families commission
kōmihana ā whānau

families commission research fund

childbirth education:
antenatal education and transitions of maternity care in new zealand

DR SARAH DWYER
IN CONJUNCTION WITH PARENTS CENTRES
NEW ZEALAND INC AND PARENTING COUNCIL

REPORT NO 1/09
MAY 2009

The Families Commission was established under the Families Commission Act 2003 and commenced operations on 1 July 2004. Under the Crown Entities Act 2004, the Commission is designated as an autonomous Crown entity.

The Families Commission Research Fund promotes substantial research in areas of importance for families that would not otherwise be funded as part of our core work programme. Projects in this fund aim to make a difference to outcomes for New Zealand families.

For more information on the Families Commission Research Fund, visit www.nzfamilies.org.nz

Families Commission
Public Trust Building
Level 6, 117-125 Lambton Quay
PO Box 2839
Wellington 6140

Telephone: 04 917 7040
Email: enquiries@nzfamilies.org.nz
www.nzfamilies.org.nz

ISSN 1177-815X (Print)
ISSN 1177-8168 (Online)

ISBN 978-0-478-32831-8 (Print)
ISBN 978-0-478-32832-5 (Online)

families commission
kōmihana ā whānau

families commission research fund

childbirth education:
antenatal education and transitions of maternity care in new zealand

DR SARAH DWYER
IN CONJUNCTION WITH PARENTS CENTRES
NEW ZEALAND INC AND PARENTING COUNCIL

PARENTS CENTRE

The Parenting Council

ACKNOWLEDGEMENTS

This research was prepared for the Families Commission, Parenting Council and Parents Centres, with funding from the Families Commission. I would like to thank the following people who gave their time to talk to me about maternity and Well Child services in New Zealand: Vivienne Gurrey, Michelle Burton, Gillian Taylor, Jennie Valgre, Sharron Cole, Pat Tuohy, Karen Guilliland, Chris Hendry, Peter Glensor, Angela Baldwin, Trudi Ashcroft.

Thanks to Alison Hussey from Plunket who organised to have data extracted from the Plunket database and co-ordinated other Plunket Centres to complete the questionnaire about the type of antenatal education service they offered.

Thanks also to Nicolette Fisher who transcribed two of the focus group recordings and helped with phoning all the DHBs to check on the progress of the distribution of the questionnaire through maternity facilities. She also provided useful first-hand feedback on the maternity system as she progressed through her own pregnancy and birth. A big thanks to Magda Kielpikowski who helped find contact details for all the CBE providers and then patiently emailed questionnaires to each one and meticulously followed them up. Magda also provided invaluable assistance in completing the final data analyses.

Thanks to Jennie Valgre for helping me pilot the questionnaire for women. Thanks also to the many providers of CBE who gave up some of their time to talk to us about the service they offer and to many helpful people in the DHBs who organised the distribution of questionnaires through hospitals. Finally, thanks to the hundreds of women who completed the questionnaire shortly after giving birth. Your time was appreciated.

TABLE OF CONTENTS

PREFACE

> *I think the confidence I got as a result of going to the classes meant that we could easily establish an emotional connection with [baby's name] because …[it] … eliminated a whole lot of barriers and we could just concentrate on falling in love with him …* (mother discussing how CBE influenced her thinking about parenting p.58)

It has been said many times that while pregnancy, childbirth and parenting might revolve around a natural process, the skills of mothering are not all instinctive. Women learn much of how to look after their unborn child, have a healthy birth and how to parent, from others.

In traditional societies these skills are passed from grandmothers to mothers to daughters. In many modern societies, however, families are more scattered; the role of maternity carer and parenting educator increasingly falls to those providing professional antenatal and postnatal services.

How do these services in New Zealand measure up? Are the services provided equally accessible throughout the country? Do they meet women's needs? Are they culturally appropriate? And is there a smooth referral process from the providers of antenatal care to the providers of support for those vital first weeks of being a new parent?

The Families Commission, in association with Parents Centres New Zealand Inc and the Parenting Council, commissioned research to look at these questions. The study describes women's access to, and perception of, childbirth education services offered by providers in the 21 District Health Boards (DHBs). It also looks at how mothers are referred from the care provided by Lead Maternity Carers (LMC) to antenatal education, and from LMC to Well Child services.

This report details the findings of that research. Its supporting literature review examines how effective antenatal education has been in New Zealand and internationally, and highlights the positive impact that antenatal education can have on a mother and her baby.

It raises some critical issues about women's access to childbirth education and the transition from maternity care to parental support in New Zealand. It shows that not all women and their families are able to access good antenatal education and support. It also shows that the quality of the information and services they are getting differs greatly between the health regions.

The study found that just over 41 percent of pregnant women attended childbirth education in New Zealand. Most of these women were first time mothers, tertiary educated, of New Zealand European ethnicity, and higher income earners. Women less likely to attend were less educated, of lower socio-economic status, and single.

Māori and Pasifika women were significantly under-represented as recipients of child birth education and there were significant barriers (cultural, transport, childcare, language) to their participation.

Many women were only vaguely aware of their entitlements, such as the allowable length of postnatal hospital stay or the number of free LMC or Well Child home visits they could receive. A number of women reported having difficulties finding a Lead Maternity Carer in their area.

The research found there were significant differences in the availability and delivery of CBE across the DHB regions; and that some health boards do not meet the Ministry of Health expectation of CBE services being available free of charge to 30 percent of all pregnant women each year. Further, not all providers base their courses on national service specifications; there were differences between what topics providers covered, the length and structure of their courses, and the training of facilitators.

In some regions there were problems with referring mothers on to other providers (LMC to childbirth education and LMC to Well Child services). This resulted in many women being unaware of the available services, having to initiate contact with the services themselves, or falling through the gap during the transition process.

There were many women happy with the services provided and the support and information they received. Nevertheless, the Families Commission believes the gaps and issues identified need to be addressed.

The Commission will advocate for an increase in the numbers of women able to access free CBE classes.

We want the regional variations in the availability of CBE across the DHBs to be addressed, and for all boards to meet the current Ministry of Health expectations for free classes for pregnant mothers. The Commission will also encourage DHBs to look creatively at how they can increase the numbers of free services for women.

We also see an urgent need to address the problems within the maternity system that are leaving some women unable to access a LMC in their area.

CBE will need to become more relevant and accessible for women from different cultural groups and disadvantaged backgrounds. Services providers will need to develop innovative ways to engage with families and look at how to break down barriers to their participation.

The Commission will advocate for the information on CBE and available services to be presented to women and their families in a consistent way, so they can make informed decisions about their care arrangements.

We support the recommendations outlined in the report aimed at improving the transition of care between the different services. and strengthening the content and format of antenatal education. We also support further discussion to identify what knowledge and skills are needed by childbirth educators.

These findings are aimed at improving and strengthening the quality of CBE in New Zealand. The report will be of considerable interest to the Ministry of Health, District Health Boards, childbirth service providers and others involved in future planning of CBE in New Zealand.

The Families Commission thanks Parents Centres New Zealand Inc and the Parenting Council for undertaking this research. We are grateful to the mothers who openly shared their childbirth education experiences and the childbirth providers and carers who willingly participated in this study.

Dr Jan Pryor
Chief Commissioner

EXECUTIVE SUMMARY

The perinatal period represents an ideal opportunity to engage women and families and whānau in preventative health care. This research provides a snapshot of antenatal education and transitions of maternity care in New Zealand. The focus of the project was on the quality and availability of antenatal education. It was funded by the Families Commission, with the project objectives decided in collaboration with Parents Centres New Zealand Inc and the Parenting Council. It was completed a few months after the revised *Primary Maternity Services Notice (2007) pursuant to Section 88 of the New Zealand Public Health and Disability Act 2000* was released.

Methods

There were 30 research questions, each of which related to one of 11 project objectives. Data were collected from many sources using a range of methods, including key informant interviews; phone calls to district health boards (DHBs); focus groups with women; a brief questionnaire given out in maternity facilities to women who had just given birth; a brief questionnaire distributed to childbirth education (CBE)[a] providers; extracting data from the Plunket database; and a comprehensive literature review on the effectiveness of antenatal education. The main findings related to each objective are summarised below.

Results

1. Identify the providers of CBE and Well Child services in New Zealand

This project identified 90 providers of antenatal education and 88 providers of Well Child services across all 21 DHBs. DHB provider arms are the biggest provider of free antenatal education in New Zealand, followed by Parents Centres. Plunket is the biggest provider of Well Child services.

There are three main ways that CBE is funded in New Zealand:

- publicly funded through DHB provider arms or contracts that other providers hold with DHBs (who receive funding from the Ministry of Health)
- privately funded or fee-for-service, where the provider charges the participant to attend the course
- community funded through charities, philanthropic organisations or fundraising activities.

Of the 45 CBE providers that returned questionnaires, 38 (84.4 percent) reported being DHB-funded, five (11.1 percent) fee-for-service (with two of them also receiving some community funding), and one provider reported being fully community funded.

2. Describe the contractual arrangements and obligations of CBE providers

CBE providers that hold contracts with DHBs are obligated, through the national service specifications for Pregnancy and Parenting Education, to run courses that are at least 12 hours in duration, facilitated 'preferably' by someone with childbirth education qualifications, and cover content relevant to pregnancy, labour, birth and care after the birth. CBE providers that do not hold contracts with DHBs have no formal obligations. Eighty percent of CBE providers based their courses on the national service specifications.

3. Describe and compare CBE offered to women and their families and whānau by key CBE providers

Topics that women most frequently remembered being covered in classes were signs of labour and options for managing pain, normal and other birthing methods and the benefits of breastfeeding. Topics least well remembered included the complaints procedure for maternity services, unplanned experiences, parenting programme options available and the role of Well Child services and how to access them.

Parts of antenatal education that women valued the most included information on pain relief options during labour and early experiences at home after the birth, social support, opportunities to get the father involved and confidence from knowing what to expect during labour and afterwards. Parts of antenatal education that were least useful included poorly timed information on nutrition and a lack of information on bottle feeding, unexpected events and parenting after the birth of the baby.

[a] In this report the term 'childbirth education' is abbreviated to CBE for brevity and it is used interchangeably with the terms 'antenatal education' and 'pregnancy and parenting information'.

DHB-funded providers were more likely than non-funded providers to cover a range of topics, including the effects of smoking, the effects of alcohol and other drugs, warning signs of problems during pregnancy and the role of Well Child services. There were also differences in the likelihood of different topics being covered by individual providers.

In addition to content, there were differences between CBE providers in the length, structure and target population of their courses. Parents Centres, who offer relatively structured courses and require their facilitators to have a qualification in CBE, compared well against other organisations on one of the items in the women's survey. After adjusting for confounding variables, women's perception of the extent to which CBE helped them prepare for the birth experience was significantly higher for women who had participated in CBE through Parents Centres (M = 3.93) compared with hospital-based classes (M = 3.58).

4. Determine the proportion of parents who access CBE

Over 41 percent of all women who had just given birth had attended antenatal education; 80 percent of primiparous women (those giving birth for the first time) participated, but only four percent of multiparous women (those who had given birth before) attended antenatal education. The proportion of parents accessing CBE was relatively higher in Auckland (46 percent), Capital and Coast (52 percent) and Canterbury (51 percent) regions compared with Waikato (31 percent), Lakes (32 percent) and Southland (35 percent) regions.

5. Compare the availability of CBE across the different health regions

In 2006, DHBs funded enough CBE places for anywhere between 10 percent and 100 percent of their first-time pregnant women. Capital and Coast region had the lowest availability of funded CBE places for first-time pregnant women, with only 10 percent of first-time births potentially accommodated. (The relatively high access rates to CBE in the Capital and Coast region suggest that a higher proportion of women pay for courses in this region). Other regions that did not fund sufficient CBE places to cover 30 percent of first-time pregnant women included Northland, Waitemata and Nelson-Marlborough.

6. Determine the demographics of women and families and whānau who access CBE and Well Child services

Most women who participated in CBE were primiparous (95.1 percent) and were married or in de facto relationships (92.6 percent). Participants were significantly more likely than non-participants to have a tertiary degree (one to four years), to be of New Zealand European ethnicity and to be earning $70,000 or more per year. Māori and Pacific peoples were under-represented amongst women who attended antenatal education. Only 10 percent of CBE participants were of Māori ethnicity and less than one percent were of Pacific ethnicity. After adjusting for all demographic variables, the strongest predictors of women's attendance at antenatal education were the women's parity (number of previous births), whether the lead maternity carer (LMC) had suggested the mother attend CBE classes, family structure and the DHB.

The ethnic makeup of parents who receive Plunket Well Child services closely mirrors that of the general population of women giving birth. In 2004, births to Māori and Pacific mothers accounted for 19.9 percent and 10.1 percent of all births respectively.[1] Between July 2005 and June 2006, 22 percent of new Plunket enrolments were Māori, 10 percent were Pacific and 68 percent were 'other' (mostly New Zealand European). However, Plunket clients are a less-deprived population than the general population of women giving birth.

7. Describe the contractual arrangements and obligations of LMCs as they relate to transitions of care from LMC to CBE and from LMCs to Well Child care

There are no formal obligations for LMCs to refer women to antenatal education. However, LMCs have both contractual and professional obligations, specified in the *Section 88 Maternity Notice* and *Midwives' Handbook for Practice*, respectively, to inform women about the availability of antenatal education. This is different from recommending that women attend antenatal education. Fifty-eight percent of women who completed the survey reported that their LMC had suggested they attend antenatal education. For primiparous women, the percentage was 92 percent and for multiparous women, the percentage was 26 percent.

In contrast, there are formal obligations, specified in the *Section 88 Maternity Notice*, for LMCs to refer women to Well Child services. LMCs must provide a written referral to Well Child services before the baby is four weeks old and must have transferred care to the Well Child provider before the baby is six weeks old. In 2006, 67 percent of transfers to Plunket occurred before six weeks, 27 percent occurred between six and 10 weeks and six percent occurred after 10 weeks.

8. Describe the contractual arrangements and obligations of Well Child service providers as they relate to transitions of care from LMC to Well Child care

According to the Well Child framework and current Well Child service specifications, Well Child services are formally obligated to register and make contact with every family and whānau for whom they receive a referral. They are also obligated to provide services 'initially' in the family home. Additional funding is given to Well Child providers to enable them to make contact and conduct additional home visits with vulnerable families.

9. Determine the extent to which the transition between LMC and Well Child services is co-ordinated by service providers or left to the mother and her family and whānau

Although this transition is not generally left to the parents, in some regions problems with the transition process between providers result in a substantial proportion of women or their families and whānau having to initiate contact with services themselves, or even falling through the gaps.

Factors contributing towards parents having to take responsibility for the transition include midwives failing to make a formal written referral, midwives sending the paperwork to Well Child providers late, midwives forgetting to send the paperwork, midwives giving the paperwork to the family instead of the Well Child provider, philosophical differences between midwives and Well Child providers, Well Child providers not having the capacity to follow up all referrals, Well Child providers failing to follow up all referrals, parents choosing not to access Well Child services and a lack of monitoring of the transition process.

10. Determine the extent to which women and their families and whānau are aware of their entitlements, specified in the *Primary Maternity Services Notice (2007) pursuant to Section 88 of the New Zealand Public Health and Disability Act 2000*

Women were only vaguely aware of their entitlements. They were not aware of the specific details of entitlements, such as the length of postnatal hospital stay or the number of LMC or Well Child home visits. They also seemed unaware of entitlements such as free non-LMC care for urgent pregnancy problems. Lack of knowledge of entitlements was a particular barrier to maternity care for young women, women of different ethnic backgrounds (particularly non-English-speaking) and women who had not been living in New Zealand for very long.

11. Identify gaps between the support that maternity and Well Child services aim to provide and what happens in practice

Five types of gaps were observed between what services aim to provide and what happens in practice.

1. Information gaps – Maternity and Well Child services aim to provide women and families or whānau with information on the services available so they can make informed decisions about their care. In practice, there are many women and families and whānau who are unaware of the services available or receive poor-quality information. These gaps may be addressed by providing more information to professionals and the public about the services offered by different maternity and Well Child providers; providing opportunities for different maternity and Well Child providers to get together and share information; and monitoring the quality of information and resource materials made available to women and their families and whānau.

2. Identification and responsiveness gaps – Maternity and Well Child services aim to identify and respond appropriately to women and families or whānau who are at risk of various adverse outcomes. In practice, many families and whānau are missed and sometimes there are insufficient resources, or no system is in place to follow up appropriately. These gaps may be addressed by considering the systematic use of screening tools (such as those for postnatal depression

(PND)); developing appropriate information technology infrastructure to support monitoring systems (such as Kidslink); developing primary mental health care services and workforce development on the identification and optimal management of at-risk families and whānau.

3. Engagement gaps – Maternity and Well Child services aim to successfully engage women and their families and whānau. In practice, women and families and whānau who have the greatest need are often the most difficult to engage. These gaps may be addressed by making services more attractive and suitable for different client groups; finding innovative ways of reaching out to people; and addressing system-level barriers to accessing services.

4. Service gaps – Maternity and Well Child services aim to achieve good coverage of their target population and an equitable level of servicing across different regions in New Zealand. In practice, there are significant gaps in service coverage and large differences in the availability of services across different regions. These gaps may be addressed by funding more maternity or Well Child services (for example, more midwives and more CBE classes), and offering antenatal classes that are attractive to and meet the needs of different population groups.

5. Clinical or performance gaps – Maternity and Well Child services aim to provide services that meet consumers' needs and are of a high quality. In practice, consumers' needs are too often not met and the quality of services is questionable. These gaps may be addressed by requiring childbirth educators to have a minimum qualification in CBE; introducing quality-improvement processes such as auditing of services, rewarding particular targets, measurement and monitoring of outcomes and collecting regular consumer feedback; critically re-examining the content of programmes; and further workforce development.

Recommendations

This project has implications for the content and format of antenatal education, the skills and knowledge required by facilitators of classes and transitions of maternity care.

Antenatal class content

> Cover information on nutrition earlier in pregnancy.

> Do not push the benefits of vaginal childbirth and breastfeeding to the detriment of women's mental health.

> Provide more information on parenting strategies.

> Prepare women and families in a more realistic way for childbirth.

> Include discussion of emotional and relationship issues related to the transition to parenthood.

> Refocus classes to concentrate on increasing self-efficacy and health literacy.

Antenatal class format

> Wherever possible, run antenatal classes with homogeneous groups of women to facilitate the growth of friendships and social support.

> Consider offering courses on a broader timescale to align with parents' information needs.

> Base teaching on principles of adult learning and include experiential learning.

> Consider basing classes on a structured curriculum with some flexibility to tailor classes to the learning needs of the group.

> Design and offer antenatal classes that are attractive to and meet the needs of different population groups, such as Māori, Pacific peoples, refugees or teenagers.

Skills and knowledge required by facilitators of antenatal classes

> Ideally, childbirth educators should have knowledge and skill in the use of adult learning principles; experiential learning; empowering parents and increasing parental self-efficacy and health literacy; discussing difficult emotions and relationship issues; parenting strategies; being sensitive to participants' individual situations, cultures and learning desires; professionalism; and understanding how other parts of the maternity system work.

Interface between LMC and CBE

> Consider ways of influencing LMCs to recommend CBE to their clients more frequently.

> Continue to strengthen relationships between LMCs and CBE providers.

Transition between LMC and Well Child provider

> Consider further standardising the handover process from LMC to Well Child providers to increase the reliability of the referral process.

> Consider monitoring or auditing the handover process.

> Continue to strengthen relationships between LMCs and Well Child providers.

> Increase resources to enhance the capacity of LMCs to comply with formal referral requirements and to increase the capacity of Well Child providers to follow up referrals.

> Provide public education about entitlements, the services offered by maternity and Well Child providers and why they are important.

> Address the known barriers preventing women and their families and whānau from accessing Well Child services, such as language, perceptions or beliefs, cultural competence, stigma and monitoring systems.

Topics for further debate

> Should facilitators of antenatal education be required to have a minimum qualification in CBE?

> Should it be a requirement for LMCs to formally refer primigravidae (those pregnant for the first time) to antenatal education?

Strengths and limitations of the project

Major strengths of the project are the variety of research methods used, including both qualitative and quantitative measures, as well as important new evidence obtained on antenatal education and transitions of maternity care for the New Zealand context. The major limitations of the research are related to the size and representativeness of the sample of women who returned questionnaires.

Overall woman and their families and whānau are satisfied with CBE in New Zealand. The maternity and Well Child services available meet the needs of the majority of families and whānau, but refinements suggested in this report could do much to maximise the potential of antenatal education and better equip women and their partners for the transition to parenthood.

1. BACKGROUND AND RESEARCH QUESTIONS

1.1 Definitions used in this report

Antenatal support: services provided for pregnant women and their families and whānau before birth, such as childbirth education or lead maternity care (LMC) support.

Breastfeeding, artificial: the infant has had no breastmilk but has had alternative liquid such as infant formula with or without solid food in the past 48 hours (before the survey).[1]

Breastfeeding, exclusive: the infant has never, to the mother's knowledge, had any water, formula or other liquid or solid food. Only breastmilk (from the breast or expressed) and prescribed medicines (as defined in the Medicines Act 1981) have been given to the baby from birth.[1]

Breastfeeding, fully: the infant has taken breastmilk and a minimal amount of water or prescribed medicines (as defined in the Medicines Act 1981) but no other liquids or solids in the past 48 hours (before the survey).[1]

Breastfeeding, partial: the newborn has taken some breastmilk and some infant formula or other solid food in the past 48 hours (before the survey).[1]

Childbirth education (CBE): a specific component of antenatal support that aims to provide information on wellness behaviours during different trimesters of pregnancy and to prepare the mother (and usually her partner) for labour and birth. It may include information and advice on foetal growth and development, breathing techniques during labour, what to expect during labour and delivery, caesarean birth, breastfeeding, maternal postpartum issues and infant care.

Maternity facilities, primary: facilities that do not have inpatient secondary maternity services or 24-hour on-site availability of specialist obstetricians, paediatricians and anaesthetists. This includes birthing units.[1]

Maternity facilities, secondary: provide additional care during the antenatal, labour and birth and postnatal periods for women and babies who experience complications and who have a clinical need for either consultation or transfer. They have the capability to perform caesarean sections.[2]

Maternity facilities, tertiary: facilities that provide a multidisciplinary specialist team for women and babies with complex or rare maternity needs who require access to such a team, including neonatal intensive care units. Examples of complex needs include babies with major foetal disorders requiring prenatal diagnostic and foetal therapy services or women with obstetric histories that significantly increase the risks during pregnancy, labour and delivery (for example, two placental abruptions).[1]

Maternity services: covering antenatal, perinatal and postnatal support services up until a maximum of six weeks after the birth, but excluding Well Child services. Consistent with the definition provided by the then Health Funding Authority (2000),[2] maternity services includes: LMCs; maternity facilities (usually in hospitals) that provide inpatient services during labour, birth and the immediate postnatal period and birthing units; secondary and tertiary maternity services for women and babies who experience complications; specialist neonatal services that provide inpatient care for babies who are born with additional needs, and neonatal homecare services; pregnancy and parenting information; whānau ora maternity support services; regional units providing home support and mothercraft inpatient services where women are admitted if they need ongoing assistance with caring for their infant, including support for infant sleep and feeding difficulties; and consumer information on how the maternity system works, including the options available, entitlements to maternity care and costing.

Multiparous: refers to women who have given birth two or more times.

Parenting education: services that provide parents and other caregivers with specific knowledge and childrearing skills with the goal of promoting the development and competence of their children.

Perinatal support: services provided for women around the time of childbirth, including labour, birth and the postnatal period.

Postnatal support: services provided for women and their families and whānau after the birth, including Well Child services and early parenting education up to the time the baby is six weeks old. 'Postnatal' is used interchangeably with 'postpartum'.

Pregnancy and parenting education: often used interchangeably with the term 'childbirth education', but more accurately reflects the changing nature of CBE that includes parenting education components. Pregnancy and parenting education involves group antenatal education for pregnant women and their family and whānau. The aim is to acknowledge and enhance participants' own experience and knowledge, to empower them to trust themselves and to know how to seek additional maternity information and support when they need it. Each course typically includes up to 12 pregnant women and involves a minimum of 12 hours of education.[3] In this report the terms childbirth education (CBE), antenatal education and pregnancy and parenting education are used interchangeably.

Primigravida or primiparous: gravida refers to a woman's number of pregnancies and parity refers to the number of previous births. A woman who is pregnant for the first time is a primigravida and is nulliparous (having no previous births). A primigravida becomes a primipara once she has given birth.

Well Child services: health education and support services provided to women and their babies and children, typically from about six weeks of age, including developmental assessments of the baby at six weeks offered through Plunket. According to the New Zealand Well Child Framework,[4] Well Child services encompass three domains: health education and promotion; health protection and clinical assessment; and family or whānau care and support.

Note: For readability, all references are referenced throughout the text in number format, 1 to 59 in the main report, and 1 to 236 in the Literature Review. Full author details can be found in these reference sections.

1.2 Key stakeholders

Below is a list of the key internal and external stakeholders for this project.

Service providers

- Parents Centres
- Plunket
- Obstetricians
- New Zealand College of Midwives (NZCOM)
- Nga Maia (Māori midwife collective, directly affiliated with NZCOM)
- SAMCL (South Auckland Maternity Care Limited)
- Childbirth educators
- District Health Boards (DHBs)
- Primary Health Organisations (PHOs) and general practitioner (GP) groupings

Education and certification

- Aoraki Polytechnic, Timaru
- The Childbirth Educators of New Zealand (CENZ)

Government and Crown Entities

- Ministry of Health (MOH)
- Ministry of Education
- Ministry of Social Development
- Families Commission
- Office of the Children's Commissioner

Other stakeholders

- Parenting Council
- College of GPs

1.3 Parents Centres

To conduct this research, the Families Commission provided funding to the Parenting Council, of which Parents Centres is a member. Parents Centres employed Dr Sarah Dwyer to manage the project and played a large role in deciding on the final research questions. The final report was prepared independently of Parents Centres. Below is more information about Parents Centres and the Parenting Council.

Parents Centres New Zealand Inc is a community-based, not-for-profit organisation set up for parents with 54 main Centres throughout New Zealand. Parents Centres represents one of the largest parenting support and education infrastructures in New Zealand. Their philosophy is for New Zealand society to value parenting as fundamental to the wellbeing of all members of society. Their core business is serving parents of children aged 0–5 years, with a focus on pre-conception, coping skills, knowledge and information transfer, life skills and antenatal and postnatal training.

The Parents Centres movement commenced in 1952 in New Zealand. Currently, Parents Centres provides services to over 16,000 parents annually, and has

opportunities to touch families well in excess of 60,000 times per annum. The organisation operates from a National Office in Mana, Wellington, and supports over 3,500 volunteers who run and offer Parents Centre programmes nationwide in both rural and metropolitan areas.

Parents Centres has two main work streams: community support and community education.

Their community support stream comprises infrastructure and networks to deliver support where needed to parents in the community. Parents Centres provides community support for various parenting issues, such as Sudden Infant Death Syndrome, sudden foetal death, miscarriage, breastfeeding and child development. They also provide a toy library, play groups and crèche.

Their second work stream, community education, focuses on antenatal and childbirth education; parent education on coping skills, practical parenting, professional development for parents; and all aspects of baby and toddler care to school age. The extent to which Parents Centres provides community support or education is driven by the needs of the local community.

Parents Centres services are open to all types of families and whānau. The National Support Team is planning to introduce various additional projects in the community, such as teen parents; parents in prison; intergenerational care; migrants as parents; Parenting with Purpose through the SKIP initiative; and early indicators for intervention.

1.4 Parenting Council

The Parenting Council was formed in April 2003 in order to raise the profile of parenting in New Zealand, act as an advocate for parents and exercise some monitoring of the parenting environment.

The Council comprises a group of leading parenting organisations with Pākehā, Māori and Pasifika representation who hold a common understanding that good parenting is essential in order for New Zealand to be a peaceful, prosperous nation. The Council believes that parenting behaviours need to be learnt, and that parents need strategies to be able to nurture, guide and inspire their children in a social environment that supports them.

The strategic objectives of the Parenting Council are to:

- apply the knowledge, experience and insight of its members to strengthen the ability of parents and Government to work together effectively in achieving the prime purpose of parenting – well-nurtured children
- be a recognised advisory body on parenting issues
- provide recommendations and policy advice on parenting to the Government
- promote the support and education needs of parents
- facilitate, conduct or assist in research on current and future issues relating to parenting
- promote the interests of parents to the community and to all political parties
- network with parenting organisations in New Zealand.

Members of the Parenting Council are:

Viv Gurrey, Parents Centres New Zealand Inc – a long-standing provider of antenatal and parenting education and support delivered through 54 Centres around New Zealand.

Anne Wilkinson, Parent to Parent – a national information and support network for parents, caregivers and whānau of children with special needs.

Lesley Max, Pacific Foundation for Health, Education and Parent Support – responsible for HIPPY – Home Instruction Programme for Parents and Youngsters in 21 sites around New Zealand; developing the Family Service Centre model (six sites); and advocacy.

Steven Hayns, Triple P (Positive Parenting Program) – a parenting and family support strategy that aims to prevent severe behavioural, emotional and developmental problems in children by enhancing the knowledge, skills and confidence of parents.

Janine Kaipo, Otangarei Youth, Sports and Recreation Trust – a Whangarei-based multifaceted service that includes HIPPY, parenting programmes, budgeting and life-skills services and a residential facility.

Esther Cowley-Malcolm, Pacific Islands Families Research Study, President of Pacifica, faculty member, Institute of Public Health and Mental Health, Auckland University of Technology.

Bruce Pilbrow, Parents Inc – a nationwide provider of seminars and other resources that aim to inspire parents with the tools and confidence they require.

Council members are based in Whangarei, Auckland, Hamilton and Wellington. The Parenting Council members each have primary responsibility in leadership roles in their respective organisations. Their joint work is in the fields of research, public relations and advocacy. The Council commissioned and produced a Systematic Review of Parent Support and Education Programmes in order to help determine the effectiveness of various programme types. Other work has included supporting a scientific retreat attended by academics and officials, in association with a major conference on parenting; representation on many parenting issues, with particular focus on disability issues; the parents' role in the early years; the need for improved parent education; and a website (which is under development).

1.5 Context

This research has been informed by a number of New Zealand documents that guide the practice of particular service providers. These documents are listed below under the service for which they are most relevant, along with a brief description of their main purpose and relevance to the current project.

Lead Maternity Care

- ***The Maternity Services Notice (2002)*** *pursuant to Section 88 of the New Zealand Public Health and Disability Act 2000*.[5] This Notice describes the legal obligations of LMCs and specifies parents' entitlements to particular maternity services, such as midwifery services, urgent out-of-hours pregnancy care, hospital care, home visits and transfer from LMC to Well Child provider. Particularly relevant to the current research is Section 4.5.4 of the Notice, stating that the transfer from the LMC to the Well Child provider will normally take place between four and six weeks from birth (p. 14). LMCs must provide a written referral to the Well Child provider before discharge from the LMC or at four weeks, whichever is earlier.
- ***The revised Primary Maternity Services Notice (2007)*** *pursuant to Section 88 of the New Zealand Public Health and Disability Act 2000*[6] (from here on referred to as the Section 88 Maternity Notice unless it must be distinguished from the older version, in which case it is called the 'revised' Notice). The revised Notice includes changes to service specifications, quality requirements and claiming processes, as well as recent legislative changes. It is based on consultation with midwives and other stakeholders undertaken in 2006. Section DA9 (p. 1061, Gazetted version) specifies that the transfer of care of the baby from LMC to a Well Child provider *must* (italics added) take place before six weeks from birth. LMCs must still provide a written referral to the Well Child provider before the end of the fourth week following birth. The Revised Section 88 Maternity Services Notice states that if the baby has unusually high needs, the LMC may request that a Well Child provider becomes involved as early as two weeks from birth to provide concurrent and co-ordinated care with the LMC. The revised Notice also requires LMCs to maintain links with different providers of health services, including providers of antenatal education (Section DA11, p. 1061, Gazetted version). The revised Notice came into effect from 1 July 2007.
- ***Midwives' Handbook for Practice*** (New Zealand College of Midwives, 2005).[7] This document outlines the philosophy, scope of practice, code of ethics and standards of practice for New Zealand midwives. Several of the standards of practice refer to LMCs sharing relevant information with women (Standards One, Two, Five, Seven and Nine). Also relevant to this project is the section on Decision Points for Midwifery Care which outlines the range of information to be shared at each major stage of pregnancy, including health information and education. Within the first 16 weeks of pregnancy the LMC should discuss with the woman her choices for childbirth and parenting education (p. 26). By 24 weeks, the LMC should ensure that women are aware of childbirth education options (p. 27).

Childbirth education

- ***Pregnancy and Parenting Education National Service Specifications*** (MOH, 2002).[3] These service specifications set out the standards required for antenatal education classes delivered by service providers who hold contracts with DHBs. Particularly relevant to the current research is Section 5, which lists the service components or required content of each antenatal course. The document specifies that programme co-ordinators for pregnancy and parenting education will

preferably be childbirth educators with a recognised qualification in CBE. If programme co-ordinators do not hold a CBE qualification, they may be midwives or physiotherapists with additional recognised qualifications in adult education and cultural awareness or Treaty issues, or he kuia whare tapu or other respected teacher, recognised by the respective rūnanga (Section 5.5).

- ***Parents Centres Handbook*** (Parents Centres New Zealand Inc, 2006).[8] The purpose of this handbook is to set guidelines for childbirth education classes run through Parents Centres. It includes information on the content that should be included in each antenatal course.
- **Certificate or Diploma in Childbirth Education** (Aoraki Polytechnic, 2007).[9] Aoraki Polytechnic is the only tertiary institution in New Zealand that offers formal qualifications in childbirth education. There are student handbooks for both their certificate (one-year course) and diploma (two-year course) in childbirth education. The handbooks set out the requirements for students and the childbirth education curriculum. The main learning modules include prenatal considerations, labour and birth, postnatal considerations, adult teaching and bicultural studies.

Well Child services

- ***Well Child – Tamariki Ora National Schedule*** (MOH, 1996).[10] It provides a general framework for the types and number of services to be delivered to all New Zealand children and their families and whānau from birth to five years. The schedule outlines a total of 12 core contacts (eight contacts from Well Child services) that every child and their family and whānau are entitled to receive. Plunket was given funding to provide services and count the outputs according to this schedule. It has been argued that under this schedule, people who were the most able ended up receiving more services than vulnerable families because of the way outputs were rewarded in the contract between MOH and Well Child services.
- ***The Well Child Framework*** (MOH, 2002).[4] This framework is based on the *Well Child – Tamariki Ora National Schedule* and provides an outline of the service delivery and pricing framework particular to Well Child services. This document describes the three key areas of service delivery, the number of core Well Child contacts to which each family is entitled, the population groups eligible for additional contacts and the percentage of the population eligible for additional visits. It recognises that some families are more vulnerable than others and weights resources according to the deprivation of the location that families are living in. This was an attempt to address gaps in service delivery, particularly the need to address inequalities. The contracts between MOH and Well Child providers, which are now based on this framework, better reward outputs related to serving families with higher need.
- ***Well Child – Tamariki Ora National Schedule Handbook*** (MOH, 2002).[11] This document describes each of the components of the Well Child – Tamariki Ora National Schedule, including the age when each component is to be delivered and the recommended process for delivering the component. It also provides details to help providers understand the *Well Child Framework*.
- **Well Child Services National Service Specifications** (MOH, 2003).[12] The service specification contains the contractual arrangements and standards required for Well Child services that hold contracts with the MOH or DHBs. It refers to eight core Well Child contacts provided from the time of handover from the LMC through to five years of age. It sets out the conditions under which additional services may be provided. An additional five contacts may be provided for first-time parents or when there are issues such as infant feeding or behaviour concerns; an additional five to 10 contacts may also be provided to children and their families and whānau where there is an assessed need and where there is an opportunity to improve health outcomes. The contract also refers to interrelationships with other Well Child services, service linkages and reporting requirements.
- ***Well Child Services: Literature review and analysis*** (prepared by Allen & Clarke for MOH, 2006).[13] This report outlines various health-related outcomes for pre-school children that could be addressed by a Well Child intervention. It also provides a brief overview of different models of Well Child care and their effectiveness.

There are also several reports that are relevant to the broader maternity system. These include:

- ***Maternity Services: A reference document*** (Health Funding Authority, 2000).[2] This document provides a description of maternity services as of November 2000, the history of maternity services in New Zealand (from 1970 to 1990) and key issues and recommendations for the future of maternity services. This document provides a list of CBE providers. However, this list is now about seven years old and is out of date.
- ***Report on Maternity: Maternal and newborn information 2004*** (MOH, 2007).[1] The purpose of this document is to report on maternal and newborn health, which is considered an integral part of monitoring the health of the overall population. The report, which has been produced annually for the last four years, draws on data from two national sources: the National Minimum Dataset (NMDS) and the Maternal and Newborn Information System (MNIS). Amongst other things, it provides figures on the percentage of women who did not register with an LMC; the number of live babies born each year; the number of hospital births; the median age of women giving birth; the percentage of women giving birth by normal vaginal deliveries, operative or caesarean section births; the number of neonatal deaths; and ethnicity trends for each of these variables.
- ***Maternity Services: Consumer satisfaction survey 2007*** (MOH, 2008).[14] This report presents the results of a survey of 2,936 women who were using maternity services in New Zealand during March and April 2007. It updates satisfaction information obtained from previous large surveys of women who gave birth in 1999 and 2002. The 2007 survey, which contained quantitative and qualitative questions, assessed women's knowledge of the maternity system, access to LMCs and experiences of antenatal care, labour, birth and postnatal care. The report contains a section on women's experiences of antenatal classes. Of the 1,267 respondents (43 percent) who attended antenatal classes, 91 percent felt that the classes had been either 'very useful' or 'useful'. Only nine percent considered the classes to have been 'not useful'. Many of the women's qualitative responses concerning inadequacies in the classes related to wanting more preparation for the first few weeks of parenting. A number of women also suggested having postnatal classes in the first few weeks after the birth to assist women with basic tasks such as bathing the baby and coping emotionally.

In addition to the above documents, Dr Pat Tuohy, Chief Advisor for Child and Youth Health, has recently undertaken a review of Well Child services, including issues related to the transition between LMC and Well Child services.

1.6 Significance of the current research

There are several critical periods on the path from early pregnancy to early parenting (six weeks after childbirth) where maternity and Well Child services can have positive effects on the health and wellbeing of the baby, his or her mother and their family and whānau. A mother's access to good antenatal support, LMCs, childbirth education and Well Child services is generally associated with better outcomes for mothers and their babies. The companion literature review on the effectiveness of antenatal education highlights the positive effects that antenatal education is likely to have. However, access to these services is not necessarily universal and the quality of the information given to women and families and whānau by different providers may vary. This research focuses on antenatal education and support. In particular, it outlines the main providers of pregnancy and parenting education, describes the information and guidance they offer to women, families and whānau and examines how access is affected by the demographics of the mother and her geographical region. The research also focuses on the transitions between different providers of maternity care, particularly the transfer between LMC and Well Child services. An important aim is to find gaps between what these services aim to provide and what actually occurs in practice. The last review of CBE providers occurred over five years ago, and so is now out of date.[2] The current research is important because it has the potential to inform future funding decisions and planning on how to improve access to and the quality of CBE and transitions of maternity care in New Zealand.

1.7 Project objectives

This project aims to:

> Identify the providers of CBE and Well Child services in New Zealand.

> Describe the contractual arrangements and obligations of CBE providers.

> Describe and compare the CBE offered to women and their families or whānau by key CBE providers.

> Determine the proportion of parents who access CBE.

> Compare the availability of CBE across the different health regions.

> Determine the demographics of women and families and whānau who access CBE and Well Child services.

> Describe the contractual arrangements and obligations of LMCs as they relate to transitions of care – from LMC to CBE and from LMCs to Well Child care.

> Describe the contractual arrangements and obligations of Well Child service providers as they relate to transitions of care – from LMC to Well Child care.

> Determine the extent to which the transition between LMC and Well Child services is co-ordinated by service providers or left to the mother and her family and whānau.

> Determine the extent to which women and their families and whānau are aware of their entitlements, specified in the Section 88 Maternity Notice.

> Find gaps between the support that services aim to provide and what happens in practice.

1.8 Scope of the project

The primary focus of this project is on antenatal education. Accordingly, the companion literature review is concerned entirely with reviewing the evidence for the effectiveness of antenatal education. A secondary focus is on the transitions of care between LMC and antenatal education, and between LMC and Well Child services. Each of the 30 research questions (Section 1.9) is relevant to one of the project objectives (listed in Section 1.7) and can be further summarised into three main areas of focus:

> Pregnancy and parenting education services offered antenatally to women and their families and whānau.

> The interface or referral process between LMC and CBE.

> The referral process and handover from LMC to Well Child provider after the baby is born.

A detailed description of maternity or Well Child services, other than antenatal education or transitions of care, is outside the scope of the report.

1.9 Overview of maternity milestones and services, research questions and methods

Table 1 shows a pathway of maternity milestones and services that can affect the health and wellbeing of child, mother, and whānau. Associated with each milestone or service are the research questions relevant to the current project. Table 1 also provides a summary of the methods that were used to answer each research question.

TABLE 1. Overview of milestones and services, research questions and methods

Milestone/service	Research questions	Method[1]
Antenatal care	1. What proportion of women have a Lead Maternity Carer (LMC)? **(see Section 3.1.1)**	Focus groups **(see Section 2.2.3)** Brief questionnaire to women **(see Section 2.2.4)** Literature review **(see Section 2.2.7)**
⇩	2. What proportion of LMCs are GPs, obstetricians or midwives? **(see Section 3.1.2)**	Literature review **(see Section 2.2.7)**
Transition between LMC and CBE	3. What proportion of LMCs refer women and their families/whānau to CBE? **(see Section 3.2.1)**	Key informant interviews **(see Section 2.2.1)** Brief questionnaire to women **(see Section 2.2.4)**
	4. What are the contractual arrangements and obligations of LMCs to refer women to CBE? **(see Section 3.2.2)**	Key informant interviews **(see Section 2.2.1)** Literature review **(see Section 2.2.7)**
⇩	5. What process is used to manage the referral between LMC and CBE? **(see Section 3.2.3)**	Key informant interviews **(see Section 2.2.1)**
Childbirth education	6. Who are the providers of CBE? **(see Section 3.3.1)**	Key informant interviews **(see Section 2.2.1)** Contact with each DHB **(see Section 2.2.2)** Brief questionnaire to CBE providers **(see Section 2.2.5)**
	7. What are the contractual arrangements and obligations of CBE providers? **(see Section 3.3.2)**	Key informant interviews **(see Section 2.2.1)** Brief questionnaire to CBE providers **(see Section 2.2.5)** Literature review **(see Section 2.2.7)**
	8. What are the minimum qualifications of childbirth educators required by different providers of CBE? **(see Section 3.3.3)**	Key informant interviews **(see Section 2.2.1)** Brief questionnaire to CBE providers **(see Section 2.2.5)**
	9. How is CBE funded and by whom? **(see Section 3.3.4)**	Key informant interviews **(see Section 2.2.1)** Brief questionnaire to CBE providers **(see Section 2.2.5)**
	10. What information do women and their families/whānau receive and value as part of CBE and what resources/ booklets are made available? **(see Section 3.3.5)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)** Brief questionnaire to women **(see Section 2.2.4)** Literature review **(see Section 2.2.7)**

[1] Main research methods were key informant interviews, contact with each DHB, focus groups, a brief questionnaire to women, a brief questionnaire to CBE providers, the Plunket database and a literature review.

	11. How does CBE offered by different providers compare? **(see Section 3.3.6)**	Key informant interviews **(see Section 2.2.1)** Brief questionnaire to women **(see Section 2.2.4)** Brief questionnaire to CBE providers **(see Section 2.2.5)**
	12. What proportion of women access CBE? How does this differ across different health regions? **(see Section 3.3.7)**	Brief questionnaire to women **(see Section 2.2.4)** Literature review **(see Section 2.2.7)**
	13. How does the availability of CBE differ across the different health regions? **(see Section 3.3.8)**	Contact with each DHB **(see Section 2.2.2)** Brief questionnaire to CBE providers **(see Section 2.2.5)**
	14. What are the demographics of women and families/whānau who access CBE and the best predictors of attendance? **(see Section 3.3.9)**	Brief questionnaire to women **(see Section 2.2.4)** Literature review **(see Section 2.2.7)**
	15. Does CBE prepare parents emotionally to have children? **(see Section 3.3.10)**	Focus groups **(see Section 2.2.3)** Brief questionnaire to women **(see Section 2.2.4)** Literature review **(see Section 2.2.7)**
	16. What decisions do parents make before their child is born about how they will consciously parent their child and what services are available to facilitate this process? **(see Section 3.3.11)**	Focus groups **(see Section 2.2.3)**
	17. The Revised Section 88 Maternity Notice describes the obligations of LMCs and specifies parents' entitlements to maternity services. To what extent are parents aware of these entitlements? **(see Section 3.3.12)**	Focus groups **(see Section 2.2.3)**
Labour and birth	18. How long do women spend in hospital after giving birth? **(see Section 3.4.1)**	Literature review **(see Section 2.2.7)**
Breastfeeding	19. What proportion of women have successfully established breastfeeding by the time they leave hospital? **(see Section 3.5.1)**	Literature review **(see Section 2.2.7)**
	20. What resources are made available in hospital to help women successfully establish and maintain breastfeeding, eg, access to nurses, written resources? **(see Section 3.5.2)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)**

Transition between LMC and Well Child services	21. What are the contractual arrangements and obligations of LMCs to refer women to Well Child services? **(see Section 3.6.1)**	Key informant interviews **(see Section 2.2.1)** Literature review **(see Section 2.2.7)**
	22. How soon after the baby is born does the transfer between LMC and Well Child services occur in practice? **(see Section 3.6.2)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)** Plunket database **(see Section 2.2.6)**
	23. What process is used to manage the handover from LMC to Well Child services? **(see Section 3.6.3)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)**
	24. What processes do Well Child services use to engage women and families/whānau during this transition? **(see Section 3.6.4)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)**
	25. To what degree is the transition between LMC and Well Child services left to the mother, father or family/whānau? **(see Section 3.6.5)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)**
Well Child services	26. Who are the providers of Well Child services? **(see Section 3.7.1)**	Key informant interviews **(see Section 2.2.1)** Contact with each DHB **(see Section 2.2.2)**
	27. What are the contractual arrangements and obligations of key Well Child service providers as they relate to transitions of care from LMC to Well Child services? **(see Section 3.7.2)**	Key informant interviews **(see Section 2.2.1)** Literature review **(see Section 2.2.7)**
	28. What are the demographics of mothers and families/whānau who receive Well Child services? **(see Section 3.7.3)**	Plunket database **(see Section 2.2.6)**
	29. What are the barriers to accessing Well Child services? **(see Section 3.7.4)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)**
	30. What screening is done for postnatal depression (PND)? **(see Section 3.7.5)**	Key informant interviews **(see Section 2.2.1)** Focus groups **(see Section 2.2.3)**
Health and wellbeing of baby, mother and family/whānau		

2. METHODS

2.1 Measures

Two brief measures were developed for this project. A two-page questionnaire was designed to assess women's access to and perception of CBE, as well as their demographic details. The measure contains questions on the topics that were covered during women's antenatal classes and the extent to which women felt that antenatal classes helped them to prepare for childbirth and to be a good parent (see Appendix 1 for a copy of the questionnaire for women). Before it was distributed through New Zealand maternity facilities, it was piloted with two small groups of women (nine women in total) who were attending antenatal classes in Auckland. The two groups were facilitated by the same childbirth educator but one class was run through Birthcare and the other was run through Parents Centres. The childbirth educator handed the questionnaires out to women at the beginning of a class, collected them back when women had completed them and posted them back to the project manager. The questionnaire took about five minutes for women to complete and the piloting resulted in a couple of minor wording and formatting changes to the questionnaire.

The second measure, also two pages, was developed for CBE providers in order to learn more about the CBE service that they offer. This measure includes questions on the number of courses providers are contracted to deliver per year, whether classes are designed for a particular population group, whether classes are based on the national service specifications for pregnancy and parenting information and several other questions about the quality and content of the courses offered (see Appendix 2 for a copy of the provider questionnaire).

2.2 Participants and procedure

There were seven main methods used to answer the 30 research questions. These were key informant interviews, contact with each DHB, focus groups with women, a brief questionnaire to women, a brief questionnaire to CBE providers, accessing the Plunket database and a literature review.

2.2.1 Key informant interviews

Key informant interviews were conducted with eight representatives from the key stakeholder organisations (listed under Section 1.2). Parents Centres suggested the initial list of key informants, which was expanded slightly as other key stakeholders were recommended. Each key informant held a senior position in their organisation and was selected for their relevant experience in the maternity or Well Child sector.

Each key informant was contacted by email or phone to arrange an appointment time. Each interview was structured around a list of 20 research questions (see Appendix 3 for a list of the questions asked in each key informant interview) and typically lasted for just over one hour. Because of differing areas of expertise (and time constraints), not all questions were covered with all key informants. All interviews were recorded, later transferred to computer and then transcribed using 'Express Scribe' software.

2.2.2 Contact with each DHB

As part of an environmental scan, each of the 21 DHBs was contacted by phone and email to name the CBE and Well Child providers with whom they hold contracts. A list was developed to keep track of the telephone or email contact history with each DHB. On average, six telephone or email contacts were initiated with each DHB (range = 2–18 contacts) before the information requested was received. In most cases, it was the funding and contract managers who provided information on the CBE and Well Child providers with whom their DHB held contracts.

2.2.3 Focus groups

Focus groups were held to determine women's experiences and satisfaction with antenatal education and the transitions between different providers of care. To be eligible to participate in a focus group, women had to be pregnant or have given birth within the last six months. This was to ensure they had recent experience with the maternity system or Well Child care. Within these constraints, the aim was to include as wide a variety of women in the groups as possible, including women who had attended (or were attending) antenatal classes, women who had not attended antenatal classes, women from different cultural groups and women from more disadvantaged circumstances.

Women were recruited through all providers of antenatal education and Well Child services in

Wellington. Providers were found by talking to contacts at Capital and Coast DHB and Hutt Valley DHB. CBE providers included:

- Parents Centres New Zealand Inc
- Wellington South Parents Centre
- Wellington North Parents Centre
- Kapiti Parents Centre
- Mana Parents Centre
- Lower Hutt Parents Centre
- Upper Hutt Parents Centre
- MATPRO (Wellington Maternity Project)
- Hutt Valley DHB Provider Arm (hospital maternity services with classes run by Birth Ed.).

Well Child providers included:

- Plunket
- Te Rūnanga O Toa Rangatira – Ora Toa Health Unit, Porirua
- Ati Awa ki Whakarongotai Inc – Hora Te Pai Health Services, Paraparaumu
- Maraeroa Marae Health Clinic, Porirua
- Te Runanganui O Taranaki – Waiwhetu Medical Centre, Lower Hutt
- Pacific Health Service, Hutt Valley
- Pacific Health Service, Strathmore.

Next, six venues suitable for focus groups were booked for different locations around Wellington: Plunket Rooms, Plimmerton; Johnsonville Community Centre; Waiwhetu Uniting Church, Lower Hutt; Rongotai Family Centre, Lyall Bay; Lower Hutt Family Centre; and Horouta Marae, Porirua. Four of these were booked for 10:30–12:00pm during the day and the other two were booked for 7:00–8:30pm in the evening.

A targeted recruitment strategy was used to ensure that women from different cultural groups and women from disadvantaged backgrounds were represented in the focus groups. Steps taken to increase the diversity of women represented in the focus groups included recruiting women through Māori and Pacific Well Child providers; recruiting women through Plunket, who agreed to target women living in areas of high deprivation; holding focus groups at sites where more socio-economically disadvantaged women meet; following up several refugee women individually to obtain their views on the maternity and Well Child system; and providing an option for women who might be uncomfortable expressing themselves in a group context to participate in a one-on-one interview instead.

A letter inviting women to take part in the focus groups and an accompanying information sheet (Appendix 4) were distributed to CBE and Well Child providers. The letter explained the purpose of the project and invited women to contact the project manager by phone or email if they were willing to participate in a focus group about their maternity experiences. The letter emphasised that the discussion would be relaxed and women could say as little or as much as they liked. It also informed women that they would be offered tea, coffee, something to eat and a voucher for a free pack of Huggies nappies if they participated. The letter also made it clear that partners and other family or whānau were welcome to participate and gave women the option of talking one-on-one with the project manager if they preferred to discuss their experiences in private.

The recruitment strategy used was slightly different for each provider. For Parents Centres, the letter and information sheet were emailed to several hundred women from the Parents Centre databases. The national body, Parents Centres New Zealand Inc, also included information about the focus groups in their newsletter. The only Parents Centre that did not take part was Upper Hutt Parents Centre. By the time consent was gained to distribute the letters to women on their database, the focus groups were already fully booked with women who had been recruited through other providers. For the other two Wellington-based providers of CBE classes, MATPRO and Hutt Valley DHB Provider Arm, the letter and information sheet were photocopied and posted to childbirth educators who ran the classes, so that they could be handed out to women attending the antenatal classes. Fifteen copies were sent to MATPRO and 56 copies were sent to Hutt Valley DHB Provider Arm.

For Plunket, a meeting was held at the Lower Hutt Area Office with the operations manager (for the Wellington region) and several clinical leaders to explain the project and agree on a recruitment strategy. In order to achieve greater diversity of women within the focus groups, Plunket agreed to target women living in high deprivation areas, including Taita, Naenae and Newtown, where a group of refugee women lived. One hundred copies of the letter and information sheet were left with the clinical leaders who then distributed them

to Plunket nurses working in the agreed areas. Plunket nurses then handed the invitations out to individual women during their Plunket visits. To achieve better recruitment rates for disadvantaged women living in Taita, the Plunket nurse organised a separate (seventh) focus group to be held during the day (10:30am–12:00pm) at the Plunket rooms at Taita Community Centre, where women regularly attend for Well Child checks. In order to include the views of refugee women, Plunket organised for the project manager to visit a playgroup being held at a block of flats at Newtown. The project manager subsequently followed up with four African refugee women individually.

For Ora Toa Health Unit, the procedure involved gaining permission from the CEO of their organisation and their Clinical Advisory Committee. After the Clinical Advisory Committee granted permission, their Tamariki Ora nurse organised for Māori women who attended their service to participate in a separate (eighth) focus group to be held during the day (10:30am–12:00pm) at the Ora Toa Health Unit, Porirua.

For the three other Māori Well Child providers, discussions were held with Tamariki Ora nurses (from Hora Te Pai Health Services and Maraerao Marae Health Clinic) and the team leader, a GP (from Waiwhetu Medicial Centre), who all agreed to invite women who attended their service to participate in one of the focus groups.

For the Pacific Health service at Hutt Valley, discussions were held with one of their clinicians who organised for Pacific women and two staff members to attend the focus group at Waiwhetu Uniting Church, which had been reserved specifically for Pacific women. For the Pacific Health service at Strathmore, a meeting was organised with their practice nurse who provided in-depth information about Pacific maternity practices and agreed to find Pacific women to contact the project manager for one-on-one interviews.

The recruitment strategy resulted in 98 people (96 women and two men) volunteering to participate in a focus group. Of these, 56 (including the two men) ended up participating in a focus group, 12 were interviewed individually and two responded by sending the project manager detailed emails about their maternity experiences. Of the 28 who did not end up participating, the majority (23) declined because there was not a focus group being held at a time that was convenient for them. The other five initially indicated their interest, but when they were emailed possible focus group times and venues, did not respond any further.

When interested women made contact with the project manager, they were informed of the list of venues, times and dates and asked to select the focus group option that suited them best. A letter confirming the time, date and venue of their preferred focus group was then emailed to each participant. One to two days before each focus group, all enrolled women were telephoned to remind them about the group and check that they still intended to participate. Each focus group was structured around a list of 10 research questions (Appendix 5) and typically lasted for 1.5 hours. All focus groups were recorded and transcribed.

Eight focus groups were held in total, all during May 2007. Five of the groups were made up of women recruited through Parents Centres, MATPRO or Hutt Valley DHB Provider Arm (the three CBE providers in Wellington). One focus group was specifically for Māori women (organised through and held at Ora Toa Health Unit, Porirua); one focus group was for Pacific women (organised through Pacific Health Services and held at Waiwhetu Uniting Church, Lower Hutt); and a third focus group was held in an area of high deprivation (organised through Plunket and held at Plunket Rooms, Taita Community Centre). Each focus group included between four and 12 participants. In the three more disadvantaged groups, a staff member with whom the women were familiar also sat in on the focus group.

Table 2 shows the demographic characteristics of focus group participants. The women's mean age was 32.7 years and the majority (70 percent) were primiparous. Sixty-eight percent were New Zealand European, seven percent Māori and nine percent of Pacific Island origin. The women who participated in focus groups were mostly married or in de facto relationships (88 percent), had high educational qualifications (80 percent with at least a tertiary degree) and were on good incomes (73 percent on $60,000 per annum or higher). The 12 women who were interviewed individually had a similar mean age, but were of lower socio-economic status than focus group participants. Half of the women who were interviewed individually were not of New Zealand European ethnicity – four were refugees from Africa, one was Māori and one was Tongan.

TABLE 2. Demographic characteristics of focus group participants (N = 56).

