COUNTIES MANUKAU HEALTH

Maternity Quality and Safety Programme

Annual Report 2012/2013

Acknowledgements

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Abbreviations

CM Health	Counties Manukau Health (previously Counties Manukau DHB)
DHB	District Health Board
DIP	Diabetes in pregnancy
GDM	Gestational Diabetes Mellitus
ICD10	International Statistical Classification of Diseases and Related Health Problems, 10th Revision
LMC	Lead Maternity Carer
MAT	National Maternity Collection
MEAG	Maternity Expert Advisory Group
MQSP	Maternity Quality and Safety Programme
MoH	Ministry of Health
NMDS	National Minimum Dataset
NZHIS	New Zealand Health Information Service

Comment from Clinical Director Women's Health, Director of Midwifery Practice, Clinical Lead of Neonatology, General Manager of Kidz First and Women's Health, Senior Portfolio Manager Child, Youth and Maternity

The Maternity Quality and Safety Governance Group are pleased to provide the first report to the Ministry of Health for the Maternity Quality and Safety Programme (MQSP).

The report covers the initiatives undertaken in the past 12 months as part of the implementation of the MQSP as well as describing other activity that has been occurring in the Counties Manukau district related to improving maternity care for women and their babies. The work plan for the coming year is also summarised.

The report provides information about our maternity population, the services provided to women accessing services through Counties Manukau Health facilities as well as clinical outcomes for these women.

It is hoped the report will provide a useful insight into the challenges that health services are working hard to address as well as highlight areas where the system is performing well.

There is an on-going commitment from Counties Manukau Health to meet the needs of our community by providing appropriate, accessible, quality care to the women and their babies living in our district.

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Clinical Director Women's Health	Clinical Lead Neonatology	Director of Midwifery	General Manager Kidz First & Women's Health	Acting Portfolio Manager Child Youth and Maternity

Introduction

The purpose of Counties Manukau Health's (CM Health) (formerly Counties Manukau DHB) Maternity Quality and Safety Programme (MQSP) Annual Report is threefold. It provides the Ministry of Health (MoH) with the information required about the delivery of the expected outputs as set out in Section 2 of MQSP CFA Variation. The plan also documents CM Health's progress towards delivering the MQSP Strategic Plan deliverables in 2012/13 as well as outlining further planned work to improve the quality and safety of maternity services delivered in the district in 2013/14.

The national implementation of the MQSP coincided with an increased focus on maternity outcomes in Counties Manukau. The Fifth Annual Report of the National Perinatal and Maternal Mortality Review Committee identified[1], as it had done in previous years, that Counties Manukau had a higher perinatal mortality rate than the rest of New Zealand. This finding led to the CMDHB perinatal mortality project which reviewed the CMDHB model of antenatal care and described the epidemiology of perinatal mortality in CMDHB in order to inform initiatives to improve perinatal mortality in CMDHB.[2] This work established that the poor perinatal outcomes for women living in Counties Manukau are due, in most part, to the underlying risk factors in our population, rather than the care delivered by health services.

Following on from this work an independent review, chaired by Ron Paterson, was commissioned by the DHB to review maternity care in the district.[3] This review was completed and released publically at the end of 2012.

A number of specific recommendations were made as a result of the review which fall under the broad headings of Implementation and Monitoring; Early Pregnancy Assessment and Planning; Ultrasound planning; Prioritisation of Vulnerable Women, "High Risk" Women; Models of care and work force; Family Planning; Clinical Governance and management; Maaori and Pacific women; and Communication and Information. Further detail regarding these recommendations is available in Appendix 1. The Maternity Programme Action Plan is also provided as a supporting document. Work to implement these recommendations has occurred alongside the development and implementation of the Maternity Quality and Safety Plan.

In addition in the latter part of 2012 CMDHB prioritised three work programmes identified as having the potential to contribute significantly to population health gain for people living in Counties Manukau. These three areas were Housing, Smokefree and the First 2000 days (peri-conception through to age five years) which is grouped into three key areas;

- Planned, Healthy pregnancy
- Maternal and infant nutrition
- Parenting and supporting the development of attaCM Healthent relationships.

While the "Planned, Healthy Pregnancy" work stream is still in an embryonic stage, it will align to the other work occurring in the maternity space with the intention that it will contribute, over and above the current work, to improve maternal and infant outcomes for women living in Counties Manukau by focusing on interventions that are best implemented prior to pregnancy occurring such as the prevention of unwanted pregnancy, pre-pregnancy folic acid, smoking cessation, weight loss, and glucose control in women with diabetes.

