run (4 sessions each) in Paraparaumu. Two courses were run concurrently in each 8 week period, with one having a particular focus on younger women/teenagers. In 2003, 60 women attended these programmes. It is planned to reduce the classes in Paraparaumu to six courses per year in 2004.

A local organisation with midwifery, general practitioner and consultant obstetrician LMCs (MATPRO) is contracted by the Ministry of Health to provide a fully-funded, pregnancy and parenting education programme. Courses are held in Cannons Creek (Porirua) and in Newtown (Wellington City). Each course has places for up to 12 pregnant women and involves a minimum of 12 hours' education. The courses are run 8 times a year in each location (total 192 places). Most people attending this programme are first-time mothers and their partner/support person. Aside from the hospital-funded programme in Paraparaumu this is currently the only free pregnancy and parenting education programme in C&CDHB. As there is high demand for this programme MATPRO encourages LMCs to only refer women to this course who would not be able to afford to attend another programme. Other midwifery providers (Domino, the Newtown Union Health Service and Porirua Union and Community Health Service) also refer to this programme. In 2003, 20.5% of participants were Maori, 17.5% were Pacific, 8% were Asian, 7% were Other/not stated, and 47% were European.

In preparing this report all LMCs spoken to believed that there are insufficient publicly-funded pregnancy and parenting education courses to meet the demand. There is a particular need to develop antenatal and parenting support for teenagers who are often reluctant to attend classes with older women. Antenatal classes and parenting education is also needed for women at Arohata Prison.

The full range of antenatal programmes available in C&CDHB are outlined in Table 35. Note that this information was compiled manually as there appeared to be no local provider coordinating this information.

**Table 35 – Pregnancy and parenting programmes in C&CDHB**

<b>Programme</b>	<b>Sessions</b>	<b>Cost</b>	<b>Contact</b>
Paraparaumu Antenatal Classes (Women's Health Service, C&CDHB) [6 classes are run each year]	4	No charge	Noreen Roache (04) 298 6032
MATPRO Pregnancy and Parenting Education Programme [16 classes are run each year – 8 in Newtown and 8 in Porirua]]	4, plus tour of Delivery Suite	No charge	Alison Appleton 801-7307
Parents Centre	7-11	\$120-160 [includes annual membership and newsletter]	Mana 237-6262 Well Nth 475-7550 Well Sth 380-8002 Kapiti 904-3732
Birthwise [focus on natural birth and holistic parenting]	7	\$115	Bonnie Meiklejohn (04) 904-0680
Smalltalk	6	\$130	Julia Nelson 479-1244
Tawa College (Community Education)	8	\$55	232-7163
Newlands College (Community Education)	6	\$70	474-1339
Bowen Hospital	5	\$100	Jacqui Dyer (025)536809 476-4942
Maraeroa Marae Health Clinic/Ora Toa Health Unit (Maternity Support contract)	Development of a programme may be considered		Louise Morris 235-8000

### **Maternity support services provided by LMCs**

At the present time, Newtown Union Health Service and Porirua Union Health Service are funded by the Ministry of Health to provide maternity support services. Additional funding to these services allows LMCs to undertake extra visits and support to high risk clients.

### **Services for Maori women**

C&CDHB currently funds three Maori providers to provide a whanau ora maternity support service to mothers and their pepi/babies. Maraeroa Marae Clinic and Ora Toa Health Unit have a joint contract to provide this service. Nga Tapuhi Whakawhanau – Maori and Pacific Island Midwifery Service also has a whanau ora maternity support contract (also see Postnatal Services).

As part of these contracts appropriately qualified staff provide health education, support, well child care and parenting advice to mothers during pregnancy and in the postnatal period. An important role is to ensure that women access maternity services early in their pregnancy and continue with this support postnatally. Maraeroa Marae Clinic and Ora Toa Health Unit have contact with women for a minimum of 6 weeks or until the service is no longer required. Staff working in Nga Taphui Whakawhanau continue support until the child is approximately 2 years old.

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When the service ends children are transferred to the care of another tamariki ora/Well Child provider.

### **Services for Pacific women**

Pacific maternity support services are an identified area of service development in the C&CDHB Strategic Operational Plan.

### **Specialist Maternal Mental Health Service**

C&CDHB provides a specialist regional maternal mental health service for women with a moderate-to-severe mood or psychotic disorder living in the greater Wellington region, and women who develop mental health problems during pregnancy. Support continues in the postnatal period for up to 9 months (see also Chapter 8 - Postnatal Support Services). In 2003, the service accepted 222 referrals. A psychiatrist also undertakes consultation/liaison work with other health professionals. Details of the referral pathway to the service ("decision tree") are provided in Appendix Four.

Consultation with LMCs and the Specialist Maternal Mental Health Service identified that a service gap exists for women who require additional psychosocial care who do not fit the criteria of the service.

### **Social work services**

Three social workers (2.0 FTE) are employed by Therapies at Wellington Hospital to manage social work services in the areas of maternity and gynaecology. Social workers are also employed to manage maternal and child health services at Kenepuru Hospital and Kapiti Health Centre. In addition, a social worker is based part-time at Newtown Union Health Centre (see also Chapter 8, Postnatal Support Services).

Their role includes the following:-

- Undertaking psychosocial assessments
- Providing counselling and support. This includes helping women and their families deal with grief and loss issues, not necessarily related to death.
- Providing advocacy
- Facilitating access to financial entitlements
- Practical assistance
- Liaison and education
- Attending multi-disciplinary team meetings and working in close collaboration with staff in discharge planning
- Liaising with the Child Youth and Family Service on care and protection issues
- Arranging accommodation and travel for families from another DHB region, and if referred out-of-town for treatment

Referrals are received from within the hospital and from LMCs. Referrals at an early stage antenatally provide the opportunity to undertake assessments and provide assistance that may reduce problems postnatally (see also Chapter 8 – Postnatal Support Services).

In addition, Newtown Union Health Services have had an integrated model of maternal-child health service delivery for over decade with a part-time social worker funded to work from the practice.

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Within the Wellington Hospital social work service arranging accommodation and travel for out-of-town patients is a very time-consuming part of the role that could be devolved to a person working in an administration capacity. This would free up social workers for more client contact.

Feedback with LMCs identified a perceived lack of availability of social work services to them as health professionals. LMCs are understanding of the limited capacity of hospital social workers and would find a referral protocol helpful.

### **Women with special needs**

Pregnant women with a range of complex needs are managed by the Materno-Fetal Medicine ('High risk') team based within the Women's Health Service (see Chapter 3 – Facilities and Services). Women referred to this service include women with complex medical problems, women who are alcohol or drug dependent and women with a psychiatric condition.

LMCs may also manage women with complex needs. For example, most teen pregnancies are managed by LMCs. As discussed, Newtown Union Health Services have a part-time social worker who manages maternal and child health issues with the practice. Thus, in collaboration with appropriate hospital specialists staff are able to provide good support to mothers with a range of complex social problems.

From assessment of the services currently delivered it would seem that a service gap exists for service for women with special needs who fit neither the definition of need of the Maternal Fetal Medicine/'High risk' Team or the Specialist Maternal Mental Health Service (see also discussion on page 24).

### **Summary of key points and discussion**

Several providers are contracted to provide maternity support services and services for Pacific women and their families are an identified area of service need. Pacific and kaupapa Maori pregnancy and parenting education programmes could complement these services.

In 2003, 3903 women delivered in C&CDHB - this included approximately 1750 primipara/first-time mothers. In 2000 the HFA published a maternity services reference document which estimated that 30% of women would choose to attend a publicly-funded pregnancy and parenting programme.<sup>88</sup> Using this calculation (and even calculating on primipara only) there is inadequate access to these programmes in C&CDHB.

However, while one model of health service delivery is currently utilised with respect to parenting and pregnancy education, others may be considered. Health service contracts have a tendency to fragment services when ultimately, the aim of health services is service coordination and integration. Pregnancy and parenting education is an example of this fragmented delivery, a separation of which has been forced by the theoretical stance of reducing bias on information given to women. Several midwives spoken to were of the opinion that pregnancy and parenting education should be inclusive of LMCs who have the responsibility of coordinating all antenatal

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<sup>88</sup> Health Funding Authority. 2000. Maternity services: a reference document. Hamilton: Health Funding Authority.

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and postnatal services for women in their care. Further consideration could be given to developing an appropriate local model.

The main aim of the Ministry of Health 0800 MUM 2 BE service is to provide women with a list of LMCs in the local area. Women are also given information on pregnancy and parenting courses in the area if they ask. However, it appears that this service is not well publicised. For example, the number could be listed in both the white pages (under hospitals and other health service providers) and in the yellow pages (under midwives). Those managing this service and other health providers could also be more regularly updated with information on pregnancy and parenting courses in the local area. Discussion with LMCs identified that local coordination of this service would be preferred.

LMCs express a perceived lack of social work availability, and the workload of social workers employed to work in Women's Health could be eased by identifying a suitable person to manage the travel and accommodation part of their role. Other agencies providing social services could be identified and better links built with LMCs.

### **Options for Consideration**

- There is a need to ensure that health providers are regularly updated on the range of LMCs and pregnancy and parenting education services in the district.
- C&CDHB suggests to the Ministry of Health that local coordination of maternity information services would be useful.
- C&CDHB considers future options for the delivery of pregnancy and parenting education programmes in C&CDHB. Service options for teenagers are developed.
- The development of community-based maternity support services for Pacific women is supported.
- Further discussion is held with providers on the ways in which the needs of women and families requiring additional psychosocial support and intervention may best be managed.

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## 7. Breastfeeding

### Introduction

While it would be hoped that exclusive breastfeeding rates are close to 100%, a range of factors intervene to prevent this. These include premature birth, inverted nipples, certain medical conditions in the baby (for example cleft palate) and use of certain pharmaceuticals by mothers. The social acceptability of artificial feeding and personal choice are also factors. Research has identified that women may have made their feeding choice early in pregnancy, even prior to conception<sup>89</sup>, and the attitude of the partner to breastfeeding also has a significant effect on breastfeeding.

In the immediate postnatal period poor initiation of breastfeeding following the birth reduces feeding success. Use of pacifiers contributes to reduced breastfeeding<sup>90</sup>, as does the use of supplements.

Research identifies that breastfeeding is socio-economically patterned with women with lower levels of educational achievement less likely to breast feed.<sup>91</sup> Women who do not attend antenatal classes are also less likely to breast feed.<sup>92</sup> Financial or professional factors which motivate early return to work following the birth reduces breastfeeding. Another factor in those who smoke is that smoking is associated with increased adrenalin levels that may inhibit the milk ejection reflex and reduce breastfeeding success.<sup>93</sup>

Cultural factors related to parenting can also influence breastfeeding. For example, the practice of other family members assisting with parenting may predispose to artificial feeding or may support breastfeeding, depending on attitudes and resources.

In addition, a range of provider issues can influence breastfeeding including conflicting messages from staff in hospital and poor postnatal support, particularly if a first time mother. While many LMCs and postnatal midwives provide good support to women and encourage breastfeeding, they can not be universally available to provide additional support to women experiencing problems in the postnatal period.

### Data integrity

Those reading this report are reminded of deficiencies of data using the NMDS which is only 70% complete (see Chapter 1 – Introduction). There may also be limitations

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<sup>89</sup> Lennon, M. 1997. Breastfeeding scooping project. Unpublished report prepared for North Health. Cited in Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.

<sup>90</sup> Ford, R, Mitchell E, Scragg E, Stewart A, Taylor B & Allen E. 1994. Factors adversely associated with breastfeeding in New Zealand. *Journal Paediatric Child Health* 30: 483-89. Cited in Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.

<sup>91</sup> Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.

<sup>92</sup> Clements M, Mitchell E, et al. 1997. Influences on breastfeeding in southeast England. *ACTA Paediatric* 86: 51-6. Cited in Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.