Demographic characteristics	%	(n)
Parity		
Primiparous	69.6	39
Multiparous	28.6	16
Not answered	1.8	1
Family structure		
Married	66.1	37
De facto	21.4	12
Single	1.8	1
Stepfamily married	0.0	0
Stepfamily de facto	1.8	1
Other	5.4	3
Not answered	3.6	2
Highest educational qualification		
No qualifications	3.6	2
Fifth Form Certificate	0.0	0
Sixth Form Certificate	5.4	3
NZ Higher School Certificate	7.1	4
Tertiary degree (1–4 years)	67.9	38
Master's/doctorate	12.5	7
Not answered	3.6	2
Ethnic group		
New Zealand European	67.9	38
Māori	7.1	4
Samoan	1.8	1
Cook Island Māori	1.8	1
Tongan	3.6	2
Niuean	1.8	1
Chinese	1.8	1
Indian	0.0	0
Other	12.5	7
Not answered	1.8	1
Total household income per year before tax		
Under $15,000	1.8	1
$15,001 to $20,000	1.8	1
$20,001 to $25,000	3.6	2
$25,001 to $30,000	1.8	1
$30,001 to $35,000	0.0	0
$35,001 to $40,000	3.6	2
$40,001 to $50,000	3.6	2
$50,001 to $60,000	3.6	2
$60,001 to $70,000	14.3	8
$70,001 to $100,000	26.8	15
$100,001 or more	32.1	18
Not answered	7.1	4
	Mean	**SD**
Age (N = 55)	32.73	4.97

2.2.4 Brief questionnaire to women

For a one-month period in 2007, women who gave birth in New Zealand hospitals were asked to complete a brief questionnaire, developed specifically for this project (Section 2.1). The questionnaires were distributed between May and June 2007, depending on when DHBs agreed to participate in the project. Each DHB was contacted to gain permission to distribute the questionnaire to all the maternity facilities in their region. In the first instance, the project manager asked to speak to the communications manager of each DHB and was typically re-directed to discuss the request with the midwife or maternity manager. Information specifically sought from the midwife managers included information on the maternity facilities in the DHB region; the number of births expected in the next month; and the name and contact details of the person who would take responsibility for distributing the questionnaires. Seven DHBs required the request to go through an official process to obtain approval from an executive, ethics or Māori committee, or a clinical midwifery group. The contact history with each DHB was recorded. On average, 11 telephone or email contacts were initiated with each DHB (range = 4–26 contacts) before the information requested was received. All DHBs ended up giving permission for the questionnaire to be distributed.

On the basis of 2003 figures, it was estimated that over 4,500 women in New Zealand would give birth over a one-month period. It was expected that a response rate of between 15 and 30 percent would yield between 675 and 1,350 completed questionnaires, providing a sufficiently robust sample size to determine the proportion of women attending antenatal classes and their demographics.

In total, 5,821 questionnaires and information sheets (Appendix 1 questionnaire and Appendix 6 information sheet) were posted to DHBs to be distributed through their maternity facilities. For many DHBs, there was a different contact person for each maternity facility. See Appendix 7 for a list of hospital and maternity facilities through which the questionnaire was distributed. The package of questionnaires and information sheets was accompanied by a cover letter that confirmed the number of questionnaires in the package; requested that questionnaires be distributed to women who had just given birth in maternity facilities in the region; explained that the questionnaires and information

sheets had been folded into the reply-paid envelopes to make distribution easier (only one thing to hand out); and requested that the LMC or midwife handing out the reply-paid envelopes bring the questionnaire inside to the women's attention. It also gave the start and end date for distributing the questionnaires; explained that if they started distributing the questionnaires later than expected then they should also extend the end date accordingly so that questionnaires were distributed for one full month; and mentioned that if questionnaires could also be distributed to women who had home births, then that would be a bonus.

About two weeks after the questionnaires were posted to the DHB to begin distribution, each DHB or maternity facility was contacted again to check that the relevant managers at each maternity facility had received copies of the questionnaire and information sheet to distribute; that distribution had begun; the method by which the questionnaire was being distributed; the maternity facilities through which the questionnaire was being distributed; and that the person handing out the reply-paid envelopes was bringing the questionnaire inside to women's attention.

Maternity facilities used several different methods to distribute the questionnaire, including inserting it into the Well Child booklet, handing it out with the Bounty Pack, handing it out with birth registration papers and handing it out on its own. Women were instructed to complete the questionnaire and return it in the reply-paid envelope supplied.

A total of 878 completed questionnaires were returned via reply-paid post, representing a response rate of 15 percent. This figure is a conservative estimate of the response rate, because many DHBs over estimated the number of questionnaires needed for the month to ensure they did not run out. On the basis of the number of unused questionnaires returned to the project manager, and the difference between the number of expected births (4,500) and number of questionnaires sent to DHBs to distribute (5,821), it is estimated that at least 15 percent of the questionnaires posted to DHBs were surplus and therefore never handed out to women. Assuming that, on average, each DHB requested 15 percent more questionnaires than needed, it is likely that closer to 4,948 questionnaires were handed out to women. The true response rate is therefore likely to be over 18 percent. Unfortunately, after the questionnaires had been handed out, there was no way of reminding women to complete them and the budget prohibited any real incentive being offered to women to return them. The lack of follow-up, coupled with the chaotic period that families are usually faced with after the birth of a baby, makes the low response rate unsurprising.

Table 3 presents the demographic characteristics of women who completed and returned their questionnaire. The women's mean age was 31 years and roughly half (49 percent) were primiparous. The women tended to be married (65 percent), with just over half (53 percent) having completed a tertiary degree or higher. Forty-nine percent were on incomes of $60,000 per annum or higher. The majority of women (69 percent) were of New Zealand European ethnicity, 14 percent of respondents were Māori and two percent were of Pacific Island ethnicity. Māori and Pacific peoples were therefore underrepresented in the sample of women who completed questionnaires relative to their proportion in the total population of childbearing women. In 2004, births to Māori and Pacific mothers accounted for 19.9 percent and 10.1 percent of all births respectively.[1]

The number of questionnaires returned from each region reflects both the population size of the region (and therefore the number of women giving birth) and the consistency of the approach used by each DHB to ensure women received the questionnaires. In general, more questionnaires were returned from the larger regional centres, including Auckland (N = 95), Capital and Coast (N = 88), and Canterbury (N = 113). Two other DHB regions that had relatively high numbers of returned questionnaires were Waikato (N = 82) and Bay of Plenty (N = 68). Just over half of the questionnaires (50.7 percent) were returned from these five regions.

TABLE 3. Demographic characteristics of women who completed questionnaires (N = 878)

Demographic characteristics	Total N = 878	
	%	n
Parity		
Primiparous	49.2	432
Multiparous	50.8	446
Not answered	0.0	0
Family structure		
Married	64.7	568
De facto	25.1	220
Single	3.6	32
Stepfamily married	0.7	6
Stepfamily de facto	1.0	9
Other	3.3	29
Not answered	1.6	14
Highest educational qualification		
No qualifications	8.4	74
Fifth Form Certificate	10.9	96
Sixth Form Certificate	14.6	128
NZ Higher School Certificate	10.7	94
Tertiary degree (1–4 years)	46.9	412
Master's/doctorate	6.2	54
Not answered	2.3	20
Ethnic group		
New Zealand European	69.4	609
Māori	14.1	124
Samoan	0.7	6
Cook Island Māori	0.7	6
Tongan	0.3	3
Niuean	0.3	3
Chinese	2.6	23
Indian	1.8	16
Other	9.5	83
Not answered	0.6	5
Total household income per year before tax		
Under $15,000	2.5	22
$15,001 to $20,000	3.1	27
$20,001 to $25,000	2.2	19
$25,001 to $30,000	4.3	38
$30,001 to $35,000	5.2	46
$35,001 to $40,000	6.5	57
$40,001 to $50,000	10.7	94
$50,001 to $60,000	9.6	84
$60,001 to $70,000	12.8	112
$70,001 to $100,000	18.1	159
$100,001 or more	18.0	158
Not answered	7.1	62
DHB region		
Northland	4.4	39
Waitemata	4.8	42
Auckland	10.8	95
Counties Manukau	3.0	26
Bay of Plenty	7.7	68
Waikato	9.3	82
Tairawhiti	1.1	10
Taranaki	2.8	25
Lakes	3.5	31
Hawkes Bay	4.1	36
MidCentral	4.1	36
Whanganui	2.6	23
Capital and Coast	10.0	88
Hutt Valley	2.3	20
Wairarapa	0.3	3
Nelson-Marlborough	0.7	6
Canterbury	12.9	113
South Canterbury	1.6	14
West Coast	0.2	2
Otago	4.6	40
Southland	3.9	34
Not answered	5.1	45
	Mean	**50**
Age (N = 802)	31.12	5.84

2.2.5 Brief questionnaire to CBE providers

All CBE providers who held contracts with DHBs and as many non-contracted providers as possible were contacted via email, letter or phone and asked to participate in research about CBE services in New Zealand. Providers were sent a questionnaire and were offered a telephone number and email address to contact in the event they preferred to complete the survey via phone.

Given that providers of antenatal education are not centralised and that there is no formal registration board for such providers, it was difficult to track down all CBE providers, particularly the ones who did not hold contracts with DHBs. CBE providers who held

contracts with DHBs were contacted through the funding and contract managers in each DHB. Several methods were employed to find CBE providers who did not hold a DHB contract. Firstly, the final question of the survey (Appendix 2) asked participants to list any other providers known to them in their area (who did not hold a DHB contract). Twenty-eight participants responded either that they did not know of other providers in their area or that, to the best of their knowledge, there were no other providers. Eight participants named Parents Centres. The remaining participants left this question blank. Additional methods used to find providers not holding DHB contracts included web searches, a Yellow Pages search, using a list of CBE providers developed by the Health Funding Authority in 2000[2] and following up leads obtained during telephone conversations with providers and with representatives of other related organisations. The providers identified using these additional methods were also contacted and asked to complete the questionnaire about the service they offered. See Appendix 8 for a list of contracted and non-contracted CBE providers.

In total, 64 providers were sent the provider questionnaire. Given the relatively high number of Parents Centres and Plunket providers across the country and the expected homogeneity in CBE courses offered by the same provider in different locations, only one questionnaire was given to the national offices of each organisation. Providers who did not return the completed questionnaire by the requested due date were phoned and given the option of answering the questions over the phone instead. Most providers declined the phone interview option and said they would return the completed questionnaire via email. Providers were contacted up to four times to remind them to return the questionnaire. Thirty-eight contracted providers and seven non-contracted providers returned the survey, yielding a total response rate of 70 percent.

2.2.6 Accessing the Plunket database

A final step involved obtaining permission from Plunket to access their database. This was done to determine the demographics of women and families and whānau who access Plunket services. A request was made to extract the relevant data, and this was sent in summary format to the project manager.

2.2.7 Literature review

A comprehensive literature review was also conducted on the evidence for the effectiveness of antenatal education on a range of outcomes related to pregnancy, birth, early parenting and specific population groups. The companion review (p.129) focused on the last 10 years' worth of publications (1997–2007) and involved searching four databases: PsycINFO; PubMed; Cinahl; and the Cochrane Library. Over 500 articles were determined to be relevant to the review, including descriptive studies, cross-sectional studies, pretest-posttest designs with no control group, quasi-experimental studies (control or comparison group present but participants not randomly assigned to groups), randomised controlled trials and systematic reviews. Sixty-seven specifically examined whether the outcomes of interest varied as a function of attendance at group antenatal classes. The literature review has implications for the future content and format of antenatal classes and for the facilitators of classes. The current paper also highlights and utilises information from several New Zealand reports that are vital to the maternity and Well Child scene (Section 1.5).

2.3 Confidentiality and ethical considerations

Ethics approval was sought and obtained from Plunket (for the whole study) and from the Ministry of Health's Multi-region Ethics Committee (for the questionnaires to be distributed to women through hospital facilities). All participants, including key informants, women (and two men) in focus groups, women who completed the questionnaire, and CBE providers who completed the questionnaire were informed that the information collected was confidential and that they would not be individually identified in the final report. The questionnaire completed by women was totally anonymous. All questionnaire data were entered in a depersonalised manner.

Information sheets about the focus groups and questionnaire for women (Appendices 4 and 6) made it clear that declining to participate in the research would not affect the service provided to women or their babies in any way. The research outcomes will be made available to participants to view at any time through the Parenting Council or Families Commission, who will hold copies of the final report for this purpose.

2.4 Analyses

Qualitative analyses were used for the key informant interviews and focus groups to gain an in-depth understanding of stakeholders' and women's perceptions of antenatal education, Well Child services and the transitions between different providers. Transcribed key informant and focus group data were categorised into themes that represented each of the research questions. Quotes have been used in the results section to illustrate the ideas that emerged under each theme or research question. Interview data collected from key informants were compared with focus group data collected from women to facilitate understanding of the gaps between the support that services aim to provide and what actually happens in practice.

Quantitative analyses were used for the questionnaire data from women and CBE providers. Descriptive statistics were used to summarise the demographic characteristics of focus group participants and women who completed the questionnaire. Inferential statistics were used to determine whether the organisation through which mothers attended antenatal classes was related to mothers' perceptions of the effectiveness of classes in preparing them for childbirth or parenthood; and the best predictors of attendance at antenatal education programmes. The results of the multivariate analysis of variance (MANOVA), used for the first analysis above, are expressed as means and standard deviations. The results of the logistic regression analysis, used for the second analysis, are expressed as odds ratios (ORs) and 95 percent confidence intervals. The significance level was set at the conventional $p < .05$ (two-tailed) for all analyses. These analyses are described in more detail under the relevant sections (3.3.6 and 3.3.9).

3. RESULTS: ANSWERS TO RESEARCH QUESTIONS

3.1 Antenatal care

3.1.1 What proportion of women have a lead maternity carer (LMC)?

The survey of women revealed that 97.8 percent (N = 859) of women reported having an LMC for the baby they had just given birth to. For primiparous women (first-time mothers), the percentage was 98.8 percent (N = 427), and for multiparous women the percentage who reported having an LMC was 97.1 percent (N = 433). These figures are comparable to those reported in the *Report on Maternity: Maternal and newborn information 2004*,[1] which suggest that 98.8 percent of mothers in 2004 had an LMC registered to provide them with care (and only 1.3 percent did not). The proportion of women who register with an LMC may be increasing over time. In 2003, the proportion of women who registered with an LMC was 93 percent.

The proportion of women with an LMC is also related to their stage of pregnancy. Data on utilisation rates of LMC services reported in 2000 in *Maternity Services: A reference document*[2] showed that virtually all women received a single service episode in their first trimester (rates of claimed single service episodes were actually greater than 100 percent of deliveries, but this is due to miscarriages and abortions). LMC care was provided to 80 percent of women in their second trimester and to 95 percent of women in their third trimester. The number of LMC home visits is related to ethnicity. Despite Māori women being more likely to have clinical risk factors, on average they register later with an LMC and have fewer antenatal (and postnatal) domiciliary midwifery visits than non-Māori.[2]

Despite the majority of women registering with an LMC, there seems to be a shortage of midwives to provide LMC care. The latest *Maternity Services Consumer Satisfaction Survey*[14] shows that, in 2007, close to one in five women (19 percent) found it difficult to find an LMC to provide care for them, compared with 11 percent in 2002. The main reasons that women gave for the difficulty in finding an LMC were that midwives were too busy or that there was a shortage of midwives in the area.

These results are consistent with focus group responses. Many women in the focus groups reported having to make numerous phone calls in the search for a midwife. It was not uncommon for women to report making 10–15 calls before giving up and being told to go through the hospital system (ie, use hospital midwives) instead. Some women had to make compromises (in their choice of LMC or hospital) to secure an LMC.

> Five months it was before I got a midwife.
>
> I had one [an LMC] at eight weeks because I knew there was a problem [in finding a midwife in Wellington].
>
> It's just a joke in the books and they say, you know, interview, you know, LMCs [first participant]. There just aren't enough available to do that [second participant].
>
> Well I rang. A few of them didn't even come back to me which I thought was very rude. I think they should at least come back and say 'Look I'm sorry' and then when I got the list I phoned some 0800 number and got a list of ones in the area and all of them had like, pagers apart from the one I got, and she had a mobile number.
>
> It took us three weeks to actually get somebody to ring us. So okay, we've got one, so as if you're going to let that one go. I mean thankfully she was great, she's been fabulous but if you didn't get on with her then what would your option be, not have one or…
>
> I couldn't get a midwife because there's not enough and that's one of the reasons why I'm here tonight because I really wanted to voice that. Like I had a miscarriage first and then I had my baby and both times when I tried to get myself a midwife I couldn't get one and I was ringing at six weeks pregnant to try to get a midwife so it wasn't like I was leaving it to the last minute.
>
> It was a nightmare finding a midwife.
>
> I phoned 14 [midwives] and only three returned my call to say they couldn't take me.

While women were generally happy with the service they received from hospital midwives, the hospital service would be likely to decrease the continuity of care given to women, since women do not necessarily see the same midwife at each visit. This is potentially problematic because continuity of care has been shown to have benefits. In particular, women with continuity of care are more likely to attend antenatal education programmes and less likely to use drugs for pain relief during labour.[15]

3.1.2 What proportion of LMCs are GPs, midwives or obstetricians?

The majority of LMC care in New Zealand is performed by midwives but GPs and obstetricians also provide this service. Table 4 is from the *Report on Maternity: Maternal and newborn information 2004*[1] and shows the percentage of women who had a midwife, GP or obstetrician as their LMC, both at first registration and at birth, in 2004.

TABLE 4. Proportion of women registered with an LMC at first registration and at time of delivery, by LMC type, 2004

LMC type	At first registration		At delivery	
	%	(n)	%	(n)
Midwife	75.3	(33,482)	75.9	(33,482)
General practitioner	5.6	(2,504)	4.5	(2,505)
Obstetrician	6.1	(2,727)	6.0	(2,680)
Other/unknown LMC types	5.5	(2,445)	5.5	(2,463)
Not stated	7.4	(3,297)	8.0	(3,567)
Total	**100**	**(44,455)**	**100**	**(44,430)**

Source: Report on *Maternity: Maternal and newborn information 2004*.[1]

Table 4 shows that when women first register with an LMC, 75.3 percent of LMCs are midwives, 5.6 percent are GPs and 6.1 percent are obstetricians. The main difference at delivery is that the proportion of LMCs who are GPs decreases to 4.5 percent. Close to 13 percent of LMCs are of unknown type or not stated by women.

3.2 Transition between LMC and CBE

3.2.1 What proportion of LMCs refer women and their families and whānau to CBE?

This question is not about one provider transferring care to another. Rather, LMCs and childbirth educators are expected to work together and it is usual that women participating in antenatal classes will have appointments with their LMC during this same period. Therefore, this question is about the interface between LMC and CBE and, in particular, whether LMCs routinely recommend CBE to their clients. Whether or not an LMC suggests attendance at antenatal classes may depend on several factors: particularly the value the LMC places on CBE; her beliefs concerning whether CBE is complementary or provides additive value to the service she offers; and her perception of the match between her client's needs, wants or culture and what she believes CBE will offer. If LMCs are supportive of women attending antenatal classes, it makes intuitive sense, and there is overseas evidence to suggest that women are more likely to attend them.[16]

When key informants were asked to estimate the proportion of LMCs who refer their clients to CBE, there was a range of responses, depending on the organisational background of the key informant. One suggested that *all* LMCs would discuss with women their options for CBE. Another suggested that less than 50 percent of women would have CBE recommended to them.

> I would say that it is less than 50 percent. I would say that the perception out there is that it is more than 50 percent but in reality, the likelihood is it is possibly less.

These polarised responses obscure the distinction between the proportion of LMCs that refer women to CBE versus the proportion of women who are referred to CBE. It is possible, for example, that the vast majority of LMCs refer at least some women to CBE classes. However, when the proportion of pregnant women who are referred is examined, the percentage could be much less, as a result of classes only being recommended for particular groups of women. Indeed, one key informant highlighted that primigravidae would be more likely to be referred to CBE than women who had previously given birth.

> Well, I know that it is not reported and there is probably no data. I could give an educated guess that every first time-mother would be offered CBE. I would suspect that with subsequent pregnancies, it [CBE] wouldn't necessarily be given/suggested, mainly because CBE programmes aren't specifically geared for second- and further-time mothers, so if, for example, there was an antenatal refresher, and I used to run those, then they [LMCs] would recommend [the woman does the class], but they wouldn't necessarily recommend to go to a [regular] CBE class.

This latter statement from a key informant was the most consistent with survey results. Of the women who completed the survey, 58.4 percent (N = 513) reported that their LMC had suggested they attend or referred them to antenatal classes. This figure was much higher for primiparous mothers (91.7 percent; N = 396) than for multiparous mothers (26.2 percent; N = 117). These results suggest that LMCs do recommend antenatal classes to the majority of primigravidae but not to most women who have previously given birth.

3.2.2 What are the contractual arrangements and obligations of LMCs to refer women to CBE?

The contractual obligations of LMCs are outlined in the Section 88 Maternity Services Notice.[6] Neither the older nor the revised Notice requires LMCs to refer women to CBE. There are therefore no contractual arrangements or obligations for LMCs to *refer* women to or to *recommend* CBE. There is, however, the requirement that LMCs inform women who are in their second trimester of pregnancy about the availability of CBE, and that LMCs maintain links with other providers of health services, including providers of antenatal education. The following clauses from the Section 88 Maternity Notice (Gazetted version) illustrate these requirements.

Section CB7 (Information about primary maternity services) (1): A maternity provider must ensure that every person who is eligible for primary maternity services is given the appropriate information on the primary maternity services that they are entitled to receive (including their options). (p.1052)

Section DA19 (Service specifications for first and second trimester) (2a): For a woman in the second trimester of pregnancy, the LMC must provide all of the following services:

(a) inform the woman regarding –

> (i) the availability of pregnancy and parenting education. (p.1064)

Section CB9 (Maternity provider to co-operate with others in order to promote safe and effective primary maternity services): A maternity provider must maintain a range of linkages with and co-operate with other maternity providers, practitioners, and community agencies to promote safe and effective primary maternity services. (p.1053)

Section DA11 (Linkages with other services): Providers of LMC will also maintain linkages with the following local organisations and providers of health services:

(d) antenatal education services. (p.1061)

The professional obligations for LMCs are outlined in the *Midwives' Handbook for Practice*.[7] This publication contains 10 Standards of Practice for midwives. Several of the standards allude to LMCs sharing relevant information with women (Standards One, Two, Five, Seven and Nine). The handbook also contains a section on 'Decision Points for Midwifery Care' which outlines the range of information to be shared at each major stage of pregnancy, including health information and education. Within the first 16 weeks of pregnancy the LMC should discuss with the woman her choices for childbirth and parenting education (p. 26). By 24 weeks, the LMC should ensure that women are aware of CBE options (p. 27).

Thus, while there are no formal obligations for LMCs to refer women to CBE, they have both contractual and professional obligations to at least inform women about the availability of pregnancy and parenting information. Despite these obligations, it is clear from the findings described in Section 3.2.1 that CBE is not being suggested to all women. Indeed, two key informants questioned whether LMCs' professional obligation to inform women about CBE was adhered to, remarking:

> It [providing information about CBE] is a Standard of Practice and one that is not necessarily observed.
>
> If a woman doesn't know that CBE exists, she may or may not be informed by the LMC.

These key informants were of the view that LMCs should be formally required to refer women to antenatal education. On the other hand, one key informant felt it was enough just to make sure that women were aware of the availability of CBE.

> You can't make women go to CBE, but it is their right to know what their options are.

Key informants therefore held different views about whether the current formal obligation of LMCs to inform women about the availability of CBE goes far enough towards maximising women's participation rates in CBE.

3.2.3 What process is used to manage the referral between LMC and CBE?

All six key informants who were asked this question agreed that the process used to manage the 'referral' or interface between LMC and CBE was informal and would typically involve the LMC having a discussion with the pregnant woman about whether she had thought of attending antenatal classes and possible options available in the area. Answers given by key informants suggested that it was up to the individual LMC to decide whether or not she recommended a particular CBE provider.

One key informant commented that the main determinant of whether an LMC actually recommended the mother attend antenatal classes is the relationship she has with the local providers of CBE; unsurprisingly, if the relationship is good, the LMC is much more likely to recommend the mother attend the CBE classes offered by that particular provider. One of the biggest providers of antenatal education, Parents Centres, has a Memorandum of Understanding with the New Zealand College of Midwives (NZCOM), which was commented on as providing the basis for a 'terrific' relationship between the two organisations. Despite a generally good relationship between LMCs and CBEs, historically there have been tensions between the two groups. Contributing to the tension is a concern raised by one key informant that the information given out by LMCs may sometimes conflict with the information given out by CBEs. Another key informant commented:

> There was quite a lot of tension initially when we started taking CBE differently, because midwives do feel that education is something that they should be involved in, and I accept that, but I think they are good at giving info, but there is a difference between education and information; and there is probably more acceptance that it is a different profession if you like. Unless you are particularly trained in education, then you probably won't be a good educator, and because midwives are first and foremost doing maternity, it's quite difficult for them to both acquire and then keep up the skills they need to be good educators. Some do it but not many. They think education is giving information.

Three of the key informants specifically suggested that there should be a more formal interface between LMC and CBE.

> It [a more formal referral process between LMC and CBE] would be helpful, particularly because a lot of them [LMCs] aren't referring early enough and classes fill early. But it's a bit like the handover to Well Child Care – there has been a lot done to tighten it up and improve it.

One key informant pointed out that the interface between LMCs and CBEs also involved CBEs informing LMCs about the availability and timing of their classes. One method that had been used to convey this information both to LMCs and pregnant mothers was posters displayed in hospitals. Another common means used to inform women of the availability of antenatal classes is through written information (pamphlets, leaflets, or flyers) received from GPs, LMCs, or hospitals (after women are booked in to give birth). If women are to have a home birth, then Home Birth Aotearoa (HBA) would typically provide information on CBE provider options.

3.3 Childbirth education

3.3.1 Who are the providers of CBE?

The last comprehensive list of CBE providers can be found in Appendix 10 of *Maternity Services: A reference document*,[2] (p. 75). Providers are listed under each of the four Health Funding Authority localities that existed at the time. The document was published in 2000 and is now out of date. An updated list of CBE providers by DHB region can be found in Appendix 8 of this report. Providers can be divided into those who hold contracts with DHBs and those who do not hold contracts, as shown in Appendix 8. On the basis of the number of courses each provider is contracted to deliver per annum, the biggest provider

of antenatal education across New Zealand is the DHB provider arms. These services are usually hospital-based and may be contracted out to other providers such as Birthcare or BirthEd. The second biggest provider of antenatal education is Parents Centres, who have 54 Centres around New Zealand. Plunket, who have 19 Family Centres throughout New Zealand, also deliver a number of antenatal courses. Providers differ across geographical regions. For example, in the Auckland/Waitemata/Counties Manukau region, the main CBE providers are Birthcare, MAMA (Mothers and Midwives Associated) and SAMCL (South Auckland Maternity Care Limited). In the Wellington/Hutt/Porirua region, Parents Centres provide most of the courses. Women who are interested in a home birth often access antenatal education through Home Birth Aotearoa, a national organisation with many local branches throughout New Zealand. There are also many independent providers of CBE who may or may not hold contracts with DHBs. These providers are most often midwives, and a small but significant number of them hold membership with Nga Maia, a national collective of Māori midwives who represent the interests of Māori birthing.

It should be noted that the number of CBE courses held in each DHB region is likely to be underrepresented in Appendix 8. Contracted courses are likely to be under-represented because when DHBs were asked for the list of CBE providers with whom they hold contracts, a few did not include their own DHB provider arm services. Non-contracted courses are also likely to be under-represented because of the difficulty in obtaining a complete list of CBE providers who do not hold contracts with DHBs.

3.3.2 What are the contractual arrangements and obligations of CBE providers?

Only the CBE providers who hold contracts with DHBs have formal contractual obligations. The contractual arrangements and obligations of DHB-funded CBE providers are outlined in the national service specifications for pregnancy and parenting information, published jointly by the Ministry of Health and DHBNZ (on behalf of all DHBs). These service specifications form the basis of all contracts between DHBs and providers of antenatal education. Eighty percent (N = 36) of CBE providers reported basing their course on the national service specifications.

The full service specifications for pregnancy and parenting information can be found in Appendix 9, but key requirements outlined in the specifications include:

- length of courses – a minimum of 12 hours
- content of course – the content must cover:
  - access to maternity services
  - pregnancy care
  - labour and birth care
  - care following birth
- qualifications of programme co-ordinators – they are 'preferably' childbirth educators with a recognised qualification in CBE. Alternatively they may be midwives or physiotherapists with additional recognised qualifications in adult education and cultural awareness and Treaty issues, or *he kuia whare tapu* or other respected teachers, recognised by the respective *rūnanga*
- service links – establishing and maintaining links with LMCs, maternity facility providers, Well Child providers, antenatal and postnatal support groups, and Family Start
- quality – must be accessible (free, suitable venue, encouraging access by women at risk of adverse outcomes); acceptable (responsive to individual needs, resources of good quality); and effective (based on principles of adult learning, content based on reputable research, culturally safe)
- reporting – number of courses provided.

Contracts with DHBs also specify the minimum number of courses that the CBE provider is expected to deliver over the contract period. Contracted providers may be audited to ensure they are meeting these requirements. Providers who do not hold contracts with DHBs have no formal obligations. Out of the seven providers who did not hold a DHB contract, one based their service provision on the national service specifications, three did not and three were unsure.

3.3.3 What are the minimum qualifications of childbirth educators required by different providers of CBE?

There is only one formal qualification in CBE available in New Zealand. This is the CBE certificate or diploma, offered through Aoraki Polytechnic, in Timaru, South Island.

All CBE providers who hold contracts with DHBs are bound by the national service specifications for pregnancy and parenting education to 'preferably' use childbirth educators with a recognised qualification in CBE. The service specifications also allow that childbirth educators may be midwives or physiotherapists with additional recognised qualifications in adult education and cultural awareness and Treaty issues, or *he kuia whare tapu* or other respected teachers, recognised by the respective *rūnanga*. The service specifications therefore leave considerable flexibility for providers to use different facilitators with a range of skills.

Forty percent (N = 18) of CBE providers who returned the questionnaire indicated that it was compulsory for facilitators of their antenatal classes to hold a certificate or diploma in CBE (offered through Aoraki Polytechnic in Timaru). This included 15 of the 38 DHB-funded CBE providers and three out of seven of the non-DHB-funded providers. For the four non-DHB-funded providers who indicated that the CBE certificate or diploma qualification was not compulsory, the facilitators of their classes were reported as being midwives (N = 3), experienced mothers (N = 1) or 'other' (N = 3) (numbers add up to more than four because providers could circle more than one answer).

Interviews with key informants suggested that Parents Centres is the only provider who insists that the facilitators of their classes hold a formal CBE qualification, and that, on the whole, there are various people with different qualifications providing CBE, particularly amongst providers who do not hold DHB contracts. It was reported that there is a limited number of childbirth educators, particularly in rural areas. In these regions, providers (including some Parents Centres) rely more on midwives or experienced mothers to provide CBE. It was pointed out that anyone can call themself a 'childbirth educator', and that unlike most health professionals, childbirth educators do not have a council or national monitoring body to oversee minimum qualifications and requirements.

The issue of whether childbirth educators *should* have minimum qualifications was discussed. Two key informants felt that facilitators should be required to have a specific qualification in CBE.

> Childbirth educators need to participate in an ongoing, comprehensive, professional development programme. Allowing non-qualified staff to run courses is like treating the symptom but not the cause. It might improve accessibility of classes but it does not address the lack of funding to support practitioners to get the qualification and provide a better quality service. If mandating minimum qualifications means decreasing accessibility in the interim, we should do this in order to increase quality (and with funding, accessibility) in the long term.

Two felt that a specific qualification was not necessary.

> I mean, I think nowadays, the level of education and understanding of people is such that actually, to be honest, if you gave that sort of specification to any normal person, they could probably run through it and if they've had the experience... It's the icing on the cake to be able to get somebody that's childbirth-educator qualified, but I certainly have hesitations about midwives and people of a health profession taking it on; so what I mean is, because that diploma they do, it's not a degree or anything, I'd hate to see that qualification going out of the reach of the average woman, and so I think it is wonderful if local women can be supported to do that, but I don't think it should be the be-all and end-all.

One of the key informants, who thought that a formal qualification need not be a prerequisite, nevertheless felt that there should be robust monitoring of childbirth educators.

> You shouldn't have to have a formal qualification. Having said that, I think there is a perfectly valid fear of people espousing untrue or unsafe things in those classes so I think some monitoring of minimum standards is appropriate and certainly a very robust system of quality control in terms of a complaints or some kind of process so if someone is uneasy you've got a normalised process of checking on the person.

In summary, there is only one formal qualification in CBE in New Zealand and only 40 percent of providers require their facilitators to have it. Opinions regarding whether the qualification should be compulsory for facilitators were divided.

3.3.4 How is CBE funded and by whom?

There are three main ways in which CBE is funded in New Zealand: publicly, through DHB provider arms or contracts that other providers hold with DHBs (who receive funding from the Ministry of Health); privately, or fee-for-service, where the provider charges the participant to attend the course; or community-funded through charities, philanthropic organisations or fundraising activities. Of the 45 CBE providers who returned questionnaires, 38 (84.4 percent) reported being DHB-funded, five (11.1 percent) fee-for-service (with two of them also receiving some community funding) and one provider reported being fully community-funded.

One key informant also suggested that the Ministry of Education still funds some CBE courses using a community education arrangement through which CBE classes are offered as night schools. One provider did indeed report receiving funding from the Tertiary Education Commission (TEC), which receives funding from the Ministry of Education. Only five of all participating providers (11.1 percent) reported receiving funding from more than one source.

3.3.5 What information do women and families and whānau receive and value as part of CBE and what resources and booklets are made available to women?

The high-level content that must be included in all DHB-funded CBE courses is outlined in the national service specifications for pregnancy and parenting information (Appendix 9). The specifications aim to move pregnancy and parenting education providers away from duplicating the individual education that LMCs are required to provide.[2]

Each CBE course must cover the following:

- access to maternity services
  - the role of the LMC and other health professionals
  - information on women's support networks available in the community
  - the complaints procedure for maternity services
- pregnancy care
  - health promotion during the antenatal period, including the benefits of avoiding smoking and alcohol
  - pelvic floor and stretching exercises
  - warning signs during pregnancy
- labour and birth care
  - signs of labour
  - options available for women in labour and birthing
  - role of support person
  - common complications of labour and birth and possible interventions
- care following birth
  - physical and emotional changes including post natal depression
  - self-care for the woman postnatally
  - early parenting skills
  - safety of the baby, including prevention of SIDs
  - the role of Well Child services and how to access them.

The course content must also comply with the Baby Friendly Hospital Initiative and include:

- the benefits of breastfeeding, including nutritional, protective and bonding and health benefits to the mother
- the importance of exclusive breastfeeding for the first four to six months
- basic breastfeeding management, including the importance of rooming in, the importance of feeding on demand, how to ensure there is enough milk and positioning and attachment.

In order to determine the more specific content included in CBE classes and the information received or remembered by women, it was considered of interest to calculate the percentage of women who reported different CBE topics being covered in the classes they attended. Table 5 lists the range of topics that women were asked to consider and the percentage of women who indicated the topic had been covered in the classes they attended.

TABLE 5. Percentage of women indicating topics that were covered in their antenatal classes (N = 364)

	Topic	%	(n)
a.	The role of the lead maternity carer (LMC)	62.9	229
b.	Information on women's support networks available in the community	58.0	211
c.	The complaints procedure for maternity services	17.3	63
d.	The effects of smoking on the health of mother and baby, and options available to help give up	55.2	201
e.	The effects of alcohol and drugs on the health of mother and baby, and options available to help stop	55.8	203
f.	Mother's and baby's nutritional needs during pregnancy	73.4	267
g.	Screening and diagnostic tests (eg, ultrasounds, HIV, rubella, sugar, rhesus tests, nuchal screening, amniocentesis)	43.1	157
h.	Warning signs of ill-health or problems during pregnancy	65.1	237
i.	Physical changes during pregnancy (eg, pregnancy discomforts, nausea and sickness)	76.9	280
j.	Emotional changes during pregnancy (eg, tearfulness, mood swings)	79.1	288
k.	Pelvic floor exercises	83.8	305
l.	Stretching and exercise	68.7	250
m.	Relaxation skills (eg, breathing awareness, use of massage and touch)	83.8	305
n.	Signs of labour	95.1	346
o.	Ways of managing pain during labour	96.2	350
p.	Description of normal and other birthing methods (eg, caesarean)	94.8	345
q.	Options available to women in labour and birthing (eg, position during labour, drug interventions)	97.0	353
r.	Risks and benefits of different birthing methods	83.5	304
s.	The benefits of breastfeeding	94.2	343
t.	The importance of exclusive breastfeeding for the first six months	75.0	273
u.	How to breastfeed and/or where to go for help	87.6	319
v.	Physical changes after birth		
w.	Emotional changes after birth (eg, awareness of postnatal depression and preventative steps)	83.0	302
x.	Early days at home (eg, ideas for coping, tiredness)	69.2	252
y.	Self-care as a mother (eg, nutrition, exercise)	61.0	222
z.	Development of appropriate personal support	45.9	167
aa.	Unplanned experiences (eg, sick or premature infant, special needs babies)	39.6	144
bb.	Safety of the baby (eg, how to prevent SIDs – cot death)	77.7	283
cc.	Early parenting skills (eg, bonding with baby, engaging with baby)	62.9	229
dd.	Parenting programme options available	38.5	140
ee.	The role of Well Child services and how to access them	31.0	113
ff.	Vaccinations and tests after the baby is born	62.1	226
gg.	Other (please describe)	6.6	24

As shown in Table 5, the information that women most frequently reported being covered in antenatal classes related to the birth or breastfeeding. Over 90 percent of women who had attended antenatal classes indicated that they had covered signs of labour; ways of managing pain during labour; description of normal and other birthing methods; options available to women in labour and birthing; and the benefits of breastfeeding. A high percentage of women (between 80 and 90 percent) also remembered the following topics being covered: pelvic floor exercises; relaxation skills; risks and benefits of different birthing methods; how to breastfeed and where to go for help; and emotional changes after birth. The topics that were least frequently recalled by women (less than 40 percent) included the complaints procedure for maternity services, unplanned experiences, parenting programme options available and the role of Well Child services and how to access them.

It was also of interest to determine which topics and information or features of CBE women valued most from their classes. The *Maternity Services Consumer Satisfaction Survey 2007*[14] included the following question: What were the best things about the (antenatal) classes? The options to choose from were information, social network and inclusion of partner. Although many chose to tick more than one box, 67 percent of 1,267 respondents opted for 'information', 57 percent selected 'social network' and 45 percent ticked 'inclusion of partner'.

In the current study, focus group participants were asked to list the most important things that they took away or learnt from CBE classes. These three themes consistently emerged from focus groups as important benefits of participation in CBE. Most commonly, social support was raised first.

> For me it was the contact with people afterwards; meeting other people about to have their first baby.
>
> I'd say the social side more than anything else.
>
> It's probably less about what you learn than who you meet.
>
> I think the best thing I got out of it was the fact that I met people who were going through the same thing and now we all get together and have coffee.

The importance of making social connections through the classes was also highlighted by mothers who felt that the diversity of people attending their groups prevented them from 'gelling' and subsequently offering social support to each other.

> I really, really wish that if I could turn back the clock, that we had paid [to attend a CBE class]… I think, you know, if we got that relationship out of the people that were there, then that would have been great. But we were quite disappointed because we were going into it to meet people.

A second important theme that emerged was that women felt that CBE classes had helped to get fathers involved.

> Probably the most important thing [getting the father involved]; I mean being a body therapist and stuff, I kinda understood what was gonna happen and I'd read enough but my husband didn't have a clue so it was really good for him to know so that when it came to the birthing he was like, didn't panic. Cause I'm like 'The last thing I wanna be doing is looking after you!' He felt a lot more comfortable afterwards, so...
>
> I think for me there was the opportunity for my partner to get more involved in the pregnancy because up until that point, well I don't know about you guys, but my partner is not really into reading books. We probably all went away and talked with people and read books and thought about what was happening but he kind of didn't really connect with it until he had that opportunity to talk with other people and that was a really kind of important step for us. He sort of finally connected, like 'Oh this baby is going to be mine', it made it real to him.

A third topic consistently raised was the information learnt about pain-relief options during labour.

> Yes, and options for pain relief, and even if you think you're gonna be hard-core and not have anything [pain relief] you still need to know what's available, you really don't wanna find that out at the time…
>
> ...but things like breathing and the exercises, mind exercises really and breathing for your early parts of your labour to get your mind off what's sore down

there because there's, you know, pethadene and all that sort of stuff, yeah great…

They were pretty real about the pain, they were pretty real about what epidurals do and what this does ... I had a natural birth, so from that point of view it was nice to know about the other drugs that were available and what was good and what wasn't good.

Women reported that knowing what to expect during labour and afterwards gave them confidence.

But yeah, it's about knowledge about what's actually going to happen. Really big. That made me relax a lot more.

Yes, just knowing what was going to happen.

Another aspect of some CBE classes that was raised as being very useful was having someone who had recently had a baby come and speak to the class about their early experiences at home.

That [having someone who had actually had their baby, talk to the class] was probably the best.

…they had a session where I think they had um, a new dad came along and talked about what his experiences were [first participant]. Yeah, that's right [second participant]. That was good [third participant].

We got to ask new parents questions; they brought their babies in. It helped to normalise that things didn't always go according to plan.

There were a few topics that participants said were not discussed enough during classes or that were not particularly helpful. A general theme emerged that while women understood the importance of breastfeeding, many women had struggled with it and they found the lack of information provided on bottle-feeding very frustrating.

At our first big catch-up after we'd had the babies every single person there had used the bottle, at some stage ... for some of us it meant going out late at night and buying bottles, and you know working it out ourselves and working out how to use sterilisers and stuff, it would have been nice just to have someone to show it, you know.

It was a total nightmare! ... the Family Centre here was awesome .... I think, I don't know whether I felt particularly guilty about it, actually ... I did Birth Wise which is fully focused on natural birthing which was awesome and I came out of it feeling really positive. But also the night on breastfeeding was like 'never give your baby formula and soon as you top your baby up, it's all bad' and I actually made some really bad decisions. I should have read a little bit more about the other side ... [baby's name] got a bit sick and ended up in neonates for a while' cause he was completely dehydrated, so...

I asked a couple of questions to say 'Well, what's the story with bottles?' and how and, you know, 'What about formula?' and 'What's the good way to choose a formula?' because there were two or three of the girls, including me, who were interested because there was one, for example, with inverted nipples and she could not breastfeed; she can't; it just won't work ... and we got very little information out and it felt like we, kind of, you know, were pulling it out of her.

In fact it's something that our class found and most of us did end up being able to breastfeed, but we actually, what's the word? – resented the amount of pro-breastfeeding and the lack of information about where you could go for support if you can't breastfeed, or what sort of formula should you get, or what should you do.

A related complaint expressed by women was that antenatal classes prepared them well for a natural childbirth but not so well for the unexpected or alternative interventions, such as assisted births or caesareans.

It didn't really prepare you if you didn't have a natural birth. Well it did and it didn't. It just made you feel guilty if you didn't have a natural birth. It made you feel guilty if you didn't breastfeed.

I think maybe if they, like I found physically it was all fine having a caesarean but emotionally maybe it would have been nice just to have a wee talk about how it's alright if you don't end up having a natural birth.

I had lots of things happen that I didn't expect, that weren't talked about in class.

I don't think classes should scare women, but they need to help women prepare better for these [unexpected] experiences.

This view, however, was not shared by all the women. Some thought that their classes had covered intervention options in sufficient detail.

> We had, we were split into groups and each group was given one type of intervention to investigate and to report back to the group on, and I found that it was sufficient … We covered all different outcomes.

A topic that was reported as not being particularly useful was nutrition. It was not the nutrition content *per se* that women viewed as not useful, but rather the timing of the content. This is because information on nutrition is most relevant early in pregnancy and the majority of women were completing antenatal classes late in their pregnancies.

> We did our first or second session on nutrition and things you shouldn't be eating and we all found that actually we had all been given the pamphlet and we'd all been following this, but probably by that stage about seven months.
>
> We're all eight months pregnant or whatever it was, I think it is a bit too late to start telling us what I should have done, this kind of stuff.
>
> Some people were shocked by what they weren't supposed to eat.

A topic that women felt should have been given more discussion time during classes was parenting after the birth of the baby.

> A bit more in-depth focus on not just the birth because so much of that nine months right after is birth, birth, birth, birth, birth, and that's only 12 hours, or whatever, really, and then you've got the next however months floundering around trying to work out how on earth you do this job.
>
> Yes, I mean women have been having babies in the field for centuries and they tend to survive. I just, you know, going on, it was like weeks of talking about pain and the actual labour process and, content-wise, I would have been more interested in the early development and early process of baby and how many times you can probably expect a one-week-old or two-week-old baby to be waking up and what do you do and what's normal, what's not. Those kinds of things.
>
> More time should be spent on what happens postnatally, caring for the baby, and information that makes you feel more confident as a mother. There is only so much that you can do to prepare for the birth itself, but you can do more to prepare for after the birth.

This finding is consistent with women's qualitative comments on the *Maternity Services Consumer Satisfaction Survey 2007*.[14] Many women commented that they would have liked antenatal classes to prepare them better for the first weeks of parenting. Similarly, anecdotal evidence from key informants suggested that when women are asked to evaluate their CBE classes after the baby is born, they often comment that more information on parenting was needed.

One key informant made the point that the information given by providers and received by women during antenatal classes depended on participants' receptivity to different topics.

> The age-old thing related back to what I said earlier. People take in knowledge when they are in a position to receive it. That's why I'm very sceptical about postnatal evaluation of childbirth education courses because once they [new parents] enter the parenting bit they think 'You should have … Why didn't we?' But at the time they are yet to have the baby, and I remember this myself – in the antenatal classes we were doing the postnatal stuff and I was thinking – 'Look, I've just got to get through the birth first; I will worry about this stuff when I get to that bit.' And that's the reality, that until they actually move beyond the birth into the reality of parenting, the reality hasn't hit them and so getting the mix right…

In summary, women reported receiving a wide range of information as part of CBE. Topics that were frequently recalled on the survey as being covered in classes – the birth itself and breastfeeding – were viewed as useful to the extent that they helped prepare women for the birth, accurately shaped expectations and increased confidence. To the extent that topics were seen as redundant or guilt-inducing, they were viewed as less useful. Thus, the topic of nutrition was considered a waste of time because it was covered far too late in the pregnancy to be of use. Information on breastfeeding was readily available through classes, but focus group results suggested the emphasis on breastfeeding had gone too far, resulting in guilt if breastfeeding did not eventuate, or frustration at the lack of information on

bottle-feeding. Also noteworthy was that the topic of early parenting skills was not reliably recalled by women as being covered in classes (nearly 40 percent did not circle this topic), and yet focus group results suggested that this topic was particularly valuable and was not given enough attention in classes.

The last part of this research question relates to the resources that are made available to women through CBE. Key informants reported that there is a wide range of leaflets, pamphlets and information sheets available on various topics related to pregnancy, childbirth and parenting. Examples include leaflets on oral health, family violence, healthy eating, breastfeeding and pain relief during the birth process. One key informant suggested that many of the DHB-funded classes provide participants with a 'woman's resource folder'.

> I said to them, show me what you give to the women and I guarantee every woman that goes to a funded CBE class will get exactly the same. It was a gorgeous folder, honestly, and they were so worried because the Warehouse had run out of them and it had like bears on it and things, you know, and you open it up and they got all the little brochures on, you know, healthy eating and breastfeeding, and that is what they call the 'woman's resource folder' and it is gifted to them on the first night. Now I would put my money on the same thing being produced because the brochures are free through Public Health, you see. So you just go and get them all and put them all together.

These resources may be made available at antenatal classes or be given to the woman by her LMC. One key informant noted that LMCs are likely to give out more information to women who do not attend CBE classes.

There is only one resource, mentioned by two key informants, that all women are supposed to receive when they make their hospital booking. This is available through the Ministry of Health and is called *Your Pregnancy*[26].

> We have one – there's *Your Pregnancy*, which is a Ministry of Health publication and that is available through Whitcliffe Press, so you can order it online. If you go to the Ministry of Health website, there is 'Health Promotion' or 'Health Resources' and one is called *Your Pregnancy*, and that is available. I don't think it costs anything. Midwives can get it too of course and that is meant to be given to all mums at book-in, I think, but it is very basic and probably needs upgrading. That would be the only Ministry of Health resource that would be given to everybody I think.

In general, though, there is no standardisation of the type or quality of information contained in handouts that is made available to women, even amongst DHB-contracted providers. It was reported that Parents Centres has a checklist of approved handouts but that to date, there has been little monitoring of this.

3.3.6 How does CBE offered by different providers compare?

CBE providers who are DHB-funded base their classes on the *National Service Specifications for Pregnancy and Parenting Education* (Appendix 9). CBE providers who do not hold a DHB contract are free to choose the content and structure of their courses. One would therefore expect a wider degree of variation in the information and structure of courses offered by CBE providers who do not hold a DHB contract compared with DHB-funded CBE providers.

Table A in Appendix 10 shows the percentage of CBE providers who reported covering different topics in their classes as a function of whether the provider was DHB-funded or not. Caution must be applied in interpreting these results. Because of the small number of providers not holding DHB contracts (N = 7), the reliability of these percentages is unclear. For several topics, however, there were marked discrepancies (over 50 percent difference) between DHB-funded and other providers in the likelihood of a particular topic being covered in their classes. As a group, DHB-funded providers were apparently more likely than other providers to cover the following four topics (from Table A, Appendix 10): the effects of smoking on the health of mother and baby, and options available to help give up; the effects of alcohol and drugs on the health of mother and baby, and options available to help stop; warning signs of ill-health or problems during pregnancy; and the role of Well Child services and how to access them. There was also a large discrepancy (48 percent difference) between DHB-funded and other providers on a fifth topic – the complaints procedure for maternity services – with DHB-funded providers more likely to cover the topic. Other topics that may also distinguish between DHB-funded and other providers (over 30 percent difference) included mother's and

baby's nutritional needs during pregnancy; screening and diagnostic tests; stretching and exercise; and vaccinations and tests after the baby is born. For each topic, DHB-funded providers were more likely than other providers to cover the topic in their classes. While these results may give some indication of how the CBE information given by providers who use the *National Service Specifications for Pregnancy and Parenting Education*[3] differ from providers who are free to choose their own content, they do not provide any indication of the variation amongst individual providers.

Differences in the information given by individual providers can be further assessed by examining women's survey responses. Women who had attended antenatal education were asked to indicate which organisation they attended classes through. Table B in Appendix 10 shows the percentage of women who reported different topics being covered in classes organised through Parents Centres, hospitals, Birthcare, Plunket, Birth Wise, Home Birth and MAMA. Because of the small number of women who reported attending classes through Plunket (N = 15), Birth Wise (N = 9), Home Birth (N = 4) and MAMA (N = 10), the percentages given for these providers must be interpreted with caution. While the percentages given for Birthcare (N = 29) are marginally more robust, only the percentages given for Parents Centres (N = 136) and hospital classes (N = 116) may be considered sufficiently robust for reliable comparisons. Results indicate that women remembered hospital classes being more likely (over 10 percent difference) than Parents Centres to cover the following topics (from Table B, Appendix 10): the complaints procedure for maternity services; and the effects of smoking on the health of mother and baby, and options available to help give up. On the other hand, women's responses indicated that Parents Centres classes were more likely than hospital classes to cover warning signs of ill-health or problems during pregnancy, emotional change during pregnancy, risks and benefits of different birthing methods, development of appropriate personal support and parenting programme options available.

Antenatal courses also differ according to the extent to which they are based on a structured curriculum or decided by participating women and families or whānau. Table 6 shows the percentage of CBE providers who base their course on curricula of varying degrees of structure.

TABLE 6. Percentage of CBE providers who base their courses on curricula of varying degrees of structure (N = 43).

Degree of structure	No. CBE providers	% of CBE providers
Totally structured (All content based on set curriculum)	8	18.6
Mostly structured	21	48.8
Combination	13	30.2
Mostly unstructured	1	2.3
Totally unstructured (All content decided by participating women & families/whānau)	0	0.0

About half of providers reported using a 'mostly structured' curriculum. This is considerably lower than the 80 percent of CBE providers who reported basing their course on the National Service Specifications for Pregnancy and Parenting Education. Accepting that the specifications most strongly support the use of a 'mostly structured' curriculum (ie, courses must cover set content but be flexible to accommodate the needs of different clients – see Appendix 9), these results suggest differences in the way in which providers interpret and apply the specifications.

The length and format of classes also varied among providers. The number of sessions ranged from two to nine with the average being 6.2 sessions. The duration of sessions ranged from one to six hours, with the average being 2.3 hours. Providers who offered courses of between four and nine sessions allowed between one and three hours for each session. Providers who offered courses of two or three sessions allowed four to six hours per session. The total duration of each course ranged from eight to 20 hours with a mean of 13.2 hours. Several providers offered classes in more than one format, either spread out over several weeks, or run in larger blocks across one or more weekends. The most popular format was six to eight sessions run over consecutive weeks, and two hours per session.

The target groups also varied across different CBE providers. Seventeen providers (38.6 percent) reported running classes designed for a particular population group. Table 7 shows the percentage of CBE providers who targeted different population groups.

TABLE 7. Percentage of CBE providers whose classes are designed for specific population groups (N = 44).

Degree of structure	No. CBE providers[1]	% of CBE providers
Teens	8	18.2
Māori	6	13.6
Pacific peoples	4	9.1
Vulnerable families	7	15.9
Women expecting twins or triplets	1	2.3
Women planning home births	2	4.5
Women interested in 'active' birth	1	2.3

[1] These figures do not add to 17 because some providers have more than one target group.

Differences in the perceived usefulness of antenatal education offered by different providers were examined using the women's questionnaire data. For this analysis, the three dependent variables (DVs) were mothers' perceptions of the extent to which antenatal classes helped them prepare for the birthing experience, the extent to which classes improved their confidence and ability to be a good parent for the baby and whether the mother felt emotionally ready to have the baby. All three DVs were rated on a five-point Likert-type scale from 1 – 'not at all' through to 5 – 'to a great extent' or 'completely'. The main independent variable (IV) was the organisation through which the mother had attended antenatal classes. Analysis of variance (ANOVA) was used at the bivariate level to assess the relationship between the three DVs and the main IV. Multivariate analysis of variance (MANOVA) was then used to adjust for potential confounders (such as DHB region, age, family structure, education level, ethnicity and income).

At the bivariate level, the organisation through which women attended CBE was significantly related to only one of the DVs – the extent to which women perceived CBE helped them to prepare for the birthing experience ($F = 3.00$, $p = .005$). At the multivariable level, the overall MANOVA showed that the organisation through which women attended CBE did indeed make a difference for at least one of the three DVs ($F_{21, 708} = 1.53$, $p = .061$), after adjusting for all demographic variables. Closer examination of the between-subjects effects confirmed the bivariate finding that the extent to which CBE helped prepare women for the birthing experience differed significantly across the different provider organisations ($F_{7, 236} = 2.83$, $p = .008$).

Table 8 shows women's mean scores reflecting their perception of the extent to which CBE helped prepare them for the birthing experience, as a function of the organisation through which they attended classes. Unadjusted and adjusted means differed by less than 10 percent, so unadjusted means are reported. As emphasised above, the small numbers of respondents who attended classes through several of these organisations mean that comparisons between different organisations should be made with caution. Antenatal education offered by Home Birth received the highest scores from women on this DV, but with only four respondents, the result is not reliable. Looking at only the two organisations with the highest number of respondents, it appears that after adjusting for potential confounding variables, women who attended classes through Parents Centres reported feeling better prepared for the birthing experience ($M = 3.93$, $SD = 0.91$) than women who attended hospital-based classes ($M = 3.58$, $SD = 1.07$). The difference between these two means is statistically significant ($t_{260} = 2.85$, $p = .005$)[b].

TABLE 8. Extent to which women perceived that antenatal education helped them prepare for childbirth as a function of the organisation through which they attended classes (N = 364)

Organisation	n	Mean	Standard deviation
Parents Centres	144	3.93	0.91
Plunket	15	3.13	1.19
Birthcare	29	3.45	1.15
Birth Wise	9	3.33	0.87
Home Birth	4	4.75	0.50
MAMA	9	3.78	1.09
Hospital-based classes	118	3.58	1.07
Other	36	3.58	1.20

[b] The post-hoc analysis of differences between means was not used, since most multiple comparison procedures perform badly when there are unequal group sizes or population variances differ between groups (Field, A. 2006. *Discovering Statistics Using SPSS*. London: Sage Publications).

Key informants were asked to comment on how CBE compares across different providers. Qualitative results reflect the differences between providers reported above in content, degree of structure, length and target population of courses. In interpreting the above results, care should be taken not to assume that courses that cover more content, or are more structured, or target a particular population group, are necessarily of higher quality. One key informant observed that the main determinant of the quality of classes is likely to be the style and delivery of the facilitator.

> The content of courses is fine. The way in which it [the course] is delivered is personal. It is really the style and delivery that could be an issue.

Another key informant observed there is more variation in the courses offered by providers whose classes are relatively unstructured compared with providers who offer more structured courses.

> Parents Centres classes are structured around a programme and set content with some flexibility. Homebirth Association classes are not structured, they are totally group-focused. Each group includes a midwife and a facilitator, whose role it is to make sure the information being shared is correct and accurate. There is therefore much more variability in the content of Homebirth Association classes compared with Parents Centres classes.

A key informant also commented on how the length of a course determines the amount of information that can be covered and, to some extent, opportunities to form social connections.

> It depends on the length of the course, see; Parents Centres classes are eight weeks which is quite a long time. It's a fifth of the pregnancy, isn't it. Two hours for each class and when you look at 'two, three, and three' in terms of the breakdown of what you do, but a lot of providers only provide four-week courses for instance, so I think they are a lot more rushed. There's a lot of accent in Parents Centres classes on networks and building up social support networks, and that's one of the things that I think defines Parents Centres classes. A long way out I have heard so many stories over the years of [participants of] classes that meet years later, I mean 30 years plus, not everyone obviously, some have died, some have shifted away, but a core of a class will still be meeting 30 years later. There's a course that I met up with [the participants] in the Wairarapa, 20 years on they were still meeting on Friday night for fish and chips which I think is amazing and I've heard it so often, it almost is something that defines Parents Centres classes.

In summary, the *National Service Specifications for Pregnancy and Parenting Education* provide a framework that encourages some consistency of content and course duration across DHB-funded providers. There remains, however, a great deal of variation in antenatal classes across the country. Some providers emphasise certain topics more than other providers; some classes are of longer duration or are more structured than others. The structure and content of courses offered through Parents Centres produced higher scores on the perceived extent to which classes had helped women prepare for the birthing experience compared with hospital-based courses. The quality of classes is also undoubtedly related to the style and delivery of the facilitator and its match to the unique learning needs of the group.

3.3.7 What proportion of women access CBE? How does this differ across different health regions?

Across different countries, there is wide variation in the proportion of women who attend classes, ranging from about 10 to 90 percent.[17,18] In New South Wales, Australia, about 35 percent of all expectant women[19] and about 80 percent of first-time parents attend antenatal classes.[20]

The New Zealand figures are comparable with Australian figures. Across all survey respondents, 41.5 percent of women attended CBE. This rate is similar to figures from the *Maternity Services Consumer Satisfaction Survey 2007*[14] showing that 43 percent of women reported attending antenatal classes. As a result of response bias in both samples of women who returned questionnaires, the true population parameter is likely to be slightly lower than this figure. The percentage of primiparous women who participated in CBE was 80.1 percent in the current sample (compared with 78 percent in the sample of women who completed the *Maternity Services Consumer Satisfaction Survey*).[14] This is much higher than the percentage of multiparous women who participated in CBE (four percent in the current study; 12 percent in the *Maternity Services Consumer Satisfaction Survey*[14]).