It is important the MQSP is viewed in the context of the other work streams underway in Counties Manukau and the synergies between these activities are realised.

[1] PMMRC. Fifth Annual Report of the Perinatal and Maternal Mortality Review Committee: Reporting mortality 2009. Wellington: Health Quality & Safety Commission 2011; 2011.
[2] Jackson C. Antenatal care in Counties Manukau District Health Board; A focus on maternity Care. 2011
[3] This report is available at http://www.countiesmanukau.health.nz/News_Publications/default.htm

Data Sources

Data for this report has been pulled from three of sources. These include:

1. **The National Minimum Dataset (NMDS)** is maintained by the Ministry of Health and is a national collection of publically funded hospital discharge information, including clinical information, for inpatients and day patients. All hospital admissions during pregnancy are captured in this dataset, and birth events are recorded for both mothers and infants. It should be noted the district level analysis only captures births that occur in hospital (Z37); therefore homebirths and births that occur before arrival at hospital (e.g. in a car or ambulance) are not captured.

   In addition, very limited antenatal care data are recorded, and the completeness and quality of these data are unknown. The event of a stillbirth is recorded in maternal records, but an infant record is not created. Data from the NMDS are not a good source of delivery facility prior to 2009 because only one birth event was captured for each delivery. Therefore, if a woman birthed in one facility and had her postnatal care at a different facility, it was the latter facility that was captured at discharge. Since 2009, in-hospital postnatal care has been recorded as a separate event; so the facility for the birth event is a better reflection of birth location.

2. **Healthware** is a software package used at CM Health since October 2004 to capture maternity data, replacing Terranova which was implemented in the late 1990's. A local database for maternity data was necessary to enable claiming for the provision of primary maternity services under Section 88; however this function is no longer needed as DHBs are now bulk-funded for these services.

   Healthware is used to record antenatal, labour and delivery, and postnatal data for the women and their infants that use CM Health maternity services. Data are generally entered by CM Health employed midwives and CM Health administrative staff. Private LMCs and Shared Care GPs do not currently enter data directly into the system. Healthware provides a rich source of data not available from other sources including maternity service provider, booking date, estimated delivery date (EDD), antenatal visit data, body mass index, smoking, alcohol use, and parity. In Healthware mothers can be linked to their infant's. Data are limited for women who do not received CM Health provided care, i.e. those women with a private LMC with Shared Care, and generally limited to booking and delivery information.

   In addition, antenatal care data for women under Secondary Care are limited in Healthware. The accuracy of Healthware data is unknown. Ethnicity data in Healthware come from PIMS. At CM Health, ethnicity data are collected on admission to hospital by administrative staff who verbally enquire about ethnicity. If more than one ethnic group is specified, then the patient is asked to indicate which ethnic group they would like recorded first, and this is entered into the first of three fields. This could be regarded as a preferred ethnicity. This process for collecting ethnicity data does not comply with national standards and neither does the ethnicity question on the Booking form. Each woman in Healthware is assigned a domicile code based on where she lives. As it is a live database a woman's residential address is updated if she moves. Therefore, the domicile code extracted from Healthware may not coincide with where she lived at the time she delivered, if she subsequently moved residence. Each Domicile code can be mapped to a Census Area Unit.

3. **National Maternity Collection (MAT)** sources information from 1) clinical and demographic information on all births in a NZ hospital or birthing unit via the National Minimum Dataset (around 95% of all births), 2) service use and demographic information on all births attended by an LMC from LMC claims for services provided under the Primary Maternity Services Notice (Section 88) (around 80% of births) and 3) fact of birth from all birth registrations reported to Births, Deaths and Marriages, Department of Internal Affairs (generally thought to be complete). MAT has the same limitations as the NMDS and the data that is submitted on the LMC claims forms.

Aims and Objectives of Counties Manukau Health Maternity Service and Maternity Quality and Safety Plan

The aim of the CM Health Maternity Quality and Safety programme is to bring together stakeholders to monitor maternity care to women resident within Counties Manukau and thus improve communication, teamwork and the quality of maternity care available to women and their babies' resident within Counties Manukau.

The key activities for the implementation of the Quality and Safety programme in year one included;

- establishing the governance for the Maternity Quality and Safety Programme
- establishing a resource to coordinate the local review and investigation of data for evidence based clinical case review that includes community based clinicians and consumers
- establishing a comprehensive consumer network across the Counties Manukau district for the input into the development implementation and maintenance of the CMDHB Maternity Quality and Safety Programme
- resource and implement a network that facilitates the sharing of information for all health professionals that provide maternity care in Counties Manukau.