<sup>93</sup> Andersen AN, Lund-Andersen C, Larsen JF et al. 1982. Suppressed prolactin but normal neurophyaln levels in cigarette smoking breastfeeding women. *Clin Endocrinol* 17: 363-8. Cited in Ford, R, Mitchell E, Scragg E, Stewart A, Taylor B & Allen E. 1994. Factors adversely associated with breastfeeding in New Zealand. *Journal Paediatric Child Health* 30: 483-89.

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in New Zealand data due to inconsistent application of the definitions of exclusive, full and partial breastfeeding.<sup>94</sup>

## Definitions

The definitions of breastfeeding currently utilised by the Ministry of Health are as follows:-

*Exclusive breastfeeding.* 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<sup>95</sup> medicines have been given from birth.

*Full breastfeeding.* The infant has taken breast milk only, and no other liquids or solids except a minimal amount of water or prescribed medicine in the past 48 hours.

*Partial breastfeeding.* The infant has taken some breast milk and some infant formula or other solid food in the past 48 hours.

*Artificial feeding.* 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.

## Baby Friendly Hospital Initiative (BFHI)

The BFHI is a joint UNICEF and WHO project aimed at increasing breastfeeding rates and encouraging a global breastfeeding standard for maternity services.<sup>96</sup> The focus is on hospitals since WHO notes that where babies receive supplemental feeding in a hospital, women are extremely unlikely to follow the recommended practice to exclusively breastfeed for the first 6 months. However, as many women only spend a short time in hospital responsibility for the success of this initiative also rests with community providers. The Ten Steps to Successful Breastfeeding used as part of the initiative are outlined in Appendix One.

New Zealand has started to implement the BFHI by establishing a Breastfeeding Authority funded by the Public Health group of the Ministry of Health. The national service specification expects all maternity facilities to be working towards implementing the BFHI. In January 2004 Paraparaumu Maternity Unit sought BFHI accreditation and Kenepuru Maternity Unit and Wellington Hospital will follow.

As part of the BFHI the Ministry of Health has set the rate of exclusive breastfeeding on discharge from hospital at 75%.

## Hospital breastfeeding services

The Women's Health Service employs a Lactation Consultant who provides breastfeeding support to women who give birth in hospital and gives education to staff. An important part of the role is policy development and introduction of the BFHI. From time-to-time women from the community with breast feeding problems are referred to this service, but there is an identified need for a Lactation Consultant based in the community.

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<sup>94</sup> Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health, p 7.

<sup>95</sup> Prescribed as per the Medicines Act 1981.

<sup>96</sup> Health Funding Authority. 2000. *Maternity services: A reference document*. Hamilton: Health Funding Authority, p 15.

## Breastfeeding on discharge from hospital

As identified in Table 36 and Figure 12, in 2002 75.2% of European/Other babies were identified as exclusively breastfed when discharged from hospital. This meets the Ministry of Health target of 75% of infants being exclusively breastfed at this time. A significantly reduced number of Asian babies (53.2%) are in this category and are more likely to be partially breastfed (39%). Pacific and Maori babies were most likely to be fed using milk substitutes (9%) when discharged from hospital.

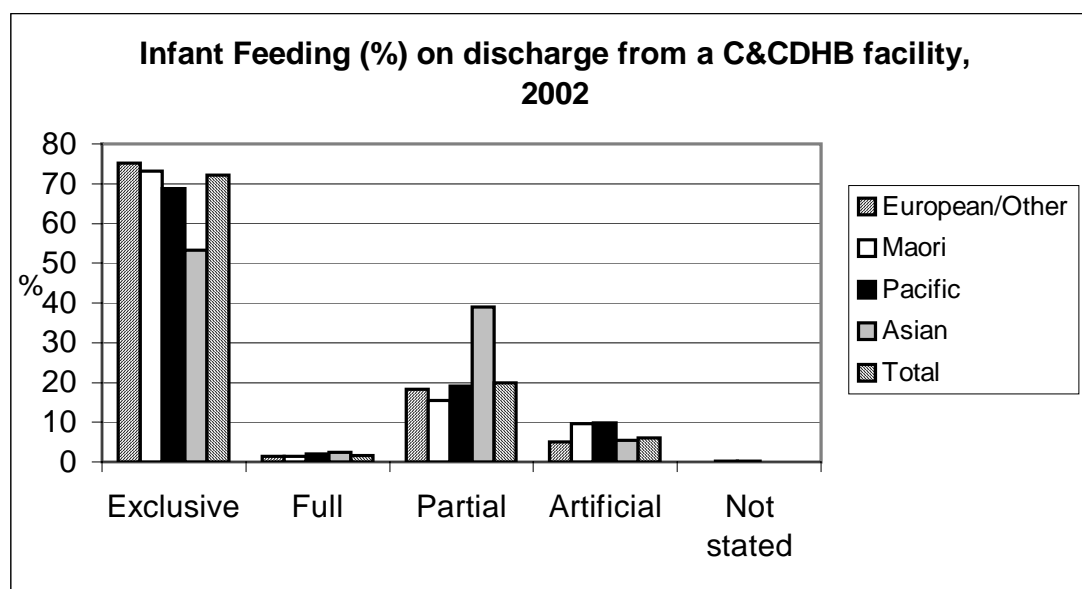
LMCs point out that women now spend a very short time in hospital (approximately 2 days) at which time the milk supply is unlikely to be established. Consequently, the definition of “exclusive breastfeeding” and statistics on discharge from a maternity facility do not capture confidence with breastfeeding. Breastfeeding support after discharge from hospital is crucial to success, particularly in primipara/first time mothers.

**Table 36 – Infant feeding (%) on discharge from a C&CDHB maternity facility, 2002 (excludes Paraparaumu Maternity Unit)**

	European/Other	Maori	Pacific	Asian	Total
<b>Exclusive</b>	75.2	73.2	68.8	53.2	72.2
<b>Full</b>	1.4	1.4	2.0	2.4	1.6
<b>Partial</b>	18.3	15.5	19.1	39.0	20.0
<b>Artificial</b>	5.0	9.6	9.8	5.4	6.1
<b>Not stated</b>	0.1	0.2	0.3	0.0	0.1

Source PIMS

**Figure 12 – Infant feeding (%) on discharge from a C&CDHB maternity facility, 2002 (excludes Paraparaumu Maternity Unit)**



Source PIMS

## Breastfeeding data from LMCs

Accurate reporting on breastfeeding by LMCs only commenced in July 2003 when LMCs and tamariki ora/Well Child providers were asked to report at set times (two weeks and six weeks) using standard definitions. Thus, specific information on breastfeeding status from LMCs is currently not available from national sources.

## Breastfeeding on transfer to a tamariki ora/well child provider

Transfer of the baby from the LMC to a tamariki ora/Well Child provider is made when the baby is around 6 weeks old. Plunket are required to make one core contact before 6 weeks. In 2000 and 2001 a quarter of babies were transferred between 2-4 weeks and 5% were transferred earlier than 2 weeks.<sup>97</sup>

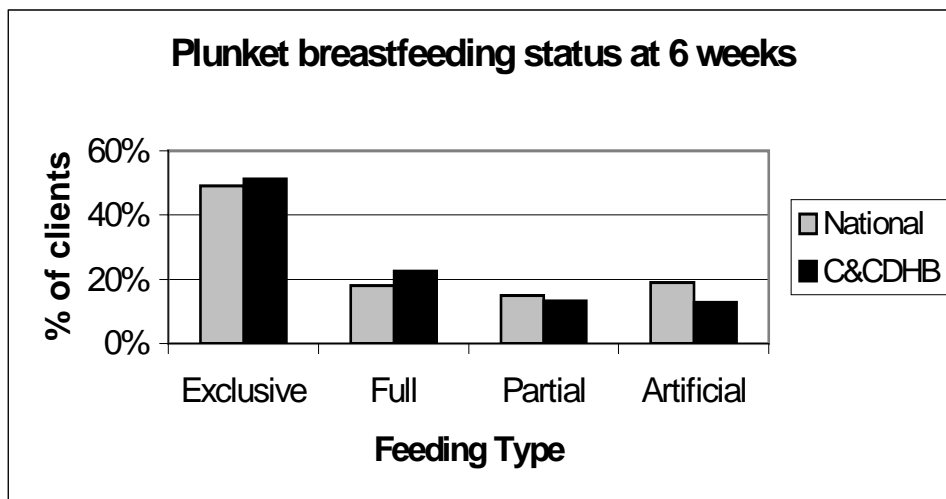
Plunket has provided data on breastfeeding status at 6 weeks. As identified in Table 37 and Figure 13, in 2002/3 C&CDHB was slightly above the national average in full and exclusive breastfeeding. When data are compared to earlier statistics at discharge from hospital (at which time 73.8% were exclusively or fully breastfed) at 6 weeks a similar number (74%) continued to be exclusively or fully breastfed. The main change at this time is that an increased number of women have changed from partial breastfeeding to artificial feeding.

**Table 37 - Plunket breastfeeding status at 6 weeks  
July 2002 – June 2003**

	Exclusive	Full	Partial	Artificial
<b>National</b>	49%	18%	15%	19%
<b>C&amp;CDHB</b>	51%	23%	13%	13%

Source Plunket

**Figure 13 – Plunket breastfeeding status at 6 weeks  
July 2002 – June 2003**



Source Plunket

<sup>97</sup> Ministry of Health. 2003. *Report on maternity 2000 & 2001*. Wellington: Ministry of Health.

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## Breastfeeding data at 6 weeks (Porirua, Rongotai and Wellington South)

Porirua, Rongotai and Wellington South are areas of lower deprivation and breastfeeding rates obtained from Plunket have been analysed in more detail at 6 weeks in Tables 38-40.

- Porirua Branch includes Waitangirua and Elsdon
- Rongotai Branch includes Hataitai, Kilbirnie, Miramar, Newtown, Seatoun and Strathmore
- Wellington South Branch includes Island Bay, Berhampore, Southgate and Owhiro Bay

**Table 38 – Plunket breastfeeding status (%) at 6 weeks (Porirua)  
1 July 2002 – 30 June 2003**

	Maori	Pacific	Asian	Other
<b>Exclusive</b>	21	32	0	32
<b>Full</b>	27	18	25	30
<b>Exclusive/Full combined</b>	48	50	25	62
<b>Partial</b>	15	26	62	10
<b>Artificial</b>	37	24	13	28

Source – Plunket

**Table 39 – Plunket breastfeeding status (%) at 6 weeks (Rongotai)  
1 July 2002 – 30 June 2003**

	Maori	Pacific	Asian	Other
<b>Exclusive</b>	37	19	26	37
<b>Full</b>	32	27	31	39
<b>Exclusive/Full combined</b>	69	46	57	76
<b>Partial</b>	17	25	26	13
<b>Artificial</b>	15	29	18	11

Source - Plunket

**Table 40 Plunket breastfeeding status (%) at 6 weeks (Wellington South)  
1 July 2002 – 30 June 2003**

	Maori	Pacific	Asian	Other
<b>Exclusive</b>	59	59	47	69
<b>Full</b>	0	25	17	7
<b>Exclusive/Full combined</b>	59	84	64	76
<b>Partial</b>	24	8	13	13
<b>Artificial</b>	18	8	23	11

Source - Plunket

In Porirua Maori (48%), Pacific (50%) and Asian (25%) babies have a low rate of exclusive/full breastfeeding at 6 weeks and there is parallel high rate of artificial feeding in Maori and Pacific babies. Asian babies have a high rate of partial breastfeeding (62%) at this time.

In the Hataitai, Kilbirnie, Miramar, Newtown, Seatoun and Strathmore area Pacific babies have a low rate of exclusive/full breastfeeding (46%) at 6 weeks and a high rate of artificial feeding (29%).

In Wellington South (Island Bay, Berhampore, Southgate and Owhiro Bay), Maori (59%) and Asian (64%) babies have a relatively low rate of exclusive/full breastfeeding at 6 weeks.