Table 9 shows the percentage of women who accessed CBE from each DHB region. The overall chi-square test was not significant (chi-square = 26.08, p = .163), suggesting there was no obvious difference in the proportion of women accessing CBE across the different DHB regions (or possibly a lack of power to detect a significant effect). The figures can, however, be used to determine the health regions where relatively fewer women currently access CBE, although care should be taken in interpreting the percentages associated with any region where only a small number of respondents returned questionnaires. Looking at only the regions where at least 30 women returned questionnaires, the access rate ranged from 30.5 percent to 52.3 percent. There were three DHB regions that had relatively low access rates: Waikato (30.5 percent); Lakes (32.3 percent); and Southland (35.3 percent); and three regions with relatively high access rates: Auckland (46.3 percent); Capital and Coast (52.3 percent); and Canterbury (51.3 percent).

TABLE 9. Percentage of women from each DHB region who participated in CBE (Total N = 364)

DHB region	No. who participated in CBE	No. who returned qnaire	% who participated in CBE
Northland	17	39	43.6
Waitemata	16	42	38.1
Auckland	44	95	46.3
Counties Manukau	10	26	38.5
Bay of Plenty	26	68	38.2
Waikato	25	82	30.5
Tairawhiti	5	10	50.0
Taranaki	5	25	20.0
Lakes	10	31	32.3
Hawkes Bay	14	36	38.9
MidCentral	16	36	44.4
Whanganui	9	23	39.1
Capital and Coast	46	88	52.3
Hutt Valley	7	20	35.0
Wairarapa	3	3	100.0
Nelson-Marlborough	3	6	50.0
Canterbury	58	113	51.3
South Canterbury	6	14	42.9
West Coast	1	2	50.0
Otago	16	40	40.0
Southland	12	34	35.3
Not answered	15	45	33.3

3.3.8 How does the availability of CBE differ across the different health regions?

The availability of CBE was examined by comparing the total number of births and the number of first-time births in each DHB region with the total number of funded CBE courses offered in each area in 2006. Data on the total number of births were obtained from the NZHIS, who report data from the Maternal and Newborn Information System (MNIS) annually. Data on first-time births were obtained from Statistics New Zealand, who obtain birth data from the birth registration form. This form includes a question on previous births in the current relationship only – "Are there other children born from the same parent relationship?" The data reported below for first-time births therefore represent all primiparous births as well as births to women who may have had children in a previous relationship but are giving birth to the first child of a new relationship. Data on the number of funded CBE courses offered in each area were obtained from DHBs (and supplemented with data provided from individual CBE providers).

Table 10 shows, for each DHB area, the total number of births, first-time births and number of CBE courses offered in 2006. The *National Service Specifications for Pregnancy and Parenting Education* specify that class sizes must not exceed 12 pregnant women (but a full class may consist of 24 individuals if each woman has a partner). Assuming that each CBE course has places for 12 pregnant women, the percentage of births that can be accommodated by funded CBE courses can be calculated. For example, there were 24 funded CBE courses in Northland in 2006. This equates to places for 288 pregnant women (24 x 12). The number of funded places can be examined as a percentage of all births (288/2,299 x 100) or first-time births (288/1,144

x 100) in Northland. The percentage of all births and first-time births whose parents potentially had funded CBE places was 12.5 percent and 25.2 percent respectively for the Northland DHB region in 2006.

Since some data are missing on the number of courses offered by funded CBE providers, these percentages should be treated as a rough guide only.

TABLE 10. Percentage of all births and first-time births accommodated by funded CBE courses in each DHB region in 2006

DHB	Total no. of births[1]	No. of first-time births[1, 2]	No. of funded CBE courses offered	% of all births accommodated by funded CBE courses[3]	% of first-time births accommodated by funded CBE courses[3]
Northland	2,299	1,144	24	12.5	25.2
Waitemata	7,318	3,926	52*	8.5	15.9
Auckland	6,285	3,541	150	28.6	50.8
Counties Manukau	8,267	4,279	118	17.1	33.1
Bay of Plenty	2,824	1,444	99	42.1	82.3
Waikato	5,058	2,612	101	24.0	46.4
Tairawhiti	747	374	48*	77.1	100.0
Taranaki	1,479	788	40*	32.5	60.9
Lakes	1,632	853	51	37.5	71.7
Hawkes Bay	2,220	1,167	66	35.7	67.9
MidCentral	2,270	1,215	43*	22.7	42.5
Whanganui	895	491	16	21.5	39.1
Capital and Coast	3,894	2,078	18	5.5	10.4
Hutt Valley	1,999	1,058	50	30.0	56.7
Wairarapa	523	267	10	22.9	44.9
Nelson-Marlborough	1569	865	16*	12.2	22.2
Canterbury	6,169	3,272	244	47.3	89.5
South Canterbury	606	325	25	49.5	92.3
West Coast	398	206	19	57.3	100.0
Otago	1,970	1,068	55*	33.5	61.8
Southland	1,471	778	51	41.6	78.7

[1] Includes live and still births.

[2] Represents the number of first-time births in current relationships only. NB: This figure overestimates the number of true primiparous births.

[3] Assuming each funded CBE course accommodates 12 pregnant women.

* Figure likely to underrepresent the true number of funded CBE courses since some data are missing on the number of courses run by one or more funded providers.

The Ministry of Health Service Coverage Schedule (2004) indicates an expectation of CBE services being available free of charge to 30 percent of all pregnant women each year. Table 10 can be used to determine the DHB regions where this target is not being met. There were 10 DHB regions that did not fund enough CBE places to cover 30 percent of all their pregnant women: Northland, Waitemata, Auckland, Counties Manukau, Waikato, MidCentral, Wanganui, Capital and Coast, Wairarapa and Nelson-Marlborough. Four of these DHBs (Northland, Waitemata, Capital and Coast and Nelson-Marlborough) did not fund enough CBE places to even cover 30 percent of their first-time mothers. Capital and Coast DHB region provided funded places for only about 10 percent of first-time mothers.

It is interesting to compare the availability of antenatal education (Table 10) with actual access rates (Table 9). One of the DHBs with a relatively low percentage of funded CBE places – Waikato – also had a relatively low access rate. It could be hypothesised that increasing the number of funded CBE positions in the Waikato region may help to improve access rates. Capital and Coast DHB had a small percentage of funded CBE positions but good access rates. This may reflect a more affluent population who are prepared to pay a fee to attend CBE in this region. Other regions, including Lakes and Southland, had a relatively high percentage of funded positions but relatively low access rates. It could be that the CBE courses in these areas are being run with fewer women per class, or that women in these areas are choosing other sources of information on childbirth and parenting. At least one DHB – Canterbury – had good availability of courses and good access rates.

In summary, there are large differences in the availability of funded CBE courses across New Zealand. DHBs funded enough CBE places for anywhere between 10 percent and 100 percent of their first-time pregnant women. However, the differences in availability of CBE across regions are not necessarily reflected in the access rates, so care should be taken not to assume that low access rates may automatically be improved with better availability of courses. Of course, not all pregnant women choose to participate in antenatal education, but on the basis of the percentage of primiparous women who participated in CBE in the current research (80 percent), for many regions there remains a discrepancy between the number of publicly funded CBE courses and the number of primigravidae who want to attend a course.

3.3.9 What are the demographics of women and families and whānau who access CBE and the best predictors of attendance?

Table 11 shows the demographics of women and families who participated in CBE versus those who did not participate in CBE. Chi-square tests were performed to consider the significance of the association between attendance at antenatal education and each demographic variable. As expected, the vast majority of women who participated in CBE were primiparous (95.1 percent) and were married or in de facto relationships (92.6 percent). Participants were significantly more likely than non-participants to have a tertiary degree (one to four years), to be of New Zealand European ethnicity and to be earning $70,000 per year or more. Both Māori and Pacific peoples were under-represented amongst women who attended antenatal education. Only 10 percent of CBE participants were of Māori ethnicity and a much lower percentage were of Pacific ethnicity. Of the four refugee women from Africa who were interviewed individually, none had attended CBE, nor had their LMC suggested they attend. Participants were also less likely to be single than non-participants, although this did not reach significance.

These findings are consistent with other studies showing that women who attend classes are more likely to be first-time mothers, more educated, of higher socio-economic status and less likely to be of Māori or Pacific ethnicity or single compared with women who do not attend classes.[14, 21, 22] Interestingly, participants were significantly younger than non-participants, a finding contrary to previous research.[22] In any case, the difference in ages was small (30.4 vs 31.6 years) and probably not important.

TABLE 11. Demographic characteristics of women and families and whānau who accessed CBE and those who did not access CBE (N = 878)

DHB	Participated in CBE (n = 364)		Did not participate in CBE (n = 514)		P value
	%	n	%	n	Chi-square[1]
Parity					<.001
Primiparous	95.1	346	16.7	86	
Multiparous	4.9	18	83.3	428	
Not answered	0.0	0	0.0	0	
Family structure					.141
Married	66.8	243	63.2	325	
De facto	25.8	94	24.5	126	
Single	2.2	8	4.7	24	
Stepfamily – married	0.5	2	0.8	4	
Stepfamily – de facto	0.3	1	1.6	8	
Other	2.7	10	3.7	19	
Not answered	1.6	6	1.6	8	
Highest educational qualification					.001
No qualifications	4.4	16	11.3	58	
Fifth Form Certificate	9.3	34	12.1	62	
Sixth Form Certificate	12.1	44	16.3	84	
NZ Higher School Certificate	10.7	39	10.7	55	
Tertiary degree (1–4 years)	53.3	194	42.4	218	
Master's/doctorate	6.6	24	5.8	30	
Not answered	3.6	13	1.4	7	
Ethic group					.022
New Zealand European	74.7	272	65.6	337	
Māori	9.9	36	17.1	88	
Samoan	0.3	1	1.0	5	
Cook Island Māori	0.3	1	1.0	5	
Tongan	0.0	0	0.6	3	
Niuean	0.0	0	0.6	3	
Chinese	2.5	9	2.7	14	
Indian	1.9	7	1.8	9	
Other	9.6	35	9.3	48	
Not answered	0.8	3	0.4	2	
Total household income per year before tax					<.001
Under $15,000	1.1	4	3.5	18	
$15,001 to $20,000	1.4	5	4.3	22	
$20,001 to $25,000	1.1	4	2.9	15	
$25,001 to $30,000	3.0	11	5.3	27	
$30,001 to $35,000	3.0	11	6.8	35	
$35,001 to $40,000	7.1	26	6.0	31	
$40,001 to $50,000	11.0	40	10.5	54	
$50,001 to $60,000	11.0	40	8.6	44	
$60,001 to $70,000	9.6	35	15.0	77	
$70,001 to $100,000	22.0	80	15.4	79	
$100,001 or more	20.9	76	16.0	82	
Not answered	8.8	32	5.8	30	
	Mean (n = 330)	**SD**	**Mean (n = 472)**	**SD**	**ANOVA**
Age (N = 802)	30.37	5.64	31.57	6.00	F = 6.82; p = .009

[1] Pearson chi-square.

Further analyses were conducted to determine the best predictors of attendance at antenatal education. Logistic regression modelling was used to control for potential confounding variables. For this analysis, the DV was attendance at antenatal education (yes/no) and the IVs were all the demographics from above (mother's parity, family structure, education level, ethnicity, income and age) as well as two additional variables: whether the LMC had suggested that the mother attend antenatal classes; and DHB region.

Table 12 shows the results from the multivariable logistic regression analysis. Variables with ORs greater than one indicate demographics or events that, in comparison with the referent, increase the likelihood of attendance at antenatal education. Variables with ORs less than one represent demographics or events that, relevant to the referent, decrease the likelihood of attendance at antenatal education. There can be more confidence in the predictive power of a variable when the CI for its OR is narrow and does not span one.

Consistent with the results in Table 11, the strongest predictor of attendance at antenatal education was the mother's parity (OR = 145.60, CI = 46.42–456.72). The odds of attending antenatal education were 146 times higher for women having their first babies than for women having their second or subsequent babies. Although the CI was very wide, the lower limit (46) was much higher than one, suggesting a strong predictive relationship between parity and attendance at CBE. The second strongest predictor of attendance at CBE was the LMC suggesting the mother attend (OR = 20.74, CI = 5.87–73.31). The odds of attending antenatal education were 21 times higher for women whose LMC had suggested they attend CBE than for women whose LMC had not.

Two other significant predictors of attendance at antenatal education were family structure and DHB. Specifically, families with non-traditional structures (marked 'other'), were significantly less likely to attend antenatal education than married (two-parent) families (OR = 0.08, CI = 0.01–0.81), and families living in Southland were significantly less likely to attend antenatal education than families living in Auckland (OR = 0.13, CI = 0.02–0.85). Two other variables approached, but did not reach, statistical significance: ethnicity and household income. The odds of Māori women attending antenatal education were lower than New Zealand European women attending (OR = 0.35, CI = 0.11–1.05). Families earning between $70,001 and $100,000 per year had greater odds of attending antenatal education than families earning below $15,000 per year (OR = 8.16, CI = 0.74–90.20).

In contrast to the findings presented in Table 11 where the effects of all the variables were controlled for, age and educational qualifications were not significant predictors of attendance, whereas family structure became a significant predictor. These findings suggest that age and educational qualifications may only be associated with attendance at antenatal education because of their association with other variables that predict attendance, such as parity, ethnicity or household income. Family structure, on the other hand, may have emerged as a significant predictor because of the relative discrepancy in the likelihood of families from non-traditional structures accessing antenatal education compared with married couples. Alternatively, the first chi-square analysis may have been under-powered because of small numbers in some cells.

TABLE 12. Logistic regression analysis to determine the best predictors of attendance at antenatal education (N = 561)

Variables[1]	P value	Odds ratio	95% CI[2] for odds ratio	
			Lower	Upper
Mother's parity				
Multiparous (referent)				
Primiparous	<.001	145.60	46.42	456.72
Family structure				
Married (referent)				
De facto	.481	0.69	0.25	1.92
Single	.817	0.76	0.07	8.05
Stepfamily – married	.614	0.29	0.00	34.52
Stepfamily – de facto	.469	0.31	0.01	7.48
Other	.033	0.08	0.01	0.81
Highest educational qualification				
No qualifications (referent)				
Fifth Form Certificate	.664	1.46	0.26	8.15
Sixth Form Certificate	.208	2.82	0.56	14.20
NZ Higher School Certificate	.130	4.10	0.66	25.47
Tertiary degree	.360	2.04	0.44	9.35
Master's/doctorate	.283	3.16	0.39	25.72
Ethic group				
New Zealand European (referent)				
Māori	.061	0.35	0.11	1.05
Samoan	.603	2.90	0.05	161.77
Cook Island Māori	.345	6.48	0.13	312.68
Tongan	-	-	-	-[4]
Niuean	-	-	-	-[4]
Chinese	.463	0.42	0.04	4.23
Indian	.147	0.16	0.01	1.92
Other	.107	0.35	0.10	1.25
Total household income per year before tax				
Under $15,000 (referent)				
$15,001 to $20,000	.603	2.16	0.12	39.48
$20,001 to $25,000	.996	1.01	0.04	22.88
$25,001 to $30,000	.772	1.46	0.12	18.46
$30,001 to $35,000	.389	0.33	0.03	4.19
$35,001 to $40,000	.228	5.42	0.35	84.72
$40,001 to $50,000	.419	2.69	0.24	29.72
$50,001 to $60,000	.271	4.00	0.34	47.07
$60,001 to $70,000	.815	1.34	0.11	16.07
$70,001 to $100,000	.087	8.16	0.74	90.20
$100,001 or more	.256	4.16	0.36	48.60
Age[3]	.145	1.06	0.98	1.16
LMC suggest mother attend CBE				
No (referent)				
Yes	<.001	20.74	5.87	73.31
Don't know	.676	0.51	0.02	11.67
DHB				
Auckland (referent)				
Northland	.345	2.86	0.32	25.01
Waitemata	.798	1.34	0.15	12.35
Counties Manukau	.826	1.30	0.13	13.37
Bay of Plenty	.898	1.13	0.18	6.90
Waikato	.468	0.54	0.10	2.88
Tairawhiti	.611	4.31	0.02	1,194.07[4]
Taranaki	.272	0.26	0.02	2.92
Lakes	.753	1.52	0.11	20.61
Hawkes Bay	.157	7.42	0.46	118.81
MidCentral	.267	3.43	0.39	30.20
Wanganui	.552	2.71	0.10	71.71
Capital and Coast	.126	3.80	0.69	20.94
Hutt Valley	.553	0.27	0.00	20.31
Wairarapa	-	-	-	-[4]
Nelson-Marlborough	.701	0.55	0.03	11.63
Canterbury	.986	0.99	0.20	4.94
South Canterbury	.682	1.66	0.15	18.87
West Coast	-	-	-	-[4]
Otago	.211	5.07	0.40	64.46
Southland	.033	0.13	0.02	0.85

[1] The estimates for each variable are adjusted for the effects of all other IVs in the equation.

[2] Confidence interval.

[3] Age is a continuous variable, so has no referent.

[4] Cell sizes too small to calculate meaningful result.

Women who did not participate in CBE were asked to indicate the reason for their non-attendance. Table 13 shows the percentage of women who indicated each possible response on the survey. The most common reason given for not attending CBE was that classes had been attended during an earlier pregnancy (60.5 percent of responses). The next most common reason was that information had been obtained from other sources (30.0 percent of responses).

TABLE 13. Percentage of women who circled each reason for not attending CBE (N = 514)[a]

Reason for not attending CBE		%	(n)
a.	I did not know about these classes	2.7	14
b.	I was aware of these classes but they are not available in my area	2.5	13
c.	The classes cost too much	1.6	8
d.	I attended CBE or antenatal classes during an earlier pregnancy	60.5	311
e.	I did not think CBE or antenatal classes would be helpful or useful	7.4	38
f.	I obtained the information I wanted from other sources (eg, LMC, family/whānau, books, internet)	30.0	154
g.	Other	13.8	71

[a] Total N in Table 13 adds up to more than 514 because participants could circle more than one answer for this question.

Other New Zealand research has been conducted to investigate reasons why women do not attend antenatal education. Ora Toa Health Unit in Wellington recently undertook a survey of 30 Māori women. The most common reasons given by Māori women for not attending antenatal education were:

> venue not appropriate
> the style of delivery of the facilitator (how the facilitator comes across)
> poor relationship between midwife and mother (so CBE options not given)
> never knew antenatal classes were available
> lack of transport
> single parent so felt they would not fit into the group.

In summary, women and families and whānau who attend antenatal education are different from those who do not attend. In general, women who attend are more likely than non-attenders to be primigravidae, of New Zealand European ethnicity, tertiary educated and on higher family incomes. When the effects of all demographic variables are controlled for, primiparity still emerged as an important predictor of attendance, along with whether the woman's LMC suggested she attend CBE. The woman's DHB and family structure also predicted attendance. Improving women's access to CBE will require providers to make CBE more attractive to those groups who are currently less likely to attend, improve the availability of CBE in some regions and address some of the reasons for non-attendance. A large proportion of women and families not attending prefer to get their information from other sources. At the same time, access to pregnancy and parenting education services improves when there is both a Māori and a mainstream provider in the region.[2]

3.3.10 Does CBE prepare parents emotionally to have children?

The survey of women included the following question: "do you feel emotionally ready to have this child?" Women could circle an answer from 1 ('not at all') through to 5 ('completely') (see Question 11 on the brief questionnaire for women, Appendix 1). The mean response for primiparous women who had completed CBE was 4.41 (SD = 0.74) and for primiparous women who had not participated in CBE it was 4.23 (SD = 0.88). The difference between the two means approached, but did not reach, significance ($p = .061$), suggesting that differences in emotional preparation between women who did and did not participate in CBE were marginal.

The extent of emotional preparation afforded by CBE was more closely investigated by examining the percentage of participants and non-participants who had circled 1 (not at all ready) through to 5 (completely ready) on this question. Results are presented in Table 14.

TABLE 14. Percentage of primiparous CBE attenders and non-attenders who circled each response for Question 11 – "do you feel emotionally ready to have this child?"

Answer circled	Attended CBE		Did not attend CBE	
	%	(n)	%	(n)
1 - Not at all	0.0	0	2.3	2
2	1.8	6	0.0	0
3	10.0	34	15.1	13
4	33.9	115	37.2	32
5 - Completely	54.3	184	45.3	39

The chi-square for this analysis was significant ($p = .015$), because primiparous women who attended CBE were more likely than non-attenders to circle 5 (indicating they felt completely ready to have their child). The percentage of primiparous women who reported that they did not feel emotionally prepared (circled 1 or 2 for Question 11) was slightly higher for women who had not participated in CBE (2.3 percent) compared with women who had participated (1.8 percent), but the number of women circling these responses was too low to infer any meaningful difference between groups. The low numbers of women circling 1 or 2 also suggests that, on the whole, participants felt at least some degree of emotional preparedness to have their child, regardless of whether they had completed CBE.

The finding that primiparous women who attended CBE were more likely to feel completely emotionally ready to have their child than non-attenders is a positive one for CBE providers, but it does not prove a causal relationship between participation in CBE and women's emotional preparation. This finding may simply reflect differences in the types of women who choose to attend antenatal education compared with those who do not attend.

Two other questions on the brief questionnaire were relevant. Women who had participated in CBE were asked to rate the extent to which participation in the classes had helped them prepare for the birthing experience (Question 8) and the extent to which participation had improved their confidence and ability to be a good parent (Question 9). The results are presented below in Figure 1 and Figure 2.

FIGURE 1. Women's responses to Question 8 "To what extent did your attendance at CBE classes help prepare you for the birthing experience?"

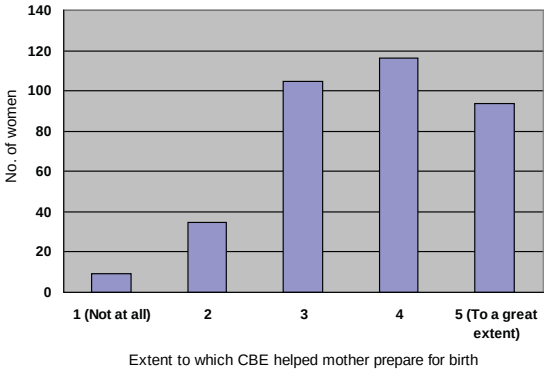
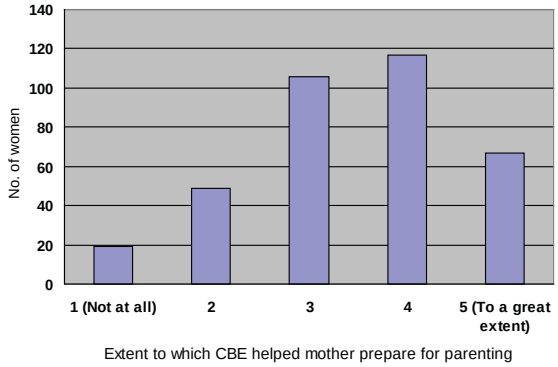


FIGURE 2. Women's responses to Question 9 "To what extent did your attendance at CBE classes improve your confidence and ability to be a good parent for this baby?"



The mean response for Question 8 was 3.70 (SD = 1.04), and 58 percent of women who had completed CBE circled 4 or 5 for this question. The mean response for Question 9 was 3.46 (SD = 1.10), and 51 percent of women circled 4 or 5. Women were more likely to respond that CBE had helped them prepare to a great extent for childbirth rather than for parenting. Importantly, 12 percent of women who participated responded that classes had not helped them prepare for the birth experience (circled 1 or 2 for Question 8) and 19 percent responded that classes had not helped them prepare for parenting (circled 1 or 2 for Question 9).

On the whole, focus group results were more consistent with the idea that CBE does not help parents to prepare

emotionally to have children, although a number of women did acknowledge that it had helped them.

> I found the classes helpful, they helped me, I think they helped me emotionally prepare a little. They can't prepare you for the hormones and the ups and downs but you know, the antenatal class I went to the lady was very good ... she wasn't Einstein but she got the information across ... she said basically if ... the first however many weeks: have very low expectations, you won't be able to have any control over things, you'll just be feeding and trying to sleep, but when you are told that and you accept that it's just gonna be mayhem, then you're gonna be better prepared than if you have no information whatsoever.

> …one of the sessions that I found really useful in our antenatal class was a discussion about ... things that you might not expect and it was to do with the late pregnancy and the birth and afterwards as well. Some of the things that people put on that list. We were kind of asked to come up with a list and then we discussed them. They went from everything like mum and baby dying to having to bottle feed when you had hoped to breastfeed, having a caesarean when you had hoped to have a natural birth. All of those kind of things that kind of went against. I did actually, when you were talking before about emotional preparation, I found that session actually really good. I was quite fortunate that none of the things down that far end happened, but in some ways acknowledging that things do go differently to how you…

> We had a really good teacher at antenatal and she just kept on saying every now and then and she would use her own children as an example, or her own experiences with her own children as an example, just kept on backing up these ideals and everything but it could all go out the window and be prepared to adjust.

> Yeah, I think it's to do with the way the whole thing is presented really because obviously that's going to affect emotions. I just felt really emotional actually during them. I thought God, I haven't been a tearful person and suddenly here I am feeling like wanting to cry every night. It was kind of embarrassing really. I don't know, something about the way it was presented.

> Yes, classes can help you to understand what is going on and this helps you to prepare emotionally.

Comments from two women who were interviewed individually suggested that CBE could have prepared them better to cope with difficult emotions they experienced relating to a previous miscarriage and a traumatic birth.

> It was a difficult time. I was trying to be happy but couldn't focus on anything but the loss. I just cried and cried and cried for three hours. It wouldn't have been inappropriate to help prepare women better for these emotions in CBE class.

> We had no opportunities [during CBE] to think about how you would feel emotionally with a difficult trauma during birth. I had an emergency caesarean; my partner was excluded from the room and wasn't even told when the babies [twins] were born. They were taken to the neonatal room and all hooked up to wires before he was told. We were told that the babies would not be taken anywhere without one parent being there, but the reality is different from the ideal. During the class we talked about the technical aspects of caesareans but not about how you would cope if it happened to you. There was nothing about the emotional side.

Other comments from women suggested that emotional preparation was an ambitious aim to achieve in a group context and that it might be better achieved by one-to-one contact with the midwife.

> I almost think that's probably more the midwife. We talked about expectations and that sort of thing with her and because it is quite an intimate thing. It's hard enough you and your partner dealing with your baggage and everything else that might come out when you do something that gets to that point. And yeah, the midwife probably dealt with that a little more for us...

> I mean the class might have planted the odd seed that you talked about on the drive home. But it wasn't really the forum to get too deep-in emotional.

> I think some people find it easy because they just like to talk and share everything ... they're very open. Other people aren't as open. It'll take a lot more for that trust and sort of sharing personal information, especially the time when you don't

know if your coffee group is going to continue. Why should you share all this personal information? So I think it's probably quite hard.

The CBE class helped a bit but my midwife helped more with the emotional preparation.

Most commonly, though, women's responses suggested that CBE does not prepare parents emotionally to have children, and that, in fact, nothing can.

Like if somebody told me this is what it's going to be like, I'd go yeah, yeah, yeah, whatever.

…at the moment I work harder than I used to work in that job and, you know, [baby's name] is not able to say thank you for anything I do and so you're not getting that feedback that you're used to getting, but um, and I think some of that's quite hard for people. I found it quite hard being at home by myself all day without contact but I don't think, I don't think anyone would believe you when you actually say that…

Nothing, frankly, nothing. Because it's such a transition…

We got home and nothing could have prepared us for that, because we weren't even, we knew it was going to be mayhem in a way but we didn't know that we wouldn't sleep for 36 hours. We didn't sleep for 36 hours, I think I got a 10-minute catnap at one point and you're dealing with the postnatal pain, so you're dealing with a Caesar, or whatever, um, your boobs are gushing, you're still bleeding, you know, you're doing all this stuff, and you've got these amazing little things that you just hopefully totally adore and want to do everything for and they won't shut up. So you can't do anything, you know. That's why I guess, that's why even though they said it was going to be mayhem, and I've remembered now but I hadn't before, nothing can prepare you for that really, not really...

I was totally emotionally unprepared. I was like most people. I don't know, probably looking back now, like now I've got two children, it took me a lot longer to bond with my first baby compared to my second. I just found the whole process more difficult in terms of milk coming in, the baby blues were worse, and the second time around things just seemed to go better because I knew what to expect.

Practical coping wasn't it, not so much emotional.

A couple of weeks [length of time after birth that CBE classes help you to practically prepare for]. But the practical things you could learn before. I guess it's kind of hard now to think, could we have learnt what we think we needed to know beforehand to cope afterwards ? Like it wouldn't have actually gone in.

I think there's actually quite a lot of maybe patronising information out there and I think, I probably got told a billion times when I was pregnant 'nothing will prepare you', and I think that's probably reasonably accurate. I mean you, everyone here obviously went to a course and probably read things or watched videos or whatever and um, you can pick up some knowledge but I mean the application of that knowledge or what it's actually like to ... be pleasant to someone when you've been up three or four times in the night and it actually took you an hour to feed the baby ten minutes on each side, um, yeah, or you know it just, I don't think you can actually do it, and I helped out in one of tots and toddlers course teaching, trying to explain to some high school kids what it's like to have a baby and they absolutely looked aghast when I said [baby's name]'s breastfed so I can't be more than three hours away from the baby.

These comments highlight the life-changing nature of having children and the challenge in emotionally preparing for such a transition. When making a judgement about the effectiveness of CBE in helping parents to emotionally prepare, it is important to acknowledge the many factors that influence parents' emotional preparedness to have children. For example, it is likely that the social support that women unanimously named as an important benefit of participation in CBE is conducive to promoting parents' sense of emotional preparedness.

It should also be noted that all women completing questionnaires and the majority of women who participated in focus groups had already had their baby. Comments from parents on how well prepared they are to have children are generally more positive if they are asked immediately after the antenatal programme, compared with after the birth.[23]

Gager et al conclude that the vast majority of mothers and fathers are prepared for their new responsibilities

as parents.[24] However, as in this study, they found that a small percentage of parents felt unprepared for the role. There are many factors that influence parents' emotional preparation for parenthood; antenatal classes may be one factor. There are many benefits that parents derive from CBE, as outlined in Section 5.3.5, that could contribute to their overall emotional preparation.

3.3.11 What decisions do parents make before their child is born about how they will consciously parent their child and what services are available to facilitate this process?

Focus group participants were asked to think about whether they had made any decisions before their child was born concerning how they would consciously parent their child. There was a great deal of discussion about this topic, and most of the responses suggested that women do think about their parenting role and make many related decisions before the baby is born.

> ...definitely, now that I'm on maternity leave and it's sort of getting closer, definitely thinking about it. But I'm trying to be realistic. I know quite a few people with babies and things just don't really go to plan. So sort of not trying to be too this way.
>
> But I think most people who are going to have children have usually talked about their parenting philosophies themselves years before they might even have children, or depending on when they've got together, and I can think of lots of things that we've sort of decided to do that we decided before we'd even really thought about having children, years ago.
>
> Yes, and I got pregnant so easy so it was a surprise and I was worried about having this extra person take over my life and I thought well, that's not fair. So I've in my mind, it's like as much care and love and all the things that she needs, that's fine, I accept that, but she's joining my family. Like [partner's name] and I are already a family, the two of us, and she's joining in so she has to fit in.
>
> …Yes, but thinking about a good environment, I had to raise them, my sons. Lots of things I think about, because this is my first-born so everything I needed for him is the best thing before the second son came along. So I had to share.
>
> …I had very strict rules about who I wanted there in the early days as well because I was… I really wanted the three of us to bond as a new family and I knew it would be hard.
>
> I knew that she needed instruction, caring, teaching about good and bad.

Some comments implied that women who had previous experience with babies were likely to have already thought about how they would parent their own children.

> My Mum and Dad went to work during the day, and after school it was my duty to look after [my baby brother] while my aunty that looked after him during the day had to go to work.
>
> Well I actually had two-step kids before I was pregnant and I was like the mother already with them because I brought them up. They were young. She's practically been in my life.

Many comments revealed the specific types of decisions parents made before the birth.

> …I think the other thing was also just we often sort of made plans, but we really kept reviewing them a lot. So we made a plan but didn't feel … tried really hard to not … we planned about everything right from the birth to how we were going to feed, to how we were going to deal with someone going back to work, to all sorts of different things. Who was going to get up at night. All those kinds of things.
>
> I'm going to give her all the options. She needs to learn music when she is young because I didn't have that and he will say, but we're not going to force her because I got forced.
>
> The first thing that comes into it, how are you going to parent, I think from the very early days you get countless advice on our kids. How you let your baby sleep and you can let it cry. We, from day one were like, there's no need to let her cry. If she wants to cuddle I'm going to cuddle her.
>
> I knew I definitely wanted to be a stay-at-home mum. I wanted my child to be able to count on the fact that Mum or Dad would be there.
>
> The bond with my child is more important than the housework. It will be important to spend time with my child.

Parents had thought about wanting to be good role models for their children.

> At the time, I just think I had to make a good example and that the baby like me or like his father.
>
> Yeah, I guess for us there was a lot around the role of the father because he didn't know his father for quite a long time. So, yeah, what, how he would do that, having not had the role model to do it, and what, and how painful that was and things like that.

One of the most common themes to emerge was that parents planned to do things differently from their own parents.

> …But also on that, my husband, because he's had a more challenging childhood and he had a huge goal that we were going to create quite a different environment than that to what he came from, and that was definitely something that we spoke quite a lot about. And I don't think that was brought up so much at antenatal. It was the joy of finding how to be parents and what we wanted to do around that.
>
> …I think we did the same. [Partner's name] was very much the same and so we talked a lot about how, what we wouldn't do.
>
> I think things like that we've seen over the years, like our parents used to smack us physically. So I thought, oh no, that's never going to happen to my baby, and a lot it's going to be verbal discipline and just the different techniques we will use…
>
> To me at six months, reality kind of hits. Like my husband and I have always thought about, there is always going to be lots of love, caring, that sort of thing. The things that we weren't going to do were things that our families did to us when we were little. And his family is very dysfunctional and he sort of doesn't really want to do much of the Indian way that they did. They were quite a dysfunctional family. My family didn't show much love, so I just wanted to…
>
> I want to raise my child differently from how I was brought up. Education was not offered to me, but I will support my child to get an education.

It was also common for women to report having thought about how they wanted to parent, but then not adhering to these decisions after the baby was born.

> And one thing, like I had quite strong views of what I would and wouldn't do as a parent before I had a baby and I pretty much have done the complete opposite. So it was just like things like the baby will be in their own room and neither of them have been, and just, you know, things like that. But what I found more challenging is having an older child. I think babies are easier in lots of ways. An older child are the ones that really start pushing boundaries.
>
> Every time [participant 1]. And you get it all wrong [participant 2].
>
> I used to look at others, like my sister-in-law, the way she brought up her kids and I don't like that way or I don't think I'll do that when I'm a parent, and I used to really look. I think I judged people and thought no, that's a really bad way, I'm not going to do that. But it's all rubbish, you do it.
>
> Well I think we all have nice ideas and you read all the books, and it's sort of like, I'll never give my baby a dummy, I'm never gonna have them in bed with me and, it's just different, you kinda think you can, because every child's different.
>
> Yes, I made decisions, but they changed after the baby was born.

Some parents made specific reference to resources such as books or television shows that had helped them to make parenting decisions.

> We would watch ['bad kid' shows] and then we would kind of use that as a starting point. Like how did they get to that point? What were the parents doing? How could it go so wrong? What do you think discipline should be and what would you do if your kid did this and that? So we kind of had discussions around it and compared.
>
> What to expect in those first days I think is quite tricky too and that because we, like I have read all the books, every book, about the sleep plans, feeding levels and whatever else. We were like, we had kind of decided what we wanted our approach to be and we did do it.
>
> I read a book, 'Becoming Baby-wise'. It covered leaving the baby to cry so they learn to sleep. I found it not as simple as in the book.

> We watched 'Super Nanny' on TV and talked about what we thought would be a good idea.

Some women commented on how CBE had influenced their thinking about parenting.

> I think for me that it didn't happen sort of as straightforward as how you've just described it, but I think the confidence I got as a result of going to the classes meant that we could easily establish an emotional connection with [baby's name] because that was, we felt confident, so it just, yeah, eliminated a whole lot of barriers and we could just concentrate on falling in love with him, kind of thing.

> I think the process, there's something about the process that you go through, the nights where you go home excited because of something or because you've seen a real baby being born or the nights you go home going, 'oh my God', and that process method of learning, and again it's the together thing. I'm sorry for people who are on their own, but going through that together and talking through it together…

> Classes are an opportunity to pick up handy hints, if nothing else.

Collectively, these themes suggest that many women prepare and plan much for parenthood before the birth, regardless of outcomes. However, it was acknowledged that there might be less preparation for women who were younger or who were from more disadvantaged socio-economic circumstances.

> I'm assuming it would be somewhat different if everyone had accidental pregnancies and their relationships weren't secure.

> Or teenagers. But yeah, whereas, I like, we tried for a hell of a long time to get him and so yeah, we were well prepared.

At the same time, some women reported that they did not put a lot of thought into how they would parent their child. There were many reasons for this. Some women's responses suggested that they just took things as they came.

> I just kind of deal with it as it comes, kind of thing really.

> I guess you haven't really talked about it as what sort of parents we were going to be, that kind of question. But just more or less dealt with things as we've needed to, like we got the sleep video, watched that together and decided what we were going to do to get that going right.

> I just want some time with him.

A couple of responses implied that they had just copied their parents' parenting style without thinking too much about their own parenting role.

> I did, with my parents I could go until Sunday and come home wasted and my parents would say 'oh yes she's still got a pulse', so that's what I say to my son now, you've still got a pulse. This one here [new baby], my husband puts his foot down. I can't go out as much as what I used to, you know…

Some women were more focused on the birth than the parenting afterwards.

> What's going to be your philosophy for parenting or whatever, because I think what [participant's name] said is that you are focused on the birth and that's what you need to be focused on.

> I think beforehand you're really focused on the birth as well. I mean you sort of, you know there is going to be an after, but when you're pregnant that's, you kinda can't get past that bit.

In summary, comments from the focus groups suggested that many people make decisions about what they will be like as parents before their child is born. Parents make decisions about loving their child, setting limits, how they will discipline, how they want their child to feed or sleep, whether to let their infant cry, how they will establish an emotional bond with their child, what they will or will not do with their child, whether to do things differently or the same way as their parents, creating a good environment for their child, being a good role model for their child, working as a team with their partner, who will get up at night, how to deal with going back to work and what activities they want to involve their child in. Undoubtedly, parents make many other decisions not listed here. Some parents, however, thought much less before the birth about how they would go about parenting their child, and many parents who did make conscious decisions before the birth did not keep to these decisions after the baby was born. Many parents recognised the need for being realistic and flexible.

It is clear that CBE can influence some women's decisions about parenting, but as with the process of emotional preparation, there are many factors that determine both parenting decisions before the baby is born and the subsequent parenting style after the birth. Antenatal education, LMCs, books, television shows, friends and family were all viewed as potentially useful resources in planning how to be a parent before the birth.

3.3.12 The Revised Section 88 Maternity Notice describes the obligations of LMCs and specifies parents' entitlements to maternity services. To what extent are parents aware of these entitlements?

It was of particular interest to find out if women were aware of the following entitlements (specified in the Section 88 Maternity Notice):

- free LMC care (if provided by a midwife or GP)
- free LMC postnatal visits to care for the mother and baby up until six weeks after the birth. Women are entitled to receive a daily LMC visit while still in postnatal inpatient care and between five and 10 home visits by a midwife (and more if clinically needed), including one home visit within 24 hours of discharge from a maternity facility
- phone advice and community or hospital-based assessment for urgent problems available from LMC 24 hours a day, seven days a week
- free urgent normal and out-of-hours pregnancy care from a GP, midwife, or obstetrician, other than the woman's LMC, if the woman has already tried unsuccessfully to access her LMC (where she is registered with one) or her enrolling PHO practice (where she is in the first trimester)
- access to appropriate information on topics such as immunisation, screening tests, the availability of paid parental leave, maternity services entitlements and the maternity services available (such as pregnancy and parenting education)
- the hospital stay after giving birth. If a birth has occurred in a maternity facility, the LMC, in discussion with the woman and the maternity facility, must determine when the woman is clinically ready for discharge
- free Well Child services (by a Well Child provider) after handover from LMC
- postnatal contacts from Well Child services. Women are entitled to eight core contacts (initially in the home) over the first five years of their child's life (as outlined in the *Well Child – Tamariki Ora National Schedule).*[10]

When focus group participants were asked if they were aware of their entitlements to maternity services, initial responses were mostly negative.

> No, I have no idea [what my entitlements are].

> The first time around, I was not aware of anything. I paid for every GP visit.

> No-one told me what I was entitled to. I went through an obstetrician.

When women were then given specific examples of entitlements, they did indicate awareness of some. In particular, most women were aware of their entitlement to free antenatal LMC care or if they weren't aware, usually found out at their first GP visit to confirm the pregnancy. Some women reported that their midwife had explained that visits would start off monthly, move to fortnightly, and then end up being weekly as the pregnancy progressed.

> Yes, I found out [about LMC care] with this one.

> I wasn't, I think maybe because I'm British I had no idea about the system so I just did what I would do in Britain, which was toddle along to the GP and then she said 'Oh, here's your pack you need to go find a midwife' and then, um, I still don't quite understand the system about people with specialists, um, it's still just a bit of a murky area to me and I came out ok in the end but I find the whole system very confusing.

Women's responses suggested that they viewed receiving appropriate information as an expectation rather than an 'entitlement'. They reported having many discussions with their midwives and other practitioners about relevant information, such as Vitamin K injections and the pros and cons of different pain-relief options.

> Yeah. I found that our midwife covered those fairly well as they came up. 'Now we need to consider this and next week you can make a decision. I'll give you the information now that will tell you about it.' I think she did really well.

> I think the information was empowering actually too. That sounds similar to our experience and because we were constantly being informed by the midwife and she knew from halfway through we started talking about what sort of birth we hoped we could have and what pain relief we'd want. So, it wasn't that these decisions came because you were getting scared. These decisions were coming when you were more in your informed kind of phase and that meant that she could kind of help you stick to what you really wanted, not what your pregnant crazy brain wanted.
>
> We were very strongly made aware of the optional entitlement to not have your baby given things like the Vitamin K injection, or to actually have to consent…
>
> To a couple of those things which happen very soon after the birth and people at antenatal classes and the midwife and the obstetrician were all really keen that we read the information and that we were fully aware of disadvantages and advantages of saying yes or no and making fully informed decisions.

Some women had made special efforts to find out about leave entitlements, including paid parental leave and extra unpaid leave, typically finding out about such entitlements through human resources websites or staff.

> I went on the website to find out with respect to work and the leave entitlement and stuff. I went to, I think I might have Googled it and got the right government department that way, the right website. That was quite easy…
>
> I thought about entitlements related to work. I found out about the parental payment scheme.

Many women were also aware that at some point after the baby is born, they are entitled to care by a Well Child service. One woman reported that she had found out about the number of Well Child home visits that would occur through the Well Child (Plunket) booklet.

> We just got told that after six weeks we change from midwife to Plunket, Well Child ... and one of the Plunket nurses actually came a bit before six weeks and sort of took details and things down…
>
> I didn't really know until I looked in the Well Child book, the Plunket book and I just phoned her and I knew how many visits they were going to do.

In general, though, women were not aware of any of the detail associated with entitlements. For example, women were asked whether they knew how long they were allowed to stay in hospital. One woman's response suggested she was aware of the entitlement, but most women did not know. Women offered different opinions on the length of time they should be entitled to stay in hospital.

> You can stay for as long as it's clinically necessary and breastfeeding is established and breastfeeding is a clinical necessity, so…
>
> …I still don't know what you're actually entitled to in terms of staying in hospital. Someone had said to me, no you're actually legally entitled to 14 days. They can't officially kick you out but I don't know anyone that's younger than my Mum's generation who has been there that long.

Other women commented that the length of hospital stay was related to how busy the hospital was, with pressure being put on some women to leave to free up beds. Others felt that it depended on whether they had their own room, and that women who had to share a room with other women and their babies were much more likely to want to go home.

While women were vaguely aware of their entitlements to postnatal LMC and Well Child care, they were not aware of the particular number of midwife or Well Child home visits to which they are entitled.

> It's not written down anywhere for people to find out, I only knew cause I'd read the contract, not many people do that.
>
> There's something else we weren't told in my antenatal classes, that when you, after you've given birth your midwife will see you for six weeks then you'll be referred to Plunket and you're with them for five years or whatever and no-one actually said this is what's available.
>
> Yeah well my midwife just, you know, turned up and then she'd come and say 'I'll be back in a couple of days' and then all of a sudden it was, you know, a week and one of my friends used the same midwife and she said, you know, she was around every day, and so I had no idea how much [home visits entitled to]...

There were exceptions, however, with some women reporting that they knew how many postnatal LMC

home visits they were entitled to because their midwife had told them.

> Our obstetrician had told us at the beginning of the process but that got repeated when the midwives came to us, postnatally they sort of kept letting us know.

Lack of knowledge about entitlements was highlighted as a particular barrier to health care for young women or women of different ethnic backgrounds who had not been in New Zealand very long.

> She knew [that she was pregnant] but she thought because she had come straight from Samoa that she had to pay to see a doctor and that she had to be working here. She was only 15 and she didn't know, she thought she'd get a hiding.

Many women felt strongly that entitlements should be made clearer.

> I think it needs to be laid out who, like, what your midwife is supposed to provide for you.

> Definitely information on what the midwife is supposed to be doing for you because when I changed to my second one at 33 weeks, the first time I saw her she said, 'Right, so has your first midwife talked to you about this?'. 'No.' 'Ok, well did you discuss this?'. 'No.' 'Has she given you this?' 'No.' And it was no to everything, there were all these things, about Vitamin K and, you know, all the decisions you need to make and, um, you know, I went for my scans but that's about all that happened when I was with the first one. It would be good to have some literature saying this is what will happen every time you go and see your midwife and then if it doesn't, you can say 'Why aren't you giving me urine tests?'

Women also had some suggestions for particular avenues through which entitlements could be made clearer, including brochures and pamphlets, books, internet sites, 0800 Healthline, advertisements on TV, GPs, midwives, antenatal classes, hospitals, schools and colleges.

> I picked up an excellent book called 'New Zealand Pregnancy Guide', by Sue Pullon. It was brilliant and very relevant to New Zealand.

In summary, women who participated in focus groups were usually aware of general entitlements such as free LMC care and access to appropriate information. However, they were unaware of specific details of entitlements such as the length of postnatal hospital stay or the number of LMC or Well Child home visits. Entitlements such as free LMC or non-LMC care for urgent problems were not raised by women in any of the focus groups.

3.4 Labour and birth

3.4.1 How long do women spend in hospital after giving birth?

In 2000, the average length of postnatal hospital stay was 1.96 days for normal vaginal delivery and 4.08 days for an uncomplicated caesarean section.[2] The average length of postnatal stay is longer for women who give birth in tertiary facilities compared with primary facilities. This is because the majority of women with complex conditions give birth in tertiary hospitals.[1] Table 15 shows the average length of postnatal stay by type of maternity facility over the last six years (data reported by the NZHIS).

TABLE 15. Average length of postnatal stay (in days) for mothers by type of facility and year

Year	Type of facility			Total
	Primary	Secondary	Tertiary	
1999	2.7	2.9	3.2	3.0
2000	2.7	2.8	3.0	2.9
2001	2.8	2.8	2.9	2.9
2002	2.8	2.7	2.9	2.8
2003	2.6	2.8	2.7	2.7
2004	2.7	2.7	2.6	2.6

These figures suggest that the total average length of postnatal stay has declined slightly since 1999. They are consistent with the latest *Maternity Services Consumer Satisfaction Survey*, which showed there was a significant increase in the percentage of women returning home within 12 hours of giving birth (from eight percent in 2002 to 14 percent in 2007).[14] Shortened postnatal stays are sometimes considered to be detrimental to breastfeeding rates, but research has demonstrated no difference in breastfeeding rates between mothers discharged from hospital at two or three days and

mothers discharged after five days, so long as sufficient home-based support is provided.[25] Irrespective of when they left hospital, 13 percent of women who completed the *Maternity Services Consumer Satisfaction Survey* reported not feeling ready to leave hospital.[14] When asked why they did not feel ready to leave, the women mentioned needing more rest, feeling unwell, breastfeeding issues, facility issues, the baby needing special care and medical reasons, as well as feeling pressured to leave.

3.5 Breastfeeding

3.5.1 What proportion of women have successfully established breastfeeding by the time they leave hospital?

New Zealand has a comparatively high rate of initiation of breastfeeding, with approximately 93 percent of women breastfeeding at discharge from hospital.[2] However, many women stop breastfeeding relatively early, with a much lower percentage exclusively breastfeeding at three months. The percentage of babies who are breastfed at two weeks of age is extracted from the MNIS and reported in the last two *Reports on Maternity* (for 2003 and 2004).[1] Table 16 presents these results.

TABLE 16. Percentage of babies breastfed at two weeks of age, by breastfeeding status and year

Year	Breastfeeding status[1]					Total
	Exclusively	Fully	Partially	Artificial	Unknown	
2003	53.8	13.2	9.9	9.0	14.1	100.0
2004	57.4	9.6	9.2	8.7	15.1	100.0

[1] *Exclusively breastfed* refers to babies who have never, to their mother's knowledge, had any water, formula or other liquid or solid food. *Fully breastfed* refers to babies who have taken breast milk only, no other liquids or solids except for a minimal amount of water or prescribed medicines, in the previous 48 hours.[1]

Data for breastfeeding rates for babies over five weeks of age are supplied by Plunket and available in the same report. Table 17 shows the percentage of babies who were fully breastfed at three months of age over the last few years.

TABLE 17. Percentage of babies exclusively or fully breastfed by age and year

Year	5-6 weeks %	3 months %	4-6 months %
2000	65.1	50.7	
2001	65.6	50.9	
2002	66.3	55.2	23.0
2003	67.4	54.8	23.1
2004	66.6	55.7	24.5

Examination of the figures in Tables 16 and 17 suggests that the rate of full breastfeeding at two weeks went down between 2003 and 2004, probably because the rate of exclusive breastfeeding went up. Between 2001 and 2002, there is an upwards trend in the percentage of babies still exclusively or fully breastfed at three months of age, but this trend has not obviously continued over subsequent years. Although it is not shown here, it should also be noted that Māori and Pacific women have lower rates of exclusive or full breastfeeding for any given age of the baby than New Zealand European women.

The apparent increase in early exclusive breastfeeding rates may be due to the Baby Friendly Hospital Initiative (BFHI). This is a joint UNICEF and WHO project aimed at increasing breastfeeding rates (particularly for exclusive breastfeeding) from birth. The New Zealand Breastfeeding Authority was contracted in 1999 by the then Health Funding Authority to establish the BFHI in New Zealand. The BFHI documents were launched in August 2000, followed by an audit of a third of maternity hospitals, funded by the Ministry of Health, in 2001. Current maternity service contracts require all facilities to work towards becoming BFHI accredited. Ongoing data collection will allow trends in breastfeeding rates to be monitored and help determine the long-term impact of the BFHI.

3.5.2 What resources are made available in hospital to help women successfully establish and maintain breastfeeding?

When key informants were asked this question, only one respondent named a particular resource. This key informant said there was only one 'official' resource:

Your Pregnancy, To Haputanga, which is published by the Ministry of Health.[26] This booklet contains information on being pregnant, labour and birth and what to expect after the birth, including small sections on breastfeeding and the benefits of breastfeeding.

Most comments from key informants revolved around the quantity and quality of breastfeeding resources made available to women in hospital. They were uniformly of the opinion that there was an adequate quantity of resources available (for example, in the form of pamphlets and support from nurses), but they were divided over the quality of these resources. Of the four key informants who made specific comments about the quality and quantity of resources, two suggested that the BFHI had made a difference.

> Well these days with BFHI, the resources around breastfeeding in hospitals are just much better. They are consistent; they are up-to-date; they're accurate, which is much better; 100 percent improvement.

The other two key informants had concerns over the quality of information and resources available. One suggested that women often feel intimidated by the system, and that nurses tell women they must breastfeed, but that women don't fully understand the reasons why exclusive breastfeeding is important. The same key informant expressed the opinion that women need to be better empowered and educated about the right questions to ask. The other key informant with concerns about quality expressed a worry that there was a huge range of resources but no central oversight of their quality.

> …I think there is a wide range. There is the stuff like Le Leche put out; most hospitals develop their own or else they just get them from different places. One of the issues around resources that concerns me is that a lot of groups just pull stuff off the net ad hoc and there is no overall overview … local leaders might put together a resource kit, but there doesn't seem to be any central oversight of what is in the resource kit as to whether the information that is going in is accurate or inaccurate or correct or misleading or whatever. So we end up getting a wide range of materials provided which may or may not be of any validity…

Women's comments suggested that, more often than not, support was available in the hospital to get breastfeeding going. They mentioned several different types of support they had received for breastfeeding while still in hospital.

(1) Advice from hospital staff or midwives about breastfeeding position.

> That was the first time but I still couldn't even get my son to latch on and that's when I found out about the rugby ball as well, but this one, he latched on straight away.
>
> Yep, and I got them to help me try different positions and sometimes I was exhausted or upset. I would just kind of be lying there in the bed and the midwife would actually hold her on and organise things and help the breasts produce the milk and they provided all the sterilising gear and the breast pumps. No one showed me how to use them.

(2) Advice from hospital staff or midwives about getting the baby to latch on properly.

> My midwife was great. I mean she showed me when he was first born and showed him how to attach. They just grab hold of it.
>
> …But you know they said to me every time you want to feed, ring the bell and someone will come in and make sure that they're latched on properly.
>
> Mine was really good with both, with having a caesarean and then a natural birth, well, a natural birth the second time … the second time I wanted them to check, you know I was getting them to check that I was, that she was latching on properly just it had, you know, been a while since I had breastfed and things like that and I found that they were quite, really quite good…

(3) Advice from hospital staff or midwives about pain relief for sore breasts.

> I mean you see those black women on tele … and stuff, far out man. I mean I was freaking, I was so shocked. I mean when I was in the hospital, my mother's going 'don't worry about that, put the bubba on' but I'm not worried about the bubba. You know my sister and I were comparing it to our thumbs. I still remember that day, they [my breasts] were just so big and they were so sore and very freaky and painful and you know it was a relief when I was told to put the cabbage leaves on.

…Like with the breastfeeding I was starting to get quite sore nipples and she made an appointment for me to go and see the … had like a special ozone therapy room for like steam and ozone on your nipples and she arranged for a person to come and wheelchair me down there and stuff. It was really good. She took the time to care about it.

(4) Written information

There's an awesome pamphlet [about how to breastfeed and where to go if you have problems]. It's purple … it's really good, yes.

Yeah, and also we got lots of information, um, brochures and things, and a pack the, um, Bounty Pack, yeah.

I got a bag with the Plunket book and other pamphlets. One was on 'healthy eating for breastfeeding women'.

(5) Posters

I just got posters … they were on the wall…

Yes all over the place there were breastfeeding signs…

Yeah, I had a very positive experience at the Hutt and, yeah, there was the charts in the room saying that our policy is to basically encourage you to breastfeed and not give you formula or whatever in this list of things…

(6) Lactation consultant

Oh yes, yes and they've also got a specialist at the hospital.

It was just like that for four days and after the third day they said 'Right, we're gonna get the lactation consultant to come and see you' and, um, it wasn't anything I was doing wrong apparently, it was just the shape of my bosoms and that's when they introduced the breast shields.

…the lactation specialist because [baby's name] had been unwell for the first couple of days and then he stopped feeding and they put it down to him being tongue-tied. So we got that fixed, but the lactation specialist, we saw her for five minutes and then she went to go help somebody else and she was supposed to come back and see me. It was more like five hours later that we saw her briefly again.

(7) Generally supportive hospital staff

Yes, but they were really helpful up there.

I still had the same support, if not more this time around with baby.

I found at the Hutt Hospital they were fantastic and I had some very good advice from a friend. She said it doesn't matter how good you feel about breastfeeding, if you're in the hospital, every time you give it a go, hit that button and get someone in to look.

…They always said to me as soon as you're feeding just press the buzzer and one of us will come. I pressed the buzzer almost daily because they always sort of came and said just press the buzzer and one of us will come.

…But I just found them very proactive breastfeeding of course, but very supportive of letting me find my own way of doing it too which I quite liked.

However, many other comments also revealed that some women felt they had not received adequate breastfeeding support or that they had to be quite assertive to get the support they needed.

I did buzz her and say to my midwife can you come and check that he's on properly because I just wanted to have that checked out. But other than that ... but then I didn't get any help in the hospital at all. None.

I did buzz that I need help with this. It is getting ridiculous. I thought they come in and check. How are you going? I was like well how do you do it? Where's she gone?

No, nothing. She had a caesarean. So because she had a caesarean she felt I can't breastfeed ... she didn't really try and the hospital said formula...

What you don't want to feel is rushed, I think, in that situation, because it just adds to your stress, and I think the difficulty is they are so busy that you kind of inevitably, very few of them are able to give that kind of service without making you feel sort of…

I was surprised in hospital, with the second, that um,' cause we had to stay and she got Strep B and ah, we had to stay in for eight days and the first night we had her in neonates and they said 'So do

> you just want us to, we will just give her a bottle if she cries,' cause I was up in the maternity ward and I said 'No, I'm feeding her', because you know the emphasis is on breastfeed if you can breastfeed, and I breastfed my first, you know, and it all went well and that, and there were the neonates, it was a nurse and she wasn't very pleasant and she just wanted to shut her up if she cried I guess, and shove a bottle in her mouth, which you know, I've got nothing against bottles, don't get me wrong, but I said 'No, call me I'm just a couple of floors away.'

Women also perceived the difficulty in obtaining information on formula feeding as unhelpful, and the theme of feeling guilty when breastfeeding did not eventuate was common.