Current Workforce Situation

Workforce Supply

Midwifery workforce shortage is a long standing issue in the CM Health area. This shortage includes both CM Health employed midwives and self-employed midwives working as LMCs. The lack of Midwifery training in the 1980s caused a shortfall not only in numbers but also in experience. This shortage was exacerbated by the increase in birth volumes for women living in Counties Manukau between 1996 and 2006 however over the last six years birth volumes have not increased and in 2012 there were 8065 women who delivered in a CM Health facility and a total of 8579 births to women living in Counties.[4]

Nationally the primary maternity model of care is provided predominately by self- employed midwife LMCs. Within CM Health only ~50% of primary maternity care is provided by LMCs. The remaining women are provided care by the DHB provider services. The national average of births per midwife is 64. In 2006 the CMDHB figure was 129 births per midwife.[5] An approximate full time caseload for an LMC is considered to be 50 women per year.

There are 133 self- employed midwives with access agreements for CM Health maternity facilities. Of these 133 midwives, 103 delivered at least one infant in CM Health facilities in 2011/12 and of these 103 midwives, 50 midwives had 50 or more births at a CM Health facility. The number of births per midwife ranged from1-132 with the average number of births per LMC being 45.

There are 144 FTE employed midwives across the DHB provider services. There remain an insufficient number of employed and self-employed midwives in Counties Manukau. The ratio of graduate midwives to experienced midwives is higher than is clinically desirable. In addition there are very low numbers of Maaori and Pacific midwives.

At present the support services within Women's Health (DHB maternity provider) consist of a total of 3.8FTE Social Work (0.5FTE has been re-allocated to meet the demand of Social Work services); 2.5 FTE breastfeeding advocates, 1.5 FTE community support work for community midwifery services. In addition there is a CM Health has a Child Protection Team and a Child, a Violence Intervention Programme team and a Youth and Families liaison worker.

CM Health is committed to meeting national policy direction of having self-employed LMCs as the primary providers of primary maternity care. For CM Health to achieve this significant investment in supporting self-employed LMCs into practice is required as well as additional social support resource to meet the complex social needs of our women.

[4] National Minimum dataset analysed by CM Health staff. Note these figures are slightly different in that deliveries refer to the number of women delivering a baby while births refer to the number of babies born.
[5] DHBNZ Workforce Strategy Group. Report on Midwifery Workforce Strategy December 2006

Workforce Development Model

CM Health Women's Health Division Midwifery Workforce Strategy focuses on increasing the local workforce through improved recruitment and retention, Career Development and to reduce demand on the midwifery workforce i.e. allocating non-clinical work to other staff. Through a partnership with Auckland University of Technology (AUT) the Midwifery Development and Education Service was established enabling an increase in student placements and a Satellite School to commence within CM Health facilities. This school is now based in Ko Awatea. As a result of this programme the student numbers commencing in the first year of training, within the CM Health area, have increased from 4 in 2007 to 30 in 2013.

CM Health Graduate Midwifery Programme is considered one of the best in New Zealand. This programme is attractive to graduates who plan to work within the CM Health provider arm service and also for those who wish to consolidate their training prior to working as a self- employed LMC. The number of placements on this programme is determined by the number the Women's Health Division can support and the budgeted FTE.

Working alongside CM Health Graduate Midwifery Programme is a new pilot project-The Self Employed Midwives integrated with Family Health Practice's Project starting in May 2013. The aims are to:

- to increase the numbers of self-employed midwives providing continuity of care for primary care women in the area of Otara and Manurewa
- to work in an integrated way linking the midwife to GP's, Practice Nurses, Whanau Ora services and community health personnel
- to recruit new graduate self-employed midwives and experienced midwives from outside CM Health
- to create a positive and supportive environment for self-employed midwives, therefore, attracting and retaining self-employed midwives into CM Health

As a result of the External Maternity Review there is a plan to re-establish the dedicated midwifery coaches/educators to support new graduate midwives and also undertake work to identify other measures that could be introduced to better support newly qualified midwives in both the community and DHB setting. Efforts are also going into ensuring that experienced senior midwives are available 24 hours per day in both the labour and maternity wards and that there are sufficient numbers of midwives to provide one-to-one care for women in labour.