### Breastfeeding at 3 – 6 months

While this is a report on maternity services it is useful to document breastfeeding in later periods as part of the service continuum. As previously described, using Plunket data 74% of babies in C&CDHB were exclusively or fully breastfeeding at 6 weeks. At 3 months this rate has reduced to 62% (Table 41), and at 6 months 39% of babies are in this category (Table 42). There is a parallel rise in the rate of artificial feeding between 3 and 6 months.

The Ministry of Health recommends that exclusive breastfeeding continue until 6 months. The high rate of partial breastfeeding in C&CDHB at this time (37%) may be explained by the fact that some babies show signs of being ready for solids between 4 and 6 months (personal communication, Lynette Collis, Plunket Clinical Leader, Wellington).

**Table 41 - C&CDHB rates of breastfeeding at 3 months  
July 2002 – June 2003**

	<b>Exclusive</b>	<b>Full</b>	<b>Partial</b>	<b>Artificial</b>
<b>National</b>	36%	19%	15%	30%
<b>C&amp;CDHB</b>	37%	25%	15%	23%

Source Plunket

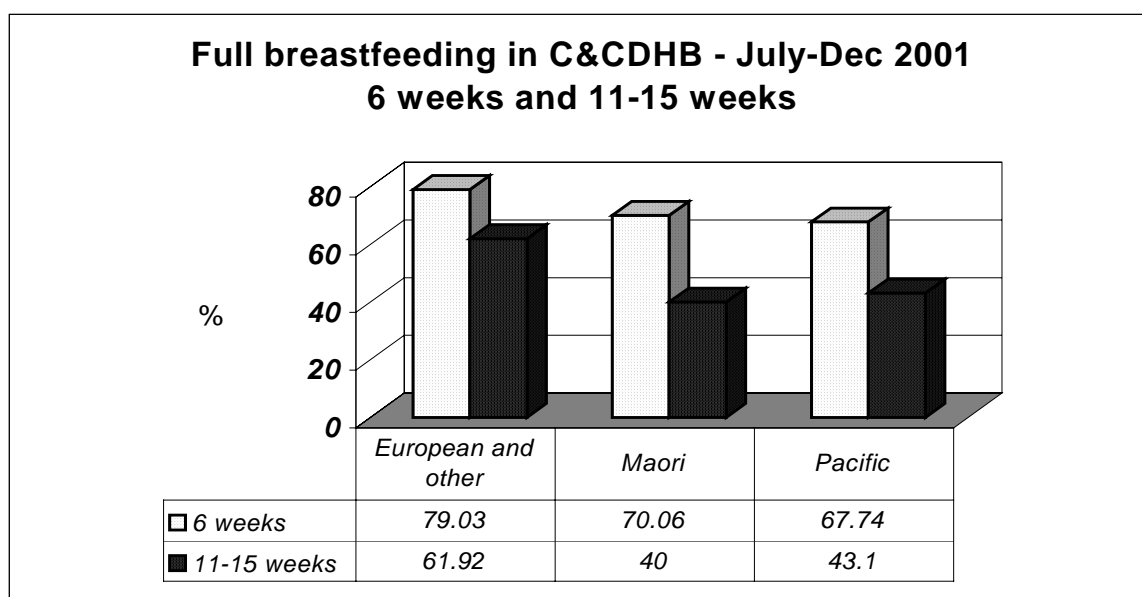
**Table 42 - C&CDHB rates of breastfeeding at 6 months  
July 2002 – June 2003**

	<b>Exclusive</b>	<b>Full</b>	<b>Partial</b>	<b>Artificial</b>
<b>National</b>	10%	14%	35%	41%
<b>C&amp;CDHB</b>	11%	18%	37%	34%

Source Plunket

The graph below provides ethnicity data on breastfeeding data at 6 weeks and 11-15 weeks. As can be seen, in 2001 the rates of breastfeeding were significantly lower in Maori and Pacific babies compared to European/Other babies in both periods. (Note that the term "full" breastfeeding is used. Several years ago the Ministry of Health used this definition to mean exclusive and full breastfeeding combined).

**Figure 14 - Full<sup>98</sup> breast feeding in C&CDHB by ethnicity  
July – December 2001**



Source: Ministry of Health. 2002.<sup>99</sup>

### Lactation Consultant, C&CDHB

Under the Maternity Facility Service Specification C&CDHB's maternity facilities are required to implement the Baby Friendly Hospital Initiative (BFHI). As part of the Secondary Services Specification lactation advice for women experiencing breastfeeding complications is provided. In order to manage these two requirements, the Women's Health Service employs a Lactation Consultant.

### The role of the LMC

As part of Section 88 LMCs are required to provide appropriate one-to-one education on all aspects of maternity care to pregnant women, and this should include breastfeeding. However, as pointed out by one LMC, postnatal breastfeeding support is "the ambulance at the bottom of the cliff". If appropriate "ground work" is laid antenatally many problems experienced postnatally can be avoided. A number of LMCs have undertaken post-graduate study in lactation, however LMCs identify the need for continued upskilling so information can be shared with clients.

Postnatally, LMCs are required to provide assistance with, and advice about breastfeeding to women. Nursing and midwifery staff in the maternity facility also provide assistance. National documents from the Ministry of Health support the view that while the hospital provides lactation advice for women experiencing problems, the LMC remains responsible for managing breastfeeding problems. The responsibility for breastfeeding support is transferred to the tamariki ora/Well Child provider when the baby's care is transferred.

<sup>98</sup> An earlier definition of "full" breastfeeding used by the Ministry of Health pertained to exclusive and full breastfeeding combined.

<sup>99</sup> Ministry of Health. 2002. *Breastfeeding: a guide to action*. Wellington: Ministry of Health.

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There appears to be a recurring theme of limited availability of LMCs in the postnatal period for breastfeeding support. Under the Section 88 Notice if a baby has unusually high needs, the LMC may request that the tamariki ora/Well Child provider become involved as early as two weeks from birth to provide concurrent and coordinated care with the LMC.<sup>100</sup> Some women are being referred the Plunket Family Centres as early as two weeks, and occasionally even earlier for breastfeeding support. Plunket are not funded if referral is earlier than two weeks (see Plunket Family Centres below). Ideally, referral to the tamariki/Well Child Provider should be at 4 weeks to allow for concurrent and coordinated care with the LMC.

### *Plunket*

Plunket has three Family Centres in the C&CDHB area situated at Cannons Creek, Johnsonville and Rongotai. Plunket Nurses and other staff are available at the centres 2-3 days a week to advise mothers on a range of postnatal issues including breastfeeding. A Plunket Nurse at the Rongotai Family Centre has a lactation consultant qualification and several staff are upskilling with advanced papers in lactation and breastfeeding.

One consumer who provided feedback for this report recalled having to travel across town to another Family Centre that was open when she was experiencing breastfeeding problems in the postnatal period. It would appear that many LMCs are not aware that from 2 weeks onwards, if women are experiencing breastfeeding or other problems referral can be made direct to a Plunket nurse, and not just a Family Centre.

### *Whanau Ora Maternity Support Services*

As mentioned earlier, three Maori providers are contracted to provide maternity support services. This service can include breastfeeding support.

## **Alternative models of care**

One holistic and integrated Maori model of care applied to maternity services is Tipu Ora based in Rotorua. In this service health care programmes are delivered to mothers or caregivers and their children from conception until the child is five years old. Iwi-approved kaitiaki provide the link between the whanau and the broad range of child health services provided by the agency and mainstream providers.<sup>101</sup> Kaitiaki chosen need to have successfully breastfed in the past. An integrated service for Maori that reflects a whanau ora approach is being considered by C&CDHB.

In South Auckland one model that has achieved excellent breastfeeding results is the *B4 Baby Programme*. In this programme Maori and Pacific community workers are employed to provide breastfeeding and postnatal support to women discharged, particularly primipara. In women supported by this programme full and exclusive breastfeeding rates were close to 100%. Adaptation of this programme is being considered by C&CDHB.

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<sup>100</sup> Ministry of Health. 2002. *Maternity services – Notice pursuant to section 88 of the New Zealand Public Health and Disability Act, 2000*. Wellington: Ministry of Health.

<sup>101</sup> National Health Committee. 1999. *Review of the wisdom and fairness of the Health Funding Authority strategy for immunisation of 'hard to reach' children*. Wellington: Ministry of Health.

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## **Breastfeeding Self help**

La Leche provide an organised community-based self-help group that promotes breastfeeding. Feedback from LMCs identified a need for culturally-appropriate alternatives to La Leche. Postnatal support groups also provide a useful vehicle for self help with respect to breastfeeding.

Feedback from LMCs identified that breast pumps could be utilised more, but the cost is prohibitive for clients.

## **Health promotion**

An important philosophical view is that preparation for pregnancy and breastfeeding starts well before birth, or even conception – the so-called “Life-course approach”. Consistent with this view, healthy breastfeeding practices need to be promoted positively in the community, at home and at school.

## **Summary of key points and discussion**

Statistics show that the rates of breastfeeding on discharge from hospital are reasonably high, but could be improved. Overall rates of breastfeeding in C&CDHB are consistent with (and even slightly better than) the national DHB average. However, disparities are evident in Maori women, Pacific women and Asian women after discharge.

Given the short time many women spend in hospital the issue of community breastfeeding support is extremely important, particularly in primipara. There appears to be a need for additional community breastfeeding support antenatally and postnatally. Options include funding additional lactation consultancy in the community, the development of additional support services for Maori, Pacific and Asian women, and use of postnatal support groups as a vehicle for breastfeeding self help. Appropriate breastfeeding support has the potential to reduce admission to hospital for breast infections/abscesses and improve health outcomes for babies.

The promotion of healthy breastfeeding practices at home, at school and in the community could also help to improve rates of breastfeeding.

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### **Options for Consideration**

- C&CDHB considers funding additional lactation consultancy and/or breastfeeding support in the community.
- Integrated models of care that support mothers and their family/whanau as part of a service continuum in both the antenatal and postnatal period and beyond are supported.
- The development of a Pacific maternity support service in C&CDHB is explored.
- C&CDHB considers future options for the delivery of pregnancy and parenting education programmes in C&CDHB. The need for Maori and Pacific programmes is identified.
- LMCs are asked to note lower breastfeeding rates in Maori women, Pacific women and Asian women, and to work collaboratively with health providers to provide breastfeeding support.
- Public Health providers are asked to consider appropriate breastfeeding health promotion programmes at high school and in the community and ensure that health education material is readily available for use by health professionals.

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## 8. Postnatal Maternity Support Services

Under the Section 88 Maternity Notice LMCs should normally visit daily while the mother is in hospital.<sup>102</sup> In total, LMCs are required to provide a minimum of seven postnatal visits including hospital and home visits. LMCs can claim additional funding if more than 12 visits are required.

Several providers are funded to provide additional maternity support services. An interview with women in Porirua suggested that some women were not being informed of all the postnatal services available.<sup>103</sup>

### Referral to a tamariki ora/Well Child provider

LMCs retain the responsibility for clients for until four to six weeks after the birth and then refer clients to a tamariki ora/Well Child provider. Some neonates may be referred to a tamariki ora/Well Child provider between 2-4 weeks to facilitate coordinated and concurrent care if the baby has high needs.<sup>104</sup>

The largest tamariki ora/Well Child provider is Plunket. Locally, clients may also be referred to one of four Maori providers for tamariki ora/Well Child services - Maraeroa Marae Clinic, Ora Toa Health Unit, Hora Te Pai, or Nga Tapuhi Whakawhanau – Maori and Pacific Midwifery Services.

The two Pacific primary care providers in C&CDHB currently have a Well Child facilitation contract and clients are referred to an appropriate provider for immunisation and Well Child services.

### Postnatal maternity support services

Women from low socio-economic groups, single parents, teenage mothers, migrant women and women with special needs require more postnatal support than other groups.