> I think we all know, like all women know, that breastfeeding is best but what we don't want is for us to feel guilty if we can't do it and that we've tried and we can't do it. And at the end of the day it is our decision what we do. But for people not to judge us, because I've seen a lot of Mums, they are really in despair because they can't breastfeed, they feel guilty.
>
> And they refused [to give information on formula]. I tried every midwife and they said 'Look, I'm really sorry, I'd lose my job'.
>
> Personally everything is very focused on breastfeeding and things like that, but because I had a caesarean and I'm older, I have all these kind of different things, it took like seven days before I had milk and nobody prepared me for the fact that you're probably going to have to [give formula], at some point. What's the right point that they're going to give formula; that colostrum won't be enough? Like we had no problem latching and breastfeeding and that all went fine, except she wasn't getting anything. I just was devastated when they were saying 'Well, you're going to have to give the formula.' No, that won't help. She is breastfed. There wasn't things. It is almost like a dirty word to talk about the formula, where the fact is, you know, I was never breastfed and I turned out ok. Like, it's ok that you have to use some other tactics and she got formula when she was a little bit, then until my milk came in, and then she had some top ups later on.

Other comments revealed that hospital staff or midwives gave lots of advice on breastfeeding, but that different nurses often gave different or conflicting advice.

> I think the first two or three days I got a lot of conflicting different advice and there I was working out what worked for me because obviously all the advice was right. It was just all a bit different.
>
> But the first nurse was really good. One of the first things she said was 'Look, everyone is going to show you how to do things differently and everyone is going to tell you different things, but just listen and then just do what you feel is right.'
>
> And every nurse was different ... and had their own different ways. One would say squeeze here, one would say squeeze here, or they would squeeze it for me. Do you mind?
>
> …I ended up just going home because I just couldn't handle every single different person just grabbing at me, grabbing at the baby and I just…I just gave him formula at the end of the night because I was beside myself, he was beside himself starving. Yeah, there was a few good ones, but just some did it their way.
>
> …the experience that every eight hours you've got a different strategy, a different technique, but none of them actually really explain what their technique is and why. They don't talk about the whys at all.

In summary, women generally receive written information and support from hospital staff or midwives for breastfeeding. Although some women reported a lack of support in hospital with establishing breastfeeding, the quantity of support was more of an issue with respect to the lack of available resources on formula feeding, and with the sheer volume of conflicting advice about how to breastfeed from different nurses. The Section 88 Maternity Notice specifies that LMCs must give assistance with and advice about breastfeeding and the nutritional needs of the woman and baby. It is clear that this is occurring. However, the large number of women who report feeling guilty for not being able to fully breastfeed suggests that hospital staff and LMCs should be careful not to provide this information at the expense of the mother's mental health.

3.6 Transition between LMC and Well Child services

3.6.1 What are the contractual arrangements and obligations of LMCs to refer women to Well Child services?

The Section 88 Maternity Notice sets out the contractual arrangements and obligations of LMCs to refer women to Well Child services.[6] The relevant section from the Notice is reproduced below.

DA9 Service linkages: transfer to Well Child services (p. 1061, Gazetted version)

(1) A transfer of the care of the baby from the LMC to a Well Child provider must take place before six weeks from birth.

(2) The LMC must give a written referral to a Well Child provider that meets the guidelines agreed by the New Zealand College of Midwives and providers of Well Child services, before the end of the fourth week following birth.

(3) If the baby has unusually high needs, the LMC may request that a Well Child provider becomes involved as early as two weeks from birth to provide concurrent and co-ordinated care with the LMC.

Therefore, LMCs must refer women to Well Child services. The referral must be written, must be given to the Well Child provider, and must take place before the baby is four weeks old. The actual transfer must take place before the baby is six weeks old.

All five key informants who were asked this question suggested checking the Section 88 Maternity Notice. One also suggested checking the NZCOM professional Standards of Practice, outlined in the *Midwives' Handbook for Practice*.[7] Although the standards are not legally binding, they provide the benchmark for midwives' practice and describe a series of actions important for midwifery care. The goal of Standard Nine is for the midwife to negotiate the completion of the midwifery partnership with the woman. This involves organising ongoing care from other health professionals and community agencies as necessary.

3.6.2 How soon after the baby is born does the transfer between LMC and Well Child services occur in practice?

Key informants provided different estimates of the timing of the transfer between LMC and Well Child services in practice. The majority of estimates ranged from two weeks to six weeks.

> Most LMCs make the referral within two weeks.

> I think in practice it is occurring at around four weeks, mostly, but it differs really depending on the area, I think, and how good the Well Child services is (by good I don't think there is any bad Well Child service); how resourced and how less under pressure the Well Child services are.

> Well I would say BY six weeks and I would say – you see there has been a real focus on auditing Section 88 around postnatal so it would be a foolish LMC that didn't actually do the required number of visits and all of the forms have got the copy; you know, you have to have your copy of the Well Child referral stuff to get paid, so, yeah…

> Transfer occurs anywhere between two to six weeks. The majority of primip women are transferred by four weeks. Women who have not been transferred by then are often women with difficulties. If the baby is the woman's second, third, fourth baby, the transfer often occurs at two weeks.

The remaining key informants suggested that the timing of the transfer varies greatly, with one key informant estimating that transfers may occur as late as 10 weeks.

> In practice, it is hugely variable … the transfer occurs from as early as two weeks to as late as 10, but the bulk of them are around six weeks, five to six weeks. That's been the last couple of years – in practice…

Other responses also highlighted that the transfer may not occur at all.

> Wide variability, if the transfer occurs at all. When the transfer does occur, LMCs tend to duck out early in the process [soon after the baby's birth], leaving a gap before the woman is picked up by a Well Child service.

> In some areas, say 80 percent are transferred before six weeks; in other areas 50 percent are. It depends on the practice of the LMC. Some aren't transferred [at all], and some of that just seems to be … they don't get around to doing the book work or…

Women in focus groups (or who were interviewed individually) were asked to pinpoint when they had been transferred between LMC and Well Child services. All except five women indicated that they had been transferred to Well Child services before their baby was six weeks old. There was no obvious difference in the timing of transfers associated with different Well Child providers. Of the five women who indicated they had been transferred later than six weeks, two gave good reasons for the transfer occurring at seven weeks, two gave no reason for the transfer occurring between seven and eight weeks and one indicated that she had had to initiate the transfer around eight weeks because the LMC had not referred her to Well Child services.

> Ours was marginal I think, because it was around Christmas, that six-week period…I think we might have had like the Newlands Plunket nurse come and see us at seven weeks or something.
>
> I actually saw the Plunket nurse when he was about seven weeks but that was only because I was away the previous week.
>
> Plunket came when she was between seven to eight weeks old.
>
> He is six weeks old now. Plunket will come at seven weeks.
>
> The first, um, my first midwife didn't, she told me she'd referred me but she hadn't and so I rang Plunket and that was at eight weeks.

Several women who had been transferred before the six weeks expressed a wish that the transfer could have occurred later.

> I think four weeks, yeah. I would have loved my midwife to carry on to six weeks.
>
> But I know this is kind of atypical to what we found at antenatal group. A lot of them felt like they'd been turfed at three weeks.
>
> We were handed over at three-and-a-half weeks, which was just the cusp of what's sort of allowed so…

Data were also collected from Plunket to further clarify the timing of transfers between LMCs and Well Child services. Table 18 shows the percentage of transfers in January to December 2006 that had occurred by different time points after the baby's birth.

TABLE 18. Percentage of women transferred from LMC to Plunket in the period from January to December 2006, by time since the baby's birth

Time since baby's birth	% of woman transferred
< 1 week	1
2 weeks - 5 weeks, 6 days	66
6 weeks - 9 weeks, 6 days	27
10 weeks - 15 weeks, 6 days	3
16 weeks - 7 months, 4 weeks	2
7 mths, 4 wks, 1 day - 13 mths, 4 wks	1

These figures suggest that, in reality, the majority of transfers, at least to Plunket, do occur before six weeks (67 percent). However, a significant number occur between six and 10 weeks (27 percent), and a small percentage occur after 10 weeks (six percent). It is likely these figures differ across different DHB regions.

There was an attempt to tighten up the timing of transfers during the recent revision of the Section 88 Maternity Notice. During the consultation phase for the revision of the Notice, there was a proposal to move the transfer of care from the LMC to a Well Child provider to four weeks from birth (instead of six weeks).[27] However, this proposal was rejected by the sector and the final Revised Section 88 Maternity Notice retained the maximum timing of the transfer at six weeks. The timing of transfers between LMCs and Well Child services has received further attention in the review of Well Child services recently undertaken by the Ministry of Health.

3.6.3 What process is used to manage the handover from LMC to Well Child services?

Both key informants and women in focus groups were asked about the process used to manage the handover from LMC to Well Child services. Responses depicted a series of commonly followed steps to manage the handover.

1. The LMC discusses the handover to Well Child Services with the mother and her family and whānau. The LMC may give the mother a choice of Well Child provider (if available) or simply inform the mother that she will be referred to Plunket.

2. Usually by four weeks, the LMC provides a written referral with the family's details to the Well Child provider. There is a standard referral form available to LMCs. The referral is often faxed through to the Well Child provider.
3. Shortly after the Well Child provider receives the written referral, they phone the mother or family and whānau to organise the first appointment in the home.
4. Usually by six weeks, the Well Child provider conducts a home visit with the family. Before the home visit, the Well Child provider often calls the mother again to confirm that she will be home for the appointment.

Variations on the handover process that emerged were usually related to the way in which the LMC gave the referral to the Well Child provider. Although faxing the referral form was the most common method used, key informants raised several other methods, including:

> referral form handed over from LMC to Well Child provider face-to-face

> referral form given to the mother to give to Well Child provider

> referral form posted to the Well Child provider

> referral form dropped into Well Child premises

> LMC ringing the Well Child provider and leaving a message.

> …They are required to get that to the WC provider somehow, so I don't know if we specify exactly how they have to do it, but maybe they give it to the mother who gives it to the WC provider or maybe they post it or drop it in to the clinic or something like that…

> Yeah. Sometimes someone [an LMC] might ring and leave a message.

Women from focus groups raised a couple of extra steps that may be involved in the handover process, but it is unclear how widely used they are. One mother reported that the LMC had given her the name of her intended Plunket nurse in a handover pack before the first visit by Plunket. A different mother emphasised that her LMC had made a special effort to ensure the transfer had occurred effectively.

> She [the midwife] said that she had called Plunket and the Plunket nurse's name was in a form within my pack … so I knew that [the Plunket nurse] had been informed about me and she came to visit.

> One thing I would just like to say about that was that our midwife was also checking with me that I'd heard from Plunket around that time. I remember at one of the visits she said, you know, 'Have you heard from the Plunket nurse yet?' 'Yep, yep.' 'Oh ok, good, what are they doing?' She was making sure.

In summary, comments from both key informants and focus group participants revealed a common process used to manage the handover between LMC and Well Child service. The steps described meet the requirements of the Section 88 Maternity Notice; however, there is some variation in the way in which LMCs give the referral to Well Child services that may decrease the likelihood of a successful handover. It is possible that some of this variation may be reduced in the future as a result of the release of the Revised Section 88 Maternity Notice in July 2007, which makes some of the handover requirements clearer than they were in the previous version.

3.6.4 What processes do Well Child services use to engage women and families and whānau during this transition?

As described in Section 3.6.3, the standard engagement process that Well Child services use when they receive the referral from the LMC is to phone the mother or family or whānau to arrange the first appointment. The first face-to-face contact the mother or family or whānau has with the Well Child provider is almost invariably in the family's home.

Comments from focus group participants confirmed these engagement processes.

> Yeah. So I ended up making an appointment [for the Plunket nurse] to come out, which was quite nice. The first visit I had was at home, so that was quite nice because it is sort of that transition but it is still within your home…

> …one of the Plunket nurses actually came a bit before six weeks and sort of took details and things down. It wasn't a visit as such but it sort of felt like an administration thing, and she said 'Now we'll make an appointment for your first real...'

However, the number of home visits that women reported receiving from Well Child providers differed.

> I've had three at home. I got my first three at home.
>
> I've had the first two at home.

Women's responses suggested that after the first or second home visit, further home visits may be made on the basis of need.

> But she has always said, 'Look if you've got any real problems coming up, let me know and I'll rearrange and come to see you.'

An arrangement for women to visit the Well Child clinic was raised as a potential barrier to engagement for some women.

> I know one lady who has got two kids … she is moaning about the Plunket nurse ... but this is one with two, reckons that she always has to go to the clinic and we have for the last few, yeah, they've all been at the clinic. That's fine with me because it is just around the corner and I don't mind anyway. It's not too much trouble. I can imagine with two [children] it would be quite an effort, especially if one is sleeping or whatever and she has got a car as well.

Another comment suggested that Well Child engagement processes may differ depending on the individual style of the Well Child nurse and the time available.

> …And one of my friends has actually just swapped to our Plunket nurse because she's moved and she was just astounded. She said, 'She [the Plunket nurse] sat with me for like half an hour and she listened and she actually talked about the baby's development', whereas the Plunket nurse she had been with previously, it had been completely in and out; not really, but she said she got the feeling that she was really not interested in listening to you or helping her or anything.

Women raised several other processes that may be used by Well Child services to engage women. For example, the *Well Child, Tamariki Ora Health Book* is given out to women (usually in hospital) and several women reported that they had been told that Plunket Line or Helpline were available if needed. However, in quite a few cases, women reported taking the initiative to get in contact with the Well Child service.

> …I rang Plunket Line to start off with and they were sort of like, 'Ok, you need to ring the Hutt Valley co-ordinator' and the co-ordinator said 'Oh ok, where do you live? Your Plunket nurse will be such-and-such person.'

Comments from key informants highlighted the importance of the Well Child provider receiving the referral and good handover information from the LMC in order to begin the engagement process.

> And see, part of the problem is the name you have might be a different name, they might have changed their name, it is all that sort of stuff – so if you don't actually get a good handover of information, there is so much more opportunity to have a vulnerable family fall in a gap…

Key informants suggested that, in the event of the Well Child service not receiving the correct contact details or the family not answering the phone, the Well Child provider may go back to the midwife for more details or drop into the family's home.

> Well, then people would go back to the midwife … yeah, or they would go to the GP.
>
> If they can't get them on the phone, if they were passing in the area, they would drop in. Somehow they try and contact them to set up some appointment.

Several additional processes that Well Child providers might use to engage families were highlighted by key informants. One Māori Well Child provider described making contact with the woman during the antenatal stage.

> Yeah, on occasions, because now we have a midwifery clinic here once a week and so if they're over there for their antenatal visit and we're over there we'll introduce ourselves and I'll go 'Kia ora, I'm [name], I'm the baby nurse, you might be coming to me.' Or if they come over here to, because we have a class … so they might come and see [provider's name] who's the community health nurse and she'll go 'Oh, you've been here before' and just show them our place and just say 'Oh, this is what we do after you have baby; if you want to come to us that's cool.' So we can initiate that contact with them before.

The same provider reported that word of mouth was an important way to engage women in their service.

> Word of mouth is huge here. Huge. I think it's a Māori Pacific thing. Yes, very much so. And then one of the nannies will come down, 'My moko's pregnant, you've got to go up and see her.'

Another key informant highlighted that in some areas, Well Child services are at full capacity, making engagement of further families very difficult. In such cases, the family may end up seeing only the GP.

> Well the GP is the default, so the GP shouldn't be at capacity. The mother will hopefully have met with the GP before so even though the GP will not be providing a full Well Child service, from the point of view of the health promotion/health education side of things, they will at least have an opportunity to check the mother and baby out – ok, and then the General Practice may be able to find another Well Child provider after the six weeks are up…

A potential solution that was offered as a means of helping Well Child services to plan their services and engagement strategies was the 'Kidslink' system. One key informant explained that this system involved notifying Well Child services when a baby was born.

> But there aren't many [women] whom we wouldn't get to that first visit. Eventually we would find them. This is where if you have a system like a Kidslink system, it just all makes so much more sense – because you actually have a denominator. Part of the problem is that a baby hasn't been seen, but do we even know if the baby has been born? Unless you have a system where you actually know the baby has been born...

In summary, in order to engage women and their families and whānau, most Well Child services rely first on receiving the referral from the LMC. Following receipt of the referral, Well Child providers phone the family to organise the first appointment in the home and then conduct a home visit. Other methods used by Well Child providers to engage families include distributing the Well Child book in hospital, Plunket Line, recontacting the midwife for accurate contact details, dropping into the family's home, introducing the Well Child service while the mother is still pregnant and word of mouth.

3.6.5 To what degree is the transition between LMC and Well Child services left to the mother, father or family and whānau?

If the transfer from LMC to Well Child services goes as intended, then it should not be left to the mother or family at all. Rather, it is the joint responsibility of the LMC and Well Child services to co-ordinate the handover. However, it is ultimately up to the mother and family and whānau to decide if they want to access Well Child services.

Most comments from focus group participants were consistent with a smooth handover in which the transfer was not left to the family.

> They completely made contact with me, which was great.
>
> The midwife did all the work.
>
> I think my midwife phoned them and gave all … contacted them with all my details about three-and-a-half, four weeks because she wanted them [Well Child provider] to have phoned me before she finished and I only got a phone call about two days before her last visit and then they [Well Child provider] came to see me after about two weeks, or a week after she'd finished...
>
> Yeah, my second midwife was from Kenepuru so she was a lot more on hand there. So she changed. I hadn't heard from them [Plunket] even after she [the midwife] had finally actually handed me over. She [the midwife] rang me up one day and said had they [Plunket] got in contact with me. I said no. She chased it up for me, so that was really good.

However, a few women indicated they had taken responsibility for contacting the Well Child provider themselves. Usually this was because they had not heard from the Well Child provider at the expected time. Other women reported that their LMC had finished with them sooner than desired and they did not want to wait for the Well Child provider to contact them in order to access ongoing support.

> At four weeks my midwife said, 'I'll do the referral to Plunket and hand you over and you should hear from them within a week … and I didn't hear from them and by the beginning of the next week said, 'Oh'; of course he's coming up to six weeks by that point. So I started ringing round.
>
> Yeah I did [have to chase] as well ... so the referral was done at four weeks and I had my midwife again at five [weeks] and then nobody turned up at six [weeks]. They were supposed to have rung me like in the first half of that week and so I rang my midwife back and said 'Nobody has contacted me.' So she came back and did another visit and then the week after that I left messages with all sorts of people in Plunket and somebody did ring me back

> and then came at seven weeks. So I didn't have a gap at all, but my midwife, I suppose, did an extra visit that she probably wasn't supposed to do.
>
> ... my first midwife didn't, she told me she'd referred me but she hadn't and so I rang Plunket and that was at eight weeks.
>
> I think quite a bit of that was proactive on the women's behalf – hunting Plunket out because they were really struggling.

Key informants acknowledged that the transition between LMC and Well Child provider was sometimes left to the parent.

> In some areas [of the country], it is often left to the woman or her family to a large degree...
>
> In reality, in some areas, it is totally [left to the family], but they don't know it has been left to them … a midwife has said if they want Plunket, they can ring.

Further comments from key informants yielded information on why the transition was sometimes left to the family. An obvious reason that women do not hear from the Well Child provider is that the referral from the LMC is late or not made at all. Key informants discussed some of the underlying reasons for problems with referrals.

> …what we found with some people is that they would say they had referred to the Well Child service on this date, but then it took them a month to post the stuff.
>
> Yeah, yeah, and sometimes the midwives are so busy that they've forgotten to put the referral in. We get it two months old. So there's a lot of 'I'm sorry'. Unfortunately we don't know about the baby prior if we haven't got a referral … we actually don't know about them. And then they [mothers] go 'Well I haven't been seen'; the baby is nearly three months old. It has happened about three or four times so far and we feel stink about it but, you know, we need to work really well with the midwives to make sure that they give us the referrals.
>
> …we do know that some parents think they have been referred and nothing happens and a referral has never gone, so they sit around waiting for a Plunket nurse to turn up…
>
> The parents have a choice about what service they want and if they don't want their name handed over, well then that's up to them. What we have found is that there are a few individual midwives who perhaps see it, it's like it is a part of their practice, that the family doesn't need another service. Because you sort of see, one of the things about having a national organisation is that you see patterns, and then the family comes to us much later but it seems to be very rare that they do not come [at all]. They eventually start turning up.
>
> It might [also] be no referral. The referral might be done in a way that doesn't work well – it might be given to the mother or something like that and for most mothers that would be fine but for some, it might be just too difficult…

Only one key informant raised the possibility of problems with the transition potentially being due to Well Child providers having a lack of capacity to follow up referrals.

> …it might be a Well Child provider capacity issue. I think all of those provide opportunities for mothers to fall through the gaps really.

Another key informant pointed out that sometimes a failure in the transition process was due to parents choosing not to access Well Child services.

> Referrals need to be followed up. Short of dragging people along that don't want to do it, I can't believe that between the LMC and Well Child, that they haven't gone to every means. There will be people who do not attend, and it might be the six percent who don't get immunised; but I suspect that just about every baby in the country must, because there must be some who choose not to get immunisation…

One of the issues raised that contributes to problems with the transition between LMC and Well Child service is a lack of monitoring.

> Well it's very hard to get information which gives us enough depth on this because it's not something we normally collect, exactly how that transition occurred. We know when it occurred and that sort of stuff. In some situations obviously the mother or the parents have the opportunity to say they don't want a referral; however once the WC provider has

> got the referral, then the parents have identified them as their provider, then they are obliged effectively to go and visit them, but at the end of the day if someone hands on a referral and nothing happens then there is no action, we don't know anything about it and there is no action that we could take, there is no monitoring effectively ... all we require from Plunket or another Well Child provider is that they provide a certain volume of services; there is no obligation to pick up any particular one that is referred to them.

Despite these issues, a key informant reported there had been big improvements in the reliability of the transition process in the past couple of years, mainly as a result of changes in the referral processes used by midwives.

> Yeah, it is [left to the parent]. But you know there have been big improvements in this area in the last couple of years. A couple of years ago, I went to the College [of Midwives]; we work very well around these things; they asked me to present our data about ... you know, factual information on when we received referrals, and they were quite shocked.

In summary, the transition between LMC and Well Child provider is not generally left to the parent. However, comments from women and key informants suggested a lack of consistency in the transition process in some areas of the country that contributes to women and families either having to take the initiative themselves in order to receive ongoing support, or falling through the gaps. The reasons given for problems with the transition process were midwives failing to make a formal written referral, midwives sending the paperwork to Well Child providers late, midwives forgetting to send the paperwork, midwives giving the paperwork to the family instead of Well Child provider, philosophical differences between midwives and Well Child providers, Well Child providers having a lack of capacity to follow up all referrals, Well Child providers failing to follow up all referrals, parents choosing not to access Well Child services and a lack of monitoring of the transition process.

3.7 Well Child services

3.7.1 Who are the providers of Well Child services?

The names of the Well Child providers in each region were supplied by DHBs and are listed in Appendix 11. Most of these providers hold contracts with their local DHB to deliver Well Child services, with the major exception being Plunket, which holds a national contract with the Ministry of Health to deliver Well Child services.

Plunket is the biggest provider of Well Child services. Over 90 percent of babies are seen by Plunket for Well Child services.[28] The rest are seen by Māori, iwi providers, Pacific providers, public health nurses, child health nurses (through Primary Health Organisations) or GPs.

Comments from key informants were consistent with the information supplied by DHBs.

> …It varies around the country – in some DHBs Plunket provides 100 percent (of Well Child services), in others, they provide 70–80 percent. On top of Plunket, there are about 50–60 other providers of Well Child services which are small, often Māori or Pacific providers; some of them are also Primary Health Organisations…

3.7.2 What are the contractual arrangements and obligations of Well Child service providers as they relate to transitions of care from LMC to Well Child services?

The contractual arrangements and obligations of Well Child service providers are outlined in *The Well Child Framework*[4] and the national service specifications for Well Child services.[12.] *The Well Child Framework* requires Well Child providers to register all children handed over by LMCs. Appendix 12 contains the clauses from the national service specifications that are specifically relevant to the transition of care between LMCs and Well Child services.

The Service Specification requires Well Child services to:

- enrol or register the client on their system when they receive the written referral from the LMC (by four weeks after birth)
- provide services 'initially' in the client's home and only change to the clinic setting if the client can make the transition
- undertake an initial assessment of the family
- have 'formal links' with LMCs
- report on the total number of children enrolled with the service at the end of each quarter.

More specific information was obtained from key informant interviews. Well Child providers are expected

to make contact with each family that is referred to them. The first visit is in the home for all new baby cases, and there are usually two home visits (decided between parents and nurse). It is recognised that some families will require more effort to contact than others and that considerable persistence will be needed in some cases. Clients living in areas of higher deprivation are more likely to have ongoing contacts at home.

> That is up to them [the number of attempts to make contact with a family], but in actual fact, we expect them to [make contact].
>
> …All new baby cases are visited at home for a first visit; usually there are two home visits [decided between parent and nurse]. Clients in dep. 8–10 are more likely to have ongoing contacts at home.
>
> Well, the reality is that serving high-need populations is difficult and just to keep in contact with them, whether it is first, second or third contact, is no different, and what we find is that staff working in those areas become quite skilled, and we work with *The Well Child Framework* about how we are serving areas living in high population needs. We are actually serving them so much better now than we were, say, in 2002, and much higher problem proportions because the difference from 2002 until now is that our funding recognised that it actually took more resources to see these people. Up to that point, it [the funding] didn't.

Therefore, under the current system, Well Child services are obligated to register and make contact with every family and whānau for whom they receive a referral. They are also obligated to provide services initially in the family home. There is an expectation that Well Child services will keep trying until successful contact is made with a family. However, there are no detailed specifications on how this should be achieved (for example, nowhere is it specified the number of times a Well Child provider should attempt to make contact with a family) and, under the current system, there is no way of monitoring the number of families that are not followed up. The current funding model does, however, allocate additional resources for making contact and conducting additional home visits with vulnerable families.

3.7.3 What are the demographics of mothers and families and whānau who receive Well Child services?

Over 90 percent of babies receive Well Child services from Plunket. Plunket records the ethnicity and level of deprivation of all new babies they enrol. Level of deprivation is based on Statistics New Zealand's composite measure of socio-economic deprivation, called the New Zealand Index of Deprivation (or NZDep2001 scores). NZDep2001 combines nine variables from the 2001 Census which reflect different dimensions of deprivation. NZDep2001 provides a deprivation score for each meshblock in New Zealand. Meshblocks are geographical units defined by Statistics New Zealand, containing a median of approximately 90 people in 2001. NZDep2001 scores range from 1 to 10. These scores divide New Zealand into tenths, with a value of 1 indicating that the meshblock is in the least deprived 10 percent of areas in New Zealand and a value of 10 indicating that the meshblock is in the most deprived 10 percent of areas in New Zealand.[29] Table 19 shows the number and percentage of all new baby enrolments with Plunket from 1 July 2005 to 30 June 2006, categorised according to ethnicity and NZDep2001 score.

TABLE 19. Number and percentage of Plunket new baby enrolments from 1 July 2005 to 30 June 2006 by ethnicity and NZDep2001 scores

	Dep. 1 – 7		Dep. 8 – 9		Dep. 10		Total	
Ethnicity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Māori	5,296	15	3,528	31	2,785	41	11,609	22
Pacific	1,601	5	1,713	15	2,106	31	5,420	10
Other	28,336	80	6,205	54	1,823	27	36,364	68
Total	35,233	100	11,446	100	6,715	100	53,393	100

As shown in Table 19, 22 percent of new Plunket enrolments were Māori, 10 percent Pacific and 68 percent 'other'. These figures are comparable to the ethnic breakdown of all women giving birth. For example, in 2004, births to Māori and Pacific mothers accounted for 19.9 percent and 10.1 percent of all births respectively.[1] Out of all new Plunket enrolments, 66 percent had NZDep2001 scores of 1 to 7, 21 percent had NZDep2001 scores of 8 to 9 and 13 percent were in the most socio-economically deprived areas, with NZDep2001 scores of 10. These scores reflect less deprivation compared with NZDep2001 scores for all women giving birth. In 2004, 58.4 percent of women giving birth had NZDep2001 scores of 1 to 7, 26.6 percent had NZDep2001 scores of 8 to 9 and 14.9 percent had NZDep2001 scores of 10. A disproportionate percentage of Māori and Pacific babies enrolled by Plunket were living in the most deprived areas.

The demographics of families and whānau who receive Well Child services can be expected to differ depending the nature of the contact. From the time of handover from LMC until the child is five years of age, all families are entitled to receive eight core contacts from Well Child services. These contacts are outlined in the *Well Child – Tamariki Ora National Schedule*.[10] Any contacts outside of the core contacts described in the schedule are 'additional' contacts. First-time families and those experiencing difficulties or having an assessed need are entitled to additional contacts. Both core and additional Well Child contacts may be 'received' in various places, including the home, clinic, mobile clinic, family centre, early childhood centres, or Māori settings such as marae or Kōhanga Reo. Table 20 shows the number of Plunket contacts from 1 July 2005 through to 30 June 2006, as a function of place of contact, type of contact (core versus additional) and NZDep2001 score of the family. See Appendix 13 for an expanded version of Table 20, which includes ungrouped NZDep2001 scores.

TABLE 20. Number and percentage of Plunket contacts from 1 July 2005 to 30 June 2006 as a function of place of contact, type of contact (core versus additional) and NZDep2001 scores

Place of contact	Type of contact	NZDep2001 score			Total N (%)
		Dep. 1-7 n (%)	Dep. 8-9 n (%)	Dep. 10 n (%)	
Bus – mobile clinic	Core	290	351	673	1,314
		(0.1)	(0.3)	(0.9)	(0.2)
	Additional	1,232	1,120	1,536	3,888
		(0.4)	(0.9)	(2.0)	(0.7)
Clinic	Core	120,753	22,868	6,975	150,596
		(36.1)	(19.1)	(8.9)	(28.2)
	Additional	53,770	13,364	4,978	72,112
		(16.1)	(11.2)	(6.3)	(13.5)
Early childhood centre	Core	943	411	398	1,752
		(0.3)	(0.3)	(0.5)	(0.3)
	Additional	1,319	560	717	2,596
		(0.4)	(0.5)	(0.9)	(0.5)
Family centre	Core	1,728	467	169	2,364
		(0.5)	(0.4)	(0.2)	(0.4)
	Additional	19,515	4,614	1,262	25,391
		(5.8)	(3.9)	(1.6)	(4.8)

Home	Core	81,506	37,060	26,755	145,321
		(24.3)	(31.0)	(34.0)	(27.3)
	Additional	53,069	37,838	33,975	124,882
		(15.8)	(31.6)	(43.2)	(23.4)
Kōhanga Reo	Core	185	249	292	726
		(0.1)	(0.2)	(0.4)	(0.1)
	Additional	496	716	816	2,028
		(0.1)	(0.6)	(1.0)	(0.4)
Marae	Core	16	20	15	51
		(0.0)	(0.0)	(0.0)	(0.0)
	Additional	69	73	71	213
		(0.0)	(0.1)	(0.1)	(0.0)
Total N		334,891	119,711	78,632	533,234
Total %		62.8	22.4	14.7	100

The biggest proportion of Plunket Well Child contacts is made up of core contacts at the clinic (28 percent), followed closely by core contacts in the home (27 percent). These contact types are then followed, in order, by additional contacts in the home (23 percent), additional contacts in the clinic (14 percent) and additional contacts at the family centre (five percent). A small percentage (one percent) of Plunket contacts are additional contacts via a bus or mobile clinic and an even smaller percentage (<1 percent) of contacts are via early childhood centres, Kōhanga Reo or marae.

When contact patterns are examined across the full range of NZDep scores (Appendix 13), a number of trends emerge. The percentage of core contacts in the clinic decreases as deprivation levels increase, which is probably due to the increasing percentage of core contacts in the home as NZDep2001 scores increase.

As would be expected, the percentage of additional contacts in the home increases with increasing deprivation scores and, on the whole, families living in areas of high deprivation are more likely than families with low NZDep2001 scores to receive additional Plunket Well Child contacts. The only exceptions were the clinic and Family Centre settings, for which the number of additional contacts was fairly consistent across NZDep2001 scores, but dropped off with the highest deprivation scores.

Differences in ethnicity of families and whānau receiving Well Child services can also be examined. Table 21 shows the number and percentage of Plunket contacts from 1 July 2005 to 30 June 2006, as a function of place of contact, type of contact (core versus additional), and ethnicity of the family.

TABLE 21. Number and percentage of Plunket contacts from 1 July 2005 to 30 June 2006 as a function of place of contact, type of contact (core versus additional) and ethnicity of the family

Place of contact	Type of contact	Ethnicity			Total N (%)
		Māori n (%)	Pacific n (%)	Other n (%)	
Bus – mobile clinic	Core	417	541	356	1,314
		(0.4)	(0.9)	(0.1)	(0.2)
	Additional	1,196	1,370	1,322	3,888
		(1.1)	(2.3)	(0.4)	(0.7)

Clinic	Core	19,538	6,664	124,394	150,596
		(17.4)	(11.4)	(34.4)	(28.2)
	Additional	9,418	3,236	59,458	72,112
		(8.4)	(5.5)	(16.4)	(13.5)
Early childhood centre	Core	457	288	1,007	1,752
		(0.4)	(0.5)	(0.3)	(0.3)
	Additional	740	415	1,441	2,596
		(0.7)	(0.7)	(0.4)	(0.5)
Family centre	Core	369	76	1,919	2,364
		(0.3)	(0.1)	(0.5)	(0.4)
	Additional	2,676	675	22,040	25,391
		(2.4)	(1.2)	(6.1)	(4.8)
Home	Core	36,727	22,064	86,530	145,321
		(32.6)	(37.6)	(23.9)	(27.3)
	Additional	38,383	23,151	63,348	124,882
		(34.1)	(39.5)	(17.5)	(23.4)
Kōhanga Reo	Core	629	38	59	726
		(0.6)	(0.1)	(0.0)	(0.1)
	Additional	1,775	96	157	2,028
		(1.6)	(0.2)	(0.0)	(0.4)
Marae	Core	36	1	14	51
		(0.0)	(0.0)	(0.0)	(0.0)
	Additional	161	8	44	213
		(0.1)	(0.0)	(0.0)	(0.0)
Total N		112,522	58,623	362,089	533,234
Total %		21	11	68	100

These percentages show that Māori and Pacific families are more likely than 'other' families to receive core and additional Well Child services in mobile clinics, early childhood centres, Kōhanga Reo and especially the home. Māori are also slightly more likely than either Pacific or other families to receive Well Child services in the marae setting. Families categorised as 'other' (mostly New Zealand European) were more likely than Māori or Pacific to receive core or additional Well Child contacts in the clinic or family centre. All together, 48.3 percent of Māori contacts were additional contacts; 49.4 percent of Pacific contacts were additional contacts; and 40.8 percent of 'other' contacts were additional.

In summary, the ethnicity of mothers and families and whānau receiving Plunket Well Child services closely mirrored the ethnicity profiles of all women giving birth. This is perhaps not surprising, given the high percentage of babies who receive Well Child services from Plunket. On the other hand, the NZDep2001 scores of Plunket clients reflected, on average, less deprivation than the NZDep2001 scores of all women giving birth. This suggests either that the most deprived women and families and whānau access Well Child services through alternative providers, or that Plunket has more difficulty in engaging families and whānau from the most socio-economically deprived areas. Family demographics also differed depending on

the place and type of Plunket contact (core versus additional). The percentage of contacts in non-clinical settings such as the home was higher for families and whānau living in areas of high deprivation and for Māori and Pacific families. A greater proportion of contacts in high-deprivation areas were additional contacts compared with less deprived areas. Similarly, a greater proportion of Māori and Pacific contacts were additional than contacts with families of 'other' ethnicity.

3.7.4 What are the barriers to accessing Well Child services?

Several barriers were recognised by key informants and focus group participants. They can be categorised into characteristics associated with the families and whānau, service or system (with some barriers operating at more than one level).

Barriers at the family and whānau level:

1. Culture and ethnicity

Key informants viewed white women as big users of Well Child services, and Māori or Pacific women as less likely to use mainstream services. They felt that Māori and Pacific women were more likely to view mainstream services as unsuitable or not culturally sensitive.

> Educated white women are big users of services – they may lack confidence, want to be perfect, need reassurance.
>
> Some of the Pacific women spend a day cleaning the house for the provider to visit; they are not very comfortable.

Māori focus group participants and a Pacific key informant suggested that shyness is a barrier, preventing women from asking questions.

> Maybe shyness … don't like to ask [first participant]. And that could be a cultural thing too. It's not as much now as it used to be. Culturally you didn't ask a lot of questions [second participant].
>
> Pacific women are very polite, so often they do not say what is wrong.

Māori participants also suggested that differences in culture may mean they do not identify with the provider or may feel intimidated.

> And I feel sometimes people might feel intimidated because their understanding is not what, I don't know, those that are providing; they're not on the same level, on the same wavelength.

2. Language

Language was raised as a barrier by Pacific focus group participants and refugees.

> I guess with my experience some people from the Pacific, they came here on a budget and things are very strange for them. It's a new environment and they're not used to new people, and language, that's a big barrier.
>
> Because we have been new here, we don't know anything about the Pacific health nurse or Plunket or whatever and the language is the problem. They can't communicate.
>
> If you don't have the language, you don't have anything; you can't explain what is wrong.
>
> For Pacific women who don't speak English, they rely on whānau.

3. Socio-economic status

Socio-economic status was explicitly listed as a barrier by only one key informant. However, both key informants and focus group participants named lack of resources, such as transport problems, as a barrier.

> Yeah, that could be one [a barrier]. Not being able to get there…
>
> Pacific women don't attend the clinic because it would mean hauling children into the clinic and often they don't drive.

Although Well Child services do make contact with the majority of families and whānau across all socio-economic strata, successful contact and engagement requires more persistence with families who have greater need. Families and whānau living in more deprived areas are also less likely to proactively seek support from Well Child services, therefore are more likely to fall through the gaps if the transfer from LMC to Well Child provider is not well co-ordinated.

4. Family mobility

Key informants raised the issue of transient families. Families who move house frequently are more difficult to keep track of and may be less likely to access Well Child services.

5. Violence and drugs in some houses

In some areas, violence and drug use are barriers to families seeking support from Well Child services, and also act as barriers to Well Child providers conducting

home visits. One key informant reported that because of safety issues, providers in some areas only go out to houses in pairs.

6. Perception or beliefs

Two key informants suggested that some families and whānau perceive services as unnecessary or do not accept they have a need for them.

> Some parents, especially parents who have had several children, feel as though they don't need Well Child services.

7. Lack of knowledge

Lack of knowledge was thought to be a significant barrier. Specifically, there is a reported lack of knowledge about the availability of Well Child services, entitlements to Well Child services and the type of services that Well Child providers offer. When asked to list barriers, key informants commented:

> Knowledge of Well Child services.
>
> Knowledge of entitlements.

Comments from focus group participants included:

> …not knowing what you are entitled to.
>
> They [families and whānau] probably don't understand.
>
> Lack of information.

For some families, something as basic as not knowing where the Well Child service is located could be a barrier after the initial home visits.

> …but you don't know where the place is, that's the problem.

8. Relationship with Well Child provider

Key informants raised the relationship between the parent and Well Child provider as a potential barrier to accessing services.

> Sometimes there are personal issues; sometimes they didn't like their nurse or provider, in a way … and so they found them too bossy or something…

Focus group participants also talked about their relationship with the Well Child provider as a barrier if they did not like them.

> I think, also, if you don't particularly like your Plunket nurse it can be a bit off-putting to go because you feel uncomfortable.

Barriers at the service level:

9. Lack of trust or rapport between Well Child provider and the family and whānau

The family's relationship with the Well Child provider may be influenced by their own personal issues, as described above. Equally, the level of trust and rapport is determined by the actions (or lack thereof) of the Well Child provider. A Māori Well Child provider, sitting in on one of the focus groups, discussed the importance of developing rapport.

> Here, we're always aware of how we communicate with our clients and every new client we need to get that rapport, that trust and then work out, you know, how we say things…'You tell us something about you, like your family', so it feels like they're not just a number but we really do care about our conversation. It's more than just walking in and going 'Ok, we're going to do this, ok we'll do that.' If I don't walk in and say 'Oh hi, I'm [name], I'm from [name of place]' and try and get some sort of trust going, then I know I might not be getting another visit.

10. Lack of cultural competence

Focus-group participants named providers' lack of understanding of their culture as a barrier to accessing Well Child services. This could be manifested in a provider failing to explain something in a way someone from a different culture would understand or in a provider being intolerant of or impatient with the way someone from a different culture explains something.

> I think, not being racist, but I think a lot of Europeans don't understand the background of our Pacific Island people and where they're coming from…

11. Relationship between LMC and Well Child provider

A poor relationship between LMC and Well Child provider is a barrier to access. One key informant described this barrier as "professional violence" and when asked to elaborate, said:

> Well you know just – and these are the exceptions, not the rule – that the LMC might say that I can't refer to Plunket because they will wean the baby, or something like this; this sort of nonsense.

Focus group participants pointed out that the LMC may have a large role in determining the Well Child provider to which a family and whānau is referred.

> And also at the same time they [LMCs] are giving them [mothers] the choice of whether to go to the Pacific providers or to Plunket…

12. Lack of sharing of knowledge

One key informant raised the lack of sharing of information between LMCs and Well Child providers as a barrier. Her point was that information about the family that may be valuable in engaging and working with them may not be passed on from LMCs to Well Child providers.

> …it is also the lack of the sharing of knowledge. I guess one of the frustrations, and it is something that we hope to work with the College of Midwives this year, you know the midwives work with the family; they know if there is family violence or stuff there. We pick up the family and none of that information comes with it … we've got to keep the family as the focus; I think that gets a bit lost.

13. Problems with the handover process from LMC to Well Child provider

As described in Sections 3.6.3 and 3.6.4, Well Child providers rely on LMCs providing a written referral to initiate the engagement process. Sometimes there are problems with the handover process that may prevent families and whānau accessing Well Child services. These are summarised in Section 3.6.5.

> Most people access Well Child services; it's just that some aren't able to access it until much later. And we get calls from people – 'Why haven't you visited us?' – and yet there has been no handover.

14. Unrealistic time-slots

Focus group participants described some time-slots for appointments with Well Child services as unrealistic and viewed the poor timing of the appointment as a barrier to access.

> …shy away from anything before 10:30 in the morning, definitely. Getting to it can be a real mission. And you know if you are going to a 20-minute slot and you're running 10 minutes late, you're really buggered.

Barriers at the system level:

15. Availability of the service

Lack of awareness of the availability of the service was a barrier, but the actual availability or existence of the service was cited by one key informant as a barrier too. In some areas, there are greater demands for Well Child services because of a higher number of births or fewer providers. In such circumstances, Well Child providers may lack capacity to follow up all referrals, and the chances of a family and whānau not receiving services increase.

16. Rurality

Three key informants listed rurality or geography as a barrier. Women and families living in rural areas must often travel greater distances to access services. This requires more time and finances.

17. Stigma

One key informant listed stigma or fear of being judged by providers as a potential barrier.

18. Lack of monitoring

As described in Section 3.6.5, one of the issues that contributes to families missing out on services is a lack of monitoring or tracking of individual families through the system. One key informant suggested that having a national database of births would be helpful and referred to the Kidslink system in South Auckland as a potential model. All babies born in the area (at Middlemore Hospital) are entered into the Kidslink information management system. Kidslink tracks children who have missed their scheduled Well Child checks or immunisations. Local services find these children and link them with a health provider.

> Well, I think that having a national database that all births went on, and one could have a system – like Kidslink in South Auckland… I mean the South Auckland DHB and all the Well Child providers and the GPs are actually part of the Kidslink system of sharing information and they share information about Well Child checks and immunisations – up-to-date, simple stuff, but gosh, it highlights the families who are actually missing out. And people can put around the system – does anyone know; has anyone seen this family? ... because often the most vulnerable family members are mobile ones.

19. Cost of accessing service

Although the core visits that all children are entitled to are free, there are still costs associated with getting to the clinic (after initial home visits), the time needed to have the session and time away from work (if the parent has returned to work).

In summary, many of the barriers to accessing Well Child services listed by key informants and focus group participants are the same as barriers to accessing other services throughout the world, and include financial difficulties, lack of transportation, language barriers and attitude.[30] The New Zealand Government has addressed several common barriers by funding eight free core visits (and more for high-needs families) and requiring the initial visits to be home visits. *The Well Child Framework* has undoubtedly contributed to improved access rates, particularly for higher needs families.[4] Work is needed to continue to address barriers to access.

3.7.5 What screening is done for postnatal depression (PND)?

PND occurs in 10–20 percent of women by three months after giving birth.[31] There is evidence that PND is more common among women who have had previous mental health problems[32] and it is associated with various poor developmental outcomes for children.[33] The Section 88 Maternity Notice specifies that midwives must do an assessment for risk of PND (and in some cases family violence), with appropriate advice and referral, as part of the module of services following birth. In addition, it is a midwifery standard of practice (number three) to "collate and document comprehensive assessments of the woman and/or baby's health and wellbeing".[7] As part of their assessment, midwives are supposed to collect information which includes women's physical, psychological and emotional wellbeing.

Key informants confirmed that many midwives do screen for PND, at least informally.

> I would say, I can't believe the LMCs wouldn't assess women for that [PND]. And again, in our maternity notes, it has a box for postnatal depression, so I can't believe that people wouldn't assess them.

> If a midwife thinks a mother is at risk, she would screen.

There was also, however, discussion about how midwives were not necessarily the best workforce to be screening for PND, mainly because symptoms frequently emerge after the six-week handover to Well Child services.

> LMCs are not really the workforce for PND because clinical symptoms often don't emerge until three months after birth.

Key informants reported that Well Child providers do some selective screening.

> …every Mum who came to the Family Centre with feeding or sleeping or other difficulties, there was an expectation they would do an Edinburgh [Edinburgh Postnatal Depression Scale[37]] on the Mums when they came in, so that wasn't universal screening, that was a selected population with Mums who were having trouble who were much more likely to get PND.

And there are some PND support groups.

> Many centres have PND support groups.

> Some of our Family Centres provide postnatal support groups, PND support groups and in two to three places, we have postnatal adjustment programmes funded through the DHB and so they work seamlessly.

However, screening by Well Child providers is not formal, routine or universal.

> Not in a formal screen such as using the Edinburgh, but informally, yes.

> This [screening] is random and ad hoc; very subjective.

> Screening is not done routinely, although it may be introduced.

There were several reasons given for the lack of screening, including a lack of staff time, the structure of the existing Well Child services and a lack of back-up services.

> …The problem is the amount of time that staff have, and also it is not only that – say we find the score indicates high, so what are we going to do about it? It is about what services are there.

> But the nurse who does home visits has about a 20-minute contact with the parent and there is a whole lot of stuff to do within that. If we are really going to address the PND issues, we actually have to look at it in a broader context; so you've identified this depression, you can't just say 'Yes, you have depression', and not do something, whereas the

> way *The Well Child Framework* is set up, we might not see them for three months. That would be ridiculous.
>
> In this grey area, I see a Well Child nurse being able to do this, do the work, but it is interfacing around when should we be doing this referral and having someone to refer to.

One key informant suggested there should be multiple screens.

> There should be more than one screen – there should be LMC and Well Child screens. The GP should have a red flag to check for PND when a mother with a young baby visits.

Consistent with comments from key informants, the majority of comments from focus group participants suggested that their LMC had at least informally checked how they were feeling.

> Yes, [my midwife checked] to see how I was… I was exhausted and I cried a lot but I don't know if it was depression. I think it was just hormones and getting over an operation and I was bored and I couldn't do a lot of what I used to be able to.
>
> I think our midwife did. We had a really close relationship with our midwife and she was actually our antenatal class educator. We changed to her after we met her at antenatal class and we had a really close relationship with her and she was very, very supportive and I think her approach was very much sort of checking on how I was going and how I was feeling about things so I could always tell her when I'd had crying outbursts in the middle of the night and all that kind of thing. I think she did that but I think it was just sort of part of who she is, the kind of support that she was providing across the board.
>
> My [midwives] were good in asking about, like, how you are going and do you need anything…
>
> …My midwife certainly did postnatally.
>
> Both my midwife and Plunket asked me how I was feeling.

Two comments from different women suggested that midwives also checked how the father was feeling.

> At times when my husband was there in the first week the midwife certainly did ask him how he was doing.
>
> Yes, I remember she asked [my partner] a lot too how he was going, it was like she was equally interested in both of us.

Some women reported being checked by their Well Child provider (Plunket).

> The Plunket, they asked.
>
> The Plunket nurse asked me.

A couple of focus group participants who had experienced depression in the past reported being aware of multiple informal checks.

> Both midwife and Plunket were really [good]; I've had depression in the past so that was in my notes from my obstetrician so the midwife at that six-week visit said 'Look, you're going to need to be aware that sleep deprivation and tiredness could bring this back and we are going to need to really keep an eye on it together', and she actually also was speaking to my husband about that and signs and things to look for and then … I mean we had only met her at the 36-week visit but she was great and I get along with her so I felt I could tell her anything, and then Plunket, I don't know whether it got, I assume it must have got transferred in my notes, but our Plunket nurse has been really … proactive about asking how I'm feeling and how I'm doing and how I'm getting along with it and everything, but we've also had a very good GP as well.
>
> My midwife did, and Plunket; I actually had a few episodes of depression while I was pregnant so I was worried that I would be a PND jobbie but as it happened, I was fine and I was just getting it out of my system while I was pregnant.

One mother who was interviewed individually reported that her midwife had encouraged her to get help for PND.

> I told my midwife that I was sad and crying all the time. She arranged for counselling and I got to see the GP.

A smaller number of comments suggested that there had been a lack of screening for PND, or, that in the current system, adequate screening was difficult.

> No, (no-one checked) – my husband was working full-time, and my aunty, she was in Petone so we normally just meet at the weekend but I found during the week it was a bit lonely.

> I found it quite hard because we never had a midwife. We had three midwives because we had the hospital team and we had different people come in. I saw different people throughout the pregnancy, and then have your baby and have whoever's on that night, and then afterwards the home visits were again different people coming. There were three ladies but they, a different one would come each time and there was one I felt like I made more of a connection with so I started to actually schedule the home visit so that she would come, like make it so it would fit with her, but I think that if I had been depressed, and I wasn't, everything was good, but if I had been, I don't know if they would have picked it up because I felt like one particular lady would come in, 'How are you going love?', she didn't know my name, she didn't know anything about me…

Another consideration is that up to seven percent of women suffer symptoms of post-traumatic stress disorder (PTSD) following birth.[34] Some of the associated behaviours and feelings look a lot like depression, and PTSD or trauma may be misdiagnosed as PND. To confuse matters, the two are often co-morbid. It is important that LMCs and Well Child providers can recognise PTSD following birth. Midwives now attend continuing professional education (CPE) workshops on both PND and PTSD. There are support groups available for women and their families and whānau on both PND and PTSD.

In summary, there is a considerable amount of literature on the nature of emotional changes following birth and it is likely that the majority of LMCs are aware of the risk of PND and informally screen their clients for it.[35] The same is probably also true of Well Child services. It was clear, however, that the screening for PND is not systematic or universal and often takes the form of the provider simply asking the mother how she feels. Such an approach is highly subjective and inevitably results in some women with PND being missed. The work of Horowitz suggests that detection of PND could be increased significantly by adapting research-based screening procedures to clinical care.[36] The systematic use of an instrument such as the Edinburgh Postnatal Depression Scale would be one such example.[37] Reliable methods to detect birth trauma (PTSD) are also needed. The possibility of systematically screening for PND is currently being considered as part of the Ministry of Health's review of Well Child services and may be a reality in the near future.

4. DISCUSSION AND CONCLUSIONS

This project provided data relevant to the quality and availability of antenatal education in New Zealand and the transitions of care between LMC and CBE and between LMC and Well Child services. Data were collected from many sources using several methods: key informant interviews; phone calls to DHBs; focus groups and some individual interviews with women; a brief questionnaire given out in maternity facilities to women who had just given birth; a brief questionnaire distributed to CBE providers; extracting data from the Plunket database; and a literature review. There were 11 objectives. The main findings relating to each one are summarised below.

4.1 Summary of results

1. Identify the providers of CBE and Well Child services in New Zealand

This project identified 90 providers of CBE and 88 providers of Well Child services (counting providers with more than one centre per DHB only once per DHB). DHB provider arms (running hospital-based courses) are the biggest provider of antenatal education in New Zealand, followed by Parents Centres. Plunket is the biggest provider of Well Child services. CBE and Well Child providers are listed by DHB in Appendix 8 and Appendix 11 respectively.

2. Describe the contractual arrangements and obligations of CBE providers

Only the CBE providers who hold contracts with DHBs have formal contractual arrangements. These arrangements are described in the *National Service Specifications for Pregnancy and Parenting Education*.[3] Courses must be a minimum of 12 hours in duration, be 'preferably' run by a facilitator with CBE qualifications and cover content on access to maternity services, pregnancy care, labour and birth care, and care following birth. Eighty percent of CBE providers reported basing their course on these specifications. Of the DHB-funded providers, only 39.5 percent reported that it was compulsory for their facilitators to hold a certificate or diploma in childbirth education.

3. Describe and compare CBE offered to women and their families and whānau by key CBE providers

The topics women most frequently remembered being covered by CBE providers were related to labour (signs of labour and options for managing pain), birth (normal and other birthing methods) and breastfeeding (benefits of breastfeeding). A high percentage of women also remembered topics such as pelvic floor exercises, relaxation, risks and benefits of different birthing methods, how to breastfeed and emotional changes after birth. The four topics women least remembered being covered in classes were the complaints procedure for maternity services, unplanned experiences, parenting programme options available and the role of Well Child services and how to access them.

Women perceived topics such as pain-relief options during labour and early experiences at home after the birth as particularly useful. Other benefits of antenatal education that women valued even more were social support, opportunities to get the father involved and confidence from knowing what to expect during labour and afterwards.

Women perceived other topics as unhelpful or felt they were not discussed in enough detail to be helpful. For example, nutrition was generally considered a waste of time because it was covered too late in the pregnancy to be of use. Topics that some women felt were not covered in enough detail were bottle feeding, unexpected events and alternative interventions and parenting after the birth of the baby.

Comparisons between DHB-funded and non-funded CBE providers showed differences in the likelihood of different topics being covered in their classes. DHB-funded providers were more likely than non-funded providers to cover a range of topics, including the effects of smoking, the effects of alcohol and other drugs, warning signs of problems during pregnancy and the role of Well Child services.

At the level of individual organisations, Parents Centres were more likely than hospital-based classes to cover topics such as warning signs of ill-health or problems during pregnancy, emotional change during pregnancy, risks and benefits of different birthing methods,

development of appropriate personal support and parenting programme options available. Hospital-based classes were more likely than Parents Centres to cover the complaints procedure for maternity services, and the effects of smoking on the health of mother and baby and options available to help give up.

In addition to content, there were differences between CBE providers in the length, structure and target population of their courses. Parents Centres, who offer relatively structured courses and require their facilitators to have a qualification in CBE, compared well against other organisations on one of the items in the women's survey. After adjusting for confounding variables, women's perception of the extent to which CBE helped them prepare for the birth experience was significantly higher for women who had participated in CBE through Parents Centres (M = 3.93) compared with hospital-based classes (M = 3.58).

4. Determine the proportion of parents who access CBE

Across all survey respondents, 41.5 percent of women attended antenatal education. The percentage of primiparous women who participated in CBE (80.1 percent) was much higher than the percentage of multiparous women (four percent). The proportion of parents accessing CBE was relatively higher in Auckland (46 percent), Capital and Coast (52 percent) and Canterbury (51 percent) regions compared with Waikato (31 percent), Lakes (32 percent) and Southland (35 percent) regions.

5. Compare the availability of CBE across the different health regions

There are large differences in the availability of funded CBE courses across New Zealand. In 2006, DHBs funded enough CBE places for anywhere between 10 percent and 100 percent of their first-time pregnant women. Capital and Coast region had the lowest availability of funded CBE places for first-time pregnant women, with only 10 percent of first-time births potentially accommodated. The low availability of funded CBE courses coupled with the relatively high rate of access to CBE in the Capital and Coast region, suggest that a higher proportion of women and their families or whānau, pay for courses in this region. Other regions that did not fund sufficient CBE places to cover 30 percent of first-time pregnant women were Northland, Waitemata and Nelson-Marlborough. These regions funded enough places to accommodate 25 percent, 16 percent and 22 percent of first-time births respectively.

6. Determine the demographics of women and families and whānau who access CBE and Well Child services

Women and families and whānau who attend CBE are generally different from those who do not attend. Most women who participated in CBE were primiparous (95.1 percent) and were married or in de facto relationships (92.6 percent). Participants were significantly more likely than non-participants to have a tertiary degree (one to four years), to be of New Zealand European ethnicity and to be earning $70,000 per year or more. Both Māori and Pacific peoples were under represented amongst women who attended antenatal education. Only 10 percent of CBE participants were of Māori ethnicity and less than one percent were of Pacific ethnicity. Participants were also less likely to be single than non-participants, although this did not reach significance.

After adjusting for all demographic variables, the strongest predictors of women's attendance at antenatal education were women's parity, whether the LMC had suggested the mother attend CBE classes, family structure and DHB. Ethnicity and household income also predicted attendance but did not quite reach statistical significance.

The ethnic makeup of parents who receive Plunket Well Child services closely mirrors that of the general population of women giving birth. On the other hand, the NZDep2001 scores of Plunket clients reflect a less deprived population than the general population of women giving birth. From July 2005 to June 2006, 22 percent of new Plunket enrolments were Māori, 10 percent Pacific and 68 percent were 'other' (mostly New Zealand European). Out of all new enrolments in this time, 66 percent had NZDep2001 scores of 1–7, 21 percent had NZDep2001 scores of 8–9 and 13 percent had NZDep2001 scores of 10.

Family demographics also differed depending on the place and type of Plunket contact (core versus additional). The percentage of contacts in non-clinical settings such as the home was higher for families and whānau living in areas of high deprivation and for Māori and Pacific families. A greater proportion of contacts in high deprivation areas were 'additional' contacts compared with less deprived areas. Similarly, a greater proportion of Māori and Pacific contacts were additional compared with contacts with families of 'other' ethnicity.

7. Describe the contractual arrangements and obligations of LMCs as they relate to transitions of care from LMC to CBE and from LMCs to Well Child care

There are no formal obligations for LMCs to refer women to CBE. However, LMCs have both contractual and professional obligations, specified in the Section 88 Maternity Notice[6] and *Midwives' Handbook for Practice,*[7] respectively, to inform women about the availability of antenatal education. This process typically takes the form of the LMC asking the pregnant woman if she has thought of attending CBE classes and then discussing possible options available in the area. It is clear, however, that CBE is not being suggested to all women. Fifty-eight percent of women who completed the survey reported that their LMC had suggested they attend antenatal education. For primiparous women, the percentage was 92 percent and for multiparous women, the percentage was 26 percent.