Maternity Services

This section briefly describes the maternity services available to women living in Counties Manukau. The analysis presented then explores the proportion of women living in CMDHB who deliver in Counties Manukau facilities, compares the characteristics of the "inborn" vs "outborn" women and then looks specifically at the provider of maternity services for women who deliver in CMDHB facilities.

Maternity services provided in Counties Manukau

Maternity care provision at a DHB level is shaped by the funding framework, the available workforce, and maternal choice.[6] A woman's choice of maternity care provider is in turn influenced by her understanding of the system, preferences, past experience, the level of care required, and LMC availability.[7,8,9] Women living in Counties Manukau have the option of engaging with an independent LMC or accessing maternity care through DHB provided services.

Because of the lack of independent LMCs working in Counties Manukau CM Health provides maternity services to a higher proportion of women than is seen in other DHBs around the country.

Maternity services offered by CM Health are described in Table 1. CM Health community midwives are bulk funded by primary maternity funding from the Ministry of Health. Hospital midwives are funded from the maternity facility and secondary service funding. CM Health has a unique system of Shared Care that developed in response to a self-employed LMC shortage. Women who choose Shared Care receive most of their antenatal care from a GP (funded through primary maternity funding) that enters into a Shared Care arrangement with the DHB. In addition, these women are offered three antenatal visits with a DHB employed community midwife and are delivered at a CM Health facility by a DHB employed midwife. GPs that provide Shared Care are not required to have specific training in antenatal care and are not required to have a postgraduate Diploma of Obstetrics and Gynaecology. In 2012/13, with an increasing trend in both self-employed and DHB employed community midwives, the number of women receiving shared care has reduced. We anticipate the percentage to drop to 5-6% by the end of June 2013. There is currently work being done with GPs providing Shared Care to gauge whether they wish to continue this model of care. If there is support for this model to continue then the intention is to strengthen the training requirements and on-going credentialing for those GPs providing Shared Care.

Secondary Care accepts referrals for Women identified as high risk through the Obstetric Medical Clinic and Diabetes in Pregnancy Service.

[6] Jackson C Antenatal care in Counties Manukau District Health Board; A focus on maternity Care. 2011
[7] Health Services Consumer Research. Maternity Services Consumer Satisfaction Survey Report 2007. Auckland: Ministry of Health; 2008.
[8] Morton S, Atatoa Carr P, Bandara D, et al. Growing Up in New Zealand: A longitudinal study of New Zealand children and their families. Report 1: Before we are born. Auckland: Growing Up in New Zealand; 2010.
[9] Bartholomew K. The Realities of Choice and Access in the Lead Maternity Care System: Operationalising choice policy in the New Zealand maternity reforms. Auckland, The University of Auckland; 2010.

Table 1. Maternity Services available in Counties Manukau DHB

Service	Description
Closed Unit	Antenatal, labour, and postnatal care is provided by a CMDHB employed midwife with clinics held at Middlemore Hospital, Manukau or Botany SuperClinic, or in the community. Antenatal and postnatal care is provided by a CMDHB community midwife, whilst labour care is provided DHB employed midwives at Middlemore Hospital or one of the Primary Maternity Units. High risk women may receive closed unit care in conjunction with an Obstetric Senior Medical Officer.
Shared Care	Maternity care is shared between the woman's GP and a CMDHB midwife. Most antenatal care is provided by the GP, with three antenatal visits offered with a CMDHB community midwife. Labour care is provided by a CMDHB employed midwife, and postnatal care is provided by the CMDHB community midwife service. If a woman becomes high risk, care is transferred to the Closed Unit service.
Caseloading	This service provides continuity of care throughout pregnancy, labour, and the postnatal period. A CMDHB employed midwife works within a team to provide care as per the LMC model. Women deemed at high risk may continue with Caseloading care in conjunction with an Obstetric Senior Medical Officer.
Teenage Pregnancy	CMDHB community midwife clinics for young mothers aged <18 years run at Awhitia (on the Middlemore site) and at Manukau SuperClinic with social work and transport support. Home visits are provided if needed. This service provides care throughout pregnancy, labour, and the postnatal period. The midwife attending labour is not necessarily the same midwife that looks after the women during the antenatal and postnatal periods.
Diabetes in Pregnancy	For women with previous or newly diagnosed diabetes (Type I & II or Gestational) and provided by a multidisciplinary team comprised of an obstetrician, midwife, diabetes physician, and dietician. Primary care for these women may be provided by CMDHB employed midwives or self- employed LMCs.
Obstetric Medical Clinic	This clinic provides maternity care for women with complex medical problems during pregnancy and is located at Manukau SuperClinic. Women are seen by the specialist team with midwifery care provided by the women's LMC or a CMDHB employed midwife.