C&CDHB currently funds three Maori providers to provide whanau ora maternity support services. The three providers are Nga Tapuhi Whakawhanau – Maori and Pacific Island Midwifery Service, Maraeroa Marae Clinic and Ora Toa Health Unit. Support is initiated in the antenatal period and continues up to 2-3 years (see Chapter 6 – Antenatal Support Services). The priority group for the service are mothers with a limited support network, and other women with high needs.

At the present time there is no Pacific maternity support service funded by C&CDHB.

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<sup>102</sup> Under the Section 88 Maternity Notice LMCs are required to visit daily while the mother is in hospital unless otherwise agreed with the woman and the Maternity Facility.

<sup>103</sup> Ministry of Health. 2003. *Porirua maternity project* (unpublished).

<sup>104</sup> Ministry of Health. 2002. *Maternity services – Notice pursuant to section 88 of the New Zealand Public Health and Disability Act, 2000*. Wellington: Ministry of Health.

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## **Home-based support services**

Women who are incapacitated through illness or medical intervention and who have no appropriate family members at home able to assist may be eligible for personal care and home help on discharge from hospital. Application for this support is made through Community Health.

In circumstances of a medical emergency where no family or others are available to assist, home help and child care may be approved through Work and Income NZ. This is income and asset tested.

If women have twins and another child under 5 years of age they are eligible for 240 hours of home help support in the first year. Women with triplets are entitled to 1560 hours of home help to be used within two years. Access to this support is via Work and Income NZ.

In all of these situations social workers are available to assist.

## **Social work services**

Three social workers (2.0 FTE) are employed by Therapies at Wellington Hospital to manage both maternity and gynaecology services. Social workers are also employed to manage maternal and child health services at Kenepuru Hospital and Kapiti Health Centre. In addition, a social worker is based part-time at Newtown Union Health Centre (see also Chapter 6, Antenatal Support Services).

Social work services within the HHS include the following:-

- Undertaking psychosocial assessments
- Providing counselling and support. This includes helping women and their families deal with grief and loss issues, not necessarily related to death.
- Providing advocacy
- Facilitating access to financial entitlements
- Practical assistance
- Liaison and education
- Attending multidisciplinary team meetings and working in close collaboration with staff in discharge planning
- Liaising with the Child Youth and Family Service on care and protection issues
- Arranging accommodation and travel for families from another DHB region, and if referred out-of-town for treatment

Postnatally, a large part of the role is emotional support of women with complications of pregnancy, labour and delivery, and difficulties experienced postnatally such as a neonatal death or stillbirth. Women and families experiencing emotional distress may be referred to this service for initial assessment, and referred to the Specialist Maternal Mental Health Service or a community agency or support group, as appropriate.

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## Mental health services and issues

Postnatal depression occurs in 10-20% of women.<sup>105</sup> C&CDHB provides a regional Specialist Maternal Mental Health Service. Referrals are received antenatally and also postnatally for women experiencing a range of significant or ongoing mental health problems.

A particularly difficult labour, sleep deprivation and difficulty establishing satisfactory patterns of feeding and caring for the baby can predispose women to mental health problems. Small problems can develop into larger problems if not effectively managed at an early stage. Not all women require referral to the Specialist Maternal Mental Health Service - many can be resolved by having someone simply take the time to listen and support the mother through the developmental transition of childbirth (see also Chapter 6 – Antenatal Support Services, and Appendix 4 – Decision Tree for referral to the Specialist Maternal Mental Health Service).

Plunket Family Centres provide an important network that mothers can be referred to, however rationalisation of services has meant reduced hours for several centres. Women can also be referred to a range of useful support groups in the community (see Chapter 12 Consumer Involvement in Maternity Services).

Under the Section 88 Notice LMCs are required to assess women for risk of postnatal depression and family violence. Earlier this year the New Zealand College of Midwives offered local training to LMCs in family violence assessment and referral. Increased use of screening tools (for example, the Edinburgh Postnatal Depression Scale) could increase identification of women at risk. Locally, it has been reported that there is limited use of screening tools by LMCs and often difficulties finding an appropriate provider to undertake psychosocial assessments. It may be that LMCs are not aware that clients may be referred to the Women's Health social work service for psychosocial assessment as well as the Specialist Maternal Mental Health Service.

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<sup>105</sup> Health Funding Authority. 2000. *Maternity Services: A reference document*. Wellington: Health Funding Authority.

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## Summary of key findings and discussion

Three Maori providers have contracts to provide maternity support services. At the present time there is no specific Pacific maternity support service. In certain circumstances women are entitled to home help postnatally.

Emotional fragility may be experienced by many women postnatally – considered to be part of the developmental transition adjusting to a new role. LMCs, nurses and other health professionals can help women work through this period. For women with an identified mental health problem C&CDHB has a Specialist Maternal Mental Health Service providing treatment and support. In service education could be offered to LMCs which may assist in the detection, management and referral of women with mental health problems.

### Options for Consideration

- The need for a Pacific provider of maternity support services is noted.
- LMCs and mothers could be better updated with the range of postnatal maternity support services and tamariki ora/Well Child providers in the community.
- Further discussion is held with LMCs on ways to increase identification and support of women at risk of postnatal depression and family violence.

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## 9. Access To services

### Maternity ultrasound scans

Payments for primary ultrasound scans are claimed under Section 88 of the Maternity Notice. The Women's Health Service also provides maternity ultrasound services as part of their secondary and tertiary obstetric contracts.

A scan is now routinely performed in most women at 18-20 weeks to check for fetal abnormality. Ultrasound scanning may also be performed between 11 and 14 weeks to confirm dates and check nuchal translucency (increased thickness of the neck is an indication of chromosomal abnormalities). This scan reduces the need for amniocentesis in older women.

Under Section 88 authorised ultrasound practitioners receive \$80 for an ultrasound scan.<sup>106</sup> In March 2003 Wellington Radiology initiated an additional co-payment of \$25 for a dating and pregnancy scan and \$35 for a nuchal fold scan. Feedback from community providers is that cost is a barrier for low income women accessing this service.<sup>107</sup> It is noted by the Maternity Services reference document<sup>108</sup> and in the DHB service coverage schedule that maternity ultrasound scans are a core service that should not incur a cost. C&CDHB is currently considering ways in which this cost may be reduced for clients.

The Section 88 notice restricts referrals for scans in the second trimester of pregnancy to an LMC. There are occasional difficulties when a scan is needed before women are registered with a LMC and the full fee must be charged. Cost is also a barrier for women requiring a scan for termination of pregnancy who are not registered with an LMC. Another issue with primary ultrasound scans relates to the adequacy of the subsidy in the Section 88 Notice for complex scans.

### Transport issues

A higher percentage of Wellington households do not have a private vehicle (14.5%) compared with the national average (11.5%). An increased number of households in Porirua do not have a vehicle (16.1%), while 10.2% of Kapiti households are without a car.<sup>109</sup>

A review of maternity services in Porirua undertaken in 2000<sup>110</sup> identified that travel to Wellington for appointments and scans was a barrier to access for Porirua women and their families in terms of cost, transport availability and time. Transport from some areas of Porirua to Kenepuru Hospital may also be problematic due to the poor local bus service in the area.

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<sup>106</sup> Section 88 outlines the indications for maternity ultrasound scans for which a subsidy is able to be claimed. Scans for indications outside of this schedule incur full cost.

<sup>107</sup> Ministry of Health. 2003. *Porirua maternity project* (unpublished).

<sup>108</sup> Health Funding Authority. 2000. *Maternity services: A reference document*. Hamilton: Health Funding Authority, p 21-22.

<sup>109</sup> Virtue, C. 2000. *Maternity Review: Porirua report of the Advisory Group to the Health Funding Authority*.

<sup>110</sup> Virtue, C. 2000. *Maternity Review: Porirua report of the Advisory Group to the Health Funding Authority*.

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As a way to overcome this concern C&CDHB, Tumai mo te Iwi and Porirua Plus PHO have recently jointly-funded a taxi service as a pilot to assist clients with a transport barrier to attend outpatient clinic appointments. The decision on who needs this service will be at the discretion of the health provider and commenced in February 2004. In addition, in May 2004 an hourly shuttle bus service between Kenepuru and Wellington Hospitals (currently taking supplies) will begin to take outpatients and hospital visitors.

## Telephone

The percentage of Wellington households that do not have access to a telephone (3.61%) is lower than the national average (4.96%). The number of Porirua households without a telephone is much higher at 7.64%.

## Immunisation

Some babies are eligible for hepatitis B and BCG immunisation at birth. Under Section 88 LMCs are required to provide (Ministry of Health) information on immunisation to mothers.

### *Hepatitis B*

Mothers who test positive for hepatitis B may pass the virus onto to their baby during labour or delivery. Babies can be protected from the virus by being given the hepatitis B vaccine and hepatitis B immune globulin directly after the birth.<sup>111</sup> An audit undertaken in 2002 in the greater Wellington region identified that only 62% of eligible babies had received immune globulin.<sup>112</sup>

### *BCG*

TB is more common in non-Maori and non-European people in New Zealand. A newborn considered to be at risk is offered protection at birth by way of a BCG immunisation. Immunisation is advisable before infants leave hospital.

Babies considered at risk are the following:-

- The newborn lives in a house or family/whanau with a person with either current TB or a past history of TB
- One or both parents identify as being Pacific
- The newborn has parents or household members who have lived for 6 months or longer within the last 5 years a country with a high incidence of TB
- During their first 5 years the child will be living for 3 months or longer in a high incidence country.<sup>113</sup>

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<sup>111</sup> Further doses of Hepatitis B follow the immunisation schedule.

<sup>112</sup> Regional Public Health. 2003. Audit of provision of neonatal hepatitis B prophylaxis in the Wellington region 01 January 2002 to 31 December 2002. Report prepared by Mary Ryan, Immunisation Advisor, Regional Public Health, Hutt Valley DHB.

<sup>113</sup> Ministry of Health. 2002. *Immunisation handbook*. Wellington: Ministry of Health.

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It is not known if all eligible newborns are being offered this immunisation before discharge, or being followed-up by public health services if vaccination has not been provided at this time. LMCs, postnatal midwives and ward nurses who wish to give this vaccine could become eligible by undertaking a short training programme (personal communication Mary Ryan, Immunisation Advisor, Regional Public Health, Hutt Valley DHB).

### **Interpreter services**

If LMCs require an interpreter service for clients this is not funded through the Section 88 Notice and is a direct cost to the midwife or the woman. As a result of the need for an interpreter service some women may experience difficulty obtaining an LMC. This can result in the client being referred to secondary maternity services for non-clinical reasons.

The Women's Health Service provides interpreter services as part of facility and secondary and tertiary contracts. This covers attendances at outpatient clinics, care during the in-patient period and postnatal community-based care if the woman requires secondary care. The national price for maternity is not adjusted to take account of the demand for interpreter services. As a result, C&CDHB is under-funded compared to many other DHBs who have a lesser need for this service.

### **Summary of key findings**

Transport to outpatient clinic appointments has provided a barrier to access in the past. A taxi service has recently been developed as a pilot in Porirua to enable clients to attend appointments who would not normally attend due to the barrier of transport.

There is evidence to suggest that not all newborns eligible for hepatitis B vaccine and hepatitis B immune globulin are receiving this at birth. It is not known if all babies eligible for BCG immunisation are being offered this.

Compared to other districts C&CDHB may have a greater need for interpreting services. However, this is not funded under Section 88 and additional funding is currently not available to the Women's Health Service through service contracts.

The cost of having an ultrasound scan in the C&CDHB district introduced in 2003 also provides a significant barrier to access. Cost is also a barrier to women considering termination of pregnancy and those requiring an ultrasound scan before they are registered with an LMC.