In contrast, there are formal obligations, specified in the Section 88 Maternity Notice, for LMCs to refer women to Well Child services. LMCs must provide a written referral to Well Child services before the baby is four weeks old and must have transferred care to the Well Child provider before the baby is six weeks old. In practice, LMCs typically discuss the handover to Well Child services with the mother and fax a written referral to Well Child services. The majority of transfers occur between two and 10 weeks. In 2006, 67 percent of transfers to Plunket occurred before six weeks, 27 percent occurred between six and 10 weeks and six percent occurred after 10 weeks.

8. Describe the contractual arrangements and obligations of Well Child service providers as they relate to transitions of care from LMC to Well Child care

Well Child services rely on receiving referrals from LMCs in order for them to initiate their side of the transfer process for individual families and whānau. According to *The Well Child Framework*[4] and Well Child current service specifications,[12] Well Child services are formally obligated to register and make contact with every family and whānau for whom they receive a referral. They are also obligated to provide services 'initially' in the family home.

After Well Child services receive the referral from the LMC, they typically phone the parent to organise the first home appointment, which is then usually conducted by six weeks. If Well Child services cannot get in contact with the family and whānau, they often go back to the LMC for more details. Additional funding is given to Well Child providers to enable them to make contact and conduct additional home visits with vulnerable families.

9. Determine the extent to which the transition between LMC and Well Child services is co-ordinated by service providers or left to the mother and her family and whānau

If the formal obligations of both LMCs and Well Child providers were adhered to, then the transition between these two services would not be left to the mother and her family and whānau. Although in practice the transition is not generally left to the parents, it was clear that in some regions, problems with the transition process between providers result in a substantial proportion of women or their families and whānau having to initiate contact with services themselves or – even worse – falling through the gaps.

Factors contributing towards parents having to take responsibility for the transition include midwives failing to make a formal written referral; midwives sending the paperwork to Well Child providers late; midwives forgetting to send the paperwork; midwives giving the paperwork to the family instead of the Well Child provider; philosophical differences between midwives and Well Child providers; Well Child providers having a lack of capacity to follow up all referrals; Well Child providers failing to follow up all referrals; parents choosing not to access Well Child services; and a lack of monitoring of the transition process.

10. Determine the extent to which women and their families and whānau are aware of their entitlements, specified in the Section 88 Maternity Notice

Women were only vaguely aware of their entitlements. If they did not have prior knowledge, they typically found out about free LMC care when they visited their GP to confirm their pregnancy. Similarly, they often found out about free Well Child care through their LMC or antenatal classes. Women expected to receive appropriate information but did not necessarily regard information as an entitlement.

Women were not aware of the specific details of entitlements such as the length of postnatal hospital stay or the number of LMC or Well Child home visits. They also seemed unaware of entitlements such as free non-LMC care for urgent pregnancy problems.

Lack of knowledge of entitlements was highlighted as a particular barrier to maternity care for young women, women of different ethnic backgrounds (particularly non-English-speaking) and women who had not been living in New Zealand for very long.

The eleventh objective, to find the gaps between the support that services aim to provide and what actually happens in practice, is discussed in further detail in Section 4.2.

4.2 Gaps between the support that maternity and Well Child services aim to provide and what happens in practice

On the whole, New Zealand has a very good maternity system. Comments made by refugees, and, indeed, just women from other countries, highlighted the strengths of New Zealand's maternity care system, which essentially provides continuous care from early pregnancy to early parenthood.

> Personally I think it is a pretty good set-up, the whole midwife, Plunket thing. I think there could be a little bit finer tuning between handover. But I think it's a really good set-up really. We're not short changed… I know my sister has just gone to live in Germany, the one I keep talking to… They don't have anything like Plunket over there. They don't really have lots of organised groups either because she is trying to find things now. They have a really good set-up here. Yeah and the doctor, not having to pay is amazing. I didn't actually realise that until the second or third go and then I finally went in and said, 'So we don't have to pay'. 'Oh no, no, not until they're five.'

> In Somalia, there is only a midwife at the hospital and there are no home visits or Plunket. There is civil war.

However, this project has revealed some gaps between what services aim to provide and what happens in practice. Five types of gaps were noted: information gaps; identification and responsiveness gaps; engagement gaps; service gaps; and clinical or performance gaps.

4.2.1 Information gaps

Maternity and Well Child services aim to provide women and their families and whānau with information to help them know what services are available, understand the types of services they provide and make informed decisions about their care. In reality, there are many women and families and whānau who are unaware of the services available. About three percent of women who did not participate in antenatal education said it was because they did not know about the classes. A much larger percentage of women lack understanding of the types of services offered by different providers. Only 31 percent remembered the topic on the role of Well Child services being covered in their antenatal classes and only 39 percent remembered providers discussing parenting programme options available. Even the relatively educated focus group participants had only a vague understanding of their entitlements. Women also reported that providers failed to give them information on specific topics that might have aided informed decision making. Such topics included unexpected events, bottle feeding, and parenting.

The information gap exists for providers as well as the general public. One key informant commented that there was a lack of understanding amongst professionals about the role of midwives and that this contributed to mistrust between different providers. Key informants also felt there was a lack of information shared between providers that might enable them to better understand families and whānau and co-ordinate services for them.

These gaps might be addressed by providing more information to professionals and the public about the services offered by different providers. Providers taking the time to get together and talk to each other might also facilitate the building of trust, respect, information sharing and links between services.

4.2.2 Identification and responsiveness gaps

Services aim to identify and respond appropriately to women and families and whānau who have higher needs or are at risk of a range of adverse outcomes. In practice, many families are missed. For example, facilitators of antenatal education may fail to detect women who are not emotionally ready to have children and LMCs or Well Child providers may not recognise that a woman is suffering from PND. This project highlighted the informal and subjective nature of current screening for PND. Under such a system, women who do not have severe PND are less likely to be detected and supported adequately.

Part of the problem is a lack of systematic screening or monitoring, and the other part is a lack of responsiveness. Issues such as loneliness and family violence will often be detected by LMCs but sometimes there are just not the resources or system to follow up appropriately.

Addressing this gap will require careful consideration of screening tools (such as those for PND or wellbeing of the family), development of appropriate information technology infrastructure to support monitoring systems (such as Kidslink), embedding of systematic procedures and continuing workforce development.

4.2.3 Engagement gaps

Services aim to successfully engage women and families and whānau. This includes achieving good access rates, rapport between provider and family whānau, and retention of families and whānau in the service. It is widely recognised that families living in the most deprived areas, with the greatest need, are often the most difficult to engage. Some funding models, such as that described in *The Well Child Framework*, acknowledge this and accordingly allocate a higher level of resources for engaging high needs families.[4] Despite considerable government financial commitment to target resources towards those most in need, the 'law of inverse care' stubbornly persists and large gaps remain in engagement rates for vulnerable families and whānau. The 20 percent of primiparous women who do not participate in antenatal education are significantly more disadvantaged than women who do participate. The NZDep2001 scores of women who received Plunket services in 2005 and 2006 were lower (representing less deprivation) than women who did not receive Plunket services. Many of the barriers to accessing Well Child services, described in Section 3.7.4, contribute to the gaps. These include language barriers, lack of cultural competence, lack of knowledge, relationships and links between providers and lack of monitoring, to name a few of the barriers with identifiable solutions.

To address the engagement gap, providers need to understand engagement as an ongoing process, find innovative ways of reaching out to people, consider how their services are packaged and make services more attractive to and suitable for different client groups. For example, many disadvantaged families find themselves alienated from the education system. Offering antenatal education in the form of 'classes' therefore immediately creates a barrier for them. In addition, focus group participants almost unanimously agreed that they felt more comfortable and benefited more from the social support afforded by homogeneous groups of women. It is no surprise, then, that single, teenage mothers generally do not attend antenatal classes with married, educated, older women or that refugee women are absent from these courses. Distinctive differences between different population groups will need to be catered for.

4.2.4 Service gaps

Services aim to achieve good coverage of their target population and an equitable level of servicing across different regions in New Zealand. This project highlighted gaps in both service coverage and equity of servicing across regions. For example, a common complaint from focus group participants was the shortage of midwives in Wellington, evidenced by the difficulty women had faced in finding an LMC in the Wellington region. The result was that many women in this region registered late with an LMC or resorted to going through the hospital system, where they potentially missed out on the benefits associated with the continuity of having just one midwife as LMC.

One of the reasons given by a key informant for not introducing systematic screening for PND is a lack of follow-up options for women who are recognised as having mild to moderate PND. Specialist mental health services provide services only to people with severe mental health problems. Primary mental health care, which is a more suitable setting for treating mild to moderate mental health problems, is still in an early phase of development in New Zealand. By the end of 2008, most primary health organisations (PHOs) will have established primary mental health initiatives. However, funding for primary mental health care is still relatively small and services are being provided to only a small number of patients. There remains a significant gap in service delivery for people with mild to moderate mental health problems.

This project also found that the availability of antenatal education varied greatly in different regions, with some DHBs funding sufficient CBE places for 100 percent of their first-time mothers (Tairawhiti and West Coast) and other DHBs funding places for as few as 10 percent of their first-time mothers (Capital and Coast). Many of these service gaps will only be properly addressed through increased funding or reprioritisation of resources for these services.

4.2.5 Clinical or performance gaps

Providers aim to provide services that meet consumers' needs and are of high quality. Unfortunately, consumers' needs are all too often not met and the quality of services is questionable. While providers of antenatal education aim to help mothers and families and whānau prepare for the birth experience and early parenting responsibilities,

about 12 percent of women who participated responded that the classes had not helped them to prepare for the birth experience (circled 1 or 2 on a 5-point Likert scale) and 19 percent responded that classes had not helped them to prepare for parenting. Clearly, this represents a gap between the aims of antenatal education and its performance.

One of the factors that might contribute to this gap is the variability in the qualifications and experience of class facilitators. As shown in this study, only 40 percent of providers required their facilitators to hold a qualification in CBE. While qualifications do not necessarily make a good facilitator, they tend to decrease the variability between classes and are an important measure of quality.

Other providers also have performance gaps. While there have been improvements in the transfer process between LMC and Well Child services, clearly not all obligations related to this transition are being met. This is evidenced by the 33 percent of transfers to Plunket that occur after six weeks, not to mention the transfers that do not occur at all. Key informants went so far as to say that in some areas of the country, parents are often left to take responsibility for the transition themselves.

These types of gaps may be addressed by quality-improvement processes such as auditing of services, rewarding particular targets, measurement and monitoring of outcomes and collecting regular consumer feedback. Clinical outcomes that consistently fall short of aims will necessitate re-examining of the content of programmes as well as further workforce development.

4.3 Implications

4.3.1 Content of antenatal classes

The CBE topics that women remembered being covered related to labour, birth and breastfeeding, were also topics that focus group participants valued and considered useful. However, women also voiced a number of concerns about topics covered or not covered in antenatal classes that have implications for the existing content of classes. Several women commented on how valuable class time was spent discussing nutrition-related information that was unlikely to be of benefit to women who were usually in their third trimester of pregnancy. Clearly, if classes are to make a difference to women's nutritional status, they must be initiated early in the pregnancy.

Although there are good reasons for focusing on natural (vaginal) childbirth and the importance of breastfeeding in antenatal classes, the comments of many women suggested that these topics had been emphasised to the detriment of women who did not, for whatever reason, end up having a vaginal childbirth or breastfeeding. These women reported feeling guilty or inadequate because they had not been able to do the best thing for their baby or themselves. There are good grounds for New Zealand antenatal classes to continue to emphasise the benefits of vaginal childbirth and breastfeeding, but these topics should not be pushed to the detriment of women's mental health.

A related issue is women not being prepared for unexpected events or alternative interventions. Consistent with the comments of several focus group participants in this study, English women expressed concern in interviews that the emotional impact of operative delivery had not been considered as part of antenatal preparation.[38] Emotional preparation for such events is not easy but antenatal classes may have more success if they help women have realistic expectations. A lack of realism or honesty in classes has been blamed for women feeling unprepared for deviations from the normal course of labour[39] and may be a reason why couples who strongly wish to avoid pharmacological methods of pain relief during labour frequently do not achieve their goal.[40] It is therefore important that antenatal classes aim to help parents achieve realistic expectations of the birth experience and transition to parenthood.

Consistent with anecdotal evidence, parents wanted more information on parenting. Several studies have argued that antenatal classes should focus more on parenthood[41,42,43] and the psychological impact of having a child.[44] One of the main issues concerning the inclusion of content on parenting has been the timing of the classes. Parents appear more receptive to information delivered when it is most needed and Australian research suggests that parents are not predisposed to absorb information about postnatal issues during the prenatal period. Similarly, it has been argued that men and women are possibly so preoccupied with the issues of labour and childbirth that they are not ready to absorb information on relationship, lifestyle changes and parenting until the challenge becomes a reality.[46] On the other hand, antenatal programmes should not be compromised by educators who believe that pregnant women cannot learn.[47] In addition, Nolan's research indicates that couples desire

a balance between labour and delivery and postnatal issues.[41] Furthermore, there is now good evidence that information provided during antenatal classes on parenting has positive effects on parenting knowledge and self-efficacy after the birth.[42] Therefore, information on parenting should form a key component of antenatal classes, rather than a small section covered right at the end of the course.

Many focus group participants felt there was a need for postpartum classes, although when they did attend them, these classes were often perceived as less useful than they could have been because of the timing of when they were offered. Women typically attended postpartum classes five to six weeks after giving birth, by which time they had already had to work out many of the baby care issues that were covered in the classes (such as bathing, sleeping and nappies).

One of the things women most valued about CBE classes was the opportunity to get fathers involved. No other life event has a more profound impact on a couple's relationship, and there is growing evidence that couples are more concerned about emotional and relationship issues than practical issues of childbirth and infant care.[48] Classes should therefore include discussion of emotional and relationship issues related to the transition to parenthood. Such discussion may also provide an explicit opportunity for educators to recognise vulnerable women and families and whānau and organise for them to receive additional support.

Finally, there is considerable room for improvement in the degree to which antenatal education prepares parents emotionally to have children. Providing more information on parenting strategies might help to address this issue. Another potential modification to antenatal education that deserves consideration is to refocus classes to concentrate on developing in participants the related concepts of empowerment and health literacy. Empowerment refers to acquiring self-help abilities and attitudes during a difficult period and involves not just allowing parents to participate in classes, but showing them how to develop the tools to solve their own problems.[49] A health literacy approach focuses on the development of the skills and confidence to make choices that improve individual health outcomes, rather than being limited to the transmission of information.[50] The resulting increases in skills and confidence may help parents emotionally prepare to have children and may reduce pressure on childbirth educators to cover everything relevant to pregnancy, childbirth and parenting in their classes.

4.3.2 Format of antenatal classes

The finding that women who participated in antenatal courses offered through Parents Centres rated the classes as more helpful in their preparation for childbirth than women who attended courses through other providers (such as hospital-based classes) deserves closer attention. Parents Centres courses are based on the national service specifications, have a structured curriculum with some flexibility to tailor classes to the learning needs of the group and are facilitated by qualified childbirth educators. They are generally attended by a relatively homogeneous group of women (particularly the courses that women and families and whānau pay to attend).

The quality of an antenatal course cannot be determined by any of these variables in isolation. For example, there are likely to be courses of equally high quality that have minimal structure and are run by facilitators who do not hold CBE qualifications. Nevertheless, the consistency in topics covered by Parents Centres and the CBE qualifications required of their facilitators ensure less variability in the quality of their classes, undoubtedly contributing to positive outcomes.

Other important determinants of the quality of classes are likely to be the extent to which facilitators base their teaching on principles of adult learning and provide opportunities for experiential learning. There have been consistent calls for classes to be based on principles of adult learning. These principles include allowing choice and self-direction in the learning process; having clearly defined goals; respecting current viewpoints; building on previous experience and providing opportunities for parents to learn from each other's experiences and ideas; incorporating small-group discussions (including same-sex discussion groups); and being treated as equals in the learning process. Experiential learning (learning by doing) involves providing time for women and men to practise the use of strategies.

Homogeneity of classes may also be important. Comments from focus group participants suggested that homogenous groups 'gelled' better, provided an environment in which women felt more comfortable with asking questions and resulted in more ongoing social contact and support from other participants in the group. Such comments are consistent with refugee women's expressed preference for attending classes with women who spoke their language, and underscore the importance of offering kaupapa Māori and Pacific courses. Homogeneous classes may also allow better matching of information given with the learning needs of participants.

Consideration should also be given to offering courses on a broader timescale to better align with parents' information needs. For example, such a programme may include content on nutrition and substance use early in the pregnancy, classes on coping with labour later in pregnancy and classes on infant care and parenting either late in pregnancy or soon after the baby is born. Robertson suggests that spreading the sessions over several months in this way helps people to develop friendships and support networks, as it gives them longer to connect, compared with the shorter duration of most programmes.[52]

4.3.3 Skills and knowledge required by childbirth educators

The content and format recommendations above have implications for who should be delivering antenatal education. At present, it is clear that facilitators of antenatal classes are not necessarily trained in CBE or the principles of adult education.[53] Only 40 percent of providers in the current study required their facilitators to have a qualification in CBE. Brown found that, of the 14 childbirth and parenting educators she interviewed in one Australian state, only one had undertaken a short eight-hour course.[54] The consequence of this is that childbirth educators generally rely on didactic teaching methods and focus on knowledge transfer and the development of basic skills associated with childbirth and potentially miss the opportunity to facilitate deeper emotional preparation and the skills that have more enduring application during the early years of childhood.[55]

An important question is: Should facilitators be required to have a minimum qualification in CBE? There is an argument for and against such a requirement. On the one hand, making CBE qualifications compulsory for facilitators is a way of maintaining a minimum standard of professionalism and competence which may ultimately benefit women and their families and whānau. On the other hand, making the qualification compulsory would restrict the number of people who could run antenatal classes and, at least in the short term, decrease the availability of facilitators. Requiring facilitators to have the CBE qualification also fails to acknowledge the many women with enormous experience who have no qualification but who are currently offering the classes quite competently. It seems fairly clear that, as long as the facilitator has good 'people' skills, there are certain topics that do not require a tertiary degree. It is equally clear that there are topics which do require special knowledge and skills. The jury is still out on this debate.

Making a decision on the minimum qualifications compulsory for facilitators will require a larger question to be answered: What do we want to achieve with antenatal education? If the answer is to focus on improving health literacy, empower women, offer more parenting strategies, address relationship and emotional issues and better prepare parents emotionally for the whole experience, then educators are likely to need more training.

Encouragingly, different studies have shown that only a small amount of additional training may be necessary to achieve positive outcomes. For example, in Svensson et al's study, childbirth educators who had received only an additional four hours of training could refocus the content and process of their classes to include more experiential activities, small group learning and parenting content.[42] The changes resulted in increased self-efficacy and knowledge for parents, relative to parents who had completed the standard course. Similarly, in Diemer's study, childbirth educators received only brief training in how to shift the focus from preparation for labour to parental adaptation and a more father-focused curriculum, including small-group methods.[56] The refocused classes resulted in benefits for fathers over standard antenatal classes that had been run by the same educators.

Regardless of qualifications, it is critical that facilitators maintain a professional role and provide evidence-based information rather than advocating a particular approach on the basis of personal experience or opinion alone. Ideally, childbirth educators should have knowledge and skills in the use of adult learning principles; experiential learning; empowering parents and increasing parental self-efficacy and health literacy; discussing difficult emotions and relationship issues; parenting strategies; being sensitive to participants' individual situations, cultures and learning desires; professionalism and understanding how other parts of the maternity system work.

4.3.4 Interface between LMC and CBE

The Section 88 Maternity Notice obligates LMCs to inform women about the availability of antenatal education. Even if LMCs inform all women about the availability of CBE, this is not the same as suggesting to women that they attend antenatal education. In this project, 58 percent of women reported that their LMC had suggested they

attend CBE. This figure was much higher for primiparous women, but eight percent of primiparous women still did not remember their LMC recommending they attend CBE.

The finding that an LMC's recommendation to attend CBE was a significant predictor of mothers' attendance suggests that, if the aim is to increase rates of attendance at CBE, it is worth considering ways of influencing LMCs to recommend CBE to their clients more frequently. Short of formalising the referral process between LMC and CBE, there are a couple of different options. The major group of women whom LMCs do not send on to CBE are multiparous. This is because LMCs do not perceive classes are useful or relevant for multiparous women. To change recommendation rates, providers need to either change this perception (amongst LMCs and women) or to offer a greater range of refresher courses for multiparous women. Similarly, a higher rate of Māori or Pacific women might be recommended classes by LMCs if there were more providers who offer kaupapa Māori or Pacific antenatal courses. CBE providers may also need to increase their efforts to develop good relationships with LMCs.

4.3.5 Transition between LMC and Well Child provider

Recently, much attention has been paid to the transition between LMC and Well Child services. Although the reliability of the transition has improved in recent years, there are still problems on both the LMC and Well Child provider sides that contribute to families and whānau falling through the gaps. Further improvement of the handover process, so that more families and whānau are transferred before six weeks, may require a combination of steps, including auditing of the process; better communication and opportunities for relationship building between LMCs and Well Child providers; increasing resources to enhance the capacity of LMCs to comply with formal referral requirements and to increase the capacity of Well Child providers to follow up referrals; and public education about entitlements and the services offered by Well Child providers and why they are important.

4.4 Strengths of the research

The strengths of this research project are listed below.

> Several different research methods were used, including both qualitative and quantitative measures. This allowed comparison of results obtained by different methods, more thorough exploration of research questions and easier recognition of gaps between providers' aims and what happens in practice.

> A significant number of women completed the brief questionnaire shortly after giving birth (N = 878). Questionnaires were returned from all DHB regions in New Zealand.

> A reasonable percentage of women who returned questionnaires were Māori (14 percent).

> Multiple methods were used to identify CBE providers, resulting in a total of 45 CBE providers who completed questionnaires. This represented 70 percent of the provider organisations that were sent the questionnaire.

> Efforts were made to include women of low socio-economic status and Māori or Pacific ethnicity in focus groups, including holding one focus group for Pacific women, one for Māori women, and one in a disadvantaged area of Wellington. Individual interviews were held with refugee women and women who could not attend focus groups.

> Two new quantitative measures were developed – one for women, one for CBE providers – which may be of use again in the future.

> The project produced an updated list of CBE and Well Child providers in New Zealand (see Appendix 8 and Appendix 11 respectively).

> Multivariable modelling allowed relationships between variables to be tested while controlling for the effects of confounding variables. The relationship between mothers' perception of the effectiveness of classes in preparing them for childbirth or parenthood and the organisation through which mothers attended antenatal classes was explored (Section 3.3.6) and the strongest predictors of attendance at antenatal education were isolated (Section 3.3.9).

> Data obtained on the number of births in 2006, the number of first-time births in 2006 and the number of funded CBE places in 2006 allowed the availability of antenatal education to be compared across different DHB regions.

> Research questions helped to provide clarity about the contractual arrangements and obligations of LMCs and Well Child providers as they relate to transitions of care (Sections 3.6.1 and 3.7.2).

- The data collected provide a snapshot of the state of antenatal education and transitions of maternity care in New Zealand. New evidence was obtained on:
  - the proportion of women who access antenatal education across the different DHB regions (Section 3.3.7)
  - the availability of antenatal education across the different DHB regions (Section 3.3.8)
  - the demographics of New Zealand women and families and whānau who attend antenatal education (Section 3.3.9)
  - the proportion of women whose LMCs suggest they attend antenatal education (Section 3.2.1)
  - the proportion of CBE providers who require facilitators to hold a qualification in CBE (Section 3.3.3)
  - the proportion of women who remember different topics being covered in their CBE classes (Section 3.3.5)
  - differences between CBE providers on the topics covered in their classes (Section 3.3.6).

4.5 Limitations of the research

The project also has a number of limitations.

- Sample size – although 878 women returned questionnaires, the cell sizes for some analyses were small, meaning that robust comparisons across all DHB regions were not possible and some analyses were underpowered, making it difficult to detect significant effects. Percentages based on relatively small numbers must be interpreted with caution.
- Sample representativeness – as with virtually all surveys with modest response rates (about 18 percent), there was inevitable bias in the sample of women who returned their questionnaires. Women who returned the survey were on higher incomes and were more educated than the general population of women giving birth. Although the proportion of Māori women returning questionnaires (14.1 percent) was nearly representative of the proportion of Māori women of reproductive age in the general population (15.3 percent), this figure under-represents the proportion of all births to Māori women (19.9 percent).[1] Similarly, Pacific mothers (who account for 10.1 percent of all births) were under-represented in the sample.[1] Results should be interpreted with this bias in mind. For example, results from the survey showed that 41.5 percent of women attended antenatal education. This figure likely overestimates the true proportion of women attending antenatal education.
- The reliability and validity of the two new measures developed for this project are unknown. However, many of the demographic questions used standardised response options widely used in other New Zealand instruments (such as the Census).
- It was difficult to identify providers of pregnancy and parenting education who do not hold contracts with DHBs. Although several methods were used to identify non-DHB-funded providers, they are likely to be under-represented in the sample.
- Figures given by DHBs on the number of funded CBE courses did not always match figures given by providers. Table 10, which shows the availability of antenatal education in different DHB regions (Section 3.3.8), should be interpreted with caution, particularly for those DHBs which had missing data (Table 10).
- For some analyses, CBE courses were treated as if they were a uniform programme across all providers. For example, differences between attenders and non-attenders of CBE courses in their level of emotional readiness to have children were examined (Section 3.3.10). However, as has been shown, there is substantial variability in classes around the country, even amongst providers who hold DHB contracts. Therefore, such analyses obscure the possibility that some classes may be more effective than others in helping women and families emotionally prepare for childbirth and parenting.

4.6 Final comments

This project has provided a snapshot of antenatal education and transitions of maternity care in New Zealand. It is important to understand suggestions for improvement within the context of international acknowledgement of New Zealand as a leader in the field of maternity services.

Antenatal education represents an important component of maternity services and, more broadly, primary health care. It provides a unique opportunity to promote healthy behaviours, increase social support, prepare women and their partners for childbirth and parenting and to detect vulnerable women and their families and whānau. The skills and confidence that can be enhanced in antenatal classes can help to ensure that the new life phase begins as a positive, healthy experience.

Generally, women and their families and whānau are satisfied with antenatal education, but there is room for improvement in both the quality and availability of classes. Changes could be made to antenatal education to increase its effectiveness in improving parents' health literacy, self-efficacy, emotional preparation for parenthood and life skills. These changes may require considerable commitment, but in the words of Andrea Robertson, a consultant in childbirth education and the principal of Associates in Childbirth Education (ACE) in Australia, 'we can't afford to let this once-in-a-lifetime opportunity for promoting life skills … slip away through a lack of commitment within the system'.[57] In order to ensure the prioritisation of antenatal education with purchasers and providers, childbirth teachers may need to define the criteria by which it can be audited more clearly.[58]

Antenatal education is evolving.[59] It began as *childbirth* education, and as the scope of classes broadened to encompass more than just strategies for coping with labour and birth, it became *antenatal* education. It is possible that with the recognition of the importance of better preparing parents for parenthood and the emotional and relationship issues the transition engenders, that in the future women and their partners may regularly attend *perinatal* classes. There have been calls from researchers and clinicians to 'lift our game'.[57] It is hoped that this project may contribute to the ongoing refinement of antenatal education and transitions of maternity care in order to better equip women and their partners to navigate the birth experience and the transition to parenthood.

REFERENCES

[1] Ministry of Health. (2007). *Report on maternity: Maternal and newborn information 2004*. Wellington: New Zealand Health Information Service.

[2] Health Funding Authority. (2000). *Maternity services: A reference document*. Hamilton: Health Funding Authority.

[3] Ministry of Health. (2002). *National service specification for pregnancy and parenting education*. Wellington: Ministry of Health & DHBNZ.

[4] Ministry of Health. (2002). *The well child framework*. Wellington: Ministry of Health. Available at: http://www.moh.govt.nz

[5] Ministry of Health. (2002). *Maternity services: Notice pursuant to section 88 of the New Zealand Public Health & Disability Act 2000*. Wellington: Ministry of Health.

[6] Ministry of Health. (2007). *Maternity services: Notice pursuant to section 88 of the New Zealand Public Health & Disability Act 2000*. Wellington: Ministry of Health.

[7] New Zealand College of Midwives. (2005). *Midwives' handbook for practice*. Christchurch: New Zealand College of Midwives.

[8] Parents Centres New Zealand Inc. (2006). *Parents Centres handbook*. Mana, Wellington: Parents Centres NZ Inc.

[9] Aoraki Polytechnic. (2007). *Diploma in Childbirth Education: 2007 student handbook*. Canterbury: Aoraki Polytechnic.

[10] Ministry of Health. (1996). *Well child – tamariki ora: National schedule*. Wellington: Ministry of Health.

[11] Ministry of Health. (2002). *Well child – Tamariki Ora: National Schedule Handbook*. Wellington: Ministry of Health.

[12] Ministry of Health. (2003). *Well Child services: Current service specification*. Wellington: Ministry of Health & DHBNZ.

[13] Allen & Clarke. (2006). *Well child services: Literature review and analysis*. Report prepared for the Ministry of Health. Wellington: Allen & Clarke Policy and Regulatory Specialists Limited.

[14] Ministry of Health. (2008). *Maternity services consumer satisfaction survey 2007*. Wellington: Ministry of Health.

[15] Hodnett, E.D. (2000). 'Continuity of caregivers for care during pregnancy and childbirth'. *Cochrane Database of Systematic Reviews,* 2: CD000062.

[16] Tough, S.C., Johnston, D.W., Siever, J.E., Jorgenson, G., Slocombe, L., Lane, C., & Clarke, M. (2006). 'Does supplementary prenatal nursing and home visitation support improve resource use in a universal health care system? A randomised controlled trial in Canada'. *Birth: Issues in Perinatal Care,* 33(3): 183–194.

[17] Dragonas, T., & Christodoulou, G.N. (1998). 'Prenatal care'. *Clinical Psychology Review,* 18(2): 127–142.

[18] *Having a baby in Europe*. . Public Health in Europe, 26. Copenhagen: World Health Organisation (1985), Regional Office for Europe.

[19] Lee, H., & Shorten, A. (1999). 'Childbirth education classes: Understanding patterns of attendance'. *Birth Issues,* 8(1): 5–12.

[20] New South Wales (NSW) Standing Committee on Social Issues. (1998). *Working for children: Communities supporting families. Inquiry into parent education and support programs*. Sydney, New South Wales Government.

[21] Cliff, D., & Deery, R. (1997). 'Too much like school: Social class, age, marital status and attendance/non-attendance at antenatal classes'. *Midwifery,* 13(3): 139–145.

[22] Lumley, J., & Brown, S. (1993). 'Attenders and nonattenders at childbirth education classes in Australia: How do they and their births differ?' *Birth,* 20(3): 123–131.

[23] Schneider, Z. (2001). 'Antenatal classes in Victoria: What the women said'. *Australian Journal of Midwifery,* 14(3): 14–21.

[24] Gager, C.T., McLanahan, S.S., & Glei, D.A. (2002). 'Preparing for parenthood: Who's ready, who's not?' In N. Halfon, K.T. McLearn, & M.A. Schuster (Eds.), *Child rearing in America: Challenges facing parents with young children* (pp. 50–80). New York: Cambridge University Press.

[25] Brown, S., Lumley, J., & Small, R. (1998). 'Early obstetric discharge: Does it make a difference to health outcomes?' *Paediatric and Perinatal Epidemiology,* 12*:* 49–71.

[26] Ministry of Health. (2004). *Your pregnancy, To Haputanga: A guide to pregnancy and childbirth in New Zealand*. Wellington: Ministry of Health. Available at http://www.healthed.govt.nz/uploads/docs/HE1420.pdf

[27] Ministry of Health. (2006). *Primary maternity services notice 2007: Proposal for consultation*. Wellington: Ministry of Health.

[28] Kerslake Hendricks, A., & Balakrishnan, R. (2005). *Review of parenting programmes*. Wellington: Families Commission.

[29] Salmond, C., & Crampton, P. (2002). *NZDep2001 Index of Deprivation*. Wellington: Department of Public Health, Wellington School of Medicine and Health Sciences. http://www.moh.govt.nz/moh.nsf/Files/phi-research-report/$file/phi-research-report.pdf

[30] Thompson, M., Curry, M.A., & Burton, D. (1998). 'The effects of nursing case management on the utilization of prenatal care by Mexican-Americans in rural Oregon'. *Public Health Nursing,* 15(2): 82–90.

[31] O'Hara, M.W., & Swain, A.M. (1996). 'Rates and risk of postpartum depression – A meta-analysis'. *International Review of Psychiatry,* 8: 37–54.

[32] Dennis, C.L., & Ross, L.E. (2006). 'The clinical utility of maternal self-reported personal and familial psychiatric history in identifying women at risk for postpartum depression'. *Acta Obstetricia et Gynecologica Scandinavica,* 85(10): 1179–1185.

[33] Murray, L. (1992). 'The impact of postnatal depression on infant development'. *Journal of Child Psychology and Psychiatry,* 33: 543–561.

[34] Welford, H. (1998). *National Childbirth Trust, book of postnatal depression.* Britain: Thorsons.

[35] White, G. (2006). *Postnatal moods: Emotional changes following birth.* Wellington: Random House.

[36] Horowitz, J.A. (2006). 'Community-based postpartum depression screening within the first month after delivery'. *Contemporary Nurse Journal,* 21(1): 85–93.

[37] Cox, J.L., Holden, J.M., & Sagovsky, R. (1987). 'Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale'. *British Journal of Psychiatry,* 150: 782–786.

[38] Murphy, D.J., Pope, C., Frost, J., & Liebling, R.E. (2003). 'Women's views on the impact of operative delivery in the second stage of labour: Qualitative interview study'. *British Medical Journal,* 327.

[39] Nolan, M. (1999). 'Antenatal education: Past and future agendas'. *The Practising Midwife,* 2(3): 24–27.

[40] Nolan, M. (2000). 'The influence of antenatal classes on pain relief in labour 2: The research'. *The Practising Midwife,* 3(6): 26–31.

[41] Nolan, M. (1997). 'Antenatal education: Failing to educate for parenthood'. *British Journal of Midwifery,* 5(1): 21–26.

[42] Svensson, J., Barclay, L., & Cooke, M. (in press). 'Randomised-controlled trial of two antenatal education programmes'. *Midwifery.* DOI:10.1016/j.midw.2006.12.012.

[43] Smedley, A. (1999). Do childbirth and early parenting programs meet the needs of the client? *International Journal of Childbirth Education,* 14(1): 18–21.

[44] Gulland, A. (1998). 'Life after birth, midwives should be teaching prospective parents about the psychological impact of having a child'. *Nursing Times,* 94: 20–26.

[45] Harris, M.J. (1990). 'How much parenting is a health responsibility?' *Medical Journal of Australia,* 153(11&12): 696–698.

[46] Fletcher, R., Silberberg, S., & Galloway, D. (2004). 'New fathers' postbirth views of antenatal classes: Satisfaction, benefits, and knowledge of family services'. *The Journal of Perinatal Education,* 13(3): 18–26.

[47] Schneider, Z. (2002). 'An Australian study of women's experiences of their first pregnancy'. *Midwifery,* 18(3): 238–249.

[48] Parr, M. (1998). 'A new approach to parent education. *British Journal of Midwifery,* 6(3): 160–165.

[49] Dumas, L. (2002). 'Focus groups to reveal parents' needs for prenatal education'. *The Journal of Perinatal Education,* 11(3): 1–9.

[50] Renkert, S., & Nutbeam, D. (2001). 'Opportunities to improve maternal health literacy through antenatal education: An exploratory study'. *Health Promotion International,* 16(4): 381–388.

[51] New South Wales (NSW) Standing Committee on Social Issues. (1998). *Working for children: Communities supporting families. Inquiry into parent education and support programs.* Sydney: New South Wales Government.

[52] Robertson, A. (1999). 'A new approach to antenatal education'. *The Practising Midwife, 2*(2): 17–18.

[53] NSW Health. (1998). *Five year goals, objectives, and strategies for maternity services.* Discussion paper for comment. NSW, Australia: NSW Health.

[54] Brown, V. (1999). *Childbirth education programs in one Australian state: A phenomenological inquiry.* Master of Nursing. The Royal Melbourne Institute of Technology. Ongoing research thesis.

[55] Renkert, S., & Nutbeam, D. (2001). 'Opportunities to improve maternal health literacy through antenatal education: An exploratory study'. *Health Promotion International,* 16(4): 381–388.

[56] Diemer, G.A. (1997). 'Expectant fathers: Influence of perinatal education on stress, coping, and spousal relations. *Research in Nursing and Health,* 20: 281–293.

[57] Robertson, A. (2001). 'Prenatal education: Time to lift our game'. *The Practising Midwife,* 4(1): 38–39.

[58] Nolan, M.L., & Hicks, C. (1997). 'Aims, processes and problems of antenatal education as identified by three groups of childbirth teachers'. *Midwifery,* 13(4): 179–188.

[59] Humenick, S.S. (2000). 'Letter from the Editor: The evolution of childbirth educator to perinatal educator'. *The Journal of Perinatal Education,* 9(1): vi–vii.

APPENDIX 1: Questionnaire for women

PARENTS CENTRE families commission kōmihana ā whānau

From early pregnancy to early parenting: Childbirth education in New Zealand

Instructions: This questionnaire is completely anonymous and will take about 5 minutes to complete. It should be completed by the mother of the baby. Please circle or write in the best answer that applies to you and/or your family/whānau. Then put your completed questionnaire in the reply paid envelope and post it back to us (Dr Sarah Dwyer, Parents Centres NZ Inc, PO Box 54128, Mana 5247). If you have any questions or would like help to complete this questionnaire, please call Dr Sarah Dwyer on 04 476 2424.

1. Is this your first baby you have given birth to?
   a. Yes (Go to Q3) b. No (please circle)
2. If not, how many babies have you given birth to? (including this birth) _____
3. Did you have a Lead Maternity Carer (LMC) for this pregnancy?
   a. Yes (Go to next Q) b. No (Go to Q5) c. Don't know
4. Did your LMC suggest you attend (or refer you to) childbirth education or antenatal classes?
   a. Yes b. No c. Don't know
5. Did you attend childbirth education or antenatal classes while you were pregnant with this child?
   a. Yes (Go to next Q) b. No (Go to Q10) c. Don't know
6. If you did attend childbirth education or antenatal classes, which organisation did you attend them with?
   a. Parents Centres
   b. Plunket
   c. Nga Maia
   d. Birthcare
   e. MAMA (Mothers and Midwives Assoc.)
   f. Home Birth
   g. Birth Wise
   h. SAMCL (Southern Auckland Maternity Care Ltd
   i. Hospital-based classes
   j. Other (please describe) _____
7. Which of the following topics were covered in the classes that you attended? (circle all that apply)
   a. The role of the Lead Maternity Carer (LMC)
   b. Information on women's support networks available in the community
   c. The complaints procedure for maternity services
   d. The effects of smoking on the health of mother & baby, & options available to help give up
   e. The effects of alcohol and drugs on the health of mother & baby, & options available to help stop
   f. Mother's and baby's nutritional needs during pregnancy
   g. Screening and diagnostic tests (eg ultrasounds, HIV, rubella, sugar, rhesus tests, nuchal screening, amniocentesis)
   h. Warning signs of ill-health or problems during pregnancy
   i. Physical changes during pregnancy (eg pregnancy discomforts, nausea and sickness)
   j. Emotional changes during pregnancy (eg tearfulness, mood swings)
   k. Pelvic floor exercises
   l. Stretching and exercise
   m. Relaxation skills (eg breathing awareness, use of massage and touch)
   n. Signs of labour
   o. Ways of managing pain during labour
   p. Description of normal and other birthing methods (eg caesarean)
   q. Options available to women in labour & birthing (eg position during labour, drug interventions)
   r. Risks and benefits of different birthing methods
   s. The benefits of breastfeeding
   t. The importance of exclusive breastfeeding for the first six months
   u. How to breastfeed and/or where to go for help
   v. Physical changes after birth
   w. Emotional changes after birth (eg awareness of postnatal depression & preventative steps)
   x. Early days at home (eg ideas for coping, tiredness)
   y. Self care as a mother (eg nutrition, exercise)

z. Development of appropriate personal support
aa. Unplanned experiences (eg sick or premature infant, special needs babies)\
bb. Safety of the baby (eg how to prevent SIDs - cot death)
cc. Early parenting skills (eg bonding with baby, engaging with baby)
dd. Parenting programme options available
ee. The role of Well Child services and how to access them
ff. Vaccinations and tests after the baby is born
gg. Other (please describe) _____

8. To what extent did your attendance at these classes help prepare you for the birthing experience?

1.	2.	3.	4.	5.
Not at all				To a great extent

9. To what extent did your attendance at these classes improve your confidence and ability to be a good parent for this baby?

1.	2.	3.	4.	5.
Not at all				To a great extent

10. If you **did not** attend childbirth education or antenatal classes, why not? (circle all that apply)
    a. I did not know about these classes.
    b. I was aware of these classes but they are not available in my area.
    c. The classes cost too much.
    d. I attended childbirth education or antenatal classes during an earlier pregnancy.
    e. I did not think childbirth education or antenatal classes would be helpful/useful.
    f. I obtained the information I wanted from other sources (eg LMC, family/whānau, books, internet)
    g. Other (please describe)

11. Do you feel emotionally ready to have this child?

1.	2.	3.	4.	5.
Not at all				Completely

12. What suburb do you live in? _____(include postcode if you know it)

13. What is your date of birth? _____(dd/mm/yyyy)

14. Which of the following best describes your family situation?
    a. Living with my partner and our child/ren **(married or civil union)**
    b. Living with my partner and our child/ren **(de facto)**
    c. Living on my own with my child/ren
    d. Living with my child/ren and a new partner **(married or civil union)**
    e. Living with my child/ren and a new partner **(de facto)**
    f. Other (please describe) _____

15. What is your highest educational qualification? (for overseas qualifications, circle equivalent)
    a. No qualification
    b. Fifth Form Certificate in one or more subjects, or National Certificate level 1
    c. Sixth Form Certificate in one or more subjects, or National Certificate level 2
    d. NZ Higher School Certificate, Higher Leaving Certificate, or National Certificate level 3
    e. Tertiary degree (1-4 years)
    f. Masters/Doctorate

16. Which ethic group do you identify with?

a.	New Zealand European	e.	Cook Island Māori	h.	Chinese
b.	Māori	f.	Tongan	i.	Indian
c.	Samoan	g.	Niuean	i.	Other (pleas describe)_____

17. What is your approximate total household income per year, before tax?

a.	Under $15,000	e.	$30,001 to $35,000	i.	$60,001 to $70,000
b.	$15,001 to $20,000	f.	$35,001 to $40,000	j.	$70,001 to $100,000
c.	$20,001 to $25,000	g.	$40,001 to $50,000	k.	$100,001 or more
d.	$25,001 to $30,000	h.	$50,001 to $60,000		

18. How could the quality of childbirth education or antenatal classes be improved?_____

Thank you for completing this questionnaire. Please put it in the reply paid envelope supplied and post it back to us.

APPENDIX 2: Questionnaire for providers

PARENTS CENTRE 

families commission kōmihana ā whānau

From early pregnancy to early parenting: Childbirth education in New Zealand

Instructions: This questionnaire should be completed by providers of pregnancy and parenting education classes (also called childbirth education or antenatal classes). Some of the questions may require a bit of time, but they will provide us with important information about the availability and quality of childbirth education in New Zealand, as of 2006. Please type in, **bold**, or highlight the correct answer that applies to your organisation. Then E-mail your completed questionnaire to Magda Kielpikowski (Research Assistant), kfamily@xtra.co.nz. If you have any questions about the questionnaire, please call Dr Sarah Dwyer (Project Manager) on 04 476 2424.

1. How many childbirth education or antenatal courses/classes did you deliver (or were contracted to deliver) in 2006? _____

   (NB: If you held a contract from July 2005-June 2006 and another contract from July 2006-June 2007, please only count the courses that were delivered in 2006.)

2. Did you run classes specifically designed for a particular population group?

   a. Yes b. No (Go to Q4) c. Don't know (please bold or highlight your answer)

3. If yes, which population did your classes target?

   a. Teens b. Māori c. Pacific
   d. Vulnerable families/whānau e. Other (please describe)_____

4. In 2006, was your course based on the national service specifications for pregnancy & parenting education?

   a. Yes (Go to Q6) b. No c. Don't know

5. If not, was the course based on any other specifications? (please describe)_____

6. On average, how many sessions was each course? _____

7. On average, what was the duration of each session? (in hours) _____

8. Is it compulsory for the providers of your antenatal classes to hold a certificate or diploma in childbirth education (ie., through Aoraki Polytechnic)?

   a. Yes (Go to Q10) b. No c. Don't know

9. If not, who are the providers of your antenatal classes?

   a. Midwives b. Experienced mothers c. Other (please describe)_____

10. To what extent is the content of your antenatal courses based on a structured curriculum or decided by participating women and their families/whānau?

1	2	3	4	5
Totally unstructured/ All content decided by participating women & families/whānau	Mostly unstructured	Combination	Mostly structured	Totally structured / All content based on set curriculum

11. Which of the following topics would typically be covered in your courses? (bold all that apply)

a. The role of the Lead Maternity Carer (LMC)
b. Information on women's support networks available in the community
c. The complaints procedure for maternity services
d. The effects of smoking on the health of mother & baby, & options available to help give up
e. The effects of alcohol and drugs on the health of mother & baby, & options available to help stop
f. Mother's and baby's nutritional needs during pregnancy
g. Screening and diagnostic tests (eg ultrasounds, HIV, rubella, sugar, rhesus tests, nuchal screening, amniocentesis)
h. Warning signs of ill-health or problems during pregnancy
i. Physical changes during pregnancy (eg pregnancy discomforts, nausea and sickness)

j. Emotional changes during pregnancy (eg tearfulness, mood swings)
k. Pelvic floor exercises
l. Stretching and exercise
m. Relaxation skills (eg breathing awareness, use of massage and touch)
n. Signs of labour
o. Ways of managing pain during labour
p. Description of normal and other birthing methods (eg caesarean)
q. Options available to women in labour & birthing (eg position during labour, drug interventions)
r. Risks and benefits of different birthing methods
s. The benefits of breastfeeding
t. The importance of exclusive breastfeeding for the first six months
u. How to breastfeed and/or where to go for help
v. Physical changes after birth
w. Emotional changes after birth (eg awareness of postnatal depression & preventative steps)
x. Early days at home (eg ideas for coping, tiredness)
y. Self care as a mother (eg nutrition, exercise)
z. Development of appropriate personal support
aa. Unplanned experiences (eg sick or premature infant, special needs babies)
bb. Safety of the baby (eg how to prevent SIDs - cot death)
cc. Early parenting skills (eg bonding with baby, engaging with baby)
dd. Parenting programme options available
ee. The role of Well Child services and how to access them
ff. Vaccinations and tests after the baby is born
gg. Other (please describe)_____

12. What percentage of families drop out before completing the whole course?_____

13. What percentage of families complete at least 50% of the whole course?_____

14. How are you funded?
    a. DHB-funded b. Fee-for-service (ie client pays) c. Other (please describe)_____

15. Is the demand for antenatal classes in your area greater than what you can provide?
    a. Yes b. No (Go to Q17) c. Don't know

16. If yes, how do you manage the difference between what is required and what you can provide?
    (please explain)_____

17. What are the main issues or problems for you as providers of antenatal classes? (What are the gaps between what you aim to provide and what actually happens in practice?) (please describe)
    _____
    _____

18. We would like to talk to other providers of childbirth education. Do you know of any other providers of childbirth education (that do not hold DHB contracts), in your region? (please list below)

APPENDIX 3: Key informant interview questions

Name:

Position:

Date:

Key Informant Interview Questions

Transition between LMC and childbirth education

1. (Q3*) What proportion of LMCs refer women and their families/whānau to childbirth education?
2. (Q4) What are the contractual arrangements and obligations of LMC to refer women to childbirth education?
3. (Q5) What process is used to manage the referral between LMC and childbirth education?

Childbirth education

4. (Q6) Who are the providers of childbirth education?
5. (Q7) What are the contractual arrangements and obligations of key childbirth education providers?
6. (Q8) What are the minimum qualifications of childbirth educators required by different providers of childbirth education?
7. (Q9) How is childbirth education funded and by whom?
8. (Q10) What information do women and their families/whānau receive as part of childbirth education and what resources/booklets are made available to women?
9. (Q11) How does the childbirth education information given by different providers compare?

Breastfeeding

10. (Q20) What resources are made available in hospital to help women successfully establish and maintain breastfeeding, eg access to nurses, written resources?

Transition between LMC and Well Child services

11. (Q22) How soon after the baby is born, does the transfer between LMC and Well Child services occur in practice?
12. (Q21) What are the contractual arrangements and obligations of LMC to refer women to Well Child services?
13. (Q23) What process is used to manage the handover from LMC to Well Child services?
14. (Q25) To what degree is the transition between LMC and Well Child services left to the mother, father or family/whānau?
15. (Q24) What processes do Well Child services use to engage women and families/whānau during this transition?

*Q = Research questions

Well Child services

16. (Q26) Who are the providers of Well Child services?
17. (Q27) What are the contractual arrangements and obligations of key Well Child service providers?
18. (Q29) What are the barriers to accessing Well Child services?
19. (Q30) What screening is done for postnatal depression (PND)?
20. What are your perceptions of the gaps between the support that services aim to provide and what actually happens in practice?

Other questions

- Who else should I interview to find answers to these questions?
- How should I access women for focus groups?
- How should I access women through LMCs, in hospital and/or through Well Child services to give questionnaire.

APPENDIX 4: Information sheet for women about focus groups

From early pregnancy to early parenting: Antenatal education and transitions of maternity care in New Zealand

INFORMATION SHEET ABOUT FOCUS GROUPS

This project is being conducted for Parents Centres, in conjunction with the Families Commission and Parenting Council. Thank you for showing an interest. Please read this information sheet carefully before deciding whether or not to participate in a focus group. If you decide to participate, we thank you. If you decide not to participate, there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the aim of the project?

The aim of the focus groups is to talk to women and their families/whānau about their experiences with childbirth education classes, Well Child services and transitions between different providers of maternity care. We are also interested in finding out: (1) if childbirth education classes prepare parents emotionally to have children, (2) what decisions do parents make before their child is born about how they will consciously parent their child and (3) the extent to which parents are aware of their entitlements to maternity services under the Section 88 Maternity Services Notice.

What type of participants are being sought?

We are inviting clients of childbirth education and Well Child providers to participate in focus groups. We will run some focus groups with women who have not yet given birth as well as focus groups with women who have given birth within the last six months. Partners and/or close family/whānau members are welcome and encouraged to participate.

What will participants be asked to do?

Should you agree to take part in this project, you will be asked to participate in a group discussion with 5-10 other participants. This discussion will take about 1.5 hours of your time and will be held at your local childbirth education or Well Child Service (eg Parent Centre, Plunket). A range of different time options will be offered.

What are the possible benefits and risks of participation?

One of the main benefits of this project is that it will help us to identify gaps between the support that maternity services aim to provide and what actually happens in practice. This is important because it has the potential to inform future funding decisions and planning around how to further improve access to and quality of childbirth education and Well Child services in New Zealand. There are no risks of participating.

Can participants change their mind and withdraw from the project?

You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind. If you do not participate, there will be no disadvantage to yourself or your family/whānau of any kind.

What data or information will be collected and what use will be made of it?

The focus groups will help us collect information on childbirth education classes, Well Child services and transitions between maternity services from the perspective of women and their families/whānau. We will ask you some questions about your preparation to be a parent and your awareness of the maternity services to which you are entitled. We will also collect information on the characteristics of your family/whānau, so we understand who participated in the focus groups, but we will not be able to link you to your comments or responses during the focus group in any way.

The focus group discussion will be recorded and transcribed. All data will be securely stored and only the main investigators will have access to it. At the end of the project all recordings will be destroyed. The transcribed discussions will be retained in secure storage for five years, after which they will be destroyed. The results of the project may be published, but you will not be identified in any way. You are most welcome to request a copy of the results of the project. The Parenting Council will hold copies of the final report for this purpose (Ph Viv Gurrey: 04 233 2022 ext: 800).

What if participants have any questions?

If you have any questions about this project, either now or in the future, please feel free to contact Dr Sarah Dwyer on 04 476 2424 or 021 412 702 (cell) or Viv Gurrey, Ph: 04 233 2022 ext:800. This project has been reviewed and approved by the Plunket Ethics Committee.

APPENDIX 5: Questions for women in focus groups

For women who had their baby within the previous six months:

- Welcome women (and any family members) to the group and thank them for participating.
- Ask women to complete the survey on CBE – provides demographics and relevant information.

Questions

1. What was the most important thing that you took away with you/learnt from attending CBE classes?
2. To what extent does attendance at CBE classes help prepare you emotionally to have children?
3. What decisions did you make before your child was born about how you would consciously parent your child? To what extent did attendance at CBE classes facilitate this process? Did any other maternity service help you with this process?
4. What are your entitlements under the Maternity Services Notice (pursuant to Section 88 of the NZ Public Health & Disability Act)? To what extent are you aware of your maternity entitlements?
5. What resources were made available to you in hospital to help you successfully establish and maintain breast feeding?
6. How soon after your baby was born did the transfer between LMC and Well Child service occur?
7. What was your experience of the handover from LMC to Well Child? To what extent was it left to you to make contact with the Well Child provider?
8. What processes did Well Child services use to engage you at this time?
9. What are the barriers to accessing Well Child services?
10. Did anyone talk to you about postnatal depression? Were you screened for PND?
11. Is there anything else you want to discuss about your experiences with the maternity system?

APPENDIX 6: Information sheet for women about brief questionnaire

From early pregnancy to early parenting: Childbirth education in New Zealand

Information sheet about brief questionnaire

This project is being conducted for Parents Centres, in conjunction with the Families Commission and Parenting Council. Thank you for showing an interest. Please read this information sheet carefully before deciding whether or not to answer the questionnaire. If you decide to participate, we thank you. If you decide not to answer the questionnaire, there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the aim of the project?

The aim of the questionnaire is to determine what proportion of women and their families/whānau attend childbirth education or antenatal classes and how this differs across different parts of New Zealand. We are also interested in comparing the topics covered by different providers of childbirth education and your perceptions of the value of antenatal classes.

What type of participants are being sought?

This questionnaire is being given to all women in New Zealand hospitals who give birth in April or May 2007.

What will participants be asked to do?

Should you agree to take part in this project, the only thing you will be asked to do is to complete the attached questionnaire and return it in the reply paid envelope. It should take you about five minutes to complete.

What are the possible benefits and risks of participation?

One of the main benefits of this project is that it will help us to identify gaps in the availability and quality of childbirth education across New Zealand. This is important because it has the potential to inform future funding decisions and planning around how to further improve access to and quality of childbirth education services in New Zealand. There are no risks of participating.

What data or information will be collected and what use will be made of it?

This questionnaire will help us collect information on the proportion of women and their families/whānau attending childbirth education classes, the content covered in these classes and the value of these classes. We will also ask you some questions about the characteristics of your family/whānau, but the questionnaire is completely anonymous, so we will not be able to link you to your questionnaire in any way.

The data collected will be securely stored and only the main investigators will have access to it. At the end of the project all questionnaires will be destroyed. The raw data will be retained in secure storage for five years, after which it will be destroyed. The results of the project may be published. You are most welcome to request a copy of the results of the project. The Parenting Council will hold copies of the final report for this purpose (Ph Viv Gurrey: 04 233 2022 ext:800).

What if participants have any questions?

If you have any questions about this project, either now or in the future, please feel free to contact Dr Sarah Dwyer (Project Manager) on 04 476 2424 or 021 412 702 (cell). Alternatively you could contact Viv Gurrey (CEO, Parents Centres) on 04 233 2022 ext:800.

This project has been reviewed and approved by Plunket and the Multi-region Ethics Committee.