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### **Options for Consideration**

- Service Planning and Funding explores options to enable maternity ultrasound scans and scans for termination of pregnancy to be at no cost to the client.
- C&CDHB considers ways to improve the uptake of immunisation at birth for eligible babies.
- C&CDHB explores options for improving access to interpreting services for LMCs.

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## 10. Workforce

### Overview

In the last 5 years there have been substantial changes to the maternity workforce with many GPs choosing to discontinue providing LMC maternity services. Internationally there is a shortage of midwives, and the national trend is that the average age of midwives is increasing. Recent information from the Nursing Council of New Zealand identified that 78.6% of all active nurses with midwifery qualifications working in nursing and midwifery in New Zealand in 2003 were over 40 years of age.<sup>114</sup> There are periodic shortages of LMCs in C&CDHB each year.

### Choice of provider

In 1997 14.9% of women delivering in C&CDHB facilities were under the sole care of a midwife. However, by 2002 over half (52.7%) pregnant women had midwifery-only care. In this year, nearly a quarter (23%) of women chose dual care with a GP and a midwife, and 15.2% had both an obstetrician and a midwife managing their care. In recent years, 9-10% of women classified as high risk were booked under the Materno-Fetal Medicine team (see Chapter 3 Facilities and Services).<sup>115</sup>

### Number of LMCs

It is difficult to identify exact numbers of LMCs as some midwife LMCs work part-time, and several work for more than one agency. GP's and specialists involved in shared LMC care usually devolve a proportion of clinical care to a midwife. Some LMCs have an access agreement with C&CDHB and may also deliver at Hutt Hospital and vice versa.

At the present time the Women's Health Service is in the process of renewing their access agreements with LMCs and it is not possible to identify LMCs using this means. Information from providers suggests that approximately 68 midwives, 2 GPs and 5 obstetricians provide LMC care and deliver at C&CDHB maternity facilities (Table 43).

The recommended case load for a full-time midwife is 40-50 births per year although it is acknowledged that some midwives practice safely and effectively with higher caseloads.<sup>116</sup> Thus, using an estimate of the number of full-time midwife LMCs (n=63), a third of the number of medical practitioners and specialists involved in LMC care (n=2), and the number of women who delivered at hospital facilities in 2003 (n=3903), the average case load per LMC is 60. This is above the caseload recommended by the New Zealand College of Midwives.

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<sup>114</sup> Source Nursing Council of New Zealand, 2003, as cited on the NZHIS website.

<sup>115</sup> Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.

<sup>116</sup> New Zealand College of Midwives. 2002. *Midwife handbook for practice*. Christchurch: New Zealand of Midwives. The recommended case load for a full-time midwife is 40-50 births per year, p. 38.

**Table 43 - Number of LMCs by provider and health professional type - 2003**

	<b>GPs</b>	<b>Midwives</b>	<b>Specialists</b>	<b>Postnatal care only</b>
<b>MATPRO midwives = 39</b>				
Full time – 22				
Part-time – 2				
New graduates – 3				
Nga Tapuhi Whakwhanau [MATPRO]* - 4				
Kapiti Midwives [MATPRO]* - 3				
Kapi Awa Midwives [MATPRO]* – 3				
Mana Midwives [MATPRO]* - 2	2	39**	5	4
Newtown Union Health Service		3		
Porirua Union Community Health Service		3		
Domino		10		
Nga Tapuhi Whakawhanau		2**		
Midwives Homebirth Collective		3		
Mana Midwives*		2		
Kapi Awa Midwives*		1		
Nikau Midwives		3		
<b>Total</b>	<b>2</b>	<b>68**</b>	<b>5</b>	<b>4</b>

\*some midwives in these groups affiliate with MATPRO, others do not

\*\*includes 2 LMCs shared with other agencies;

In 2003 clients interviewed as part of a maternity project reported that midwives appear rushed.<sup>117</sup> Another previous report in Porirua<sup>118</sup> in 2000 identified the number of midwives providing LMC care in Porirua to be slightly less than adequate. At that time, the Advisory Group of the Health Funding Authority recommended that a mentoring programme be established to provide incentives to encourage new graduates to the Porirua area. Much as a recommended case load for a midwife has been established, the increased needs of low income women, Maori women, Pacific women and Asian and migrant women need to be taken into consideration.

Five LMCs working in the C&CDHB district are Maori, two are Samoan, and one is Nuiean. Very few Asian, Pacific or Maori are trained as midwives and there is a need to encourage an increased number from these groups to be trained and/or to make midwifery training more accessible to these groups. In addition, opportunities should be made available to increase the cultural competency of all LMCs.

<sup>117</sup> Ministry of Health. 2003. *Porirua maternity project* (unpublished).

<sup>118</sup> Virtue C. 2000. *Maternity review: Porirua report of the Advisory Group to the Health Funding Authority*.

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## **LMC workforce issues**

One group of independent LMCs consulted expressed the view that funding in Section 88 is insufficient for the risk and lifestyle engendered by the job. This is considered to be a gender/women's workforce issue. For midwives working in the HHS one respondent identified the need for a national collective agreement to enable midwives to be fairly rewarded for the care they provide and the responsibility entailed.

Another issue for LMCs is the need for upgraded IT systems to manage data collection and reporting.

## **Women's Health Service Independent Practitioner Group**

LMCs meet regularly as a group to discuss issues with the Women's Health Service. This group provides a forum for discussion between providers. Those that attend take information back to their various representative groups. However, the numbers of LMCs attending this meeting is small and there is a need to consider ways in which attendance may be improved. Feedback from LMCs identified a need to strengthen channels of communication with C&CDHB services.

## **Recruitment and retention**

MATPRO has a recruitment and retention contract with the Ministry of Health. The activities within this contract include the following:-

- LMC workforce monitoring
- Provide mentoring programmes for new midwifery graduates
- Maintain ongoing dialogue with the Women's Health Service, C&CDHB
- Monitor and report on provider caseloads
- Liase with midwifery training schools in New Zealand regarding midwifery opportunities in the Greater Wellington area.
- Provide ongoing support to group and individual practices to support retention

Group practices not affiliated with MATPRO would be keen to mentor new graduates if they were funded to do so.

## **Discussion and summary of key points**

Midwives in C&CDHB appear to be working at capacity. Consideration could be given to identifying ways to reduce the caseload of LMCs and encouraging more midwives to work in the district. Nationally, more Asian, Pacific and Maori midwives could be trained.

LMCs identify a need to strengthen channels of communication with C&CDHB services.

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### **Options for Consideration**

- C&CDHB considers ways to increase the cultural competency of the midwifery workforce.
- C&CDHB monitors workforce issues relating to maternity services.
- Explore options for LMCs to upgrade their maternity information systems to support reporting and better information on quality.

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## 11. Service Quality

### Introduction

A key principle identified in the New Zealand Health Strategy<sup>119</sup> is that New Zealanders should have access to a high-performing system in which they have confidence. Aligned with this is the concept of continuous quality improvement and that services can continually be improved to meet the needs of clients. This section reviews quality issues pertaining to maternity services in the district.

### Lead Maternity Carers

The Ministry of Health monitors the quality of services undertaken by LMCs. The quality and audit plan is based on the Section 88 Notice and a quality improvement framework developed by the Ministry of Health.<sup>120</sup> The key dimensions of this framework are *access, equity, safety, effectiveness and efficiency*. More specific quality information on LMCs is presently unavailable from the Ministry of Health.

Prior to September 2002 MATPRO was contracted to undertake customer satisfaction surveys of women at 12 weeks post-partum. Aside from the Ministry of Health, some independent LMCs and group practices also monitor the quality of their services by way of customer satisfaction surveys and focus groups.

The general quality requirements for maternity services are outlined in Appendix Two.

### LMC involvement in the Women's Health Service

LMCs participate in the review of policy and reportable events and are invited to the Women's Health Service Quality Forum and Clinical Outcomes Forum.

LMCs meet regularly as a group to discuss issues with the Women's Health Service by way of a Women's Health Service Independent Practitioner Group. This group provides a forum of discussion between providers. Those that attend take information back to their various representative groups.

### Quality Framework, Women's Health Service

A Quality and Projects Facilitator is employed by the Women's Health Service to ensure that all aspects of quality assurance/improvement are managed. In the last year, an important part of the role has been to prepare the service for Quality Health New Zealand Accreditation in July 2004, to facilitate the development and implementation of a Quality Plan for the service. Appendix 3 outlines the model of quality improvement used by the Women's Health Service. A range of committees underpin and support the implementation of the Women's Health Service Quality Plan.

Some of the key priorities within the Women's Health Service Quality Plan 2003/04 are:-

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<sup>119</sup> Minister of Health. 2000. *The New Zealand health strategy*. Wellington: Ministry of Health.

<sup>120</sup> Ministry of Health. 2003. *Improving quality: a systems approach for the New Zealand health and disability sector*. Wellington: Ministry of Health.

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1. Development and implementation of Women's Health Service policies, protocols and guidelines.
  2. Risk management development
  3. Clinical audit
  4. Baby Friendly Hospital Initiative Accreditation
  5. Strengthening consumer involvement in service planning, development and delivery

The way in which these priorities are managed is outlined below:-

▪ **The development and implementation of Women's Health Service policies, protocols and guidelines.**

The Policy, Protocol and Guideline Committee ensures that policies and documents including patient information are developed, reviewed and authorised according C&CDHB policy.

Dedicated groups such as the Obstetric Guidelines Group and the Child Health & Women's Health Interservice Policy Development Group have developed numerous policies, protocols and guidelines focusing on particular clinical areas. Policies are developed by way of a multi-disciplinary team of people from the Women's Health Service and other services. Consumers and LMCs also assist in this process.

The Women's Health Service continues to develop and update the Women's Health Service Policy, Protocol and Guideline Manuals and the electronic Documentation Management System. Within Maternity Services policies are readily available as a hard copy and in an electronic format.

▪ **Risk Management Development**

Clinical risk is monitored through reportable events investigation, audit, complaints management, adverse obstetric outcome tracking, patient satisfaction surveys, key performance indicator monitoring, and hazard identification. A risk register and risk action list are maintained and regularly reviewed by the Clinical Risk Committee. Both ensure that corrective action is undertaken in relation to any deficiencies or risk identified. Learning identified through investigation is shared through the Women's Health Quality Forum and Perinatal Morbidity and Mortality Meetings (refer below).

*Clinical Risk Management Committee*

This committee ensures that all clinical risk to consumers, staff and the organisation is identified and effectively managed.

*Clinical Outcomes Committee*

The role of the Clinical Outcomes Committee is to ensure adverse obstetric and gynaecological outcomes are identified, analysed and reviewed. All new, emerging and unacceptable obstetric and gynaecology trends are reviewed and recommendations are made to Clinical Director and Business Manager.

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### *Clinical Outcomes Forum*

The Clinical Outcomes Forum is held quarterly and provides the opportunity to share the outcomes of clinical reviews and recommendations with staff. The focus is on improving care and encouraging a culture of learning.

### *Clinical Reviews/Case Reviews and Perinatal Mortality/Morbidity meetings*

Regular meetings are held to review maternity cases. There are also dedicated meetings for perinatal mortality and morbidity review.

Groups of LMCs hold peer review sessions with some inviting external scrutiny and input from other midwifery groups in the District.

### *Women's Health Service Quality Forum*

A Quality Forum held quarterly provides the opportunity for staff to present new or updated quality improvement initiatives and research projects. Guest speakers are invited and completed clinical audits are also presented at this forum. This forum contributes to creating a culture of continuous quality improvement.

## ▪ **Clinical Audit**

The principle of clinical audit is to review ways in which clinical practice can be improved resulting in improved outcomes for patients.

### *Clinical Audit Committee*

This committee screens and approves proposals for audit subject to final approval from the Clinical Director and the Business Manager. Clinical audits are prioritised according to risk and clinical concern.

### *Clinical Audit Forum*

This Forum provides the opportunity for staff to regularly give feedback on the outcomes of audits and associated recommendations. The focus is on improving care and encouraging a culture of audit and learning.

## ▪ **Baby Friendly Hospital Initiative (BFHI) Accreditation**

The Women's Health Service is contractually required to deliver services which are consistent with the principles of Baby Friendly Hospital Initiative (refer to Chapter 7 - Breastfeeding). The BFHI project has been an important quality initiative for the Women's Health Service targeting improvements in the development and implementation of breastfeeding related policies, accessible patient information brochures, consumer and staff training, and ongoing monitoring and evaluation of breastfeeding outcomes. The Ministry of Health will audit the compliance of C&CDHB Women's Health Maternity Services against the BFHI standards in early 2004.

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- **Strengthening consumer involvement in service planning, development and delivery.**

The Women's Health Service continues to involve consumers and evaluates their feedback via patient surveys, patient complaints and compliments, staff representation at the Women's Health Consumer Forum. This Forum provides valuable feedback on Women's Health Service patient brochures and policy development.

### **Clinical Director of Women's Health, and the Clinical Leader of Obstetrics, Women's Health Service**

The Women's Health Service employs a Clinical Director (a specialist obstetrician and gynaecologist) who provides clinical leadership and oversight in both obstetrics and gynaecology. The Clinical Director chairs the Clinical Outcomes Committee, the Women's Health Service Quality Forum and the Clinical Risk Management Committee. In addition, an obstetrician and gynaecologist is employed in the role of Clinical Leader of Obstetrics. The role includes review of all obstetric adverse outcomes and Chair of the Policy, Protocol and Guidelines Committee.

### **Midwifery Advisor, Women's Health Service**

A Midwifery Advisor is employed part-time by the Women's Health Service to provide advice and leadership on midwifery issues. Midwifery Forums are held monthly with the Midwifery Advisor as chair.

### **Continuing education**

Continuing education of staff helps to maintain and improve quality. The Women's Health Service provides a range of opportunities for staff to be upskilled, for example study days, epidural and breastfeeding workshops. LMCs are invited to these sessions.

### **Patient satisfaction survey – Women's Health Service**

Information on patient satisfaction has been obtained from surveys undertaken by C&CDHB on behalf of the DHB Funding and Performance Directorate of the Ministry of Health.<sup>121</sup> A stratified random sample of patients discharged from all hospital services are sent the survey each quarter.

Collated statistics from Women's Health have been analysed for the period January to September 2003. In this period, the average response rate for the Women's Health Service as whole (both obstetric and gynaecology) was 46.9% for inpatients and 34.1% for outpatients. The overall (weighted sum<sup>122</sup>) satisfaction of clients accessing all services in the C&CDHB Women's Health Service in the first six months of 2003 was 78.3% for inpatients and 77.9% for outpatients. In the same period other C&CDHB departments had a higher weighted sum average ranging between 82-91% in most instances.

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<sup>121</sup> These surveys were initiated by the Crown Company Monitoring Advisory Unit (CCMAU), but are now managed by the Ministry of Health.

<sup>122</sup> The weighted sum is a value based on multiplying each percentage ranking values by a specific value and adding the results.

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Compliments received included the following:-

*“Friendly and compassionate staff that took the apprehension away – felt in control. Nothing worse than being scared and lonely.”*

*“The professionalism and kindness of the staff – I was very impressed.”*

*“Everyone was very helpful and everything I needed was available.”*

*“Quietness and warmth of my cubicle.”*

*“Thank you for the excellent services we found at Wellington Hospital”.*

Review of comments made by clients describing aspects of service that could be improved identified several themes. These have been summarised in Table 44. The survey results are distributed to Team Leaders so that concerns can be addressed.

**Table 44 – Review of key areas of concern from the Ministry of Health Patient Satisfaction Survey, Jan-Sept 2003**

<b>Concern/issue</b>	<b>Way the concern/issue is being addressed</b>
Parking for relatives to visit family and for patients to attend outpatient clinics	This concern will be addressed when the new regional hospital is built. Parking is available outside the Delivery Suite for partners of women in labour.
Lack of privacy and ability to rest in a four-bed room	In the new regional hospital a firm request has been submitted that rooms in maternity be no more than two bed cubicles.
Meals	A new tray system is being trialed with a view to improving presentation and heat retention. The menu is to be reviewed in 2004. Cafeteria and catering options have been reviewed and changes implemented.
Cleaning	All cleaners' work schedules have been revised area-by-area in conjunction with Team Leaders to ensure all cleaning tasks and frequency of undertaking tasks are current.
Staffing	Women's Health Service is staffed according to benchmark figures. The patient turn-over in the postnatal ward is high and staff need to continually adjust to the needs of new patients.

Other comments arising out of the surveys reviewed related to the following:-

- Several women identified the need to be continually involved and informed in decisions affecting their care
- Lack of clarity about the expected/required length of the postnatal stay
- Vulnerability of clients from other cultures
- The expense involved in communicating home by phone if living out of the Wellington City toll-free area (e.g. Kapiti Coast)
- Not fully understanding equipment/clothes to bring in and facilities available in the ward

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## Summary of key points and discussion

The Ministry of Health monitors the quality of services undertaken by LMCs and some LMCs and group practices also monitor the quality of their services.

A Quality and Projects Facilitator is employed by the Women's Health Service to ensure that all aspects of quality assurance/improvement are managed. The Women's Health Service has a range of quality procedures in place.

A number of patients were highly satisfied by services provided by the Women's Health Service, but some felt able to write comments which offer valuable insight into the way in which services can be continually improved. Some of the comments made by clients related to environment (able to changed in the long term), and others related to process which can be improved by staff. As with all wards and departments at Wellington Hospital, staff need to be continually reminded about the way in which communication can be enhanced to improve customer satisfaction.

In terms of preparing patients for their postnatal stay there is now no "booking in" system. Thus, the responsibility to ensure that patients have the appropriate information for hospital admission now rests with LMCs. It is noted that a C&CDHB brochure preparing for admission to Ward 11 or 12 and also written information orienting patients to the various wards are available.

LMCs now prepare their clients individually for admission, labour and delivery. However, a suggestion is made that it could be possible for LMCs to collaboratively produce a more substantial booklet detailing key advice and information that pregnant women need to know. Space could be left for LMCs to individualise the resource for their service and their client.

It will be some time before the new maternity unit is built as part of the new regional hospital. In the meantime, Team Leaders are encouraged to consider ways in which the environment can be enhanced for both clients and staff.

### Options for Consideration

- C&CDHB continues to review customer satisfaction surveys and other forms of feedback and considers ways in which maternity services may be continually improved.
- LMCs consider ways to improve antenatal and postnatal information given to mothers.

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## 12. Community Agencies and Consumer Groups

A fundamental principle in the New Zealand Health Strategy<sup>123</sup> is that there should be active involvement of consumers and communities in service delivery. The involvement of consumers on relevant C&CDHB maternity policy and planning groups helps to ensure that maternity services remain firmly focused on the mother, family/whanau and her baby.<sup>124</sup>

Outlined below are a range of community groups and agencies available to support mothers, their babies and their families. This list is not exhaustive, but it is hoped it will provide a starting point to the development of a more comprehensive database for women and providers.

### Women's Health Consumer Forum

The Women's Health Consumer Forum comprises representatives from Pacific and Maori groups and many other women's and childbirth groups in Wellington. The group provides advice to the Women's Health Service on issues, policies and consumer information leaflets and was recently consulted on plans for the new regional hospital. Issues of concern are raised with the Business Manager of the Women's Health Service through the Team Leader of the postnatal ward who is a member of the group.

### Maternity Advisory Group

In late 2001 Service Planning and Funding convened a Maternity Advisory Group comprising consumers, relevant community agencies, LMCs, hospital midwives, GPs, staff working in the Women's Health Service (including Kenepuru and Paraparaumu Maternity Units) and Service Planning and Funding. The meetings provided an important opportunity for feedback and two-way communication on a range of service issues. The group has not met since 2002 and there is a need to consider the way in which ongoing input from consumers and maternity and child health providers is able to be included in C&CDHB planning.

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<sup>123</sup> Minister of Health. 2000. *The New Zealand health strategy*. Wellington; Ministry of Health.

<sup>124</sup> Health Funding Authority. *Maternity services: a reference document*. Hamilton: Health Funding Authority.

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## Community agencies

### *Plunket, and Plunket Karitane Family Centres*

Plunket Nurses provide home visits for babies after the child is 4-6 weeks old and clinic visits when children are older.

Plunket Karitane Family Centres provide help and support on parenting including breastfeeding, sleeping and other concerns. Plunket Nurses are available at the following centres –

- Rongotai – 61 Freyberg St, Lyall Bay – Phone 387 7594
- Onslow – 24 Rotoiti St, Johnsonville – Phone 478 4900
- Porirua – 217 Bedford St, Cannons Creek – Phone 237 7152

### *General practice and primary health care services*

General practice and a range of primary health care services provide health advice and nursing and medical support to women, babies and families.

### CCS

CCS has a range of services for children including a Child and Family Team providing information, support and advocacy to people with physical, intellectual or multiple disabilities. The organisation publishes a comprehensive 130 page information resource, "Pathfinder", for parents and care givers of children with special needs. This resource is available from the Neonatal Intensive Care Unit. The contact phone number of the organisation locally is (04) 478-9291.

### *Family Start Porirua*

Family Start is a programme aimed at improving life outcomes for children in families in Porirua whose social and family circumstances put children at risk in terms of health, education and welfare outcomes. The programme operates as a joint partnership between Te Roopu Awhina ki Porirua, Taeaomanino Trust and Barnardos New Zealand. Families are voluntarily referred to the service at birth and are supported by a family worker who undertakes a needs assessment, provides support, teaches parenting skills and links families with required services. Locally, the service is based in Porirua and can be contacted at (04) 237-6062.

### *Wellington City Mission*

Mission for Families is a division of the Wellington City Mission providing a range of services. These include an in-home advisory and support service for at risk families, advocacy to facilitate income support, health care and other social services, a budget advice and money management service, a drop-in centre, a food bank, and access to donated children's clothing. The contact phone number is (04) 389 2109

### *Strengthening Families*

Strengthening Families is a government strategy that aims to improve the wellbeing of families. The service is used when there are multiple agencies involved with families. Local coordinators facilitate improved collaboration of providers. The local contact person is Sandra Jenson based at the Wellington City Council, (04) 801 3443.

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### *Barnardos*

Barnardos is an organisation that works with families caring for children. Extra support is offered to families under stress. The organisation offers an early childhood service, family counselling and supervised placements for children with special difficulties. The contact phone number is (04) 802 3520.

### *Parents Centre*

Parents Centres NZ Inc is a national organisation providing childbirth and parenting education, support and advice to parents. In the C&CDHB district there are organisations in Mana (04 237 6262), Wellington North (04 479 0553), Wellington South (04 380 8002), and Kapiti (04 904 3732).

### *Plunketline*

Plunket provide a 24 hour phone support line for parents seeking child health advice and advice on parenting issues – phone 0800 933 922.

### *Parenthelp*

Parenthelp is a family support agency providing a 24 hour phone line for parents of children of any age. The service mainly deals with behavioural problems, but counsellors also advise on a range of other parenting issues. The agency receives many phone calls from new mothers and offers parent education courses. Their contact phone number is (04) 471 8164.

### *Pregnancy Help*

Pregnancy Help is a voluntary organisation with a range of services and support for pregnant women and their whanau/families. Services include a 24 hour phone counselling service, and practical support in the way of clothing, bedding and baby equipment. Layettes of up to 40 garments are given to families and baby equipment is loaned. The contact phone number for the greater Wellington region is (04) 499-7279.