APPENDIX 7: List of hospitals and maternity facilities through which the questionnaire was distributed

Provider	Location	Phone
Northland DHB		
Whangerei Maternity Unit		09 430 4101 ext 8737 021 824 618
Bay of Islands Maternity Facility		09 405 7709
Dargaville Maternity Facility		
Kaitaia Maternity Facility		
Rawene Hospital (NB: funded by a trust, not the DHB)	Parnell St, Rawene Private Bag, Kaikohe, Northland	09 405 7709
Waitemata DHB		
North Shore Maternity, North Shore Hospital	Private Bag 93 503, Takapuna Auckland 2nd Floor, North Shore Hospital Shakespear Rd, Takapuna Auckland	09 486 8900
Waitakere Maternity, Waitakere Hospital	Lincoln Rd, Henderson Auckland	09 486 8900
Auckland DHB		
Women's Health, Auckland City Hospital	PO Box 92024, Auckland	09 307 4949 ext 25351
Birthcare Auckland	20 Titoki St, Parnell, Auckland	09 374 0771
Counties Manūkau DHB		
Middlemore hospital	Women's Health, Building 43 Private Bag 93311, Otahuhu	09 276 0000
Primary Unit		
Bay of Plenty DHB		07 579 8000
Tauranga Hospital		07 579 8000
Whakatane		
Other Primary Units in outlying areas		
Waikato DHB		07 839 8899
Waikato Hospital	Level 9, ERB Waikato Hospital, Private Bag 3200, Hamilton	07 839 8726 ext 8207
Rural Health Waikato Maternity Facilities		
Huntly Birthcare (private)	5/7 Onslow St, Huntly	07 828 7648
Pohlen Maternity Unit (Pohlen Hospital – private)	56 Rawhiti Ave, Matamata PO Box 239, Matamata	07 881 9099

Waihi Hospital (private)	Toomey St, Waihi	07 863 8089
River Ridge East Birth Centre (private)	PO Box 4056, Hamilton	07 839 0425
Waterford Birth Centre (private)	27 Tisdall Tce, Hamilton	07 839 0281
Tairawhiti DHB		
Gisborne Maternity Unit, Tairawhiti District Health	Private Bag 7001, Gisborne	06 869 0500 ext 8024
Maternity Department, Te Puia Hospital	PO Box 2, Te Puia Springs	06 864 6803
Taranaki DHB		
Taranaki Base Hospital, Maternity Unit	David St, New Plymouth	06 753 6139
Hawera Hospital, Maternity Unit	Hunter St, Hawera	06 753 6139
Elizabeth R Maternity (ER Hospital – private)	30 Elizabeth Grove, Stratford	06 756 6262 027 427 9285
Lakes DHB		
Maternity Unit, Rotorua Hospital	Rotorua	07 348 1199
Birthing Unit, Taupo Hospital	Taupo	
Hawkes Bay DHB		
Hawkes Bay Regional Hospital, Ata Rangi Maternity Unit	Private Bag 9014, Hastings Hawkes Bay Regional Hospital, Omahu Rd, Hastings	06 878 8109
Napier Maternity Unit		
Wairoa Hospital (Primary Unit)	Kitchener St, Wairoa PO Box 84, Wairoa	06 838 7099
MidCentral DHB		06 350 8259 06 350 8061 (DHB)
Women's Health Unit, Palmerston North Hospital	Ruahine Street, Private Bag 11036, Palmerston North	
Whanganui DHB		
Whanganui Hospital		06 348 3216
Capital and Coast DHB		04 385 5999 0274 793 826
Wellington Hospital, Delivery Suite & Ward 12 (postnatal)	Private Bag 7902, Wellington South Delivery Suite, Level D, Grace Neil Block, Wellington Hospital, Newtown	04 385 5999
Kenepuru Birthing Unit	PO Box 50215, Porirua	04 385 5999
Paraparaumu Birthing Unit	Warrimoo St, Paraparaumu	04 385 5999
Hutt Valley DHB		

Hutt Hospital	Private Bag 31-907, Lower Hutt Physical address: High Street, Lower Hutt	04 570 9078
Wairarapa DHB		
Wairarapa Hospital		06 946 9800 027 675 1497
Nelson Marlborough DHB		03 546 1841
Nelson Hospital	Private Bag 18, Nelson	03 546 1927 Int ext 7927 03 546 1800 (DHB)
Wairau Hospital		
Golden Bay (Primary Unit)		
Motueka (private contract with DHB – as a result of RFP)		
Canterbury DHB		03 364 4106
Christchurch Women's Hospital	Level 5, Christchurch Women's Hospital, Private Bag 4711, Christchurch	03 364 4106
Another Primary Unit		
Ashburton Maternity, Ashburton Hospital (Rural Services)	Elizabeth Street Private Bag 801, Ashburton	03 307 8483 03 308 4149 (switch)
Lincoln Maternity Hospital	James Street, Lincoln	03 325 2802
South Canterbury DHB		03 684 4000
Timaru Hospital, Maternity Services	Queen St, Timaru	03 684 4000
West Coast DHB		
McBrearty Ward, Grey Base Hospital	PO Box 387, Greymouth	03 768 0499 027 245 9595
Otago DHB		03 474 7948
Queen Mary Maternity Centre, Dunedin Hospital	Dunedin Hospital, Private Bag 1921, Dunedin	03 474 7948
Oamaru Maternity Centre, Oamaru Hospital	Waitaki District Health Services Ltd, Private Bag 50059, Oamaru (North Otago)	03 433 0290
Maternity Unit, Clutha Health First Hospital	PO Box 46, Balclutha 9200	03 419 0038 0800 288 089
Charlotte Jean Maternity Centre (private)	26 Ventry St, Alexandra	03 448 5229 021 588 220
Southland DHB	Southland District Health Board, PO Box 828, Invercargill	03 214 7243 027 674 1758
Maternity Unit		

APPENDIX 8: Pregnancy and parenting education providers by DHB

Provider	Location	Phone	Holds contract with DHB
Northland DHB			
Hokianga Health	Private Bag, Kaikohe	09 405 7709	✓
Parents Centre	Whangarei		✗
Waitemata DHB			
Waitemata DHB Provider Arm maternity services			✓
Rodney Coast Midwives	56 View Rd, Warkworth	09 425 8201	✓
Coast to Coast PHO	Coast to Coast PHO, Wellsford Medical Centre, PO Box 66, Wellsford	09 423 8745	✓
MAMA	116 Marsden Avenue, Mt Eden	09 629 5163	✓
Parents Centres	Onewa Waitemata Bays North Harbour Hibiscus Coast		✗
Auckland DHB			
Birthcare Auckland	20 Titoki St, Parnell, Auckland	09 374 0800	✓
MAMA (Mothers & Midwives Associated)	116 Marsden Ave, Mt Eden, Auckland PO Box 56 182, Dominion Rd, Auckland	09 629 5221	✓
Parents Centres	Auckland East and Bays		✗
Bethany Centre	35 Dryden St, Grey Lynn, Auckland	09 376 1324	✗
Counties Manūkau DHB			
South Auckland Maternity Care Limited (SAMCL)	16 Wiri Station Road, Manukau, Auckland	09 263 4012	✓
Plunket[2]		09 274 5026	✓
Turuki Health (via Te Kupenga O Houturoa PHO)	2/32 Caning Crescent, Mangere, Auckland	09 270 0683 09 275 5788	✓
Parents Centres	Manukau Auckland East Franklin		✗
Bay of Plenty DHB			
Birthwise Charitable Trust	287 Rowe Road, Tauranga	07 544 4405	✓
Katikati Resource Centre	Beach Road, Katikati	07 549 0399	✓
Trust Home Birth Charitable Trust	2 Cambridge Road, Tauranga		✓
Ngati Awa Social and Health Services Trust	PO Box 2076, Whakatane	07 571 0559	✓

Plunket[2]	471 Devenport Road, Tauranga Geographic areas: Kawerau & Papamoa		✓
Parents Centres[1]	Tauranga Whakatane Te Puke		✓
Waikato DHB			
Birthcare Huntly Limited	5 Onslow St, Huntly	07 828 7648	✓
Plunket[2]	6 Princes St, PO Box 9359, Hamilton	07 839 5702	✓
Independent Childbirth Educator	Whitianga	07 866 5344 08 681 4288	✓
Tokorao Council of Social Services	Maraetai Rd, PO Box 429, Tokoroa	07 886 6314	✓
Waikato Homebirth Association Incorporated (NB: Were advised that they no longer provide classes)	PO Box 311, Hamilton	07 848 1864	✓
River Ridge East Birth Centre	35 Von Tempsky St, Hamilton	07 839 0425	✗
Waterford Birth Centre	27 Tisdall St, Hamilton	07 839 0281	✗
Birthspirit Ltd	15 Te Arawa Road, Hamilton	07 856 4612	✗
Parents Centres[1]	Cambridge Putaururu Otorohanga Morrinsville Thames-Hauraki	04 233 2022	✓
Parents Centres	Hamilton Papakura		✗
Tairawhiti DHB			
Parents Centre[1]	Gisborne		✓
Tairawhiti District Health – Provider Arm	1st Floor Morris Adair Building, Gisborne Hospital, Private Bag 7001, Gisborne	06 869 0500 ext 8240	✓
Turanga Health	Gisborne	06 869 0457	✗
Taranaki DHB			
Pregnancy Help Inc	Miranda St, Stratford	06 765 5042	✓
Tui Ora – subcontracted to Manaaki Oranga	36 Maratahu St, New Plymouth	06 759 4064	✓
Parents Centres[1]	New Plymouth Stratford South Taranaki	04 233 2022 ext 802	✓
Plunket[2]	Plunket House, 74 Courtney St, New Plymouth	06 769 5453	✓
Lakes DHB			
Tuwharetoa Health Services (advised that no longer provide classes)	Turangi	07 386 6587	✓

Korowai Aroha Trust – subcontracted to Lakes Midwives	Old Taupo Road, Rotorua	07 347 6222	✓
Poutiri Charitable Trust MDO – subcontracted to Te Whare Hauora O Ngongotaha	Community Health Clinic, 152 Main Road, Ngongotaha	07 357 4946	✓
Māori Women's Welfare League	Through Te Whare Hauora		✗
Parents Centre[1]	Rotorua		✓
Parents Centre	Taupo		✗
Hawkes Bay DHB			
Health Services (DHB Provider Arm) – subcontracts with Birth Care Educators who run the classes for the Provider Arm	Central Hawkes Bay Havelock North Hastings	06 878 8109 06 878 4774	✓
Positive Birth		06 875 1170	✗
Choices – Kahungunu Health and Community Services	208 Southampton St, West Hastings	06 878 7616	✗
Te Taiwhenua O Heretaunga (NB: Advised that they do not provide CBE classes themselves)		06 873 7244	✗
Parents Centres	Napier Hastings, Central Hawkes Bay		✗
MidCentral DHB			
MidCentral Health (Palmerston North Hospital)	Palmerston North & Feilding	06 350 8061	✓
Dannevirke Health Services Ltd (Dannevirke Community Hospital)	Barraud St, PO Box 275, Dannevirke	06 374 5691	✓
Otaki Birthing Centre Ltd	288 Main Highway, Otaki	06 364 8337	✓
Community Birth Services	496 Church Street, PO Box 5443, Palmerston North	06 354 6455	✓
Te Runanga o Raukawa Inc	> Cnr Oxford and Keepa St, Levin > Duke Street, Feilding	06 368 8678 06 323 6446	✓
Doula Beginnings	Palmerston North	06 353 7153	✓
Parents Centres	Palmerston North Levin		✗
The Pregnancy Centre	3 Amesbury Street, PO Box 5533, Palmerston North	06 354 2273	✗
Wanganui DHB			
Wanganui DHB Provider Division	Heads Rd, Private Bag 3003, Wanganui	06 348 1234	✓
Capital and Coast DHB			
MATPRO (Maternity Project)	Marion Square, PO Box 27-380, Wellington Porirua & Wellington South	04 801 7307	✓

Newlands College Community Learning Centre	PO Box 26 079 Newlands, Wellington	04 474 1330	✗
Parents Centres	Kapiti Mana Wellington North Wellington South		✗
Birth Wise	PO Box 7370, Wellington South	04 973 9473	✗
Home Birth Aotearoa	PO Box 9130, Wellington	04 476 6661	✗
Hutt Valley DHB			
HVDHB Provider Arm (hospital maternity services) – subcontracts with BirthEd who run the classes for the Provider Arm		04 934 3426 027 245 3541	✓
Parents Centres	Lower Hutt Upper Hutt		✗
Birthworks		04 802 0771 (pager)	✗
Wairarapa DHB			
Wairarapa Hospital Maternity Unit	Te Ore Ore Rd, PO Box 96, Masterton	06 946 9119 ext 4119	✓
Parents Centre	Wairarapa		✗
Nelson Marlborough DHB			
Independent Childbirth Educator	Blenheim	03 578 5599	✓
Independent Childbirth Educator	Rata St	03 546 9029	✓
Nelson Marlborough DHB Provider Arm	Golden Bay Community Hospital, SH60, RD1, Takaka	03 525 9808	✓
Parents Centres[1]	Nelson District Marlborough	03 528 9332	✓
No. of fee paying classes also being run in the community			✗
Canterbury DHB			
Home Birth Classes Trust Christchurch		03 366 4574	✓
Christchurch Hospital (DHB Provider Arm)	Private Bag 4711, Christchurch	03 364 4699 03 364 4421	✓
Ashburton Maternity Centre	Ashburton & Rural Health Services, Oak Grove, Ashburton	03 307 8483	✓
Parents Centres[1]	Christchurch Christchurch South	04 233 2022	✓
Parents Centre	Ashburton		✗

South Canterbury DHB			
Timaru Hospital and Community Services (DHB Provider Arm)	Queen St, Timaru	03 684 4000 ext 8886	✓
Parents Centre[1]	Timaru		✓
West Coast DHB			
Parents Centre[1]	Greymouth	04 476 6950	✓
WCDHB Provider Arm (Maternity Services)		03 768 0499 ext 2881	✓
Otago DHB			
Dunedin Home Births Association		03 474 0044	✓
Dunedin Independent Childbirth Educators – FOCUS			✓
Arai Te Uru Whare Hauora	Stuart St, Dunedin	03 417 9960	✓
Clutha Health First	3–7 Clutha St, Balclutha	03 418 0508	✓
Plunket[2]			✓
Parents Centres[1]	Oamaru Dunedin Balclutha Taieri		✓
Parents Centre	Alexandra District		✗
Southland DHB			
Parents Centres[1]	Invercargill Gore		✓
Plunket[2]	Central Southland		✓
Plunket[2]	Invercargill		✓
Plunket[2]	Wakatipu		✓
Plunket[2]	Te Anau		✓
Lumsden Maternity Centre	58 Garden St, Lumsden	03 248 7050	✓
Queenstown Medical Centre	9 Isle St, Queenstown, Wakatipu Region	03 441 0500	✓
Tuatapere Maternity Hospital	69a Orawia Road, Tuatapere, Western Southland	03 226 6099	✓

[1] Contracts are held between the DHB and the national organisation, Parents Centres NZ Inc, PO Box 54128 Mana, Porirua, Wellington.

[2] The Royal New Zealand Plunket Society contracts with the DHBs for the provision of CBE services but contracts directly with the Ministry of Health for Well Child services.

APPENDIX 9: National service specification for pregnancy and parenting education

MINISTRY OF HEALTH
MANATŪ HAUORA

DHBNZ
on behalf of all DHBs

PREGNANCY AND PARENTING EDUCATION

STATUS: Current

DATE PUBLISHED ON NSF LIBRARY	JULY 2002
DATE TO BE REVIEWED	

NATIONAL SERVICE SPECIFICATION FOR PREGNANCY AND PARENTING EDUCATION

1. DEFINITION

Pregnancy and Parenting Education is a course on pregnancy, childbirth and early parenting provided to a group of pregnant women and their whānau/families.

2. SERVICE OBJECTIVES

2.1. General

The objective of the service is to give expectant women and their whānau the opportunity to acknowledge their own experience, knowledge and skills, empowering them to trust themselves and to know how to seek additional maternity information and support when they need it.

2.2. Māori health

The service will provide access for women and their whānau to culturally safe information about their care options, carers and entitlements.

3. SERVICE USERS

The user of this service is one pregnant woman (or prospective adoptive mother), and, where relevant, her partner or support person or whānau.

The service should be accessible to all pregnant women. Strategies should be developed to target women at risk of adverse outcomes.

4. ACCESS

4.1 Entry and exit criteria

Each eligible pregnant woman is entitled to receive one Pregnancy and Parenting Education programme during the duration of each pregnancy.

4.2 Cost

The service is to be free to all eligible women with no request for a copayment or donation.

4.3 Time

The service will be provided at a reasonable time that meets the needs of the service users, particularly those service users at risk of adverse outcomes. The antenatal component of the course should be completed within a six-week period.

5. SERVICE COMPONENTS

5.1 Programme

5.1.1 Each course must cover the following:

(i) access to maternity services

- the role of the lead maternity carer and other health professionals that may be involved in her care
- information on women's support networks available in the community
- the complaints procedure for maternity services

(ii) pregnancy care

- health promotion during the antenatal period, including the benefits of avoiding smoking and alcohol
- pelvic floor and stretching exercises
- warning signs during pregnancy

(iii) labour and birth care

- signs of labour
- options available for women in labour and birthing
- role of support person
- common complications of labour and birth and possible interventions

(iv) care following birth

- physical and emotional changes including postnatal depression
- self-care for the woman postnatally
- early parenting skills
- safety of the baby, including prevention of SIDs
- the role of Well Child services and how to access them.

5.1.2 In particular, the course content must comply with the Baby Friendly Hospital Initiative and include:

- the benefits of breastfeeding, including nutritional, protective, bonding and health benefits to the mother
- the importance of exclusive breastfeeding for the first four to six months
- basic breastfeeding management, including the importance of rooming-in, the importance of feeding on demand, how to ensure there is enough milk and positioning and attachment.

5.1.3 The course is to be provided in a manner that enhances the woman's sense of confidence as she approaches childbirth and parenting. The programme content will be flexible, to accommodate the many and varied learning needs and concerns of clients. A written plan of each session will be available.

5.2 Settings

Suitable settings may include community rooms, marae, hospitals, private homes, practice rooms or other appropriate places. Venues may vary according to the needs of the women attending. Settings should be safe and accessible.

5.3 Service levels

The course will be for a minimum of 12 hours.

5.4 Equipment/resources

Service providers are required to develop resources that empower women to make informed choices and to further their own learning. Resources should be up-to-date and relevant to the situation and audience. Resources available at course sessions should include appropriate videos, books and information packs that will provide them with information on all aspects of pregnancy and parenting. Clients should have access to reference lists and printed material to take home.

5.5 Key inputs

5.5.1 Programme co-ordinators for Pregnancy and Parenting Education will preferably be childbirth educators with a recognised qualification in childbirth education. Alternatively, programme co-ordinators may be:

- midwives or physiotherapists with additional recognised qualifications in adult education and cultural awareness/Treaty issues, or
- he kuia whare tapu or other respected teacher, recognised by the respective runanga.

5.5.2 In keeping with the principle of continuity of care, each programme will be co-ordinated by one person.

6. SERVICE LINKAGES

You will establish and maintain linkages with agencies and organisations who may refer women to Pregnancy and Parenting Education or who may be referred on to by the provider. These will include Lead Maternity Carers, maternity facility providers, Well Child providers, antenatal and postnatal support groups, Family Start.

7. EXCLUSIONS

The service is linked to but does not include Lead Maternity Care or maternity facility services.

8. QUALITY REQUIREMENTS

8.1 Accessibility

- free education
- a suitable venue
- the programme encourages access by women at risk of adverse outcomes.

8.2 Acceptability

- each class is planned specifically to respond to the individual needs of the participants
- resources are of good quality and up-to-date with current maternity practices. You should subscribe to Childbirth Educators NZ or the International Journal of Childbirth Education, or equivalent.

8.3 Effectiveness

- educational aims and objectives will be learner-centred with the objectives being realistic and measurable
- education will be based on the principles of adult learning
- information presented in class will be current and based on reputable, reproducible research. All information must be comprehensive and balanced and presented in such a way that it allows the participants to examine their expectations, explore possible alternatives and provide their own solutions.
- as group size is a significant factor in determining group interaction and satisfaction, the class will not exceed 12 pregnant women
- classes will be culturally safe.

9. PURCHASE UNITS AND REPORTING REQUIREMENTS

9.1 The following purchase units apply to this service. Purchase units are defined in the HFA Data Dictionary.

Pu Code	PU Description	PU Measure	Reporting Requirements	
			Frequency	Reporting Unit
W01002	Pregnancy and Parenting Education	Course	Quarterly	Number of courses provided

9.2 Purchase units

You are required to report on the volume of the above Purchase Units provided in this period. This report is to include:

- course attended and number of hours each woman attended
- NHI of woman.

9.3 Quality measures

You are required to report on the following quality measures:

(i) Accessibility

- A critical evaluation and summary of non-attendance
- The average gestation for admission to a course and any waiting lists

(ii) Acceptability

- A demonstration of the provider's commitment to implementing the principles of the Treaty of Waitangi
- Evidence that the service is delivered in a manner which recognises and responds to the cultural diversity of the participants

(iii) Effectiveness

- The qualifications of the educators meet those specified and, if they do not hold a recognised qualification in childbirth education, the efforts being made to attain this qualification
- The occurrence of regular individual performance appraisals of educators' written plans outlining action taken as a result of feedback from attendees' evaluations of the course
- Implementation of the principles of the Baby Friendly Hospital Initiative, as relevant to Pregnancy and Parenting Education, using the recommended WHO/UNICEF criteria for assessment:
  - a written description of the content of the programme

- where mothers are routinely given written or audio-visual educational materials, these give accurate information and instruction for breastfeeding, without information on the use of infant formula
- group talks are given to the majority of all pregnant women, not just women who already know they want to breastfeed
- group talks are not given routinely to all pregnant women on the use of infant formulae or bottle-feeding. Instead instruction is given on an individual, as requested, basis rather than to the whole group.

- Adherence to the Ministry of Health Infant Feeding Guidelines for New Zealand Health Workers (1997).

The volume of courses provided will determine the frequency of reporting.

9.4 Service planning information

Services should be planned and developed in the following ways:

a) You should facilitate the establishment of linkages with local and appropriate postnatal parenting support groups.

b) You should explore ways to encourage all women to utilise your Pregnancy and Parenting Education service. For example:

- working with Māori providers
- offering classes for specific groups of women, for example Pacific Island women, young women
- advertising locally
- varying your teaching methods
- other initiatives to be explored by you and us.

c) Co-ordinators should demonstrate their personal effectiveness by:

- regularly updating their knowledge of pregnancy and parenting information and issues
- training in adult education and group facilitation.

APPENDIX 10: Topics covered by different childbirth education providers

TABLE A. Percentage of CBE providers indicating topics that were covered in their antenatal classes as a function of whether the provider was DHB-funded or not (N = 45)

		DHB-funded (n = 38)		Other funded (n=7)		Total (n=45)	
	Topic	**%**	**n**	**%**	**n**	**%**	**n**
a.	The role of the lead maternity carer (LMC)	86.8	33	85.7	6	86.7	39
b.	Information on women's support networks available in the community	97.4	37	85.7	6	95.6	43
c.	The complaints procedure for maternity services	76.3	29	28.6	2	68.9	31
d.	The effects of smoking on the health of mother and baby, and options available to help give up	89.5	34	28.6	2	80.0	36
e.	The effects of alcohol and drugs on the health of mother and baby, and options available to help stop	86.8	33	28.6	2	77.8	35
f.	Mother's and baby's nutritional needs during pregnancy	92.1	35	57.1	4	86.7	39
g.	Screening and diagnostic tests (eg, ultrasounds, HIV, rubella, sugar, rhesus tests, nuchal screening, amniocentesis)	60.5	23	28.6	2	55.6	25
h.	Warning signs of ill-health or problems during pregnancy	97.4	37	42.9	3	88.9	40
i.	Physical changes during pregnancy (eg, pregnancy discomforts, nausea and sickness)	94.7	36	71.4	5	91.1	41
j.	Emotional changes during pregnancy (eg, tearfulness, mood swings)	97.4	37	71.4	5	93.3	42
k.	Pelvic floor exercises	97.4	37	85.7	6	95.6	43
l.	Stretching and exercise	92.1	35	57.1	4	86.7	39
m.	Relaxation skills (eg, breathing awareness, use of massage and touch)	94.7	36	100.0	7	95.6	43
n.	Signs of labour	94.7	36	100.0	7	95.6	43
o.	Ways of managing pain during labour	94.7	36	100.0	7	95.6	43
p.	Description of normal and other birthing methods (eg, caesarean)	94.7	36	85.7	6	93.3	42
q.	Options available to women in labour and birthing (eg, position during labour, drug interventions)	94.7	36	100.0	7	95.6	43
r.	Risks and benefits of different birthing methods	89.5	34	85.7	6	88.9	40
s.	The benefits of breastfeeding	97.4	37	85.7	6	95.6	43
t.	The importance of exclusive breastfeeding for the first six months	92.1	35	85.7	6	91.1	41

u.	How to breastfeed and/or where to go for help	97.4	37	71.4	5	93.3	42
v.	Physical changes after birth	94.7	36	71.4	5	91.1	41
w.	Emotional changes after birth (eg, awareness of postnatal depression and preventative steps)	100.0	38	71.4	5	95.6	43
x.	Early days at home (eg, ideas for coping, tiredness)	100.0	38	100.0	7	100.0	45
y.	Self-care as a mother (eg, nutrition, exercise)	94.7	36	85.7	6	93.3	42
z.	Development of appropriate personal support	86.8	33	71.4	5	84.4	38
aa.	Unplanned experiences (eg, sick or premature infant, special needs babies)	71.1	27	42.9	3	66.7	30
bb.	Safety of the baby (eg, how to prevent SIDs – cot death)	97.4	37	85.7	6	95.6	43
cc.	Early parenting skills (eg, bonding with baby, engaging with baby)	97.4	37	71.4	5	93.3	42
dd.	Parenting programme options available	71.1	27	57.1	4	68.9	31
ee.	The role of Well Child services and how to access them	94.7	36	14.3	1	82.2	37
ff.	Vaccinations and tests after the baby is born	94.7	36	57.1	4	88.9	40
gg.	Other (please describe)	63.2	24	42.9	3	60.0	27

TABLE B. Percentage of women indicating topics covered in their antenatal classes as a function of the organisation through which they attended antenatal classes (N = 364[1])

	Topic	Parents Centres (n = 136)	Hospital Classes (n =116)	Birthcare (n = 29)	Plunket (n = 15)	Birth Wise (n = 4)	Home Birth (n =10)	MAMA (n =10)
		%	%	%	%	%	%	%
a.	The role of the lead maternity carer (LMC)	65.4	60.3	75.9	40.0	88.9	75.0	80.0
b.	Information on women's support networks available in the community	60.3	58.6	41.4	46.7	66.7	75.0	90.0
c.	The complaints procedure for maternity services	10.3	22.4	17.2	20.0	22.2	50.0	10.0
d.	The effects of smoking on the health of mother and baby, and options available to help give up	49.3	61.2	58.6	40.0	77.8	100.0	50.0
e.	The effects of alcohol and drugs on the health of mother and baby, and options available to help stop	52.2	60.3	58.6	40.0	77.8	75.0	50.0
f.	Mother's and baby's nutritional needs during pregnancy	70.6	72.4	82.8	66.7	88.9	100.0	70.0
g.	Screening and diagnostic tests (eg, ultrasounds, HIV, rubella, sugar, rhesus tests, nuchal screening, amniocentesis)	48.5	49.1	44.8	46.7	44.4	75.0	20.0
h.	Warning signs of ill-health or problems during pregnancy	66.9	41.4	62.1	60.0	88.9	50.0	70.0
i.	Physical changes during pregnancy (eg, pregnancy discomforts, nausea and sickness)	80.9	81.9	69.0	66.7	66.7	75.0	60.0
j.	Emotional changes during pregnancy (eg, tearfulness, mood swings)	87.5	76.7	75.9	73.3	77.8	75.0	70.0
k.	Pelvic floor exercises	93.4	86.2	62.1	80.0	77.8	75.0	90.0
l.	Stretching and exercise	72.8	70.7	58.6	60.0	66.7	75.0	90.0
m.	Relaxation skills (eg, breathing awareness, use of massage and touch)	86.0	79.3	82.8	80.0	88.9	100.0	100.0
n.	Signs of labour	98.5	93.1	93.1	80.0	88.9	100.0	100.0
o.	Ways of managing pain during labour	97.8	96.6	93.1	86.7	100.0	100.0	100.0
p.	Description of normal and other birthing methods (eg, caesarean)	98.5	93.1	93.1	73.3	100.0	100.0	100.0
q.	Options available to women in labour and birthing (eg, position during labour, drug interventions)	99.3	96.6	93.1	86.7	100.0	100.0	100.0
r.	Risks and benefits of different birthing methods	91.9	74.1	82.8	73.3	100.0	100.0	100.0

s.	The benefits of breastfeeding	96.3	90.5	89.7	93.3	100.0	100.0	100.0
t.	The importance of exclusive breastfeeding for the first six months	78.7	72.4	75.9	40.0	100.0	100.0	70.0
u.	How to breastfeed and/or where to go for help	90.4	87.1	79.3	93.3	88.9	100.0	80.0
v.	Physical changes after birth	61.8	54.3	65.5	46.7	66.7	100.0	70.0
w.	Emotional changes after birth (eg, awareness of postnatal depression and preventative steps)	89.0	82.8	75.9	73.3	100.0	100.0	80.0
x.	Early days at home (eg, ideas for coping, tiredness)	75.7	66.4	69.0	53.3	77.8	100.0	80.0
y.	Self-care as a mother (eg, nutrition, exercise)	63.2	57.8	65.5	53.3	66.7	100.0	80.0
z.	Development of appropriate personal support	57.4	40.5	41.4	26.7	44.4	50.0	30.0
aa.	Unplanned experiences (eg, sick or premature infant, special needs babies)	46.3	37.1	20.7	26.7	88.9	100.0	60.0
bb.	Safety of the baby (eg, how to prevent SIDs – cot death)	79.4	76.7	69.0	60.0	88.9	100.0	90.0
cc.	Early parenting skills (eg, bonding with baby, engaging with baby)	60.3	63.8	55.2	33.3	88.9	100.0	90.0
dd.	Parenting programme options available	55.9	28.4	20.7	33.3	11.1	50.0	40.0
ee.	The role of Well Child services and how to access them	30.1	33.6	17.2	33.3	44.4	25.0	30.0
ff.	Vaccinations and tests after the baby is born	60.3	66.4	55.2	60.0	77.8	100.0	70.0
gg.	Other (please describe)	6.6	6.0	6.9	13.3	0.0	0.0	0.0

[1] Includes: other providers = 35; not specified = 10.

NB.: No participants reported attending classes through SAMCL or Nga Maia.

APPENDIX 11: Well Child providers by DHB

Provider	Location	Phone
Northland DHB		
Te Hauora O Te Hiku O Te Ika Trust	49 Redan Rd, Kaitaia	09 408 4024
Ngati Hine Health Trust	PO Box 141, Kawakawa	09 404 1551
Northland DHB Provider Arm		09 470 0000 ext 7940
Plunket[1]	Northland Plunket, 150c Bank St, PO Box 1753, Whangarei	09 438 2508 027 440 8629
Waitemata DHB		
Plunket[1]		
Te Puna Hauora	PO Box 36-056, Northcote	09 483 5724
Te Runanga O Ngati Whatua	PO Box 100, Dargaville	09 439 1690
Te Whānau O Waipareira Trust	PO Box 21-081, Henderson	09 836 6683
Auckland DHB		
Ngati Whatua O Orakei Health Services	128 Apirana Ave, Glen Innes, Auckland	
Healthstar Pacific	121 Apirana Ave, Glen Innes, Auckland PO Box 18-349, Glen Innes, Auckland	
Tongan Health Society	29 Hill St, Onehunga, Auckland PO Box 13-589, Onehunga, Auckland	
Waiheke Health Trust	Community Health Centre, 5 Belgium St, Ostend, Waiheke Island	
Piritahi Hauora	Tahatai Rd, Blackpool, Waiheke Island	
Early Childhood Health Team, Community Child Health & Disability Service, Starship Children's Health, ADHB	Cornwall Complex, Greenlane Clinical Centre, Greenlane Rd West, Auckland Private Bag 92-189, Auckland Mail Centre	
Counties Manūkau DHB		
Papakura Marae Health Services (Tamariki Ora)	Papakura Marae Society Inc, 29 Hunua Rd, PO Box 322, Papakura	09 298 3877
South Seas Healthcare	27 East Tamaki Rd, Hunters Corner, Papatoetoe	09 278 2694
Raukura Hauora o Tainui (Mokopuna Ora)	Mokopuna Ora / Well Child Team based at Turuki HealthCare, 2/32 Canning Cres, Mangere	09 921 3664 0800 4 Wellbeing
Plunket[1]	Counties Manukau Plunket, 10 Halver Rd, PO Box 75566, Manurewa	09 267 4805
Bay of Plenty DHB		
Te Manu Toroa Trust		
Ngati Awa Social & Health Services Trust		

Poutiri Charitable Trust		
Tuwharetoa Ki Kawerau Hauora Trust		
Presbyterian Support (Northern)		
Eastern Bay of Plenty PHO Ltd.		
Te Ao Hou Primary Health Organisation		
Waikato DHB		
Hauraki PHO	210 Richmond St, PO Box 605, Thames	07 868 5375
Northern King Country Drug & Alcohol Counselling & Education Charitable Trust t/a Te Ngaru o Ngati Maniapoto	10–14 Ward St, PO Box 210, Te Kuiti	07 878 8885
Parentline Charitable Trust t/a Parentline	48 Palmerston St, PO Box 11077, Hamilton	07 839 4536
Raukawa Trust Board t/a Raukawa Health Services	26–32 Campbell St, Private Bag 8, Tokoroa	07 885 0260
Raukura Hauora o Tainui Trust	237 Commerce St, PO Box 5158, Frankton Hamilton	07 846 1389
Te Kohao Health Limited	180 Dey St, PO Box 7107, Hamilton	07 856 5479
Te Korowai Hauora o Hauraki Incorporated	210 Richmond St, PO Box 605, Thames	07 868 5375
Toiora PHO Coalition	180 Dey St, PO Box 4058, Hillcrest, Hamilton	07 856 5479
Waikato Pasifika Health Trust	Ground Level, 360 Tristram St PO Box 9388, Waikato Mail Centre, Hamilton	07 834 7146
Tairawhiti DHB		
Turanga Health – Well Child Tamariki Ora Provider	Turanga Health, 145 Derby St, Gisborne	06 869 0457
Plunket[1]	Royal NZ Plunket Society, PO Box 814, Napier	06 878 7126
Ngati Porou Hauora – Well Child Tamariki Ora Provider	Ngati Porou Hauora, 2 Mackenzie St, Te Puia Springs	06 864 6803 ext 841
Taranaki DHB		
Tui Ora – subcontracted to Piki Te Ora Nursing Services	36 Maratahu St, New Plymouth	06 759 4064
Ngati Ruanui Tahua Health Inc	78-80 Argyle St, Hawera	06 278 1310
Plunket[1]	Plunket House, 74 Courtney St, New Plymouth	06 769 5453
Lakes DHB		
Plunket[1]		
Tipu Ora	Rotorua	
Tuwharetoa Health Services	Taupo and Turangi area	
Raukawa Trust (NB: small numbers; contract held by Waikato DHB as part of larger contract)	Mangakino	
Public Health nurse (NB: provides some WC service, but no current contract with DHB)	Turangi	

Hawkes Bay DHB		
Kahungunu Executive kit e Wairoa Charitable Trust	Wairoa	06 838 6835
Kahungunu Health Services – Choices	Southhampton St, Hastings	06 878 7616
Te Kupenga Hauora Ahuriri	5 Stale St, Napier	06 835 3090
Te Taiwhenua O Heretaunga Trust	821 Orchard Rd, Hastings	06 873 0971
Plunket[1]	Provide services across Hawkes Bay	
MidCentral DHB		
Te Wakahuia Manawatu Trust Hauora	56 Pembroke St, Palmerston North	06 357 3400
Best Care Whakapai Hauora	Maxwells Line, Palmerston North	06 353 6385
Te Runanga O Raukawa	PO Box 586, Levin	
He Puna Hauora	100 Vogel St, Palmerston North	06 356 7037
Te Kete Hauora	6 Ward St, Dannevirke	06 374 4306
Whanganui DHB		
Te Oranganui Trust	Te Oranganui Iwi Health Authority, 42 Drews Avenue, PO Box 611, Wanganui	06 349 0007
Taumata Hauora Trust > Te Puke Karanga > Ngati Rangi > O'Taihape	Taumata Hauora Trust Primary Health Organisation, 8a Bell St, PO Box 566, Wanganui	06 348 9902
Ngati Apa – Integrated contract > Rangitikei > Ratana	Te Runanga o Nagati Apa, Stewart & High St, PO Box 124, Marton	027 224 5421
Wanganui DHB Provider Division > Ratana	Heads Rd, Private Bag 3003, Wanganui	06 348 1234
Capital and Coast DHB		
Ati Awa Ki Whakarongotai Inc – Hora Te Pai Health Services	PO Box 688, Paraparaumu PO BOX 149, 11 Elizabeth St, Waikanae	04 902 7095
Maraeroa Marae Health Clinic	PO Box 53006, Porirua	04 235 8000
Te Runanga o Toa Rangatira Inc (Oratoa Health Unit)	PO Box 50079, Porirua 20 Ngatitoa St, Takapuwahia, Porirua	04 237 0110 04 237 0131
Te Runanga o Toa Rangatira Inc (Oratoa Poneke)	PO Box 50079, Porirua	04 237 0110
Hutt Valley DHB		
Pacific Health Service		
Te Runanganui o Taranaki – Waiwhetu Medical Centre	Te Māori Corner Riverside Drive & Guthrie Street, Lower Hutt	04 587 1646
Wairarapa DHB		
Whaiora Whanui – Tamariki Ora Contract (Māori Health Provider)	5 Park St, PO Box 497, Masterton	06 370 0820 06 378 0140
Plunket[1]		

Nelson Marlborough DHB		
Whakatu Te Korowai Manaakitanga Trust	Stoke	
Te Amo Health	Motueka (NB: This provider does not hold a contract with the DHB, but provides a Well Child service because there is an identified need – community is quite rural and has high Māori population).	03 528 5406
Te Korowai Trust (Whānau Ora, Tamariki Ora)	Nelson	03 547 5958
Te Kahui Hauora O Ngati Koata Trust	Nelson	03 546 8018
Poumanawa Oranga	Blenheim	03 577 2350
Public Health Services (Well Child)	36 Franklyn St, Nelson Private Bag 18, Nelson	03 546 1537
Plunket[1]	669 Main Rd, Stoke	03 547 5388
Nelson Bays Primary Health Organisation (PHO)	PO Box 1776, Nelson	
Kimi Hauora Wairau PHO	PO Box 5135, Blenheim	03 578 3561
Canterbury DHB		
Te Puawaitanga Ki Otautahi Trust		03 344 5062 021 783 594
Pacific Trust Canterbury		03 363 0748
Te Tai o Marokura		03 319 6443
South Canterbury DHB		
Arowhenua Whānau Services (started May 2006 – have 1 FTE nurse)	92A King St, Temuka	03 615 5180
West Coast DHB		
Rata Te Awhina Trust (Māori Health Provider – specifically targets Māori population)		03 755 6572
WCDHB Provider Arm (Public Health Nursing Service)		03 768 0499 ext 2744
WCDHB Provider Arm (Rural Nurse Specialist Service)		03 768 0499 ext 2744
Otago DHB		
Maniototo Health Services		
Otago Pacific Peoples Health Trust		
Arai Te Uru Whare Hauora		
Southland DHB		
Plunket[1]	Tokanui region (a small, very rural area)	
Awarua Social & Health Services		

[1] The Royal New Zealand Plunket Society holds a national contract for Well Child services with the Ministry of Health.

APPENDIX 12: Clauses from the Well Child services national service specifications specifically relevant to the transition between LMC and Well Child services

4. Access

4.1 Entry criteria

Entry to the Well Child/Tamariki Ora service will commence at the time of formal handover by the Lead Maternity Carer (LMC), or where women who do have an LMC, directly from the hospital to the Well Child Provider (WCP) of their choice.

At time of handover the following protocol will be observed:

- The formal handover will be made by the LMC by four weeks. This will be made in a written and nationally agreed form which documents all key information required by a WCP as the basis for initial assessment and ongoing care for the child and its family/whānau.
- A referral will be made by the WCP to the family's General Practitioner Team (GPT) at or before six weeks for the baby's six-week clinical check and immunisation. This will provide opportunity for the important link between GPT and WCP to be made. (This contact will be claimed under GMS.)

4.2 Provider management of access

The WCP must establish and maintain a system of enrolling clients with their service and ensuring their clients receive the service they are entitled to receive. Clients must remain on the service register until the care of the child/family/whānau has been formally transferred to another WCP.

The WCP will work with LMCs, GPTs and other Well Child/Tamariki Ora services within their geographic area to ensure that clients are able to select or change their choice of WCP without prejudice to their future service delivery. This may include return to their original provider at a later date.

4.3 Location of service delivery

Services will initially be provided in the client's home. This may also include provision of immunisation (for high-need families only) in line with the current immunisation standards and service specification. Service provision may change to clinic/mobile clinic setting when the family/whānau are able to make that transition.

5.3 Needs assessment

At the initial meetings between the family and the Well Child caseworker an assessment process will be undertaken by the caseworker in order to identify needs and the level of service delivery required. At subsequent meetings this assessment will be reviewed and adjusted as appropriate.

5.4 Interrelationships with other Well Child services

In order for the three parallel streams of 'the Schedule' to be delivered in a co-ordinated and integrated way WCPs will require formal links with LMCs and GPTs.

LMC	The WCP can expect to be notified of the birth of a baby within 4 weeks, and receive handover within 4-6 weeks.

5.7 Settings for service delivery

Services will primarily be provided in the client's home. Service provision may change to clinic/mobile clinic setting if the family/whānau are able to make that transition. Arranging transport may be part of making that transition acceptable for the family/whānau. A primary consideration at all times will be to encourage and support the family's independence.

6. Service linkages

Well Child/Tamariki Ora service providers will maintain effective and efficient linkages with all services that may refer families to them, or to which Well Child/Tamariki Ora service may refer families. Linkages will be maintained with:

Linked providers	Nature of linkage	Accountabilities associated
Lead Maternity Carers (LMC)	Liaise and work with relevant LMC.	To ensure seamless transfer of care for the child and their family and whānau.

This includes:

- Provision of written information about their service to all agencies from which the service receives referrals, to give to potential clients.
- A collaborative approach to service provision for families in which both services are involved.
- The development and maintenance of formal (two-way) referral processes, which includes documenting outcome of referral to referee.
- The development and implementation of a formal process for the transfer/handover of clients when one service will no longer continue to be involved with a family.

9. Reporting requirements

9.1 Register

The WCP will establish and maintain a register of all children accepted into their service.

9.2 Quarterly reporting

The WCP will report quarterly to their contract manager (by ethnicity) on:

- Total number of children enrolled with the service at the start of each quarter.

APPENDIX 13: Number and percentage of Plunket contacts from 1 July 2005 to 30 June 2006 as a function of place of contact, type of contact (core versus additional) and NZDep2001 score

Place of contact	Type of contact	NZDep 2001 Score[1]											Total N (%)
		0 n (%)	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	6 n (%)	7 n (%)	8 n (%)	9 n (%)	10 n (%)	
Bus - mobile clinic	Core	15 (0.2)	10 (0.0)	18 (0.0)	17 (0.0)	46 (0.1)	49 (0.1)	68 (0.1)	67 (0.1)	169 (0.3)	182 (0.3)	673 (0.9)	1,314 (0.2)
	Additional	49 (0.7	106 (0.2)	146 (0.3)	79 (0.2)	143 (0.3)	173 (0.4)	226 (0.5)	310 (0.6)	546 (1.0)	574 (0.9)	1,536 (2.0)	3,888 (0.7)
Clinic	Core	22.51 (35.6)	19,505 (42.9)	18,276 (40.1)	18,592 (39.2)	17,642 (37.5)	15,906 (33.8)	14,891 (31.9)	13,690 (27.8)	12,295 (21.8)	10,573 (16.7)	6,975 (8.9)	150,596 (28.2)
	Additional	1,097 (17.4)	7,623 (16.8)	7,909 (17.3)	8,369 (17.7)	7,852 (16.7)	7,365 (15.6)	6,802 (14.5)	6,753 (13.7)	7,042 (12.5)	6,322 (10.0)	4,978 (6.3)	72,112 (13.5)
Early childhood centre	Core	36 (0.6)	73 (0.2)	110 (0.2)	109 (0.2)	120 (0.3)	168 (0.4)	149 (0.3)	178 (0.4)	185 (0.3)	226 (0.4)	398 (0.5)	1752 (0.3)
	Additional	36 (0.6)	169 (0.4)	126 (0.2)	164 (0.3)	167 (0.4)	177 (0.4)	254 (0.5)	226 (0.5)	250 (0.4)	310 (0.5)	717 (0.9)	2596 (0.5)
Family centre	Core	33 (0.5)	236 (0.5)	233 (0.5)	208 (0.4)	241 (0.5)	267 (0.6)	231 (0.5)	279 (0.6)	241 (0.4)	226 (0.4)	169 (0.2)	2364 (0.4)
	Additional	200 (3.2)	2,876 (6.3)	2,938 (6.4)	2,736 (5.8)	2,781 (5.9)	2,824 (6.0)	2,658 (5.7)	2,502 (5.1)	2,336 (4.1)	2,278 (3.6)	1,262 (1.6)	25,391 (4.8)
Home	Core	1,531 (24.2)	9,696 (21.3)	10,215 (22.4)	10,653 (22.5)	11,079 (23.6)	11,958 (25.4)	12,346 (26.4)	14,028 (28.5)	16,783 (29.8)	20,277 (32.0)	26,755 (34.0)	145,321 (27.3)
	Additional	954 (15.1)	5,110 (11.2)	5,583 (12.2)	6,420 (13.5)	6,862 (14.6)	8,129 (17.3)	8,976 (19.2)	11,035 (22.4)	16,159 (28.7)	21,679 (34.2)	33,975 (43.2)	124,882 (23.4)
Kōhanga Reo	Core	22 (0.3)	5 (0.0)	13 (0.0)	6 (0.0)	25 (0.1)	27 (0.1)	47 (0.1)	40 (0.1)	80 (0.1)	169 (0.3)	292 (0.4)	726 (0.1)
	Additional	97 (1.5)	17 (0.0)	32 (0.1)	31 (0.1)	58 (0.1)	71 (0.2)	80 (0.2)	110 (0.2)	224 (0.4)	492 (0.8)	816 (1.0)	2,028 (0.4)
Marae	Core	0 (0.0)	1 (0.0)	2 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (0.0)	8 (0.0)	12 (0.0)	8 (0.0)	15 (0.0)	51 (0.0)
	Additional	1 (0.0)	1 (0.0)	6 (0.0)	6 (0.0)	8 (0.0)	2 (0.0)	17 (0.0)	28 (0.1)	37 (0.1)	36 (0.1)	71 (0.1)	213 (0.0)
Total N		6322	45,428	45,607	47,390	47,024	47,116	46,750	49,254	56,359	63,352	78,632	533,234
Total %		1.2	8.5	8.6	8.9	8.8	8.8	8.8	9.2	10.6	11.9	14.7	100

[1] New Zealand Deprivation Index score based on socio-economic data from Census 2001 – a value of 1 represents the least deprived geographic areas and a value of 10 represents the most deprived geographic areas.

LITERATURE REVIEW

1. EFFECTIVENESS OF ANTENATAL EDUCATION

1.1 Introduction

The antenatal period represents an ideal opportunity to engage women and their families and whānau in preventative health care. Women are often concerned about their baby's health and the labour and birth process. They want ideas on how to manage the enormous changes that pregnancy and parenthood bring and so are more likely to be receptive to health information.[1] Structured childbirth education (CBE) or antenatal classes are an important component of prenatal care. The purpose of antenatal education is to prepare participants for pregnancy, birth and early parenting, and it can benefit both biological and psychosocial outcomes for babies, women and their families.

Historically, these classes have developed as a method of information sharing, particularly as informal methods of information sharing, typically between family members, have declined. As traditional family structures have broken down and more women have moved into the workforce, women have come to depend more upon formally organised antenatal education for their childbirth knowledge,[2,3] although not across all cultures.

There are many approaches to antenatal education, with just as many differences in the content and quality of classes, but most have been influenced by the pioneering efforts of Dick-Read[4] and Lamaze[5] as well as later researchers, including the work of Bradley,[6] Kitzinger[7] and Simkin and Enkin.[8] Dick-Read believed that women's anxiety and fear of childbirth resulted in tension and therefore pain during the birth process. He reasoned that if women could be conditioned to decrease their fear through relaxation and breathing techniques, then the pain would also decrease. Lamaze's philosophy of birth revolves around recognition of birth as a normal, natural and healthy process, with an important place for the care provider, but no place for routine medical interventions. In Lamaze's view, CBE is meant to empower women to make informed choices in health care and take responsibility for their health (see Appendix 1 for a complete list of the tenets of the Lamaze Philosophy of Birth).[9,10] Bradley, too, emphasises natural childbirth and helping women gain confidence about labour, birth and parenting issues through in-depth knowledge (see Appendix 2 for Bradley's list of 12 specific teaching goals or philosophies).[6] Almost all of these programmes include several common elements: information about what happens to the woman physically during birth; hospital procedures; decreasing unnecessary medical intervention; pain-relief methods and their risks and benefits; coping strategies for labour, such as body relaxation and breathing techniques; the role of the support person; and breastfeeding.[11,12] Many classes also provide information on infant care and postpartum adjustment. Classes typically consist of six to eight sessions, with the same group of people meeting for about two hours each week.

Estimates on the proportions of pregnant women attending classes vary enormously from country to country, from as little as 10 percent to as many as 90 percent.[13,14] In a recent Australian study, 35 percent of expectant women attended classes.[15] This is consistent with findings from the national US 'Listening to Mothers' survey, which showed about one-third of women attended childbirth classes.[16] Women who attend classes are more likely to be first-time mothers.[13,17,18] In the US survey, 70 percent of attenders were first-time mothers and 19 percent were multiparous mothers. Women who do not attend are more likely to be younger, less educated, of lower socio-economic status and single than women who do attend classes.[19] This is a consistent finding across developed countries.[20,21,22,23]

There has been much research on the topic of antenatal education. Nearly 30 years ago, researchers suggested that the evidence concerning the effectiveness of CBE was unclear.[24] Today, researchers are still saying the same thing, with a recent systematic review concluding that the effects of antenatal education remain unknown.[25] Why should this be the case? There are several reasons. Firstly, there is great variation in antenatal education programmes, and studies investigating their effectiveness have failed to make the philosophy and content of their classes explicit, making it difficult to know what was being

compared. Secondly, studies that set out to investigate the effectiveness of antenatal education have faced considerable methodological challenges, not the least being the difficulty in conducting randomised controlled trials in this area. Not many women would accept, nor would it be ethical to assign women to a 'no intervention condition'. Thirdly, there are a great many variables that affect women's experiences of pregnancy, birth and parenting, including demographic and personality characteristics of the women and their families, prenatal care from midwives, hospital environment, support from caregivers, continuity of care and women's expectations. The complexity of the interactions between these variables has made it more difficult to interpret positive or negative findings on the effectiveness of antenatal education. Pregnancy, birth and parenting can be classified as complex issues, not merely *complicated* ones.[26,27] Enkin describes a complicated issue as one that requires specialised knowledge, sophisticated equipment and a highly trained team, but if you prepare carefully and follow each step meticulously, you can be reasonably confident that you will succeed.[27] On the other hand, with a *complex* issue, one can never be entirely sure of what is going to happen. For example, in giving birth or raising a child, there is no direct linear effect between what we do and the outcomes. Randomised controlled trials, which rely on detecting direct linear relationships between cause and effect, are therefore less suitable or informative for evaluating complex issues.[27] So even if the obstacles to conducting randomised controlled trials in this field could be overcome, researchers might still be obtaining mixed results.

Despite the lack of conclusive evidence for the effectiveness of antenatal education and the difficulties in obtaining such evidence, a sufficient number of studies have begun to detect some patterns. The purpose of this review is to summarise these emerging patterns in order to inform the optimal development of future antenatal education programmes and suggest recommendations for the direction of future research. The review looks at the evidence for the effectiveness of antenatal education related to a range of outcomes that it may be expected to affect. It is divided into outcomes related to pregnancy, birth and parenting, and outcomes related to specific population groups.

1.2 Search strategy

This review focused on the last 10 years of publications (1997 to 2007), with a few papers also from earlier years. Four databases were searched: PsycINFO, PubMed, Cinahl and the Cochrane library, including the Cochrane Database of Systematic Reviews and the Cochrane Central Register of Controlled Trials. The search strategy for the Cochrane library was only for the years 2000 to 2007, since the most recent comprehensive review of the effectiveness of antenatal education (completed by Gagnon)[25] included all relevant Cochrane library articles up to the end of 1999.

The 'intervention' search terms were childbirth class* or antenatal class* or prenatal class*; childbirth education or antenatal education or prenatal education; childbirth training or antenatal training or prenatal training; childbirth preparation, antenatal preparation, prenatal preparation; childbirth intervention or antenatal intervention or prenatal intervention; childbirth program* or antenatal program* or prenatal program*. These terms were searched for in article titles, abstracts or keywords, depending on the combination of fields available in each database. It was considered that this strategy would find articles most relevant to the current review, including studies where antenatal education was an intervention, such as a programme of several sessions, covering a range of topics relevant to pregnancy, birth or parenthood; studies that examined the effectiveness of antenatal education; and studies that were explicitly relevant to the content or process of antenatal education. Studies where the intervention was specific to one topic or coping strategy, as opposed to antenatal classes as a whole, were only considered if they had direct relevance to the optimal development of antenatal classes in the future. Similarly, studies that examined outcomes of a suite of interventions related to prenatal care, of which antenatal classes were only a small component, were only considered if they concerned the content or process of antenatal education.

No 'outcome' search terms were added. This was to ensure a wide pool of studies relevant to antenatal education, regardless of the outcomes investigators had been interested in. In addition, the contents of recent editions (2006 and 2007) of the journal *'Birth: Issues in Perinatal Care'* were scanned for relevant articles. Finally, lists of citations from the most relevant retrieved articles were also searched.

In June 2007, the search strategy revealed the following numbers of articles:

PsycINFO [keywords]: 131

PubMed [title or abstract]: 466

Cinahl [title]: 175

Cochrane Database of Systematic Reviews [title, abstract or keywords]: 119

Cochrane Register of Controlled Trials [title, abstract or keywords]: 301

There was some overlap in the articles found by the different databases. All titles were scanned, and over 500 articles were determined to be relevant to the current review, including descriptive studies; cross-sectional studies; pretest-posttest designs with no control group; quasi-experimental studies (control or comparison group present but participants not randomly assigned to groups); randomised controlled trials; and systematic reviews. Sixty-seven of them specifically examined whether the outcomes of interest varied as a function of attendance at group antenatal classes (marked with an asterisk* in the reference list). The abstract of each one was read to determine its significance and the full text was obtained for the most relevant papers wherever possible. In keeping with the theme of pregnancy, birth and parenting being *complex* issues, the current review was less concerned about the quality of methods employed by studies investigating antenatal education, and more concerned with recognising patterns in the aggregated findings.

1.3 Outcomes related to pregnancy

1.3.1 Nutrition

Good nutrition, including adequate vitamin supplementation, supports healthy foetal development and decreases the likelihood of low birthweight in babies.[28] Deficiencies in nutrients such as iron,[29] folate[30] and protein[31] have been linked with poor outcomes for mothers and babies. Healthy maternal behaviour, including vitamin intake, has a protective effect against some of the harmful consequences of substance use during pregnancy.[32] It is therefore desirable for antenatal classes to positively affect women's dietary behaviour and vitamin intake.

The search strategy found only one study over the last 10 years of research that specifically looked at the impact of antenatal classes on pro-health behaviours, including nutrition. The study is written in Polish, but the abstract (in English) suggests that women's nutrition did not improve as a result of the classes, given that there was no statistically significant difference between the control and intervention group on measures of body mass index.[33] It was not clear if this referred to the body mass index of the mother or infant.

Other forms of prenatal nutrition intervention have been shown to improve women's nutrition. For example, an in-home prenatal nutrition intervention, involving one-on-one nutrition assessment and counselling support, increased dietary iron intakes and reduced low birthweight in low-income African-American women.[34] In this study, the intervention required a minimum of six home visits dedicated to the topic of nutrition.

Given these findings, it seems likely that antenatal classes could only improve women's nutrition if they contained sufficient information about nutrition and diet and their link with maternal and child health; there were sufficient support and resources in the woman's environment to enable her to follow the advice; nutritional status were not optimal to begin with; and the classes were held early enough in the woman's pregnancy for it to make a difference to her nutritional status. The timing of good nutrition is crucial for optimal development of the foetus.[35] The majority of antenatal classes probably do not meet all these conditions.

1.3.2 Substance use

Another major determinant of poor birth outcomes and subsequent ill-health of the infant is substance abuse. Smoking, drinking and other drug use during pregnancy have well-documented negative effects on the development of the foetus, leading to birth defects, neurodevelopmental and behavioural disorders.[36,37,38,39] There are many interventions to help pregnant women stop substance use and abuse. They differ substantially in their intensity, duration and the people involved in implementation.

Interventions to help pregnant women quit smoking include information on the risks of smoking to the foetus and infant; recommendations to quit and setting a quit date; cognitive behavioural strategies for quitting smoking; provision of rewards; social or peer support; and nicotine replacement therapy. A recent Cochrane review of these types of interventions looked at 64 trials conducted between 1975 and 2003.[40] The review

showed that both high-and low-intensity smoking cessation programmes can reduce the proportion of women continuing to smoke by about six percent relative to control groups.

Despite the relatively large number of trials testing the efficacy of quit-smoking interventions on pregnant women, no trials were found that specifically examined the impact of antenatal education on smoking or other substance use. It seems reasonable to assume that if antenatal classes incorporated similar quit-smoking strategies, they might likewise contribute to smoking cessation. The authors of the Cochrane review recommend that smoking cessation programmes should be implemented in all maternity care settings.[40] For antenatal education to achieve these benefits, classes would need to be initiated early in the woman's pregnancy.

Interventions to help women reduce alcohol consumption are equally varied. They include pharmacological, psychological or educational approaches. Particularly encouraging is the demonstrated efficacy of brief primary care interventions. Single-session interventions as brief as five to 15 minutes have produced significant reductions in the proportion of clients drinking at hazardous levels.[41] In fact, assessment of alcohol intake alone (without the intervention) can reduce alcohol consumption.[41,42] Chang et al showed that the benefits of a brief intervention for pregnant women could be further enhanced by involving the woman's partner.[43]

No trials were found that specifically examined the impact of antenatal classes on alcohol consumption, therefore it is unknown if antenatal education reduces alcohol consumption. Given the promise of brief interventions, it is feasible that an antenatal class that involved women in assessing their alcohol consumption and provided education about the potential effects might reduce alcohol-related harm to the mother and infant. However, the educator would need specialised knowledge in the area and it remains unclear if the brief intervention would work in the group context. As with quit-smoking interventions, the timing of classes early in pregnancy would be critical.

1.3.3 Social support

Social support is considered an effective protective factor against a range of negative health outcomes and is related to psychological wellbeing.[44] It is known to be related to positive health practices during pregnancy, such as decreased alcohol use and smoking, and increased vitamin intake.[45,46] Social support has also been found to predict infant birth weight,[47] and has been linked with positive postnatal health practices, such as breastfeeding.[48] It would therefore be a worthwhile outcome if antenatal classes successfully increased social support of participants.

The findings from several qualitative studies suggest that increased social support is one of the benefits of attendance at antenatal classes.[2] Women frequently report that being able to meet and talk with other expectant women is an important aspect of attendance at antenatal classes.[49,50] Often this social support is maintained into the postnatal period, with numerous examples of groups of women continuing to meet after the birth of their babies. In Nolan's research, parents did not originally choose to attend classes principally as a way of accessing social support from other parents, but by the end of classes, they rated this as one of the most important things they had gained.[49] Some authors go so far as to suggest that the benefits of antenatal classes may turn out to be primarily due to the socialisation with other expectant parents, rather than the knowledge and skills transferred.[2]

On the other hand, very few quantitative studies have examined whether antenatal education classes successfully increase social support. One exception is Diemer's research, which used a quasi-experimental design to compare a 'father-focused' antenatal course that employed a group discussion format with standard antenatal classes that employed more didactic teaching methods.[51] At post-evaluation, there was no difference between the groups in the level of social support reported but both groups of fathers reported a significant increase in social network support. Both groups also increased their use of social support as a means of coping, with the increase greater for men in the father-focused classes largely because they sought more information and emotional support from their partner's physician.