### *Wellington Women's Health Collective*

Wellington Women's Health Collective is a support and referral agency for women. Women contact the service with health issues and problems and are assisted to identify appropriate options and agencies that may assist. The Collective works in a building with six other agencies, including Rape Crisis, and there is a lot of cross-referral between agencies. A free counselling service is provided to women on a low income, and a weekly support group run by trained facilitators is held for women living with depression. Assistance can also be given to women to find a GP, LMC or other health provider. The group can be contacted by phoning (04) 499 7709 between 10.30 a.m. and 3 p.m.

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## Support groups

### *La Leche League*

La Leche League provide information and support to women on breastfeeding. Peer support for breastfeeding is offered by way of monthly meetings and telephone advice. A library of books and other information is also available to members. They can be contacted at Wellington (Anthea – 387 2887 or Lesley 970 3320), Kapiti (Janet 04 293 7839), Mana North (Mandy 239 8499) and Mana South (Julie 232 3340).

### *Post and Ante-Natal Distress Support Group (PND)*

The Post and Antenatal Distress Support Group is a Wellington-based group providing telephone support, information for women experiencing postnatal distress. Two part-time coordinators are employed by the group and structured therapy-based support groups are run by a qualified facilitator. The service can be contacted by phoning Sandra Stokes and Chris Smith at (04) 471 8164.

### *Neonatal Charitable Trust*

The Neonatal Charitable Trust is a trust set up by people who have experienced having a baby born prematurely. An office administrator is paid 16 hours a week and is available in an office/shop situated adjacent to the Neonatal Intensive Care Unit (NICU). Breast pumps are loaned out to women with babies in the Unit and can also be sold at a reasonable price to families being supported or members of the public. Weekly parent lunches are held in the NICU and a team of volunteers make regular visits to Unit to be available to talk with, and support parents. Knitting and sewing patterns for preterm babies are available for sale as well as a range of small size cloth and knitted garments. Garments can also be rented. In addition, parents can borrow a range of books and other literature from the Trust Library.

Fundraising efforts have enabled clinical equipment and other resources to be purchased for the NICU. Various trust members coordinate the range of activities and services provided.

The Trust can be contacted through the Neonatal Intensive Care Unit, phone (04) 385 5999 Ext 5635.

### *Stillbirth and Neonatal Death Support Group (SANDS), Wellington*

The local SANDS group provide support to parents who have experienced a stillbirth or neonatal death. Monthly support meetings are held, the group has a library of books available for parents to borrow and can parents are referred to trained counsellors if necessary.

In the event of a death the group provides a Moses basket and a range of clothes and other equipment (e.g. quilts and a shawl) that can be used by parents to bathe and dress their baby. A memento card is also available for making a hand or foot print. Each ward at Wellington Hospital has this equipment available, and staff members provide a link to order more clothes and equipment when required. As part of this service parents are given a sealed envelope to take home which details information on the group and useful reading material. It also includes information to be read by children when they are older.

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It was noted by one group member spoken to that parents vividly retain the memories of this time and it is important they are special. As one way to facilitate this the group has donated a polaroid and video camera (including blank cartridges) to the Women's Health Service so that memories can be captured. Members of the group are available to provide seminars to maternity unit staff and LMCs on managing grief and ways parents can be sensitively supported during this time.

The local contact for the group is Andrea Besseling – (04) 387-8807, (027) 248 6955.

#### *SIDS Wellington*

SIDS Wellington provide support to families who have experienced a sudden infant death. A 24 hour phone line is available that directs clients to a counsellor, nurse or a coordinator. There is no time restriction on when a family can ask for support. The group also provides meetings and an apnoea monitor is available.

The contact phone for the group is (04) 472-7072.

#### *Parent to Parent*

Parent to Parent is a support and information network for parents with children with special needs. Parents who give birth to a child with a disability can be referred to this group. Staff working in the Neonatal Homecare Team who follow-up babies discharged from the Unit provide the C&CDHB link for this service. The service can be contacted by phoning 0508 236 236.

#### *Multiple Birth Club*

This group provides support for families experiencing multiple pregnancy. The contact phone number is Karen Connell (04) 479 4529.

#### *Mother's Network*

Discussion groups are held for women with a baby or young child who want to meet new people. The contact phone number is (04) 499 2844.

### **Summary of key points and discussion**

The involvement of consumers is essential to service planning. There is a need to consider the way in which ongoing input from consumers and maternity and child health providers are able to be included in C&CDHB planning. The potential exists for PHO's to consider maternity services in their plans and to forge closer links with LMCs and providers of maternity services.

A range of very useful agencies and support services are available and it is hoped that women are appropriately advised of, or referred to these. The need is identified for an updated database of services for use by providers and women.

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### **Options for Consideration**

- C&CDHB considers options for ensuring that ongoing input from consumers and maternity providers is able to be included in DHB planning.
- Updated information on the range of community agencies and support groups is given to women on discharge, and is available to LMCs.
- While there are already close links with midwifery, Well Child and tamariki Ora services and primary care, PHO's are encouraged to consider how maternity and well Child/tamariki ora services can link most effectively to improve health outcomes and reduce inequalities.

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## 13. Summary and Conclusion

This report has provided a detailed review of maternity services provided by C&CDHB. The review is timely in that it may assist C&CDHB to take stock of current services and consider future options and opportunities.

For the purposes of discussion of a range of areas have been scrutinised to enable detailed review. However, it is always important to be reminded of the holistic nature of maternity services, the ultimate aim of which is a healthy mother, a healthy child and supporting and sustaining the mother-infant and whanau/family triad.

Significant issues identified in this report are the following:-

- There is a need to consider options for reducing the rates of intervention in women who deliver in C&CDHB.
- The trend for mothers in Wellington to be older invariably impact on the costs of providing maternity care.
- The need for services which support Maori women and their whanau are supported. Maori newborns have poorer outcomes, for example they are more likely to be pre-term and low birth weight compared to babies from other groups. While additional services to Maori women will be of benefit, improvements to the social and environmental determinants of health, for example income, education and employment will also assist. C&CDHB should therefore continue to be involved in intersectoral work and advocacy in this area.
- The development of Pacific maternity support services is supported.
- Smoking cessation has the potential to make a considerable impact on Maori child health outcomes.
- Overall, the rates of exclusive and full breastfeeding in C&CDHB are consistent with other DHBs. However, disparities are evident in Maori, Pacific and Asian women.
- Given the fact that many mothers now spend a relatively short time in hospital postnatally there is a need to strengthen breastfeeding support services in the community.
- Asian women have a high rate of diabetes in pregnancy and are the group most likely to deliver by emergency caesarean section. Asian women are also much less likely to be exclusively breastfeeding than other groups.
- There is a need for improved availability of support services for women and families with special needs requiring additional psychosocial support and intervention.
- Options are explored for more coordinated services for mothers with drug and alcohol problems.
- Maternity services could be strengthened by improved information to consumers and providers on the range of community support services available.

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- There is high rate of teen pregnancy (women <20 years) in the Porirua-Titahi Bay area, particularly among Maori. Further discussion should be held on ways in which the needs of this group may best be met.
  - There is potential to reduce the current numbers of women seeking termination of pregnancy and to explore funding options that provide couples with better contraception and a choice of sterilisation procedures.
  - There is a need to explore options to enable maternity ultrasound scans to be at no cost to pregnant women and women undergoing termination of pregnancy.
  - There is a need to strengthen pregnancy and parenting education services in C&CDHB. Cultural appropriateness of services is an important consideration and also services designed for teenagers.
  - The uptake of Hepatitis B and BCG (tuberculosis) immunisation at birth for eligible babies could be improved.
  - Maternity information services to consumers could be improved.
  - Consideration is given to exploring service options that facilitate more coordinated care for mothers whose care has been transferred to the secondary sector
  - The Women's Health Service and LMCs should continue to review the quality of services provided so that the experience of consumers is consistently favourable.

### **Service priorities**

This report has helped to identify a range of areas of strength in the service, but also several areas for improvement. In order to develop services additional funding will be required. However, within the list of all services that could be developed there is a need to prioritise funding decisions. It is suggested that consideration be given to ordering priorities according to relevance to the New Zealand Health Strategy and government objectives, reducing inequalities, quality issues, and also areas which will make the most improvement in the health outcomes of mothers and their babies. It is useful to note that some areas of service development cost little – for example increased service coordination and integration, and that in the event of funding restrictions relatively low cost areas of service development could be achieved ahead of others. Some areas of service development rely on negotiation of funding with the Ministry of Health.

To date, key areas of service development identified are the following:-

- Smoking cessation services for women who are pregnant
- Increased lactation support services in the community
- Increased publicly-funded pregnancy and parenting education
- Improved support for women in Porirua, especially Maori whanau which may reduce low birth weight babies, improve breastfeeding and improve early neonatal outcomes
- Pacific maternity support services
- Services which provide additional support for “at risk” women and women with special needs
- Access to primary ultrasound scans at no cost to the consumer

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- Improved information to consumers on how to access an LMC and pregnancy and parenting courses and antenatal and postnatal support services available
  - Improved access to contraception and a choice of sterilisation procedures
  - Improved channels of communication between LMCs and HHS maternity services
  - Improved collaboration between providers and community agencies



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## 14. References

- Andersen AN, Lund-Andersen C, Larsen JF, Christensen NJ, Legros JJ, Louis F, Angelo H, & Molin J. 1982. Suppressed prolactin but normal neurophyal levels in cigarette smoking breastfeeding women. *Clin Endocrinol* 17: 363-8. Cited in Ford, R, Mitchell E, Scragg E, Stewart A, Taylor B & Allen E. 1994. Factors adversely associated with breastfeeding in New Zealand. *Journal Paediatric Child Health* 30: 483-89.
- Capital and Coast District Health Board. 2003. *Maternity report 1997-2002*. Wellington: Women's Health Service, Capital and Coast District Health Board.
- Capital and Coast District Health Board. 2003. *Review of smoking cessation in Capital and Coast District Health Board*. Wellington: Capital and Coast District Health Board.
- Clements M, Mitchell E, et al. 1997. Influences on breastfeeding in Southeast England. *ACTA Paediatric* 86: 51-6. Cited in Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.
- Cowan, S. (1999). *Addressing smoking in pregnancy: a national survey of maternity service providers. Report to the HFA*.
- Editorial. 2004. Nicotine replacement therapy in pregnancy is probably safer than smoking. *BMJ*, 328:965-966.
- Ford R, Mitchell E, Scragg E, Stewart A, Taylor B & Allen E. 1994. Factors adversely associated with breastfeeding in New Zealand. *Journal Paediatric Child Health* 30: 483-89. Cited in Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.
- Health Funding Authority. 2000. *Maternity services: A reference document*. Hamilton: Health Funding Authority.
- Lennon, M. 1997. Breastfeeding scoping project. Unpublished report prepared for North Health. Cited in Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.
- Minister of Disability Issues. 2001. *The New Zealand disability strategy – making a world of difference – Whakanui oranga*. Wellington: Ministry of Health.
- Minister of Health. 2000. *The New Zealand health strategy*. Wellington: Ministry of Health.
- Ministry of Health. 2000. *Kapiti district health and disability report and plan*. Wellington: Ministry of Health.
- Ministry of Health. 2000. *Porirua City health and disability report and plan. Wellington*. Ministry of Health.
- Ministry of Health. 2001. Inhaling inequality – tobacco's contribution to health inequalities in New Zealand. *Public Health Intelligence Occasional Bulletin* 7. Wellington: Ministry of Health.
- Ministry of Health. 2001. *Report on maternity 1999*. Wellington: Ministry of Health.
- Ministry of Health. 2002. *Breastfeeding: A guide to action*. Wellington: Ministry of Health.

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- Ministry of Health. 2002. Final report: Maternity services: incentives and sustainability. September (unpublished).
- Ministry of Health. 2002. *He korowai oranga - Maori health strategy*. Wellington: Ministry of Health.
- Ministry of Health. 2002. *Immunisation handbook*. Wellington: Ministry of Health.
- Ministry of Health. 2002. *Maternity services – Notice pursuant to section 88 of the New Zealand Public Health and Disability Act, 2000*. Wellington: Ministry of Health.
- Ministry of Health. 2002. *The Pacific health and disability action plan*. Wellington: Ministry of Health.
- Ministry of Health. 2003. *Health and independence report 2003. Director-General's annual report on the state of public health*. Wellington: Ministry of Health.
- Ministry of Health. 2003. *Improving quality: a systems approach for the New Zealand health and disability sector*. Wellington: Ministry of Health.
- Ministry of Health. 2003. *Report on maternity 2000 and 2001*. Wellington: Ministry of Health.
- Ministry of Health. 2004. *Negotiation brief – 2004/5 indicators of DHB performance*. Wellington: Ministry of Health.
- Ministry of Health. 2004. *Porirua maternity project* (unpublished).
- Misra DP, Guyer B & Allston A. 2003. Integrated perinatal health framework: A multiple determinants model with a life span approach. *American Journal of Preventive Medicine* 25 (12): 65-75.
- National Advisory Committee on Health and Disability. 2002. *Guidelines for smoking cessation*, 2<sup>nd</sup> edition. Wellington: National Advisory Committee on Health and Disability.
- National Health Committee. (1999) *Guidelines for recognising, assessing and treating alcohol and cannabis abuse in primary care*. Wellington: Ministry of Health.
- National Health Committee. 1999. *Review of the wisdom and fairness of the Health Funding Authority strategy for immunisation of 'hard to reach' children*. Wellington: Ministry of Health.
- New Zealand College of Midwives. 2002. *Midwife handbook for practice*. Christchurch. New Zealand College of Midwives.
- Prochaska, J, Diclemente, C. Transtheoretical therapy. 1982. Towards a more integrative model of change. *Psychotherapy Theory Res Prac*, 19: 276-88.
- Virtue C. 2000. *Maternity review: Porirua report of the Advisory Group to the Health Funding Authority*.
- Watson P, & McDonald B (Massey University, Albany). (1999). Nutrition during pregnancy. Cited in Health Funding Authority. 2000. *Maternity services: A reference document*. Hamilton: Health Funding Authority, p 24.
- Wilson J. 2001. Maternity incentives final report. Project led by the Ministry of Health with input from HHS providers.

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## 15. Appendices

### Appendix One: Ten Steps to Successful Breastfeeding

Every facility providing maternity services and care for newborn infants should:-

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within a half-hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drinks other than breast milk, unless *medically indicated*.
7. Practise rooming-in – allow mothers and infants to remain together – 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

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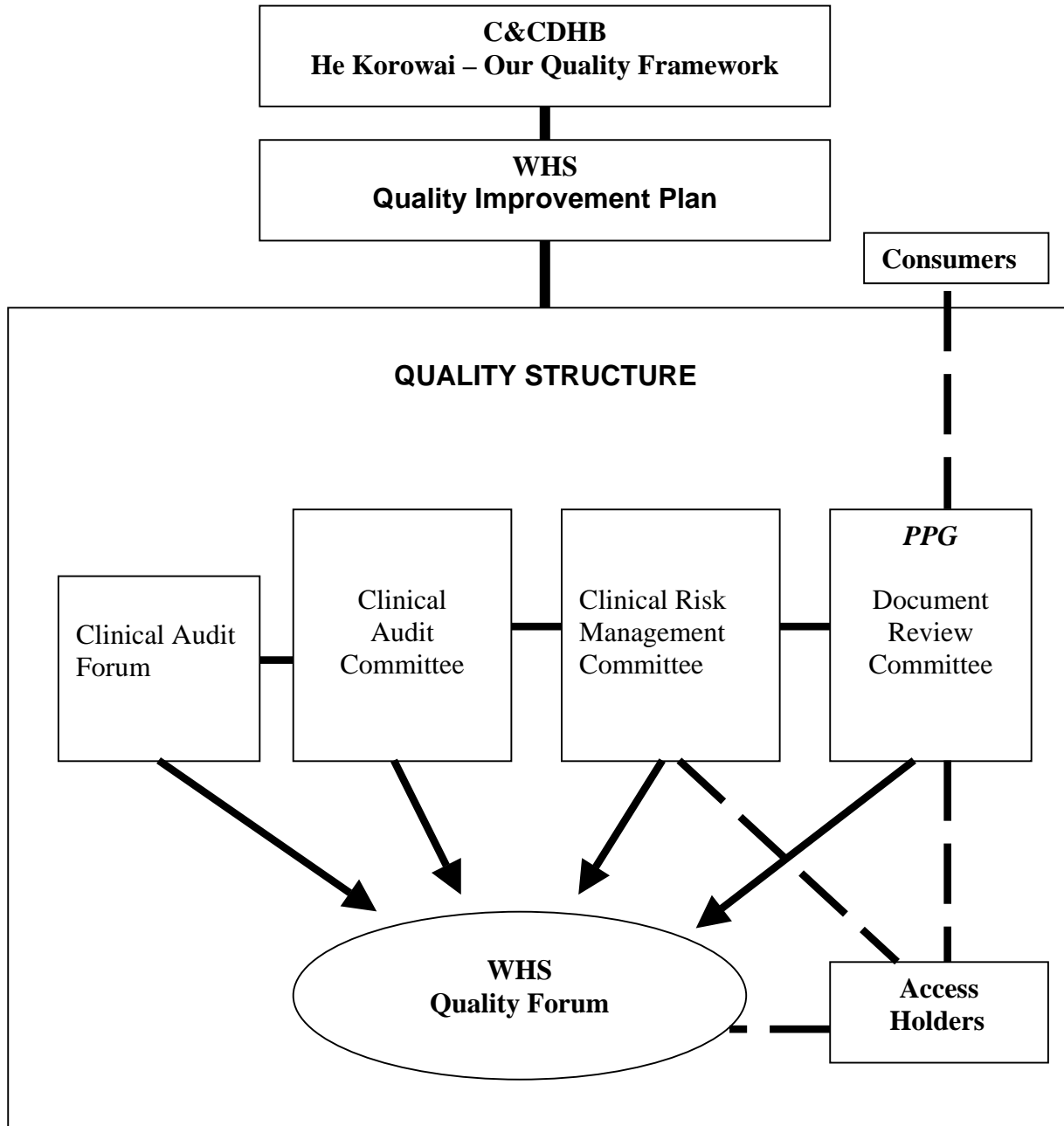
## **Appendix Two: General Quality Requirements for Maternity Services**

From – Maternity Services – Notice pursuant to Section 88 of the New Zealand Public Health & Disability Act 2000.

1. Services to Maori will be provided in a way that is consistent with the Treaty of Waitangi recognising the status of Maori as tangata whenua. This includes providing opportunities for whanau participation in the provision of care and encouraging opportunities for Maori participation in the delivery of Maternity Services.
2. Maternity Services will be provided in a manner appropriate to the culture of each individual woman and her family and whanau.
3. All women will be provided with appropriate information on the Maternity Services that they are entitled to receive and their options.
4. The relationship of the Authorised Practitioner with the woman will be based on informed consent.
5. The dignity of the woman will be respected.
6. All Lead Maternity Carers and Specialists will participate in a Professional Review Process.

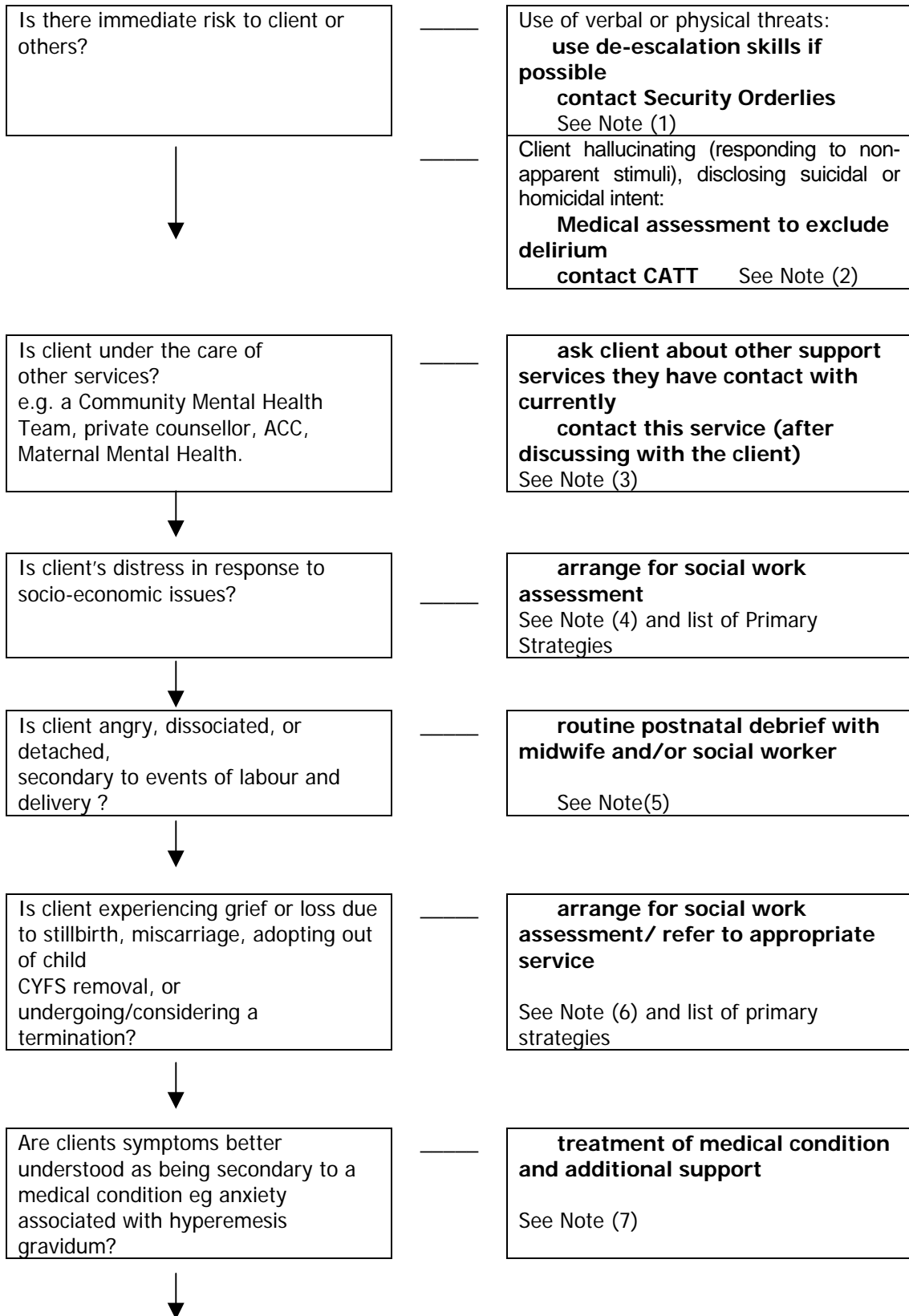
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**Appendix Three: Women's Health Service Quality Improvement Model**



## Appendix Four: Decision Tree for Referral to the Specialist Maternal Mental Health Service

Instructions: Use the following questions and suggested actions to guide your response. Read in conjunction with accompanying Notes and supplementary materials.



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Is client showing signs indicative of clinically significant depression or anxiety?

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**check description of depressive symptoms**  
See Note (8)  
**administer EPDS. If score is 12 or less, inform GP and midwife and request ongoing monitoring**  
(see Note 11)  
**arrange for SW assessment**

Does a client identifying as Maori have a score over 12 on the EPDS?

—————

**refer to Maori Mental Health**  
See Note (9)



Does a client identifying as non-Maori have a score over 12 on the EPDS?

—————

**Select from the following options:**  
**discuss with Maternal Mental Health Duty Worker**  
**request further assessment by Social Worker**  
**refer back to GP for medication review and monitoring**  
**refer to MMH and notify GP/Midwife**  
See Notes (10-13)