In summary, despite virtually no quantitative evidence that antenatal classes increase social support of participants, there is a wealth of qualitative and anecdotal evidence suggesting that social support is an important benefit for participants. The relationship between antenatal class attendance, increased social support and improved health outcomes merits further research attention.

1.4 Outcomes related to birth

1.4.1 Expectations

Childbirth expectations influence a woman's experience of and satisfaction with her child's birth.[52,53] Common expectations of expectant mothers and fathers are for a safe and comfortable caregiving environment, to understand available medical interventions, to participate in the decision-making process and to receive medical and nursing support.[54] Expectations that are not fulfilled may lead to dissatisfaction with the birth experience and feelings of guilt, anger, depression, loss and even post-traumatic stress disorder.[55] Ultimately, these emotions may impede parents' ability to form a relationship with their child, and in the long term have negative consequences for the family's physical and psychological health.[55]

It is therefore important that women have realistic expectations of the childbirth experience and that these expectations are fulfilled. Antenatal education has the potential to have a marked impact on women's expectations and therefore to facilitate positive outcomes.

One study was found that directly examined the influence of antenatal classes on women's expectations.[56] The study did not have a control group, but compared women's expectations for childbirth before and after antenatal classes in four areas: fear of the childbearing process; dependence on powerful others; desire for active participation; and personal values relating to childbearing. The classes, which emphasised natural childbirth, active participation, and decreased medical interventions, significantly altered women's expectations. After participation, they were less fearful of childbirth, less reliant on powerful others and had a greater desire for active participation (although the difference for dependence on powerful others did not reach statistical significance).

A second study, conducted in Taiwan, asked 200 couples to complete a validated questionnaire on their childbirth expectations across several areas, including the caregiving environment, labour pain, spousal support, control and participation and medical support.[54] They found that expectant fathers with a higher socio-economic status who had participated in CBE had higher expectations than fathers who had not participated, but CBE made no difference to the expectations of expectant mothers. The cross-sectional design of this study means that it is impossible to determine whether the antenatal classes were a causative agent in the fathers' higher expectations, or whether fathers with higher expectations self-selected into the classes. Chen, however, also demonstrated that greater childbirth knowledge was related to higher childbirth expectations.[53]

There is some earlier evidence that antenatal classes influence expectations differentially for women with different beliefs at the start of classes. Hallgren et al found that for women who perceived childbirth as "a normal process, a challenge, and even a trustworthy life event", the increased knowledge they gained from antenatal classes served to increase their confidence.[57] On the other hand, women who saw childbirth as frightening or as a threat at the start of the childbirth class differed in their perceptions at the end of the class, with some women reporting increased fear and less ability to manage.

In summary, it seems likely that antenatal classes do influence women's and men's expectations of their childbirth experience. It is crucial that the whole maternity system helps to fulfil those expectations, lest childbirth educators unwittingly foster expectations that adversely affect childbirth experiences. If a parent's expectations to be actively involved and not depend on powerful others are defeated in the delivery suite because of a hospital medical system's failure to empower them, it is conceivable that the greater mismatch between expectation and outcome might only lead to greater frustration and poorer outcomes.

1.4.2 Amount of fear or anxiety

Having some degree of fear or anxiety about childbirth is normal. In a study of 329 pregnant women, 78 percent expressed fears relating to pregnancy, childbirth or both.[58] However, too much fear or anxiety leads to adverse birth outcomes, such as increased pain,[59] longer labour[60] and increased medical interventions, such as emergency caesareans.[61] Antenatal maternal anxiety can also have long-term effects on the child. A large, prospective cohort study has recently linked antenatal anxiety with behavioural problems in a four-year-old child, even after accounting for variation caused by postnatal anxiety.[62]

The success of antenatal classes in decreasing fears and anxieties has been mixed. The study described in the previous section (1.4.1) that successfully changed

women's expectations showed that classes focusing on natural childbirth, active participation and decreased medical interventions significantly decreased women's fears about childbirth.[56]

A study of women in Finland suggests that antenatal education may reduce certain types of fears.[58] Three hundred and twenty-nine women between 16 and 40 weeks pregnant were given a questionnaire about their fears during their visits to the maternity health care clinic. Women who had completed prenatal classes had significantly fewer childbirth-related fears (such as fears about pain, prolonged childbirth or panic during childbirth) and significantly fewer fears concerning health-care staff (such as fears that staff would be unfriendly, of not being allowed to participate in decision making or of being left alone during childbirth) compared with women who had not yet attended classes. Antenatal education did not seem to affect fears associated with the child's wellbeing (such as fear of delivering a dead child, of the child being injured during childbirth or having a sick or handicapped child) or fears associated with family life (such as fears of having problems in their relationship with their partner, sexual problems or problems with the child's care and rearing). The results of a qualitative study by Segeel and du Plessis provide further evidence that antenatal education can reduce women's fear.[63] Women who were interviewed about how antenatal classes had contributed to the birthing experience reported that it had reduced their fear associated with labour.

Another study compared Lamaze-style birth-preparation classes with doula assistance given at birth.[64] A doula is a non-medical birth professional (not a midwife) who provides support, suggestions and comfort to the woman. The study found women who had received doula assistance were less emotionally distressed and had higher self-esteem than women who did the Lamaze classes, who showed a trend in the opposite direction from pregnancy to four months postpartum. Given the strength of the evidence for the benefit of continuous support during labour,[65] it is perhaps not surprising that the doula support more effectively reduced distress. This study is not comparable to either the studies mentioned above, as it examined women's distress from pregnancy to four months postpartum rather than looking at whether the Lamaze classes decreased anxiety or distress from before to after the intervention. In any case, antenatal education classes and support during labour would both usually be considered important elements of prenatal care, so the focus of this review is to determine if antenatal classes add value to the maternity system, rather than comparing them against other types of prenatal care.

A more recent study of more than 8,000 pregnant women concluded that there was no clear-cut relationship between attendance at antenatal classes and a reduction in childbirth fears.[66] It is likely that some anxiety and fear related to the stresses of pregnancy and labour may be of a particularly obdurate kind which cannot be easily altered through the provision of information in antenatal classes.[67] However, other forms of anxiety or fear, related to childbirth itself or the care providers, may be more amenable to change. It is these latter fears that antenatal education can successfully address.

1.4.3 Maternal sense of control and active decision making

Perceived control and involvement in decision making during labour are important because they are major predictors of women's perception of pain[68] and satisfaction with the birth experience.[69,70,71] Personal control is also an integral part of women-centred care, if the goal is for women to take an active role in their care during childbirth.[72] Several studies on antenatal education have hypothesised that formal birth preparation, involving discussion of various coping techniques, is likely to increase women's perceived control during labour.[69]

In 2000, McCrea et al published the first study to investigate the factors that influence personal control during labour.[73] Within 24 hours of giving birth, 100 women from Northern Ireland completed questionnaires about the pain intensity they had experienced, the usefulness of antenatal training in pain relief and their perceptions of control during delivery. Women who had completed antenatal training rated it as 'useful' for pain relief. Perhaps of more interest, multiple regression analyses showed that out of a range of psychosocial variables, antenatal training emerged as a significant predictor of women's perceived control in pain relief. Specifically, usefulness of antenatal training accounted for 5.5 percent of the variance in women's perceived 'control of information' and 21.1 percent of the variance in women's perceived 'control of emotions'. The implication is that antenatal training can affect the extent to which women exercise control in pain relief.

A second study examining women's feelings of control was recently published in 2007. Cheung et al collected data from 90 Hong Kong Chinese primiparous mothers on three occasions: during the latent phase of labour; during the active phase of labour; and within 24 to 48 hours after delivery.[74] These researchers found that women who felt less anxiety perceived that they had more control, but there were no statistically significant relationships between women's attendance at antenatal classes and feelings of control during labour.

It is not clear from either study what the content or format for antenatal training comprised, so it is difficult to assess the reasons for the inconsistent results. The two studies also used different questionnaires to assess perception of control. A further issue is the level of support women received in labour in using the techniques they had learnt in antenatal classes. If the midwives who support women in labour are not aware of the coping methods women learnt in classes, it is less likely that antenatal education will affect women's sense of control.[73] The best interpretation of these results is that, under particular conditions, antenatal classes may enhance women's sense of control.

1.4.4 Amount of pain

Childbirth represents the most painful event in most women's lifetime.[75] The level of perceived pain in labour may influence a woman's ability to cope and her experience during labour, which, in turn, may influence her early adaptation to parenthood and decisions about pregnancy in the future.[76] It should be noted, however, that pain does not necessarily equate with suffering.[77]

Variables such as induced labour, the desirability of pregnancy and caregivers' helpfulness have been found to predict sensory pain. Pain intensity has also been predicted by physician-anticipated complication and the motivation to be medication-free.[78] But probably the best predictor of a woman's experience of labour pain is her level of confidence in her ability to cope with labour.[79] The mechanism by which CBE is thought to potentially influence pain is by decreasing women's anxiety or fear or increasing their sense of control.[77]

As we have seen above, perceptions of the effectiveness of antenatal education on either anxiety or fear or the maternal sense of control are mixed. The search found only two studies in the last 10 years that reported pain outcomes as a function of attendance at antenatal classes. One, conducted in Iran, found that women who participated in birth-preparation classes experienced significantly less pelvic pain and headache than patients in the control group.[80] The other, conducted in Sweden, found no statistical differences between participants and non-participants in their memory of labour pain.[81] These mixed results are mirrored in earlier studies, which also reported both positive[82] and negative effects[19] of antenatal classes on pain.

A recent review shows there is adequate evidence of reduced pain from the following non-pharmacologic approaches to pain relief: continuous labour support; baths; intradermal water blocks; and maternal movement and positioning.[77] One might therefore expect that the extent to which CBE successfully promotes the use of these pain-relief strategies, it might be effective in decreasing pain. However, as a result of the conflicting results of earlier studies and the tenuous link between attendance at antenatal classes and the type of coping strategies used in labour (see next section), the effectiveness of CBE in reducing pain remains unclear.

1.4.5 Use of medications to reduce pain and coping strategies used during labour

Most of the medications to reduce pain during labour have potential negative side effects.[83] It is therefore often considered a worthy goal to minimise unnecessary use of medical pain-relief methods and to instead rely more on personal coping strategies. Use of coping strategies may be associated with less fear and higher birth satisfaction.[84] One of the main aims of many antenatal courses is to help women prepare for labour through the provision of information on coping strategies.

Considerable attention has been paid to whether antenatal classes decrease women's use of pain-relief medications or facilitate their use of non-pharmacologic coping strategies in labour. A recent review by Nolan in 2000 showed there have been widely differing results.[85] She cited Heatherington's well-known study of disadvantaged women in Baltimore, in which class attenders used far less analgesia in labour than non-attenders.[86] Another study of nearly 200 women in Auckland found no difference between attenders and non-attenders in their use of drugs for pain relief in labour.[87] Nolan concluded that the wide variety of classes attended by women could explain differences in the results and suggested that it is important

to determine whether antenatal classes influence behavioural intention.

In 2000, Nolan compared pain-relief outcomes for two different types of antenatal classes in England.[88] Women and men completed questionnaires on three occasions: before they started classes; after classes; and after the birth of their babies. Two findings from this study stand out: that antenatal classes did not make much difference to the mothers' choice of pain relief for labour (ie, the choices that they had made about pain relief before classes were the same choices they stuck to after classes, suggesting that they make up their minds on important topics such as pain relief before they attend classes and are not open to persuasion); and that there was a large gap between the pain-relief choices that mothers and fathers wanted to make and the choices they ended up making during the birth (ie, there was far more use of pethidine and epidurals during labour than parents had said they would use). This study suggests that there are far bigger influences at play on women's use of pain-relief methods and coping strategies during labour than attendance at antenatal classes.

Since then, several other studies have investigated the relationship between antenatal class attendance and women's use of coping strategies, also with mixed results. Johnston-Robledo found that women who attended classes learnt more about labour and delivery and used a wider variety of coping strategies than women who had not attended classes.[69] In contrast, Escott et al suggested that women who had not attended antenatal classes used just as wide a range of coping strategies in labour as women who had attended classes.[89] Henry and Nand looked at women's antenatal sources of pain-management information and found that virtually all women (98 percent) accessed pain management information, from antenatal classes (55 percent), multimedia (53 percent) and friends or relatives (46 percent).[90] Regardless of the source, they found that increased information access was associated with significantly higher use of both 'natural' coping methods and epidural analgesia during labour. These studies challenge the assumption that women who do not attend classes are 'unprepared'.

Taking a new approach to childbirth preparation, Escott et al compared standard antenatal classes that teach women particular coping strategies to deal with labour pain with classes that aimed to enhance women's pre-existing coping strategies.[91] They found that the new approach was associated with greater coping-strategy use and involvement from the birth companion, although self-efficacy for use of the coping strategies and subsequent experiences of pain and emotions during labour were equivalent between groups.

On the whole, it seems that coping strategies taught in antenatal classes are not consistently being used. Antenatal education is not reliably translating into practice.[92,84]

1.4.6 Birth experience and satisfaction with the birth experience

With increasing emphasis on patient-centred care and responsive services, the importance of assessing women's satisfaction with the birth experience has been recognised. The way in which labour is experienced may also have significant postnatal implications for the mental health of the mother.[93,94]

The prevalence of negative birth experiences in a national sample of Swedish women was nearly seven percent.[71] One year after the birth, these women rated 1 or 2 on a 7-point rating scale with the extremes defined as 'very negative' (1) and 'very positive' (7). In this same study, attendance at antenatal classes was actually associated with an increased risk of having a negative birth experience, although the authors point out that the relationship was probably not causal. Rather, the women who attended antenatal classes were mostly expecting their first baby and primiparity was associated with a negative birth experience.

There were two other studies that specifically examined satisfaction with the birth experience as a function of attendance at antenatal classes, and obtained different results. Fabian et al asked a national cohort of 1,197 Swedish women to complete questionnaires on three occasions: during early pregnancy; two months after giving birth; and one year after giving birth.[81] There were no reported differences in the birth experiences of women who had attended antenatal classes compared with those who had not attended classes. Spinelli et al surveyed 9,004 women from 13 regions in Italy who delivered over a four-month period.[23] Twenty-three percent had attended antenatal classes. In contrast to the results of Fabian et al, these women had a reduced risk of being dissatisfied with the experience of childbirth (Odds Ratio [OR] = 0.72). The women who attended antenatal classes were also more likely

to be well-educated, primigravidae and office workers. As with any cross-sectional study, it is not possible to determine if the antenatal class attendance had a significant influence on women's experience of childbirth, or whether other defining characteristics of the women played a causal role.

In a comprehensive review of the research on women's satisfaction with the experience of childbirth, Hodnett concluded:[70]

> Four factors – personal expectations, the amount of support from caregivers, the quality of the caregiver-patient relationship, and involvement in decision making – appear to be so important that they override the influences of age, socioeconomic status, ethnicity, childbirth preparation, the physical birth environment, pain, immobility, medical interventions, and continuity of care when women evaluate their childbirth experiences (p. S171).

Therefore, despite some mixed results, it appears that antenatal education is not a good predictor of women's childbirth experiences.

1.4.7 Caesarean rate

There are known risks associated with elective caesarean section. For example, women who have caesareans have a higher rate of re-hospitalisation for uterine infections and wound complications.[95,96] They also have an increased risk of future ectopic pregnancies and placental problems.[97] In short, caesarean deliveries are associated with higher rates of maternal and neonatal complications, and concomitant increases in health costs.[98] The World Health Organisation suggests there is no additional health benefit associated with a caesarean section rate greater than 10–15 percent.[99] However, in most developed countries, the rate of caesarean section continues to rise.[100] In New Zealand, the caesarean section rate has increased from 11.7 percent of mothers in 1988 to 23.1 percent in 2003. In Australia, the caesarean section rate was 28.5 percent in 2003.[101] Interestingly, an Australian study showed that in the general birthing population, 93.5 percent of women preferred a spontaneous vaginal birth, with only 6.4 percent preferring a ceasarean section, usually because of a current obstetric complication.[102] There is clearly a mismatch between women's preferences and what occurs in practice. There is therefore some hope that antenatal classes may help to reduce caesarean rates.

Two studies were found that specifically examined caesarean outcomes as a function of antenatal class attendance. The first was Spinelli et al's cross-sectional study of Italian women (described in section 1.4.6).[23] Women who had attended antenatal classes had a considerably lower risk of caesarean section than women who had not attended classes (OR = 0.60), although given the design of the study, it is impossible to determine if attendance at classes was a causal factor for the reduced caesarean rates. The second study evaluated a worksite prenatal education programme.[103] Women were offered financial incentives to attend classes. The 191 participants had a caesarean rate of 16.2 percent compared with a caesarean rate of 22.2 percent among the 815 non-participants.

The positive results of these recent studies are contradictory to the bulk of the remaining evidence. A recent Cochrane systematic review by Horey et al is relevant.[104] These authors reviewed the effectiveness of giving women information about caesarean section. The review, which included two studies, concluded that "trials of interventions to encourage women to attempt vaginal delivery show no effect". It should be kept in mind that both of the studies in the review involved the provision of one-on-one information as opposed to the group format of antenatal classes. In addition, both studies were conducted with groups of women whose attitudes might be expected to be more difficult to shift – namely, women who had previously given birth by caesarean and women who had a fear of childbirth.

Nevertheless, several earlier studies investigating the relationship between antenatal class attendance and caesarean rates in the general population of primiparous women showed no relationship. For example, Bennett et al divided women into three groups according to the number of hours of antenatal class attendance: none; low (one to 12 hours); medium (13–19 hours); and high (20+ hours).[105] The rates of caesarean births were not significantly related to the extent of women's preparation.

It is perhaps quite telling that a recent meta-analysis by Chaillet and Dumont of evidence-based strategies for reducing caesarean section rates did not even mention antenatal education[106]. There are many complex factors that determine whether women end up having a caesarean. For populations where women's first choice is for a spontaneous vaginal birth and in the context of more proximal medical decisions that are made while

women are in labour, it may be difficult for studies of antenatal classes to detect effects on this outcome. Clearly though, more high-quality research is needed.

1.4.8 Birthweight and preterm delivery

Preterm labour is a serious problem, and the major cause of low-birthweight babies and associated perinatal mortality and morbidity.[107,108,109] Studies have revealed a consistent relationship between social disadvantage and low birthweight.[110]

A recent Cochrane systematic review investigated whether additional support provided to disadvantaged women during pregnancy could decrease the number of low-birthweight babies.[111] Additional support was defined as some form of emotional support, information or advice, either in home visits or during clinic appointments. The review showed that these programmes were not effective in reducing preterm or low-birthweight babies. In comparison, intensive support to high-risk women has been shown to improve the rate of low-birthweight babies.[112] Could it be expected that antenatal classes could have impact in this area?

Of course, one would not expect antenatal classes to have an impact on this outcome, unless issues to do with preterm labour were explicitly discussed in classes. A Canadian study surveyed health professionals, including prenatal teachers, about the educational materials they made available on the prevention of preterm birth.[113] Seventy-six percent of the prenatal teachers reported making such educational materials available to women, but the study concluded that most women were not being educated by anyone during prenatal care about the prevention of preterm birth. In a later paper, these same authors showed that by providing information and educational materials on preterm labour to health professionals, they increased the proportion of women who had access to the material.[114] It is unclear, however, if this intervention resulted in fewer preterm births or low-birthweight babies.

Four studies were found that specifically investigated the impact of antenatal education on the outcome of low birthweight or preterm delivery. First, Burton et al's worksite prenatal education programme (described in the previous section 1.4.7) resulted in participants having fewer low-birthweight and preterm deliveries (3.1 percent) than non-participants (4.1 percent).[103]

Second, using a retrospective comparative design, a doctoral study by El-Sabagh found that the length of time between appearance of preterm labour symptoms and hospitalisation was shorter for women who had attended CBE compared with non-attenders, suggesting that women who had attended classes had learnt the importance of seeking medical help early so that intervention to maintain the pregnancy could begin.[115] The resulting infant gestational age at birth was greater for antenatal class attenders than that of non-attenders.

Third, Albizu et al also found that antenatal class attendance had a favourable influence on women's ability to recognise the onset of delivery.[116] Using a case-control retrospective design, cases being women with preterm labour and controls being women with full-term labour, they found that women with preterm labour were less likely to have attended antenatal classes (OR = 0.56, Confidence Interval CI = 0.33-0.96) and concluded that antenatal classes can reduce the rate of preterm labour emergencies. In contrast, the fourth study, also a case control study, showed that women with fewer than 10 prenatal visits were at the highest risk of preterm delivery and attendance at prenatal classes made no difference to this outcome.[117]

To summarise, three of the studies showed positive effects of antenatal classes on preterm delivery, and one found no effect. It seems that when information about the signs of preterm labour are made available in classes, it may influence women's decisions to get to a hospital early to prevent low-birthweight babies.

1.5 Outcomes related to early parenting

1.5.1 Bonding or attachment

The mother-child bond is thought to lay the foundations for good mental health and resiliency in the child. Good parent-infant attachment is associated with a loving relationship, improved infant development, a healthy self-image and better relationships later in life.[118,119]

Postnatal bonding may be partially determined by prenatal bonding or the level of attachment the mother (or father) has to the foetus. Three studies specifically examined the influence of antenatal classes on prenatal maternal-foetal attachment. Bellieni et al asked 77 pregnant Italian women to complete the Prenatal Attachment Inventory.[120] The 36 women who

had completed classes showed significantly higher prenatal attachment scores than women who had not completed classes, although it is not clear whether this resulted in improved infant or maternal wellbeing after delivery. A second study, in Korea, examined the effect of 'Taegyo-focused' prenatal education on maternal-foetal attachment.[121] These classes were based on Lamaze content, but included additional topics such as understanding the ability of the foetus to respond, training in maternal-foetal interaction, writing letters and making a declaration of love to the unborn baby. There was no comparison group, but pre-post test scores showed significant increases in maternal-foetal attachment. Similarly, a study conducted in Taiwan found that attendance at prenatal classes was a significant predictor of maternal-foetal attachment.[122]

White and her colleagues showed that the knowledge and skill of childbirth educators and nursing staff in interpreting infant behavior for parents increased after an educational session on infant cues and body language.[118] Recognition of individualised infant body language and sensitivity to a baby's cues is accepted as the origin of parent-infant attachment. They reasoned that staff could incorporate information about infant states, cues and behaviours into prenatal education to facilitate the basis of high-quality parent-child interactions.

In a separate study, Bryan showed this could be achieved.[123] Using a quasi-experimental design, Bryan compared couples who attended standard CBE classes with couples who attended an enhanced prenatal course. The enhanced course consisted of an additional three sessions on the transition to parenthood, roles, communication with baby and relationships and interactions for the first three months of life. Postnatally, couples in the enhanced group had significantly higher scores than couples from the standard group in the following areas: mothers' sensitivity to their infants' cues; fathers' and couples' social-emotional growth fostering; and mean response to child distress. Although couples were not randomised to the standard or enhanced groups, the findings are noteworthy because they were based on videotaped parent-child interactions, rather than solely on more commonly used self-report measures, and so are less susceptible to response bias. The findings suggest that antenatal classes could be enhanced to better facilitate parent-child attachment.

Moore's research comes to the same conclusion.[124] She evaluated an enhanced prenatal programme that aimed to develop expectant parents' 'reflective function', or their understanding of the mental states underlying behaviours, which she believed was important for securing infant attachment. There was no control group, but pre-post test comparisons for 28 expectant parents showed that the reflective function of participants with low pre-programme reflective function increased significantly. She concluded that an enhanced prenatal programme can better develop the cognitions of expectant parents that are associated with secure infant attachment.

In summary, all of the studies obtained positive results in their efforts to improve parent-infant attachment or its precursors. However, almost without exception, these courses were enhanced with additional content relevant to parent-infant attachment. At present, the majority of antenatal classes do not incorporate this additional content.

1.5.2 Breastfeeding success

The health benefits of breastfeeding for both mother and infant are well established. The World Health Organisation recommends exclusive breastfeeding for the first six months of an infant's life and initiated the Baby Friendly Hospital Initiative (BFHI) to support women in achieving this objective[125]. Different measures of breastfeeding success may include initiation of breastfeeding, duration of breastfeeding and exclusivity of breastfeeding.

There have been several trials of prenatal interventions specific to breastfeeding, usually involving the provision of information to women on the benefits of breastfeeding and how to manage it. For example, Noel-Weiss conducted a randomised controlled trial of a prenatal breastfeeding workshop and assessed its effects at four and eight weeks postpartum.[126] Compared with the control group, she found that the workshop attenders had more exclusive breastfeeding (58 percent vs 70 percent) and less weaning (22 percent vs 15 percent). Mattar et al also conducted a randomised controlled trial.[127] In this study, mothers receiving individual counselling and educational material practised exclusive breastfeeding more often than mothers receiving routine care (OR = 2.4, CI = 1.0-5.7) or mothers who were exposed to educational material alone (OR = 2.5, CI = 1.0-6.3) at six months postpartum.

The results of these trials are consistent with a recent Cochrane systematic review of interventions for promoting the initiation of breastfeeding.[128] Seven trials met their inclusion criteria of being a randomised controlled trial of any breastfeeding promotion intervention. Of these, five trials involving 582 women on low incomes in the US showed breastfeeding education had a significant effect on increasing initiation rates compared to routine care (Relative Risk [RR] = 1.53, CI = 1.25-1.88). The review concludes that breastfeeding education is effective at increasing breastfeeding initiation.

Does this mean that antenatal education should also be effective at increasing breastfeeding rates? The type of information provided in these specific breastfeeding interventions is often incorporated into many antenatal programmes. Several large cross-sectional studies have been conducted in the US. Using data from a National Survey of Early Childhood Health, Lu et al found that mothers who attended childbirth classes were 75 percent more likely to initiate breastfeeding than non-attenders.[22] Importantly, this was after controlling for maternal differences in socio-demographic and other characteristics (adjusted OR = 1.75, CI = 1.18-2.60). They comment that their findings are remarkably similar to those in Lu et al which also showed a 75 percent (adjusted OR = 1.75, CI = 1.15-2.67) increase in the odds of breastfeeding initiation among attenders, using data from a separate cross-sectional survey.[129] A third large US survey was conducted by telephone with 5,213 new mothers four to six weeks postpartum.[130] This study showed that the women most likely to breastfeed were the ones who attended childbirth classes (RR = 1.16, CI = 1.11-1.20), those who received prenatal breastfeeding advice (RR = 1.24, CI = 1.19-1.27) and those who received postpartum breastfeeding assistance (RR = 1.31, CI = 1.15-1.34).

Similar results have also been obtained by large–scale surveys in France,[131] the Czech Republic,[132] Canada,[133] southeast Arkansas (USA),[134] the UK[135] and Australia.[136] Without exception, these large surveys have revealed a positive relationship between antenatal class attendance and either breastfeeding initiation or duration. Smaller studies in Turkey[137] and Poland[138] also suggest positive effects of antenatal programmes on breastfeeding rates.

Interestingly, when trials have compared standard antenatal education with modified programmes, often incorporating additional breastfeeding content, no differences between groups have been found. For example, Lavender et al compared outcomes for women who had been allocated to routine antenatal education or an additional single educational group session supervised by a lactation specialist.[139] There was no difference between the groups in the proportion of women who attained their expected duration of breastfeeding, the uptake of breastfeeding on discharge from hospital or in the proportion of women exclusively breastfeeding at four months. Sheehan used a quasi-experimental design to compare two different methods of antenatal breastfeeding education.[140] The first was a woman-centred intervention, incorporating concepts of peer and partner support run by representatives of the Nursing Mothers Association Australia (NMAA). The second group received antenatal breastfeeding education led by a midwife childbirth educator as part of the antenatal course. There was no difference between the two groups on measures of maternal perceptions of success or breastfeeding duration rates up to 25 weeks after birth. The study was interesting because it suggests that a peer-led model of breastfeeding education was as effective as a midwife-led group in producing good breastfeeding initiation and duration rates.

That access to education and support should increase women's success with breastfeeding is not surprising. It is consistent with studies that have noted a lack of knowledge about breastfeeding management and lack of support as major barriers to breastfeeding.[141] A prospective study done in Wellington, New Zealand surveyed a cohort of 490 women at intervals throughout pregnancy and after giving birth.[142] They found that, after controlling for socio-demographic variables, women were less likely to be fully breastfeeding at six to 10 weeks postpartum if they believed they needed more breastfeeding information before delivery or if they had experienced breastfeeding problems.

There seems to be no doubt that breastfeeding is more common among women who attend antenatal classes than among women who do not attend classes. What is more difficult to determine is the direction of causality. However, it does seem likely that antenatal courses that incorporate education about the benefits of breastfeeding, breastfeeding management, and how to deal with breastfeeding problems will increase breastfeeding initiation and duration.

1.5.3 Relationship between couple

It is widely acknowledged that the transition to parenthood can create additional challenges for couples as they adjust to their new roles and the demands of caring for an infant. The period can be associated with increased stress and conflict, and for many, the quality of their relationship declines.[143,144] Given that the quality of the couple's relationship is implicated in the child's early development, there is added impetus to try to intervene during this transition.[145] The hope is for preventive couple interventions to better prepare parents for relationship changes that may occur and how to cope with them.

The search revealed two studies within the last 10 years that specifically examined the effectiveness of antenatal classes on the quality of the couple's relationship. Arcamone surveyed a convenience sample of women at two weeks postpartum and compared three groups of women: those who had attended Prepared Childbirth Classes; women who had attended Prepared Childbirth and Baby Care Basics Classes (additional parenting content); and women who had not attended any prenatal education classes.[146] No significant differences were found among the three groups on the quality of women's relationship with their partners. Diemer developed a 'father-focused' antenatal course that employed a group discussion format and compared it against standard antenatal classes that employed more didactic methods (study described in section 1.3.3).[51] The father-focused classes had benefits over the standard classes on the men's level of interpersonal reasoning with partners and their participation in housework, suggesting the intervention had facilitated a more positive partner relationship. However, the post-assessment occurred immediately after the conclusion of the classes and there was no follow-up after the birth to determine if these effects were maintained.

Another study presented the results of an intervention that was designed to fit easily into standard antenatal classes to prevent relationship deterioration during the first year of parenthood. Hawkins et al produced the *'Marriage Moments'* workbook for childbirth educators to hand out in their classes, so that couples could then work through exercises at home.[147] A randomised controlled trial compared the outcomes of three groups: a treatment group that received the workbook and encouragement from their childbirth educators to work through it; a second treatment group that received the workbook but no encouragement from childbirth educators; and a control group that participated in the standard antenatal class but did not receive a workbook. Although participants were highly satisfied with the programme, disappointingly, there were no significant differences between the groups on relationship outcome measures at three or nine months after the baby's birth.

More intensive prenatal psychoeducational programmes, which have focused on developing relationship skills, have shown some positive results. Bryan reviewed the literature in 2002 and described two relevant studies.[148] A two-class communication programme showed positive effects on couples' relationships and state-trait anxiety after birth[149] and a longer couples' intervention resulted in fewer separations and divorces in the treatment group over the first two years, after which effects began to fade.[145] Shapiro and Gottman developed a psychoeducational intervention for new parent couples that was added onto standard antenatal classes.[150] The curriculum was delivered over a two-day workshop and covered couple exercises, parenting and infant-care instruction. This programme was effective on one-year follow-up measures of the couple's relationship quality and the mother's and father's self-reported psychopathology.

Some of the enhanced prenatal programmes have also produced negative findings. The enhanced prenatal intervention developed by Bryan (described in section 1.5.2), which produced benefits for parent-child interaction, did not produce an effect on couple relationships.[123] Comparing the enhanced intervention with standard antenatal classes revealed no observable benefits for the couples' relationships at 10 months after delivery.[148] The author, however, does point out that the lack of randomisation meant that couples in the enhanced group had greater relationship issues at Time 1, potentially making it more difficult to observe a treatment effect.

If the enhanced prenatal programmes struggle to achieve effects, it might not be realistic to expect standard antenatal classes alone to make much difference in this area.[151] Furthermore, even if consensus could be reached about the effective components of prenatal couples' courses, these interventions would probably require highly trained instructors.

1.5.4 Parenting self-efficacy and parenting knowledge

Parents who have knowledge about how to care for a newborn are more likely to feel confident about the transition to parenthood. A strong sense of self-efficacy, or confidence in one's abilities, is necessary for a sense of personal wellbeing and for persisting in efforts towards success.[152] Parenting self-efficacy influences the way a parent interacts with their child[151] and is inversely related to stress,[153] so it is not surprising that parenting knowledge and self-efficacy influence child and parent health outcomes down the track.

In the past, antenatal education was more accurately described by the term 'childbirth education', because it focused more on preparing expectant parents for labour and childbirth rather than parenting. As a result of an increasing number of calls for improvements in this area,[154,155] many antenatal programmes have incorporated infant care and parenting.

The search strategy revealed five studies that have directly investigated the impact of antenatal courses on parenting outcomes. Four showed benefits of attendance at courses with enhanced parenting content and one showed no additional benefits. Both Corwin[156] and Rolls and Cutts[157] demonstrated that antenatal classes that incorporated parenting content produced improvements in parenting knowledge scores that were superior to those of standard childbirth control groups.

Using a quasi-experimental design, Schmied et al were the first to examine the influence of antenatal classes on parenting variables in the postnatal period for a group of Australian parents.[158] The experimental group participated in an antenatal course that used adult learning principles and focused on parenting skills and relationship issues, as well as preparation for birth. A key feature of the programme was that it incorporated gender-specific discussion groups. Importantly, the new course was no longer in length than the standard antenatal programme. Results showed that, at eight to 10 weeks postpartum, women in the experimental group were significantly more likely to evaluate their parenting experience more positively than women in the routine programme, with a similar but non-significant trend for men, indicating that experimental group parents were more comfortable in infant care tasks and perceived themselves more positively as parents.

Another Australian team, involving one of the same researchers involved in the Schmeid et al study, went on to conduct a high-quality, randomised controlled trial comparing two antenatal education programmes to determine their impact on parenting self-efficacy and parenting knowledge.[159] The experimental course, the Having a Baby programme, included increased parenting content, but was the same length as the standard control programme (seven two-hour sessions before birth with a reunion meeting about six weeks after birth). The women who attended the programme had significantly higher perceived parenting self-efficacy and parenting knowledge about eight weeks after the birth than women who attended the regular programme. There were no differences between the groups on any other outcomes to do with labour and birth. Encouragingly, the childbirth educators who facilitated the experimental programme required only a four-hour training workshop before delivering the course to produce the improved parenting outcomes.

A study by Arcamone (described in section 1.5.4) found no differences in outcomes related to confidence in coping with the tasks of motherhood or satisfaction with motherhood and infant care activities between women who received standard antenatal classes (Prepared Childbirth Class), enhanced classes (Prepared Childbirth and Baby Care Basics Class) or women who had not participated in any antenatal classes.[146]

Differences in the findings can easily be explained by differences in the nature of the antenatal courses. Even though Arcamone's study examined outcomes for a group of women who had received additional parenting content, the manner of delivery of the Prepared Childbirth and Baby Care Basics Class was more didactic and less grounded in principles of adult learning than the enhanced classes examined by the other studies.

In summary, there is promising evidence that antenatal education classes can make a difference to parenting confidence and knowledge, provided they are based on principles of adult learning and incorporate additional parenting content. Importantly, the refocusing of labour and birth content has had no detrimental effect on outcomes related to labour or birth.

1.5.5 Postnatal depression (PND)

Postpartum or postnatal depression (PND) can seriously affect a woman's ability to function and form a relationship with her child and is a predictor of poor cognitive, social and emotional development in

infants.[160] It occurs in 10–20 percent of mothers by three months postpartum.[161] Antenatal efforts to prevent postnatal depression have often included psychosocial strategies aimed at enhancing women's self-esteem and the level of support they receive postpartum.

Only one study was found that specifically set out to investigate the impact of standard antenatal classes on depressive symptoms. Out of the 1,738 women who gave birth between 1988 and 1995 at the Mie University hospital in Japan, Okano et al identified all the women who subsequently consulted a psychiatrist for PND (40).[162] Eighteen of these women had attended antenatal classes and 22 had not. The mothers were interviewed, then followed up again six and 12 weeks later. There were two interesting findings. Firstly, the time of the first psychiatric consultation after delivery was much sooner for women who had attended antenatal classes compared with women who had not. Secondly, the mean score on the Edinburgh Postnatal Depression Inventory of the attenders was significantly lower at the first consultation than the non-attenders, and this difference was found again at the six-week follow-up. These results could be interpreted as indicating that attendance at antenatal classes in Japan leads to earlier contact with psychiatric services and a reduction in the severity of depression. However, it is not possible to rule out that the observed differences could simply be due to differences in the characteristics of women who decided to attend or not attend classes.

The majority of studies in this area have investigated psychosocial interventions, ranging in length from two to 11 sessions,[163] some of which could be incorporated into standard prenatal classes. Brugha et al compared outcomes for women who did an enhanced prenatal course that focused on reducing risk factors and increasing social support with women who received routine antenatal care only.[164] The intervention comprised six structured two-hour weekly classes and one postpartum class. There were no differences between the two groups on rates of PND or risk factors for depression at three months postpartum. Buist et al[165] compared outcomes for at-risk women who completed a 10-session course that spanned pregnancy and the postpartum with women who attended a standard six-session antenatal class. At six weeks postpartum, there were no differences in depression scores between groups. Hayes et al conducted a randomised controlled trial to investigate whether an education package could prevent PND.[166] The package consisted of a written information booklet designed for pregnant women that contained information about PND, its causes and where to go for help, as well as an audio tape of one woman's journey through postnatal clinical depression and back again. A midwife guided women through the package in a clinic session or in their own homes. There were no differences in levels of depression at either eight to 12 weeks or 16 to 24 weeks postpartum between the experimental group and control group who had not received the education package. These negative results build on the findings from earlier studies that have also failed to find any beneficial effects for prenatal psychosocial interventions in preventing PND.[167]

In contrast to the negative findings described above, two studies achieved more promising results.

Elliott et al invited 'vulnerable' pregnant women to participate in an 11-session psychosocial intervention, consisting of five prenatal sessions and six postnatal sessions.[168] Compared with the control group of vulnerable women who received only routine prenatal care, women in the intervention showed significantly more positive moods at three months postpartum, as measured by the Edinburgh Postnatal Depression Scale. The other noteworthy result was that only 19 percent of the intervention group had depression at any time in the first three postpartum months, compared with 39 percent of the control group. By 12 months postpartum, no beneficial effect was evident. In interpreting these results, it must be recognised that the three-month assessment took place before the conclusion of the intervention (which went on until six months postpartum). The authors themselves point out the possibility of the effective ingredient being the social support provided by the group.

The other study with positive results was a randomised control trial by Matthey et al[163] They compared outcomes for attendance at three different antenatal interventions: the standard Preparation for Parenthood programme (control group); the standard programme plus one extra session focusing on psychosocial issues related to becoming first-time parents (experimental group); and the standard programme plus one extra session focusing on baby play (non-specific control group). Men and women were categorised into low, medium and high levels of self-esteem. At six weeks postpartum, women with low self-esteem, who had received the intervention, were significantly

better adjusted on measures of mood and sense of competence than low-self esteem women in either of the two control conditions. There were no differences between groups by six months postpartum. Matthey et al comment that the beneficial effect at six weeks was related to partners of these women being more aware of how the mother was feeling, and women reported more satisfaction with the sharing of home and baby tasks. The study is important because the brief intervention can readily be incorporated in antenatal classes, and it was the first to demonstrate the differential effectiveness of such programmes for women with different levels of self-esteem.

To summarise, the strength of the current evidence suggests preventive psychosocial interventions, on the whole, do not reduce the number of women who develop PND. Indeed, a recent Cochrane systematic review of psychosocial and psychological interventions for preventing PND reached the same conclusion.[169] A separate review of non-biological interventions for preventing postpartum depression, which included the studies of antenatal classes described above, concluded there was insufficient evidence to unequivocally recommend any particular intervention.[170] It may be a tall order for standard antenatal classes to affect rates of PND. At best, it could be speculated that under certain conditions, antenatal classes that incorporate particular psychosocial interventions may reduce some symptoms of distress.

1.6 Outcomes related to specific population groups

1.6.1 Fathers

The positive role that fathers can play during pregnancy, labour and childbirth has been recognised for some time now.[171] The benefits of positive involvement by the father for a child's development are also well documented.[172] Emerging evidence suggests that many men want to be involved in their partner's pregnancy[173] and feel unprepared for parenting.[174] Fathers may have feelings of anxiety or helplessness during labour. Consequently, there has been greater acknowledgement of the support needs of men during their transition to fatherhood[176] and more men now attend antenatal classes.[177]

In recent years[175], studies have considered fathers' experiences of childbirth and antenatal education, and the impact of antenatal classes on men. Many of these studies have been qualitative in nature, investigating men's experiences and satisfaction with antenatal classes, and have less often involved comparison or control groups.

Not uncommonly, men have been dissatisfied with antenatal classes.[178] Male participants in programmes have reported a lack of involvement and recognition in groups, often only attending out of duty to their partners.[179,180] Men have felt alienated by the way in which information is presented and have 'endured but not enjoyed' antenatal education.[181] These studies would support the conclusion that antenatal classes are not meeting most men's needs.

In contrast, Galloway et al found that on completion of antenatal classes, fathers "felt more confident about their role as a support person in labour and better prepared for the changes in lifestyle after the birth" pp 38-41.[182] Similarly, when Fletcher et al asked fathers for their immediate post-class response, fathers predicted they had been well prepared in all areas.[176] However, when asked for their reactions to antenatal classes *after* the experience of labour and childbirth, fathers reported that antenatal classes had prepared them for childbirth but not for lifestyle and relationship changes after the birth.[176]

In one of the few quasi-experimental studies in this area, Diemer investigated whether outcomes for fathers and couples could be improved by making antenatal classes more 'father-focused' (study cited in section 1.3.3 and section 1.5.4).[51] The father-focused classes included the same content regarding pregnancy, birth and parenting, but used a group discussion format and focused more on teaching coping skills and increasing social support. The father-focused groups did produce some benefits in the men's level of reasoning and participation in housework over the standard classes; however, there were no differences between groups on measures of coping, or, on the whole, on levels of social support.

Greenhalgh et al provide a caution against assuming antenatal classes may be beneficial for all fathers.[183] She and her colleagues found that, while attendance at antenatal classes may have benefits for some fathers, for fathers whose coping style was to blunt or avoid threatening information, attendance was associated with less fulfilling childbirth experiences than for fathers who had similar coping strategies who did not attend classes.

In summary, antenatal classes can be of benefit to fathers, but childbirth educators should strive to understand fathers' needs and ensure their classes are conducive to involvement by fathers. There have been plenty of suggestions for how to better meet the needs of fathers in antenatal classes,[180,184] with a recurring suggestion to incorporate gender-specific discussion groups into the antenatal class.[185,186,187,188] There needs to be ongoing evaluation of whether following such suggestions is associated with more positive experiences for fathers of attending labour and emotional adjustment after delivery.

1.6.2 Teens

Adolescent pregnancy is associated with many negative health outcomes.[189] Pregnant teens have a high rate of unhealthy behaviours, such as smoking and drinking,[190] and are often unprepared for pregnancy and in unstable relationships, with the potential for tremendous negative effects on the teen, infant and society. After giving birth, they are also less likely to breastfeed than older mothers.[191] Consequently, there is a great need for effective prenatal care.

In this context, it is of concern that teenagers are much less likely to attend antenatal classes than older women. In a recent Australian pilot study of 30 pregnant teenagers, 53 percent attended prenatal classes.[192] Although this rate was higher than expected, it is significantly lower than the overall rate of 80 percent of first-time mothers who attend classes in Australia.[193]

Dieterich lists the factors that could affect the pregnant adolescent's health perceptions and self-efficacy expectations.[189] They include lack of support, feeling isolated and needing help; inadequate teaching by providers related to a lack of knowledge about how teens learn, coupled with teens' tendency not to recognise the value of education and their reliance on misinformation; external barriers of cost and transportation; system barriers of long waiting times and short visits in delivery of prenatal care; cognitive and emotional factors including negative attitudes and fear of pregnancy, birth and parenting, low self-esteem and difficulty with problem-solving and decision-making skills. These are the same barriers that contribute to teens' low attendance rates at antenatal classes.

Perhaps because teenagers are far less likely to attend antenatal classes, there have been very few studies of their effectiveness for teenagers. One exception was a quasi-experimental study by Covington et al that showed that a special nine to 10-session antenatal programme for adolescents resulted in significantly fewer low-birthweight babies for participants in the intervention group compared with a historical control group (who had received antenatal classes at the same health department before the introduction of the new teen programme).[194] The authors acknowledge that differences found between the intervention group and historical controls may be due to other social, demographic or clinical changes over time, rather than any programme effects. This possibility was strengthened given that no differences were found between the intervention group and either contemporary 'geographically close' controls or contemporary 'resource-similar' controls, using a post-test-only design.

It may be that alongside antenatal classes, more intensive interventions are necessary to positively influence outcomes for high-risk teens. Studies investigating intensive early intervention programmes, involving home visitation support over many months, have shown health benefits for high-risk pregnant adolescents in reducing the number of infant hospitalisation days[195] and preventing later child abuse and neglect.[196]

In an effort to increase the number of teens receiving adequate prenatal care, many professionals are recognising the importance of designing antenatal classes tailored to the pregnant adolescent's unique needs.[189,197,198] Further research into these specially tailored antenatal classes must now be conducted to prove their worth.

1.6.3 Minority cultural groups

There are marked differences in expectations and reactions to childbirth in different cultures.[199,200] Perhaps not surprisingly, there are also large racial-ethnic disparities in attendance at antenatal education classes, with women from indigenous or minority cultural groups far less likely to attend antenatal classes than Caucasian women.[22] For many minority cultures, formal childbirth preparation is not a cultural norm[201] and women prefer to rely on their mothers or other family members to acquire information about childbirth.[202,203]

While the support that families provide to expectant parents should be applauded, the accuracy of the information exchanged cannot be relied upon and many important health messages are not exchanged at all. An example of lack of information exchange is illustrated by a recent New Zealand study of Pacific mothers' awareness of the risk factors for sudden infant death syndrome (SIDS).[204] The study showed that amongst other things, lack of awareness of SIDS risk factors was significantly associated with Samoan and Cook Island Māori ethnicity, being born in the Pacific Islands, not being fluent in English and not attending antenatal classes.

The low participation rate of minority cultural groups in antenatal classes is of particular concern given poorer health outcomes for these groups.[205] A large study carried out from 1988 to 1997 in London showed that women from ethnic minority groups (African, West Indian, Bangladeshi, Indian or Pakistani) had strongly elevated risks of operative delivery compared with Caucasian women, after adjusting for important confounders.[206] Minority cultural groups also often represent the more socio-economically disadvantaged sections of the community. Women on lower incomes have been found to have lower perceived control and report higher levels of pain during childbirth.[69,202]

Several studies have noted barriers to participation in antenatal classes for minority cultural groups.[203,207] Frequently mentioned barriers include transportation issues, childcare, language barriers and cost. Coupled with the barriers, there is a lack of understanding amongst health providers of how prenatal health information can best be presented to couples from different cultural backgrounds. Berman's survey of 59 Hispanic women revealed that the overwhelming majority had a preference for the health educator to have a similar cultural background.[203] Such findings suggest that antenatal classes need to have greater emphasis on relevant cultural practices. To facilitate this prospect, Ottani describes common childbearing beliefs among the Cambodian community and recommends ways in which providers can incorporate some of the practices into childbirth preparation.[201] She is very clear that if the aim is to increase participation of women from minority cultures in antenatal classes, we must involve members of their own communities.

New Zealand has sought to increase the access of Māori to prenatal programmes through two widely supported policies: cultural safety education, particularly for mainstream providers of health services, to help them recognise conscious or unconscious cultural and social attitudes that may affect the care they provide; and increasing the number of Māori Health Care providers, or kaupapa Māori services (developed by Māori for Māori).[208] Although there are promising signs, it is not yet clear to what extent such initiatives have boosted Māori access to antenatal education.

On the rare occasion that culturally sensitive classes have been formally evaluated, the results have been encouraging. Mehl-Madrona provided training for health educators to offer culturally sensitive classes to Native American and Hispanic women in their own communities.[209] When 320 women who attended subsequent classes run by these educators were compared against a matched comparison group, they had significantly fewer caesarean deliveries and less use of analgesia to reduce pain. This was not a randomised controlled trial, but it demonstrated that when women from minority cultural groups attended classes, the results could be positive.

For many minority groups, it is likely that having culturally sensitive classes available will not be enough to improve access to antenatal classes. These communities will need to be mobilised to endorse women's participation in prenatal preparation. Bhagat et al describe one such project to address the prenatal health needs of immigrant Punjabi women in Canada.[210] These authors collaborated with representatives from various service agencies and the community to create a platform for communicating with the community about prenatal health care. The effectiveness of such mobilisation efforts on improving prenatal care or antenatal class attendance is unknown.

To summarise, culturally competent childbirth education requires educators to consider the beliefs of the expectant parents, the cultural environment of the class and the teaching strategies used to present the class content. Offering prenatal education that is sensitive to the beliefs and wishes of minorities is a starting point for increasing expectant women's willingness to participate in classes. Once women from minority cultural groups begin participating in classes, we can then turn to the question of determining the impact of antenatal education for minority groups.

1.7 Discussion and conclusions

Studies have investigated the impact of antenatal education on various outcomes. The methodology of many of these studies can be criticised. In particular, there is a lack of randomised controlled trials and an over-reliance on cross-sectional survey methodology to deduce the impact of classes. The main implication is that the differences found between attenders and non-attenders using the survey methodology may be associative, not causal. Attendance at antenatal classes may be a marker for other differences in personal characteristics, motivation, behaviour or environmental factors that are more influential determinants of health outcomes. Indeed, older, more-educated, higher-income, Caucasian women, who are more likely to attend antenatal classes, tend to have better outcomes across a range of health indices than the younger, less-educated, lower-income, minority culture groups, who are less likely to attend. Despite this criticism, researchers have argued that demographics alone do not account for the differences in outcomes between attenders and non-attenders.[11,211]

Another issue is that the antenatal programmes reviewed are not homogeneous. There is a great deal of variety in class timing, purpose, content, format, theoretical perspective, philosophy and the qualifications of instructors. Nolan points out that "almost all studies have made the mistake of treating attendance at classes as a single, uniform, intervention".[85] This makes it difficult to compare outcomes across studies and to draw conclusions about the effectiveness of antenatal education on any one outcome.

The number of different populations served is also noteworthy. These studies have been conducted in many different countries, making generalisability of results limited. However, given the consistent finding in different countries that attenders are more likely to be white, middle-class women, it could perhaps be argued that the findings apply primarily to this group.

These limitations notwithstanding, there have been a sufficient number of studies to begin to detect some patterns in the aggregated findings. It was felt that a summary that relied solely on the strength of the evidence would not provide a complete picture of antenatal education's potential role and effectiveness within the wider maternity system, and would therefore limit the ability of the review to contribute to the optimal development of future antenatal education programmes. The findings are therefore summarised according to two dimensions. Table 1 categorises each outcome according to both the strength of evidence for the effectiveness of antenatal classes in this area *and* the likelihood, based on the broader literature, that antenatal classes can have impact in this area. In determining the strength of the evidence, the quality and number of studies was considered. In determining antenatal education's 'likelihood' of affecting a particular outcome, the wider literature was considered. In particular, the existence of effective interventions that could easily be incorporated into antenatal classes was taken into account, as was the demonstrated effectiveness of 'enhanced' antenatal classes.

TABLE 1. Summary of findings: strength of evidence for the effectiveness of antenatal education on each outcome as a function of the likelihood of antenatal education affecting each outcome

	Good evidence	Mixed evidence	Very little evidence
Likely to impact	> Bonding or attachment > Breastfeeding success > Parenting self efficacy and parenting knowledge	> Expectations > Fathers	> Substance use > Social support
May impact		> Nutrition > Amount of fear or anxiety > Maternal sense of control > Amount of pain > Use of medications to reduce pain or coping strategies used in labour > Birthweight or preterm delivery	> Teens > Minority cultural groups
Less likely to impact		> Birth experience > Caesarean rate > Couple relationship > Postnatal depression	

As the table shows, there is good evidence that antenatal education can improve bonding or attachment, breastfeeding rates, parenting self-efficacy and parenting knowledge. These positive outcomes have been demonstrated consistently in several studies. Despite some mixed results, it also seems likely that antenatal education can benefit fathers' confidence about their role as support person in labour and on women's expectations for labour and delivery. No study specifically investigated the relationship between antenatal education and substance use, although the existence of other effective brief, prenatal interventions for smoking and drinking suggests that antenatal classes incorporating such interventions could affect these outcomes if delivered at the right time. Importantly, there is anecdotal and qualitative evidence suggesting that antenatal education can increase women's social support networks, which may, in itself, help women to prepare emotionally for the birth experience and beyond.

What antenatal education has not achieved with any consistency is benefits in terms of nutrition, amount of fear or anxiety, maternal sense of control, amount of pain, use of medications to reduce pain, the coping strategies used during labour or the number of premature or low-birthweight babies. It is likely that the mixed results for these outcomes are a function of the variety of antenatal classes tested and the different methodologies used across the studies. Given the right conditions, antenatal classes may yet be able to improve outcomes in these areas. Similarly, if classes could be modified to better address the unique needs of teens or minority cultural groups, it seems likely there could be benefits for these groups. To date, the effectiveness of antenatal education has rarely been examined for these groups, probably at least partly because of the difficulty in engaging them in classes.

Finally, for other outcomes, the bulk of the evidence and consideration of the wider literature suggests that antenatal education is less likely to have impact. These

outcomes are women's birth experience, caesarean rates, couple relationships and postnatal depression (PND). It is likely there are far better predictors of these outcomes than attendance at antenatal classes. For example, continuity of care and the far more proximal determinant of the quality of midwifery support during labour have been shown to predict satisfaction with the birth experience.[65] Any additional benefit of attendance at antenatal classes is likely to be small and virtually impossible to detect in the complex interplay of other factors surrounding prenatal care, birth and the health of parents.

It is clear that there are some outcomes that antenatal education is more likely to affect than others. Despite a lack of evidence and mixed results, women and their partners continue to attend antenatal classes and, on the whole, are satisfied with them. Clearly, we must rely on more than our linear modelling equations to draw conclusions about the effects of antenatal classes. At least in part, classes must give information relevant to becoming a parent. At the same time, there are concerns about the structure, process and content of programmes and a growing body of literature on what can be done to improve antenatal education.

1.7.1 Recommended future format and content of antenatal classes

A review of parenting education services in New South Wales, Australia provided support for antenatal education but criticised programmes that continue to present information in a didactic manner, and thus do not address the particular learning needs of their participants.[193] Indeed, there are consistent calls for classes to be based on principles of adult learning.[193] These principles include allowing choice and self-direction in the learning process; having clearly defined goals; respecting current viewpoints; building on previous experience and providing opportunities for parents to learn from each other's experiences and ideas; incorporating small-group discussions (including same-sex discussion groups); and treating people as equals in the learning process. In addition, classes should provide more opportunity for experiential learning (learning by doing). Providing time for women and men to practise the use of strategies taught is important, not only for developing skills, but also as a demonstration of commitment to a method.[212] Slade et al suggest that facilitating the translation of training in antenatal classes to practice in the delivery suite may also require more effort to strengthen women's belief in the benefits of using the strategies as well as further developing their self-efficacy in the use of strategies.[84]

In terms of structure, there have been suggestions that classes should be offered on a broader timescale,[213] at times that are best aligned with parents' information needs. For example, such a programme may include content on nutrition and substance use early in the pregnancy, classes on coping with labour later in pregnancy and classes on infant care and parenting either late in pregnancy or soon after the baby is born. Robertson suggests that spreading the sessions over several months in this way helps people to develop friendships and support networks, as it gives them longer to connect, compared with the shorter duration of most programmes.[213]

In terms of content, a useful resource to guide evidence-based practice is Enkin et al's *A Guide to Effective Care in Pregnancy and Childbirth*.[214] The authors describe how the primary content of antenatal classes used to be on the use of psychological or physical, non-pharmaceutical strategies to prevent pain in childbirth. They go on to list the goals of expanded, modern-day classes, including good health habits, stress management, anxiety reduction, enhancement of family relationships, feelings of empowerment, enhanced self-esteem and satisfaction, successful infant feeding, smooth postpartum adjustment and advice on family planning. Dumas, too, has suggestions for the essential categories and content of antenatal classes.[215] In practice, though, there is frequent acknowledgement of the pressure to fit everything in and the problem with providing too much information.[215,216]

At least partly as a consequence of the fact that antenatal classes cannot cover all the relevant information about pregnancy, childbirth and parenting, there have been several suggestions to refocus classes so that they concentrate on developing, in participants, the related concepts of empowerment, self-efficacy and health literacy.[215,216,217,218] Empowerment refers to acquiring self-help abilities and attitudes during a difficult period and involves not just allowing parent participation in classes, but showing parents how to develop the tools to solve their own problems.[215] Taking an empowerment approach, the educator would focus more on the development of abilities, such as communicating and verbalising feelings and needs,

becoming self-assertive, expanding one's network and improving one's self-confidence and self-efficacy.[215] Bingham describes a range of CBE techniques designed to empower women and increase their self-efficacy.[217] These techniques involve ideas to maximise women's voice and influence by methods such as encouraging women to carefully select a birth setting and caregiver, encouraging them to ask questions, encouraging them to talk to administrators and nursing supervisors, responding to patient-satisfaction surveys and encouraging women to write letters about their experience. That empowerment and self-efficacy are important to women's outcomes was illustrated by Lowe's research showing that self-efficacy significantly predicted childbirth fears in nulliparous pregnant women.[219]

Self-efficacy and empowerment are closely related to the concept of health literacy. The World Health Organisation (WHO) defines health literacy as follows:

> Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand, and use the information in ways which promote and maintain good health… Health literacy means more than being able to read pamphlets and make appointments. By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment.[220]

Renkert and Nutbeam advocate that health literacy should be promoted through antenatal classes.[216] They argue that when the concept of health literacy is used to guide the content and delivery of health education, attention is focused on the development of skills and confidence to make choices that improve individual health outcomes, rather than being limited to the transmission of information. Antenatal classes that are based on simple knowledge transfer and the development of basic skills are viewed as a missed opportunity to develop the knowledge and skills that have more enduring application during the early years of parenthood.

For the content that does end up being included, one criticism has been a lack of realism, with women feeling unprepared for deviations from the normal course of labour or criticising classes for their lack of honesty.[218] For example, in a qualitative study by Schneider, women found the onset of labour distressing because it did not correspond with what they had been told in classes.[50] Similarly, in an earlier study by McKay et al women expressed surprise at the difference between what they had been told about the bearing-down stage of labour and what they actually experienced.[221] A lack of realism in classes has been suggested as a possible reason why couples who strongly desire to avoid pharmacological methods of pain relief during labour frequently do not achieve their goal.[88] In fact, mothers whose expectations of labour are unrealistic experience worse pain than mothers with more realistic expectations.[222] A lack of realism in classes has also been blamed for women being dissatisfied with the birth experience.[223] It is therefore important that antenatal classes aim to help parents achieve realistic expectations of the birth experience and transition to parenthood.

Several studies have argued that antenatal classes should focus more on parenthood[155,159,224] and the psychological impact of having a child.[225] One of the main issues concerning the inclusion of content on parenting has been the timing of the classes. Parents appear more receptive to information delivered when it is most needed, and Australian research suggests that parents are not predisposed to absorb information about postnatal issues during the prenatal period.[226] Similarly, it has been argued that men and women are possibly so preoccupied with the issues of labour and childbirth that they are not ready to absorb information on relationship and lifestyle changes, and parenting, until the challenge becomes a reality.[176] On the other hand, antenatal programmes should not be compromised by educators who believe that pregnant women cannot learn.[227] In addition, Nolan's research indicates that couples desire a balance between labour and delivery and postnatal issues.[155] Furthermore, there is now good evidence that information provided during antenatal classes on parenting has positive effects on parenting knowledge and self-efficacy after the birth.[159] Information on parenting should therefore form a key component of antenatal classes, rather than a small section covered right at the end of the course.

A final content area that childbirth educators should be skilled in is discussing emotional and relationship issues related to the transition to parenthood. There is perhaps no other life event that has such a profound effect on people's relationships and emotional wellbeing as becoming parents. The quality of parents' relationships with each other and the family system

they create before the birth has a strong impact on their transition to parenthood.[228] And yet, qualitative research shows that many women feel that antenatal classes are too technical and do not address emotional or psychological issues.[17] There is growing evidence that couples are, in fact, more concerned about emotional and relationship issues than practical issues of childbirth and infant care.[229] Antenatal classes also provide a valuable opportunity for educators to single out vulnerable women and families and organise for them to receive extra appropriate support.

In summary, for particular outcomes, benefits can be maximised if antenatal education is done well, at the right time and includes the right content. Future antenatal education programmes should use adult learning principles to empower women and increase both women's and men's self-efficacy and health literacy; prepare women in a more realistic way for childbirth; educate parents about early parenting; and discuss emotional and relationship issues related to the transition to parenthood.

1.7.2 Implications for facilitators and childbirth educators

The process and content recommendations contained in this review have implications for who should be delivering antenatal education. The focus on improving health literacy and empowering women may challenge childbirth educators to adopt new models of education. Both Kelly[230] and Svensson et al[159] note that educators may require additional training to be able to facilitate effective parenting sessions.

It is clear that, at present, facilitators of antenatal classes are not necessarily trained in the principles of adult education[231] and may not have good teaching skills, relying instead on less effective didactic teaching methods. Brown found that of the 14 childbirth and parenting educators she interviewed in one Australian state, only one had undertaken a short eight-hour course.[232]

Encouragingly, different studies have shown that a small amount of additional training may be all that is required to achieve positive outcomes. For example, in Svensson et al's study, childbirth educators who had received only an additional four hours of training were able to refocus the content and process of their classes to include more experiential activities, small-group learning and parenting content.[159] The changes resulted in increased self-efficacy and knowledge for parents, relative to parents who had completed the standard course. Similarly, in Diemer's study, childbirth educators received only brief training in how to shift the focus from preparation for labour to parental adaptation and a more father-focused curriculum, including small-group methods.[51] The refocused classes resulted in benefits for fathers over standard antenatal classes that had been run by the same educators.

It is clear that it takes expertise and skill to facilitate effective education and it is "not something that anyone can do if they are a midwife" pp 38-39.[1] Childbirth educators need adequate training and support to realise the potential of antenatal classes for parents. At a minimum, they should have knowledge and skill in the use of adult learning principles; experiential learning; empowering parents and increasing parental self-efficacy and health literacy; discussing difficult emotions and relationship issues; being sensitive to participants' individual situations, cultures and learning desires; professionalism; and understanding how other parts of the maternity system work.

1.7.3 Future research

There have been a number of recommendations for future research. Koehn's review suggests that continued advancement of knowledge about antenatal education is not occurring in an effective manner, and makes five recommendations in an attempt to direct future research efforts.[233] These recommendations are:

1. Conduct studies guided by a model that expects and accounts for differences in client motivation, birth attendant philosophies, attitudes and practices of obstetrical caregivers and other factors that influence a woman's perception of childbirth. This is in recognition that these variables will continue to vary across studies, so it is critical that they are categorised and defined so they can be compared across studies.
2. Conduct studies that include health-focused outcomes, as opposed to being limited to illness-focused outcomes.
3. Conduct studies that operationally define the measures of health-focused outcomes and the continued development and use of tools that measure these outcomes.
4. Establish standardisation and categorisation of the intervention of CBE in order to understand variations and to have an operationally defined set of terms for defining variables.

5. Conduct a meta-analysis of the effects of CBE from studies in the last 20 years so that future research can build on the knowledge and facts learnt from past studies.

These are sensible recommendations that, if followed, will help make sense of the wide variety of studies and begin to advance our knowledge about antenatal education in a more effective way.

Table 1 can also be used to indicate future research directions. For example, researchers could aim to substantiate the effectiveness of antenatal education on outcomes that it is likely to affect, but for which so far there is very little evidence, such as substance use or social support. Alternatively, being careful to specify the content and philosophy of their classes, researchers could aim to provide more solid evidence of the impact of antenatal education on the outcomes for which there is currently mixed evidence and uncertainty, such as the mother's nutrition or amount of fear or anxiety. It is also important that future research examines and can articulate the conditions under which improvements in particular outcomes are likely. For example, just how much class time needs
to be dedicated to parenting content in order to benefit this outcome and how little time can educators spend on birthing before there is a noticeable decline in benefit?

In addition, a number of more specific recommendations can be made in relation to research on particular outcomes or programme designs. These are summarised in Table 2.

TABLE 2. Recommendations for future research

1. Investigate the feasibility of designing education programmes that straddle the birth experience, ie, run classes both before and after birth.
2. Investigate whether offering classes on a broader timescale, at times that are best aligned with parents' information needs, is more effective than classes offered in one cluster towards the end of pregnancy.
3. Investigate the relationship between antenatal class attendance, increased social support and improved health outcomes.
4. Investigate how women's expectations of childbirth are modified by antenatal education as a function of their demographic characteristics.
5. Investigate optimal ways of engaging minority culture groups in antenatal education and examine whether classes modified to be more culturally appropriate have benefits for minority groups.
6. Investigate the effectiveness of antenatal education on psychosocial variables and health-focused outcomes beyond the birth experience.
7. Investigate whether antenatal classes can affect the variables that have been shown to predict pain and satisfaction with the birth experience, such as quality of relationship with caregiver, continuity of care and support in labour.

In summary, antenatal classes provide an important opportunity to promote healthy behaviours, increase social support, prepare women and their partners for childbirth and parenting and to detect vulnerable women and their families. As both Gagnon's[25] and Koehn's[233] reviews have shown, the recent studies are, as a group, so different and flawed that it is difficult to draw conclusions about the effectiveness of antenatal education. However, this review is different in that by considering the wider literature and drawing from a wide range of experimental designs, it has allowed conclusions to be drawn about which outcomes antenatal classes are likely to be effective.

It must be remembered that antenatal classes represent just one small part of the complex maternity system, with a myriad of factors interacting to influence health outcomes. Nurses conceptualise childbirth preparation as "an educational moment towards health" pp 190-198.[234] Enkin reminds us that there is no comprehensive formula for maternity care or antenatal education and that many aspects of our current practices work very well.[27] Indeed, sufficient evidence of their benefits exists that increased efforts must be directed to recognising barriers to and reducing disparities in attendance of these classes.

Regardless of their effects, for some women, attendance at antenatal classes may be an important part of the journey into motherhood, where there are opportunities to hear other women's birth stories and to form relationships with other expectant mothers.[235]

Antenatal education is evolving.[236] It began as *childbirth* education, and as the scope of classes broadened to encompass more than just strategies

for coping with labour and birth, it became *antenatal* education. It is possible that with the recognition of the importance of better preparing parents for parenthood and the emotional and relationship issues the transition engenders, in the future women and their partners may regularly attend *perinatal* classes. There have been calls from researchers and clinicians to "lift our game".[1] It is hoped that some of the emerging patterns summarised in this review may contribute to the format and content of future classes, in order to better equip women and their partners to navigate the birth experience and the transition to parenthood. The skills and confidence that can be enhanced in antenatal classes can help to ensure that the new life phase begins as a positive, healthy experience.

REFERENCES

[1] Robertson, A. (2001). 'Prenatal education: Time to lift our game'. *The Practising Midwife,* 4(1): 38–39.

[2] Zwelling, W. (1996). 'Childbirth education in the 1990s and beyond'. *Journal of Obstetric, Gynecologic, and Neonatal Nursing,* 25: 425–432.

[3] Nolan, M. (1997). 'Antenatal education – Where next?' *Journal of Advanced Nursing,* 25: 1198–1204.

[4] Dick-Read, G. (1944). *Childbirth without fear.* Harper & Row, New York.

[5] Lamaze, F. (1958). *Painless childbirth: Psychoprophylactic method.* Burke, London.

[6] Bradley, L.P. (1995). 'Changing America birth through childbirth education'. *Patient Education and Counseling,* 25: 75–82.

[7] Kitzinger, S. (1988). *The experience of childbirth.* Penguin Books, London.

[8] Simkin, P., & Enkin, M. (1989). 'Antenatal classes'. In I. Chalmers, M. Enkin, & J. Keirse (Eds.), *Effective care in pregnancy and childbirth.* Vol 1, Oxford University Press, Oxford.

[9] Lothian, J.A. (2001). 'Really teaching Lamaze: Evidence-based practice'. *The Journal of Perinatal Education,* 10(1): viii–xi.

[10] Lamaze International, Inc. (2000). *Lamaze philosophy of birth. Lamaze International, Inc.* [Online]. Available at: http://www.lamaze.org/2000/aboutlamaze.html

[11] Broome, M.E., & Koehler, C. (1986). 'Childbirth education: A review of effects on the woman and her family'. *Family and Community Health,* 9(1): 33–44.

[12] American Academy of Pediatrics and the American College of Obstetricians and Gynecologists. (1997). *Guidelines for perinatal care* (4th ed.). American Academy of Pediatrics, Elk Grove Village, IL.

[13] Dragonas, T., & Christodoulou, G.N. (1998). 'Prenatal care'. *Clinical Psychology Review,* 18(2): 127–142.

[14] World Health Organisation (1985), *Having a baby in Europe.* Public Health in Europe, 26. Copenhagen: Regional Office for Europe.

[15] Lee, H., & Shorten, A. (1999). 'Childbirth education classes: Understanding patterns of attendance'. *Birth Issues,* 8(1): 5–12.

[16] DeClerq, E., Sakala, C., Corry, M., Applebaum, S., & Risher, P. (2002). *Listening to mothers: Report of the First National U.S. Survey of Women's Childbearing Experiences.* Maternity Centre Association, New York.

[17] Cliff, D., & Deery, R. (1997). 'Too much like school: Social class, age, marital status and attendance/non-attendance at antenatal classes'. *Midwifery,* 13(3): 139–145.

[18] O'Brien, M., & Smith, C. (1981). 'Women's views and experiences of antenatal care'. *Practitioner,* 225*:* 123.

*[19] Lumley, J., & Brown, S. (1993). 'Attenders and nonattenders at childbirth education classes in Australia: How do they and their births differ?' *Birth,* 20(3): 123–131.

[20] Vinal, D. (1982). 'Childbirth education programs: A study of women participants and nonparticipants'. *Birth,* 9(3): 183–186.

[21] Cwiek, D., Luczynska, V., Jurczak, A., & Augustyniuk, K. (2004). 'Sources of women's knowledge relating pregnancy and childbirth'. *Wiad Lek,* 57(1): 52–58.

*[22] Lu, M.C., Prentice, J., Yu, S.M., Inkelas, M., Lange, L.O., & Halfon, N. (2003). 'Childbirth education classes: Sociodemographic disparities in attendance and the association of attendance with breastfeeding initiation'. *Maternal and Child Health Journal,* 7(2): 87–93.

*[23] Spinelli, A., Baglio, G., Donati, S., Grandolfo, M.E., & Osborn, J. (2003). 'Do antenatal classes benefit the mother and her baby?' *Journal of Maternal-Fetal and Neonatal Medicine,* 13(2): 94–101.

[24] Astbury, J. (1980). 'The crisis of childbirth: Can information and childbirth education help?' *Journal of Psychosomatic Research,* 24: 9–13.

[25] Gagnon, A.J. (2000). 'Individual or group antenatal education for childbirth/parenthood'. *Cochrane Database of Systematic Reviews,* Issue 4. Art. No.: CD002869. DOI: 10.1002/14651858.CD002869.

[26] Westley, F., Zimmerman, B., & Patton, M.Q. (2006). *Getting to maybe: How the world is changed.* Random House, Canada.

[27] Enkin, M. (2006). 'Beyond evidence: The complexity of maternity care'. *Birth,* 33(4): 265–269.

[28] Ramakrishnan, U. (2004). 'Nutrition and low birth weight: From research to practice'. *American Journal of Clinical Nutrition,* 79(1): 17–21.

[29] Cogswell, M.E., Parvanta, A., Ickes, L., Yip, R., & Brittenham, G.M. (2003). 'Iron supplementation during pregnancy, anemia, and birth weight: A randomised controlled trial'. *American Journal of Clinical Nutrition,* 78: 773–781.

[30] Lumley, J., Watson, L., Watson, M., & Bower, C. (2001). 'Periconceptional supplementation with folate and/or multivitamins for preventing neural tube defects'5. *Cochrane Database of Systematic Reviews,* Issue 3. DOI: 10.1002/14651858.CD001056.

[31] Kramer, M.S. (2003). 'Effects of energy and protein intakes on pregnancy outcome: An overview of the research evidence from controlled clinical trials'. C*ochrane Database of Systematic Reviews,* Issue 1.

[32] Faden, V.B., Hanna, E., & Graubard, B.I. (1997). 'The effect of positive and negative health behaviour during gestation on pregnancy outcome'. *Journal of Substance Abuse,* 9: 63–76.

*[33] Cwiek, D., Grochans, E., Sowinska-Glugiewicz, I., & Wysiecki, P. (2004). 'Analysis of some pro-health behaviours of pregnant women after a childbirth education class'. *Wiad Lek,* 57(1): 48–51.

[34] Briley, C., Flanagan, N.L., & Lewis, N. (2002). 'In-home prenatal nutrition intervention increased dietary iron intakes and reduced low birthweight in low-income African-American women'. *Journal of the American Dietetic Association,* 102(7): 984–987.

[35] Susser, M., & Stein, Z. (1994). 'Timing in prenatal nutrition: A reprise of the Dutch Famine Study'. *Nutrition Reviews,* 52(3): 84–94.

[36] Behnke, M., & Eyler, F.D. (1993). 'Consequences of prenatal substance use for the developing fetus, newborn and young child'. *International Journal of the Addictions,* 28(13): 1341–1391.

[37] Coles, C.D., & Platzman, K.A. (1993). 'Behavioral development in children prenatally exposed to drugs and alcohol'. *International Journal of the Addictions,* 28(13): 1393–1433.

[38] Day, N.L., Richardson, G.A., Geva, D., & Robles, N. (1994). 'Alcohol, marijuana, and tobacco: Effects of prenatal exposure on offspring growth and morphology at age six'. *Alcoholism: Clinical and Experimental Research,* 18(4): 786–794.

[39] Streissguth, A.P., Barr, H.M., Sampson, P.D., & Bookstein, F.L. (1994). 'Prenatal alcohol and off-spring development: The first fourteen years'. *Alcohol and Drug Dependence,* 36(2): 89–90.

[40] Lumley, J., Oliver, S.S., Chamberlain, C., & Oakley, L. (2004). 'Interventions for promoting smoking cessation during pregnancy'. *Cochrane Database of Systematic Reviews,* Issue 4. DOI: 10.1002/14651858.CD001055.pub2.

[41] Fleming, M.F., Barry, K.L., Manwell, L.B., Johnson, K., & London, R. (1997). 'Brief physician advice for problem alcohol drinkers. A randomized controlled trial in community-based primary care practices'. *Journal of the American Medical Association,* 277: 1039–1045.

[42] Mengel, M.B., Searight, R., & Cook, K. (2006). 'Preventing alcohol-exposed pregnancies'. *Journal of the American Board of Family Medicine,* 19(5): 494–505.

[43] Chang, G., McNamara, T.K., Orav, J., Kolby, D., Lavigne, A., & Wilkins-Huang, L. (2005). 'Brief intervention for prenatal alcohol use: A randomized trial'. *Obstetrics and Gynecology,* 105: 991–998.

[44] Giurgescu, C., Penckofer, S., Maurer, M.C., & Bryant, F.B. (2006). 'Impact of uncertainty, social support, and prenatal coping on the psychological well-being of high-risk pregnant women'. *Nursing Research,* 55(5): 356–365.

[45] Cannella, B.L. (2006). 'Mediators of the relationship between social support and positive health practices in pregnant women'. *Nursing Research,* 55(6): 437–445.

[46] Harley, K., & Eskenazi, B. (2006). 'Time in the United States, social support and health behaviors during pregnancy among women of Mexican descent'. *Social Science and Medicine,* 62(12): 3048–3061.

[47] Feldman, P.J., Dunkel-Schetter, C., Sandman, C.A., & Wadhwa, P.D. (2000). 'Maternal social support predicts birth weight and fetal growth in human pregnancy'. *Psychosomatic Medicine,* 62(5): 715–725.

[48] Ekstrom, A., Widstrom, A., & Nissen, E. (2006). 'Does continuity of care by well-trained breastfeeding counselors improve a mother's perception of support?' *Birth: Issues in Perinatal Care,* 33(2): 123–130.

[49] Nolan, M. (1998). *Empowerment and antenatal education.* Unpublished PhD thesis, University of Birmingham.

[50] Schneider, Z. (2002). 'Pregnant women's experiences of models of care in some hospitals in Victoria'. *Australian Journal of Advanced Nursing,* 19(3): 32–38.

*[51] Diemer, G.A. (1997). 'Expectant fathers: Influence of perinatal education on stress, coping, and spousal relations'. *Research in Nursing and Health,* 20: 281–293.

[52] Tumblin, A., & Simkin, P. (2001). 'Pregnant women's perceptions of their nurse's role during labor and delivery'. *Birth,* 28(1): 52–56.

[53] Chen, L.F. (2000). *A correlation study of expectations about women's childbirth and birth experience.* Unpublished thesis, National Defense Medical Center, Taiwan.

*[54] Kao, B.C., Gau, M.L., Wu, S.F., Kuo, B.J., & Lee, T.Y. (2004). 'A comparative study of expectant parents' childbirth expectations'. *Journal of Nursing Research,* 12(3): 191–202.

[55] Soet, J.E., Brack, G.A., & Dilorio, C. (2003). 'Prevalence and predictors of women's experience of psychological trauma during childbirth'. *Birth,* 30(1): 36–46.

*[56] Maestas, L.M. (2003). 'The effect of prenatal education on the beliefs and perceptions of childbearing women: 2000 Virginia Larsen Research Grant winner'. *International Journal of Childbirth Education,* 18(1): 17–21.

*[57] Hallgren, A.M., Kihlgren, A., Norberg, A., & Forslin, L. (1995). 'Women's perceptions of childbirth and childbirth education before and after education and birth'. *Midwifery,* 11(3): 130–137.

*[58] Melender, H. (2002). 'Experiences of fears associated with pregnancy and childbirth: A study of 329 pregnant women'. *Birth: Issues in Perinatal Care,* 29(2): 101–111.

[59] Wuitchik, M., Hesson, K., & Bakal, D.A.(1990). 'Perinatal predictors of pain and distress during labour'. *Birth,* 17: 186–191.

[60] Hesson, K.I. (1996). 'Maternal distress and breathing in latent labor.' *Dissertation Abstracts International. Section B: The Sciences and Engineering,* 56(10-B): 5768.

[61] Ryding, E.L., Wijma, B., Wijma, K., & Rydhstrom, H. (1998). 'Fear of childbirth during pregnancy may increase the risk of emergency caesarean section'. *Acta Obstet Gynecol Scand,* 77: 542–547.

[62] Glover, V., & O'Connor, T.G. (2005). 'Effects of antenatal maternal stress or anxiety: From fetus to child'. In B. Hopkins & S.P. Johnson (Eds.), *Advances in infancy research* (pp. 221–245). Praeger Publishers/Greenwood Publishing Group, Westport, CT.

[63] Segeel, I.B., & du Plessis, D. (2006). 'The childbirth and breastfeeding experiences of primigravidas who attended childbirth education classes'. *Health SA Gesondheid,* 11(2): 62–74.

*[64] Manning-Orenstein, G. (1997). A birth intervention: Comparing the influence of doula assistance at birth versus Lamaze birth preparation on first-time mothers' working models of caregiving. *Dissertation Abstracts International. Section B: The Sciences and Engineering,* 58(5-B): 2689.

[65] Hodnett, E.D. (2000). 'Continuity of caregivers for care during pregnancy and childbirth'. *Cochrane Database of Systematic Reviews,* Issue 1. DOI: 10.1002/14651858. CD000062.

*[66] Geissbuehler, V., & Eberhard, J. (2002). 'Fear of childbirth during pregnancy: A study of more than 8000 pregnant women'. *Journal of Psychosomatic Obstetrics and Gynecology,* 23(4): 229–235.

*[67] Astbury, J. (1980). 'The crisis of childbirth: Can information and childbirth education help?' *Journal of Psychosomatic Research,* 24: 9–13.

[68] Brewin, C., & Bradley, C. (1982). 'Personal control and the experience of childbirth'. *British Journal of Clinical Psychology,* 21: 263–269.

*[69] Johnston-Robledo, I. (1998). The impact of childbirth preparation and support on labor and birth outcomes. *Dissertation Abstracts International. Section A: Humanities and Social Sciences,* 58(8-A): 3000.

*[70] Hodnett, E.D. (2002). 'Pain and women's satisfaction with the experience of childbirth: A systematic review'. *American Journal of Obstetrics and Gynecology,* 186(5): 160–172.

*[71] Waldenstrom, U., Hildingsson, I., Rubertsson, C., & Radestad, I. (2004). 'A negative birth experience: Prevalence and risk factors in a national sample'. *Birth: Issues in Perinatal Care,* 31(1): 17–27.

[72] Department of Health. (1993). *Report of the expert maternity group "Changing Childbirth", Part 1.* Department of Health, HMSO, London.

*[73] McCrea, H., Wright, M.E., & Stringer, M. (2000). 'Psychsocial factors influencing personal control in pain relief'. *International Journal of Nursing Studies,* 37: 493–503.

*[74] Cheung, W., Ip, W.Y., & Chan, D. (2007). 'Maternal anxiety and feelings of control during labour: A study of Chinese first-time pregnant women'. *Midwifery,* 23(2): 123–130.

[75] Brownridge, P. (1991). 'Treatment options for the relief of pain during childbirth'. *Drugs,* 41: 69–80.

[76] Gottvall, K., & Waldenstrom, U. (2002). 'Does a traumatic birth experience have an impact on future reproduction?' *British Journal of Obstetrics and Gynaecology,* 109: 254–260.

*[77] Simkin, P., & Bolding, A. (2004). 'Update on nonpharmacologic approaches to relieve labor pain and prevent suffering'. *Journal of Midwifery and Women's Health,* 49(6): 489–504.

[78] Dannenbring, D., Stevens, M.J., & House, A.E. (1997). 'Predictors of childbirth pain and maternal satisfaction'. *Journal of Behavioral Medicine,* 20(2): 127–142.

[79] Lowe, N. (2002). 'The nature of labor pain'. *American Journal of Obstetrics and Gynecology,* 186: S16-24.

*[80] Mehdizadeh, A., Roosta, F., Chaichian, S., & Alaghehbandan, R. (2005). 'Evaluation of the impact of birth preparation courses on the health of the mother and newborn'. *American Journal of Perinatology,* 22(1): 7–9.

*[81] Fabian, H.M., Radestad, I.J., & Waldenstrom, U. (2005). 'Childbirth and parenthood education classes in Sweden: Women's opinion and possible outcomes'. *Acta Obstet Gynecol Scand,* 84(5): 436–443.

*[82] Melzack, R., Kinch, R.H., Dobkin, P., et al. (1984). 'Severity of labor pain: Influence of physical as well as psychologic variables'. *Canadian Medical Association Journal,* 130: 579–584.

[83] Buckley, S.J. (2003). 'Undisturbed birth: Nature's blueprint for ease and ecstasy'. *Journal of Prenatal and Perinatal Psychology and Health,* 17(4): 261–288.

[84] Slade, P., Escott, D., Spiby, H., Henderson, B., & Fraser, R.B. (2000). 'Antenatal predictors and use of coping strategies in labour'. *Psychology and Health,* 15: 555–569.

*[85] Nolan, M. (2000). 'The influence of antenatal classes on pain relief in labour: A review of the literature'. *The Practising Midwife,* 3(5): 23–26.

*[86] Heatherington, S.E. (1990). 'A controlled study of the effect of prepared childbirth classes on obstetric outcomes'. *Birth,* 17(2): 86–90.

*[87] Gunn, T.R., Fisher, A., Lloyd, P., & O'Donnell, S. (1983). 'Antenatal education: Does it improve the quality of labour and delivery?' *New Zealand Medical Journal,* 96: 51–53.

*[88] Nolan, M. (2000). 'The influence of antenatal classes on pain relief in labour 2: The research'. *The Practising Midwife,* 3(6): 26–31.

*[89] Escott, D., Spiby, H., Slade, P., & Fraser, R.B. (2004). 'The range of coping strategies women use to manage pain and anxiety prior to and during first experience of labour'. *Midwifery,* 20(2): 144–156.

[90] Henry, A., & Nand, S.L. (2004).'Women's antenatal knowledge and plans regarding intrapartum pain management at the Royal Hospital for Women'. *Australian and New Zealand Journal of Obstetrics and Gynaecology,* 44(4): 314–317.

*[91] Escott, D., Slade, P., Spiby, H., & Fraser, R.B. (2005). 'Preliminary evaluation of a coping strategy enhancement method of preparation for labour'. *Midwifery,* 21(3): 278–291.

[92] Spiby, H., Henderson, B., Slade, P., Escott, D., & Fraser, R.B. (1999). 'Strategies for coping with labour: Does antenatal education translate into practice?' *Journal of Advanced Nursing,* 29(2): 388–394.

[93] Czarnocka, J., & Slade, P. (2000). 'Prevalence and predictors of post traumatic stress symptoms after childbirth'. *British Journal of Clinical Psychology,* 39(1): 35–51.

[94] Righetti-Velterma, M., Conne-Perreard, E., Bousquet, A., & Manzano, J. (1998). 'Risk factors and predictive signs of postpartum depression'. *Journal of Affective Disorders,* 49(3): 167–180.

[95] Lydon-Rochelle, M., Holt, V.L., Martin, D.P., & Easterling, T.R. (2000). 'Association between method of delivery and maternal rehospitalisation'. *Journal of the American Medical Association,* 283: 2411–2416.

[96] Henderson, E., & Love, E.J. (1995). 'Incidence of hospital-acquired infections associated with caesarean section'. *Journal of Hospital Infections,* 29: 245–255.

[97] Hemminki, E., & Merilainen, J. (1996). 'Long-term effects of caesarean sections: Ectopic pregnancies and placental problems'. *American Journal of Obstetrics and Gynecology,* 174: 1569–1574.

[98] Hager, R.M., Daltveit, A.K., Hofoss, D. et al. (2004). 'Complications of caesarean deliveries: Rates and risk factors'. *American Journal of Obstetrics and Gynecology,* 190(2): 428–434.

[99] World Health Organisation. (1985). 'Appropriate technology for birth'. *Lancet,* 2(8452): 436–467.

[100] Anderson, G.M. (2004). 'Making sense of rising caesarean section rates'. *British Medical Journal,* 329: 696–697.

[101] Laws, P.J., & Sullivan, E.A. (2005). *Australia's mothers and babies 2003.* Perinatal Statistics Series (no. 16). Australian Institute of Health and Welfare. Sydney. Available at: http://www.aihw.gov.au/npsu/ps9high.htm

[102] Gamble, J.A., & Creedy, D.K. (2001). 'Women's preference for a caesarean section: Incidence and associated factors'. *Birth,* 28(2): 101–110.

*[103] Burton, W.N., Hutchinson, S., Helgeson, L., & Connor, J. (2000). 'An evaluation of a worksite prenatal education program: Five year experience'. *AWHP Worksite Health,* 7(1): 30–33.

[104] Horey, D., Weaver, J., & Russell, H. (2004). 'Information for pregnant women about caesarean birth'. *Cochrane Database of Systematic Reviews,* Issue 1. DOI: 10.1002/14651858.CD003858.pub2.

[105] Bennett, A., Hewson, D., Booker, E., & Holliday, S. (1985). 'Antenatal preparation and labor support in relation to birth outcomes'. *Birth,* 12(1): 9–16.

[106] Chaillet, N., & Dumont, A. (2007). 'Evidence-based strategies for reducing caesarean section rates: A meta-analysis'. *Birth,* 34(1): 53–64.

[107] Dorling, J., D'Amore, A., Salt, A., Seward, A., Kaptoge, S., Halliday, S., & Ahluwalia, J. (2006). 'Data collection from very low birthweight infants in a geographical region: Methods, costs, and trends in mortality, admission rates, and resource utilization over a five-year period'. *Early Human Development,* 82(2): 117–124.

[108] Picard, E.M., Del Dotto, J.E., & Breslau, N. (2000). 'Pediatric neuropsychology: Research, theory, and practice'. In K.O. Yeates, M.D. Ris, & H.G. Taylor (Eds.), *The science and practice of neuropsychology: A Guilford series* (pp. 237–251). Guilford Press, New York.

[109] Hack, M., & Fanaroff, A.A. (1999). 'Outcomes of children of extremely low birthweight and gestational age in the 1990's'. *Early Human Development,* 53(3): 193–218.

[110] Giscombe, C.L., & Lobel, M. (2005). 'Explaining disproportionately high rates of adverse birth outcomes among African Americans: The impact of stress, racism, and related factors in pregnancy'. *Psychological Bulletin,* 131(5): 662–683.

[111] Hodnett, E.D., & Fredericks, S. (2003). 'Support during pregnancy for women at increased risk of low birthweight babies'. *Cochrane Database of Systematic Reviews,* Issue 3. DOI: 10.1002/14651858.CD000198.

[112] Reece, E.A., Lequizamon, G., Silva, J., Whiteman, V., & Smith, D. (2002). 'Intensive interventional maternity care reduces infant morbidity and hospital costs'. *Journal of Maternal-Fetal and Neonatal Medicine,* 11(3): 204–210.

[113] Davies, B.L., Stewart, P.J., Sprague, A.E., Niday, P.A., Nimrod, P.A., & Dulberg, C.S. (1998). 'Education of women about the prevention of preterm birth'. *Canadian Journal of Public Health,* 89(4): 260–263.

[114] Sprague, A., Stewart, P., Niday, P., Nimrod, C., & Walker, R. (2002). 'Community education on preterm birth. Does it change practice?' *Canadian Family Physician,* 48: 727–734.

*[115] El-Sabagh, N.E. (2002). *Comparison of the responses to preterm labor, discomforts and pains of pregnancy and preterm birth between formal childbirth education attendees and non-attendees.* Doctoral dissertation, Health Sciences, Case Western Reserve University.

*[116] Albizu, L., Goni, J., & Mejias, A. (2000). 'Antenatal education and recognition of the onset of labour'. *An Sist Sanit Navar,* 23(2): 337–342.

*[117] Tough, S.C., Newburn-Cook, C.V., White, D.E., Fraser-Lee, N.J., Faber, A.J., Frick, C., Svenson, L.W., & Sauve, R. (2003). 'Do maternal characteristics and past pregnancy experiences predict preterm delivery among women aged 20 to 34?' *Canadian Journal of Obstetrics and Gynaecology,* 25(8): 656–666.

[118] White, C., Simon, M., & Bryan, A. (2002). 'Using evidence to educate Birthing Center nursing staff: About infant states, cues, and behaviours'. *MCN The American Journal of Maternal and Child Nursing,* 27(5): np.

[119] Donovan, W., Leavitt, L., Taylor, N., & Broder, J. (2007). 'Maternal sensory sensitivity, mother-infant 9-month interaction, infant attachment status: Predictors of mother-toddler interaction at 24 months'. *Infant Behavior and Development,* 30(2): 336–352.

*[120] Bellieni, C.V., Ceccarelli, D., Rossi, F., Buonocore, G., Maffei, M., Perrone, S., & Petraglia, F. (2007). 'Is prenatal bonding enhanced by prenatal education courses?' *Minerva Ginecol,* 59(2): 125–129.

*[121] Chang, S., & Chung, C. (2004). 'Effect of Taegyo-focused prenatal education on maternal-fetal attachment and self-efficacy related to childbirth'. *Taehan Kanho Hakhoe Chi,* 34(8): 1409–1415.

*[122] Hsu, T.L., & Chen, C.H. (2001). 'Stress and maternal-fetal attachment of pregnant women during their third trimester'. *Kaohsiung J Med Sci,* 17(1): 36–45.

*[123] Bryan, A. A. (2000). 'Enhancing parent-child interaction with a prenatal couple intervention'. *MCN American Journal of Maternal and Child Nursing,* 25(3): 139–144.

*[124] Moore, M.H. (2006). Parents' reflective function and caregiving representation: Implications for attachment theory and intervention. *Dissertation Abstracts International. Section B: The Sciences and Engineering,* 66(10-B): pp. 5703.

[125] World Health Organisation. (2001). *Expert consultation on the optimal duration of exclusive breastfeeding: Conclusions and recommendations.* Available at: http://www.who.int/inf-pr-2001/en/note2001-07.html

[126] Noel-Weiss, J. (2005). *The effect of prenatal education on maternal breastfeeding self-efficacy and breastfeeding duration.* Masters thesis, University of Ottawa, Canada.

[127] Mattar, C.N., Chong, Y.S., Chan, Y.S., Chew, A., Tan, P., Chan, Y.H., & Rauff, M.H. (2007). 'Simple antenatal preparation to improve breastfeeding practice: A randomized controlled trial'. *Obstetrics and Gynecology,* 109(1): 73–80.

[128] Dyson, L., McCormick, F., & Renfrew, M.J. (2005). 'Interventions for promoting the initiation of breastfeeding'. *Cochrane Database of Systematic Reviews,* Issue 2. DOI: 10.1002/14651858.CD001688.pub2.

*[129] Lu, M.C., Lange, L.O., Slusser, W., Hamilton, J., & Halfon, N. (2001). 'Provider encouragement of breastfeeding: Evidence from a national survey'. *Obstetrics and Gynecology,* 97*:* 290–295.

*[130] Deshpande, D.E., & Gazmararian, J.A. (2000). 'Breast-feeding education and support: Association with the decision to breast-feed'. *Effective Clinical Practice,* 3(3): 116–122.

*[131] Crost, M., & Kaminski, M. (1998). 'Breast feeding at maternity hospitals in France in 1995: National perinatal survey'. *Arch Pediatr,* 5(12): 1316–1326.

*[132] Schneidrova, D., Mullerova, D., Janout, V., Paulova, M., & Kudlova, E. (2003). 'Impact of breast-feeding promotion on infant feeding in the Czech Republic'. *Journal of Nutrition Education and Behaviour,* 35(5): 228–235.

*[133] Evers, S., Doran, L., & Schellenberg, K. (1998). 'Influences on breastfeeding rates in low income communities in Ontario'. *Canadian Journal of Public Health,* 89(3): 203–207.

*[134] Zaghloul, S., Harrison, G.G., Fendley, H.F., Pierce, R., Morrisey, C. (2004). 'Correlates of breastfeeding initiation in southeast Arkansas'. *South Medical Journal. J.,* 97(5): 446–450.

*[135] Bartington, S., Griffiths, L.J., Tate, A.R., Dezateux, C., Millennium Cohort Study Health Group. (2006). 'Are breastfeeding rates higher among mothers delivering in baby friendly accredited maternity units in the UK?' *International Journal of Epidemiology,* 35(5): 1178–1186.

*[136] Forster, D.A., McLachlan, H.L., & Lumley, J. (2006). 'Factors associated with breastfeeding at six months postpartum in a group of Australian women'. *International Breastfeeding Journal,* 1:18.

*[137] Turan, J.M., & Say, L. (2003). 'Community-based antenatal education in Istanbul, Turkey: Effects on health behaviours'. *Health Policy Plan,* 18(4): 391–398.

*[138] Cwiek, D., Czajka, R., & Grochans, E. (2005). 'Influence of education at The Childbirth School on Breast Feeding'. *Rocz Akad Med Bialymst.,* 50(1): 185–188.

*[139] Lavender, T., Baker, L., Smyth, R., Collins, S., Spofforth, A., & Dey, P. (2005). 'Breastfeeding expectations versus reality: A cluster randomised controlled trial'. *British Journal of Gynaecology,* 112(8): 1047–1053.

*[140] Sheehan, A. (1999). 'A comparison of two methods of antenatal breast-feeding education'. *Midwifery,* 15(4): 274–282.

[141] Hogan, S.E. (2001). 'Overcoming barriers to breastfeeding: Suggested breastfeeding promotion programs for communities in Easter Nova Scotia'. *Canadian Journal of Public Health,* 92(2): 105–108.

[142] McLeod, D., Pullon, S., & Cookson, T. (2002). 'Factors influencing continuation of breastfeeding in a cohort of women'. *Journal of Human Lactation,* 18(4): 335–343.

[143] Demo, D.H., & Cox, M.J. (2000). 'Families with young children: A review of research in the 1990s'. *Journal of Marriage and the Family,* 62(4): 876, 20 pp.

[144] Cowan, C.P., & Cowan, P.A. (2000). *When partners become parents: The big life change for couples.* Erlbaum, Mahwah, NJ.

[145] Cowan, C.P., Cowan, P.A., Heming, G., & Miller, N.B. (1991). 'Becoming a family: Marriage, parenting and child development'. In P.A. Cowan & M. Hetherington (Eds.), *Family transitions* (pp.79–109). Lawrence Erlbaum, Hillsdale, NJ.

*[146] Arcamone, A.A. (2005). *The effect of prenatal education on adaptation to motherhood after vaginal childbirth in primiparous women as assessed by Roy's four adaptive modes.* Doctoral dissertation, Widener University School of Nursing.

*[147] Hawkins, A.J., Fawcett, E.B., Carroll, J.S., & Gilliland, T.T. (2006). 'The Marriage Moments program for couples transitioning to parenthood: Divergent conclusions from formative and outcome evaluation data'. *Journal of Family Psychology,* 20(4): 561–570.

*[148] Bryan, A.A. (2002). 'Couple relationships over the transition to parenthood: Methodological issues in testing for an intervention effect'. *Journal of Family Nursing,* 8(3): 201–220.

*[149] Midmer, D., Wilson, L., & Cummings, S. (1995). 'A randomized, controlled trial of the influence of prenatal parenting education on postpartum anxiety and marital adjustment'. *Family Medicine,* 27(3): 200–205.

*[150] Shapiro, A.F., & Gottman, J.M. (2005). '"Bringing baby home": Effects on marriage of a psych-educational intervention with couples undergoing the transition to parenthood, evaluation at 1-year post-intervention'. *Journal of Family Communication,* 5: 1–24.

[151] Perry, M. (1992). 'Prenatal education: How effective is it?' *Journal of Australian College of Midwives,* 5(1): 15–20.

[152] Reece, S.M. (1992). 'The Parent Expectations Survey: A measure of perceived self-efficacy'. *Clinical Nursing Research,* 1: 336–346.

[153] Reece, S.M., & Harkless, G. (1998). 'Self-efficacy, stress, and parental adaptation: Applications to the care of childbearing families'. *Journal of Family Nursing,* 4: 198–215.

[154] Corwin, A. (1998). 'Integrating preparation for early parenting into childbirth education: Part I: A curriculum'. *Journal of Perinatal Education,* 7(4): 26–33.

[155] Nolan, M. (1997). 'Antenatal education: Failing to educate for parenthood'. *British Journal of Midwifery,* 5(1): 21–26.

*[156] Corwin, A. (1999). 'Integrating preparation for parenting into childbirth education: Part II: A study'. *Journal of Perinatal Education,* 8(1): 22–28.

*[157] Rolls, C., & Cutts, D. (2001). 'Pregnancy-to-parenting education: Creating a new approach'. *Birth Issues,* 10: 53–58.

*[158] Schmied, V., Myors, K., Wills, J., & Cooke, M. (2002). 'Preparing expectant couples for new-parent experiences: A comparison of two models of antenatal education'. *The Journal of Perinatal Education,* 11(3): 20–27.

*[159] Svensson, J., Barclay, L., & Cooke, M. (in press). 'Randomised-controlled trial of two antenatal education programmes'. *Midwifery.* DOI:10.1016/j.midw.2006.12.012.

[160] Murray, L. (1992). 'The impact of postnatal depression on infant development'. *Journal of Child Psychology and Psychiatry,* 33: 543–561.

[161] O'Hara, M.W., & Swain, A.M. (1996). 'Rates and risk of postpartum depression – A meta-analysis'. *International Review of Psychiatry,* 8: 37–54.

*[162] Okano, T., Nagata, S., Hasegawa, M., Nomura, J., & Kumar, R. (1998). 'Effectiveness of antenatal education about postnatal depression: A comparison of two groups of Japanese mothers'. *Journal of Mental Health,* 7(2): 191–198.

*[163] Matthey, S., Kavanagh, D.J., Howie, P., Barnett, B., & Charles, M. (2004). 'Prevention of postnatal distress or depression: An evaluation of an intervention at preparation for parenthood classes'. *Journal of Affective Disorders,* 79: 113–126.

*[164] Brugha, T.S., Wheatley, S., Taub, N.A., Culverwell, A., Friedman, T., Kirwan, P., Jones, D.R., & Shapiro, D.A. (2000). 'Pragmatic randomised trial of antenatal intervention to prevent post-natal depression by reducing psychosocial risk factors'. *Psychological Medicine,* 30(6): 1273–1281.

*[165] Buist, A., Westley, D., & Hill, C. (1999). 'Antenatal prevention of post-natal depression'. *Archives of Women's Mental Health,* 1(4): 167–173.

*[166] Hayes, B.A., Muller, P., & Bradley, B.S. (2001). 'Perinatal depression: A randomised controlled trial of an antenatal education intervention for primiparas', *Birth: Issues in Perinatal Care, 28*(1): 28–35.

*[167] Stamp, G.E., Williams, A.S., & Crowther, C.A. (1995). 'Evaluation of antenatal and postnatal support to overcome postnatal depression: A randomized, controlled trial'. *Birth, 22:* 138–143.

*[168] Elliott, S.A., Leverton, T.J., Sanjack, M., Turner, H., Cowmeadow, P., Hopkins, J., & Bushnell, D. (2000). 'Promoting mental health after childbirth: A controlled trial of primary prevention of post-natal depression'. *British Journal of Clinical Psychology,* 39(3): 223–241.

[169] Dennis, C.L., & Creedy, D. (2004). 'Psychosocial and psychological interventions for preventing postpartum depression'. *Cochrane Database of Systematic Reviews,* Issue 4. DOI: 10.1002/14651858.CD001134.pub2.

[170] Dennis, C.E. (2004). 'Preventing postpartum depression Part II: A critical review of nonbiological interventions'. *Canadian Journal of Psychiatry,* 49(8): 526–538.

[171] Kroelinger, C.D., & Oths, K.S. (2000). 'Partner support and pregnancy wantedness'. *Birth,* 27(2): 112–119.

[172] Lamb, M.L. (1997). 'Fathers and child development: An introductory overview and guide'. In M.E. Lamb (Ed.), *The role of fathers in child development* (3rd ed., pp.1–18). Wiley, New York.

[173] Draper, J. (2002). '"It's the first scientific evidence": Men's experience of pregnancy confirmation'. *Journal of Advanced Nursing,* 39(6): 563–570.

[174] Nagamori, K., Horiuchi, S., & Ito, K. (2005). 'Experiences of expectant first-time fathers attending small group participative childbirth education class'. *Journal of Japan Academy of Midwifery,* 19(2): 28–38.

[175] Vehvilainen-Julkunen, K., & Liukkonen, A. (1998). 'Fathers' experiences of childbirth'. *Midwifery,* 14: 10–17.

[176] Fletcher, R., Silberberg, S., & Galloway, D. (2004). 'New fathers' postbirth views of antenatal classes: Satisfaction, benefits, and knowledge of family services'. *The Journal of Perinatal Education,* 13(3): 18–26.

[177] May, K.A., & Perrin, S.P. (1985). 'Prelude: Pregnancy and birth'. In S.M.H. Hansen & F.W. Bozett (Eds.), *Dimensions of fatherhood* (pp. 64–91). Sage, Beverly Hills.

[178] Bradley, E., Mackenzie, M., & Boath, E. (2004). 'The experience of first-time fatherhood: A brief report'. *Journal of Reproductive and Infant Psychology,* 22(1): 45–47.

[179] Hallgren, A., Kihlgren, M., Forslin, L., & Norberg, A. (1999). 'Swedish fathers' involvement in and experiences of childbirth preparation and childbirth'. *Midwifery,* 15(1): 6–15.

[180] Smith, N. (1999). 'Men in antenatal classes. Teaching "the whole birth thing"'. *Practising Midwife,* 2(1): 23–26.

[181] Barclay, L., Donovan, J., & Genovese, A. (1996). 'Men's experiences during their partner's first pregnancy: A grounded theory analysis'. *Australian Journal of Advanced Nursing,* 13(3): 12–24.

[182] Galloway, D., Svensson, J., & Clune, L. (1997). 'What do men think of antenatal classes?' *International Journal of Childbirth Education,* 12(2): 38–41.

*[183] Greenhalgh, R., Slade, P., & Spiby, H. (2000). 'Father's coping style, antenatal preparation, and experiences of labor and the postpartum'. *Birth,* 27(3): 177–184.

[184] Burke, S. (1997). 'Childbirth classroom. Reluctant dads: Getting them involved'. *Childbirth Instructor Magazine,* 7(1): 28–29.

[185] Robertson, A. (1999). 'Get the fathers involved! The needs of men in pregnancy classes'. *The Practising Midwife,* 2(1): 21–22.

[186] Lee, J., & Schmied, V. (2001). 'Fathercraft. Involving men in antenatal education'. *British Journal of Midwifery,* 9(9): 559–561.

[187] Symon, A., & Lee, J. (2003). 'Including men in antenatal education: Evaluating innovative practice'. *Evidence Based Midwifery,* 1(1): 12–19.

[188] Premberg, A., & Lundgren, I. (2006). 'Fathers' experiences of childbirth education'. *Journal of Perinatal Education,* 15(2): 21–28.

[189] Dieterich, L. (1997). 'Assessment and development of adolescent childbirth education (CBE) to improve health behaviours.' *Journal of Perinatal Education,* 6(1): 25–33.

[190] Kaiser, M.M., & Hays, B.J. (2005). 'Health-risk behaviours in a sample of first-time pregnant adolescents'. *Public Health Nursing, 22*(6): 483–493.

[191] Greenwood, K., & Littlejohn, P. (2002). 'Breastfeeding intentions and outcomes of adolescent mothers in the Starting Out program'. *Breastfeeding Review,* 10(3): 19–23.

[192] McVeigh, C. (2002). 'Teenage mothers: A pilot study'. *Australian Journal of Midwifery,* 15(1): 26–30.

[193] New South Wales (NSW) Standing Committee on Social Issues. (1998). *Working for children: Communities supporting families. Inquiry into parent education and support programs.* New South Wales Government, Sydney.

*[194] Covington, D.L., Peoples-Sheps, M.D., Buescher, P.A., Bennett, T.A., & Paul, M.V. (1998). 'An evaluation of an adolescent prenatal education program'. *American Journal of Health Behavior,* 22(5): 323–333.

[195] Koniak-Griffin, D., Mathenge, C., Anderson, N.L., & Verzemnieks, I. (1999). 'An early intervention program for adolescent mothers: A nursing demonstration project'. *Journal of Obstetrics, Gynecology and Neonatal Nursing,* 28(1): 51–59.

[196] Honig, A.S., & Morin, C. (2001). 'When should programs for teen parents and babies begin? Longitudinal evaluation of a teen parents and babies program'. *Journal of Primary Prevention,* 21(4): 447–454.

[197] Atkinson, A., & Hagfor, S. (2000). 'Focal point on childbirth education: Developing a teen prenatal series that works'. *International Journal of Childbirth Education,* 15(2): 9–10.

[198] Martis, R. (2004). *Teenage and pregnant: An exploratory pilot study of pregnant adolescents and their antenatal education needs in the Palmerston North Region.* Paper presented at the New Zealand College of Midwives, 8th Biennial National Conference, 16–18 September 2004, Wellington Convention Centre, Wellington, New Zealand.

[199] Scopesi, A., Zanobini, M., & Carossino, P. (1997). 'Childbirth in different cultures: Psychophysical reactions of women delivering in US, German, French, and Italian hospitals'. *Journal of Reproductive and Infant Psychology,* 15(1): 9–30.

[200] Raines, D.A., & Morgan, Z. (2000). 'Culturally sensitive care during childbirth'. *Applied Nursing Research,* 13(4): 167–172.

[201] Ottani, P.A. (2002). 'When childbirth preparation isn't a cultural norm'. *International Journal of Childbirth Education,* 17(2): 12–15.

[202] Johnston-Robledo, I. (1998). 'Beyond Lamaze: Socioeconomic status and women's experiences with childbirth preparation'. *Journal of Gender, Culture, and Health,* 3(3): 159–169.

[203] Berman, R.O. (2006). 'Perceived learning needs of minority expectant women and barriers to prenatal education'. *The Journal of Perinatal Education,* 15(2): 36–42.

[204] Paterson, J., Tukuitonga, C., Butler, S., & Williams, M. (2002). 'Awareness of sudden infant death syndrome risk factors among mothers of Pacific infants in New Zealand'. New Zealand Medical Journal, 115(1147): 33–35.

[205] Johnson, D., Jin, Y., & Truman, C. (2002). 'Influence of aboriginal and socioeconomic status on birth outcome and maternal morbidity'. *Journal of Obstetrics and Gynaecology Canada,* 24(8): 633–640.

[206] Ibison, J.M. (2005). 'Ethnicity and mode of delivery in "low-risk" first-time mothers, East London, 1988–1997'. *European Journal of Obstetrics, Gynecology and Reproductive Biology,* 118(2): 199–205.

[207] Beckman, C., Buford, T., & Witt, J. (2000). 'Perceived barriers to prenatal care services'. *Maternal Child Nursing,* 25(1): 43–46.

[208] Ellison-Loschmann, L., & Pearce, N. (2006). 'Improving access to health care among New Zealand's Māori population'. *American Journal of Public Health,* 96(4): 612–617.

*[209] Mehl-Madrona, L.E. (2000). 'Psychosocial prenatal intervention to reduce alcohol, smoking and stress and improve birth outcome among minority women'. *Journal of Prenatal and Perinatal Psychology and Health,* 14(pp. 3–4).

[210] Bhagat, R., Johnson, J., Grewal, S., Pandher, P., Quong, E., & Triolet, K. (2002). 'Mobilising the community to address the prenatal health needs of immigrant Punjabi women'. *Public Health Nursing,* 19(3): 209–214.

[211] Nelson, M. (1982). 'The effect of childbirth preparation on women of different social classes'. *Journal of Health and Social Behaviour, 23:* 339–351.

[212] Arntz, A., & Schmidt, J.M. (1990). 'Perceived control and the experiences of pain'. In A. Steptoe & A. Appels (Eds.), *Stress, Personal Control and Health* (pp. 131–162). Wiley, Chichester.

[213] Robertson, A. (1999). 'A new approach to antenatal education'. *The Practising Midwife,* 2(2): 17–18.

[214] Enkin, M., Keirse, M.J.N.C., Neilson, J., Crowther, C., Duley, L., Hodnett, E., & Hofmeyr, J. (2000). *A guide to effective care in pregnancy and childbirth* (3rd ed.). Oxford University Press, New York.

[215] Dumas, L. (2002). 'Focus groups to reveal parents' needs for prenatal education'. *The Journal of Perinatal Education,* 11(3): 1–9.

[216] Renkert, S., & Nutbeam, D. (2001). 'Opportunities to improve maternal health literacy through antenatal education: An exploratory study'. *Health Promotion International,* 16(4): 381–388.

[217] Bingham, D. (2005). 'Helping hospitals change Part 2: Childbirth education techniques to empower women'. *The Journal of Perinatal Education,* 14(3): 51–55.

[218] Nolan, M. (1999). 'Antenatal education: Past and future agendas'. *The Practising Midwife,* 2(3): 24–27.

[219] Lowe, N.K. (2000). 'Self-efficacy for labor and childbirth fears in nulliparous pregnant women'. *Journal of Psychosomatic Obstetrics and Gynaecology,* 21(4): 219–224.

[220] World Health Organisation. (1998). *Health promotion glossary.* WHO, Geneva.

[221] McKay, S., Barrows, T., & Roberts, J. (1990). 'Women's views of second-stage labor as assessed by interviews and videotapes'. *Birth,* 17(4): 192–198.

[222] Melzack, R. (1984). 'The myth of painless childbirth'. *Pain,* 19: 321–337.

[223] de Costa, C.M., & Robson, S. (2004). 'Throwing out the baby with the spa water?' *Medical Journal of Australia,* 181(8): 438–440.

[224] Smedley, A. (1999). 'Do childbirth and early parenting programs meet the needs of the client?' *International Journal of Childbirth Education,* 14(1): 18–21.

[225] Gulland, A. (1998). 'Life after birth, midwives should be teaching prospective parents about the psychological impact of having a child'. *Nursing Times,* 94: 20–26.

[226] Harris, M.J. (1990). 'How much parenting is a health responsibility?' *Medical Journal of Australia,* 153(11&12): 696–698.

[227] Schneider, Z. (2002). 'An Australian study of women's experiences of their first pregnancy'. *Midwifery,* 18(3): 238–249.

[228] Sitrin, A.G. (2001). The impact of the quality of marital adaptation on prenatal maternal representations and postnatal satisfaction with social support. *Dissertation Abstracts International. Section B: The Sciences and Engineering,* 62(3-B): 1599.

[229] Parr, M. (1998). 'A new approach to parent education'. *British Journal of Midwifery,* 6(3): 160–165.

[230] Kelly, S. (1998). 'Parenting education survey'. *RCM Midwives Journal,* 1:23–25.

[231] NSW Health. (1998). *Five year goals, objectives, and strategies for maternity services.* Discussion paper for comment. NSW Health, NSW.

[232] Brown, V. (1999). *Childbirth education programs in one Australian state: A phenomenological inquiry.* Master of Nursing, The Royal Melbourne Institute of Technology. Ongoing research thesis.

[233] Koehn, M.L. (2002). 'Childbirth education outcomes: An integrative review of the literature'. *The Journal of Perinatal Education,* 11(3): 10–19.

[234] Couto, G.R. (2006). 'Nurses' conceptualization on childbirth preparation'. *Revista Latino-Americana de Enfermagem,* 14(2): 190–198.

[235] Nelson, F.A.L. (2006). In the other room: Entering the culture of motherhood. *Dissertation Abstracts International. Section A: Humanities and Social Sciences,* 66(10-A): 3823.

[236] Humenick, S.S. (2000). 'Letter from the Editor: The evolution of childbirth educator to perinatal educator.' *The Journal of Perinatal Education,* 9(1): vi–vii.

APPENDIX 1: The Lamaze philosophy of birth

> Birth is normal, natural, and healthy.

> The experience of birth profoundly affects women and their families.

> Women's inner wisdom guides them through birth.

> Women's confidence and ability to give birth is either enhanced or diminished by the care provider and place of birth.

> Women have the right to give birth free from routine medical interventions.

> Birth can safely take place in birth centres and homes.

> Childbirth education empowers women to make informed choices in health care, to assume responsibility for their health, and to trust their inner wisdom.

Source: Lamaze International, Inc. (2000). *Lamaze philosophy of birth. Lamaze International, Inc.* [Online]. Available at: http://www.lamaze.org/2000/aboutlamaze.html

APPENDIX 2: The Bradley teaching goals or philosophies

1. Natural childbirth.
2. Active participation by the husband as coach (or thorough preparation of mother's chosen helper if not married or if husband unable to attend).
3. Excellent nutrition.
4. Avoidance of drugs during pregnancy, birth and breastfeeding, unless absolutely necessary.
5. Training, 'early bird' classes followed by weekly classes starting in the sixth month and continuing until birth.
6. Relaxation and natural breathing.
7. 'Focusing in' and working with your body in labour.
8. Immediate and continuous contact with your new baby.
9. Breastfeeding, beginning at birth.
10. Consumerism and positive communications.
11. Parents taking responsibility for the safety of the birth-place, procedures, attendants and emergency back-up.
12. Parents prepared for unexpected situations such as sudden childbirth and caesarean.

Source: Bradley, L.P. (1995). 'Changing America birth through childbirth education'. *Patient Education and Counseling,* 25: 75-82.

This report is available on the Commission's website www.nzfamilies.org.nz or contact the Commission to request copies.

Families Commission
PO Box 2839
Wellington 6140
Telephone: 04 917 7040
Email: enquiries@nzfamilies.org.nz

families commission
kōmihana ā ***whānau***

Giving New Zealand families a voice *Te reo o te whānau*

Wellington office
Public Trust Building, Level 6
117–125 Lambton Quay
PO Box 2839, Wellington 6140
Phone 04 917 7040
Fax 04 917 7059

Auckland office
Level 5, AMI House
63 Albert Street, Auckland 1010
Phone 09 970 1700

Email
enquiries@nzfamilies.org.nz

Commission website
www.nzfamilies.org.nz

The Couch website
www.thecouch.org.nz