Source: Jackson C. Antenatal Care in Counties Manukau DHB: A focus on Antenatal Care (pg 35). 2011

Women who deliver in CM Health facilities also have a choice of birthing facility. CM Health has three primary birthing units located in Botany Downs, Papakura, and Pukekohe in addition to a delivery suite at Middlemore Hospital which caters for primary as well as secondary births. There are clear guidelines about which women are considered appropriate to deliver in Primary Units. Primary Birthing Units are staffed by CM Health midwives but can be used by self-employed LMCs. These units are suitable for women with a low risk pregnancy.

Counties Manukau Health Facilities view

Table 2. Women who delivered in CM Health facility by DHB of residence

DHB	Mothers Delivered									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Counties	5877	6157	6333	7136	7501	7584	7477	7554	7555	7494
Auckland	537	543	563	614	581	517	492	522	507	505
Waitemata	19	23	17	20	19	24	30	16	21	15
Elsewhere	72	40	55	51	48	54	57	56	42	51
Total	**6505**	**6763**	**6968**	**7821**	**8149**	**8179**	**8056**	**8148**	**8125**	**8065**

Source: National Minimum Dataset.

DHB of delivery for DHB resident women

As described above there are a number of models of care available to women living in Counties Manukau as well as the option of birthing in a primary maternity unit. In addition if a woman, living in Counties Manukau, engages with an LMC who has an access agreement with another DHB, then that woman may birth in that facility. There will also be a small number of women that are referred to ADHB because of identified fetal complications (such as congenital heart disease) and women that due to unforeseen circumstances birth in another DHB facility.

Table 3. Deliveries in CMDHB Women by DHB of Delivery, 2003-2012

DHB	Mothers Delivered									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Counties	6075	6274	6687	7069	7409	7483	7323	7342	7463	7384
Auckland	1401	1252	1107	1025	1167	1058	1000	1042	985	1087
Waitemata	27	43	32	24	57	35	44	41	40	52
Elsewhere	44	55	41	42	42	35	38	82	78	56
Total	**7547**	**7624**	**7867**	**8160**	**8675**	**8611**	**8405**	**8507**	**8566**	**8579**
% Inborn	80.5%	82.3%	85.0%	86.6%	85.4%	86.9%	87.1%	86.3%	87.1%	86.1%

Source: National Minimum Dataset. Note deliveries reflect the number of women giving birth rather than the number of births.

While number of women, living in Counties Manukau, having babies increased from 2003 to 2007 the number of deliveries to women living in Counties Manukau has remained static since 2007.

The women living in Counties Manukau who deliver at Counties Manukau facilities has also remain static in recent years at between 86-87%.

Table 4. CMDHB Women who delivered "inside" and "outside" CMDHB, 2012

	Inborn Number	Percentage	Outborn Number	Percentage
Ethnicity				
Maaori	1871	95.7	85	4.3
Pacific	2661	96.3	102	3.7
Asian	565	91.6	52	8.4
Indian	291	47.9	317	52.1
Chinese	315	78.2	88	21.8
Other Asian	1681	75.3	551	24.7
European/Other	7384	86.1	1195	13.9
Total				
Maternal Age				
<20 years	672	96.6	24	3.4
20-24 years	1801	93.9	117	6.1
25-29 years	2025	86.4	319	13.6
30-34 years	1715	79.9	431	20.1
35-39 years	899	79.1	237	20.9
40+ years	272	80.2	67	19.8
NZ Deprivation Index 2006 Decile (CAU*)				
Unknown	10	100.0	0	0.0
Decile 1-2	732	63.9	413	36.1
Decile 3-4	384	70.2	163	29.8
Decile 5-6	831	76.4	257	23.6
Decile 7-8	672	84.4	124	15.6
Decile 9-10	4755	95.2	238	4.8
Suburb				
Franklin	937	88.3	124	11.7
Howick	968	59.1	671	40.9
Mangere	1193	91.1	117	8.9
Manurewa	1711	94.6	97	5.4
Otara	793	94.2	49	5.8
Papakura	866	93.8	57	6.2
Papatoetoe	906	91.9	80	8.1
CMDHB nfd*	10	100.0	0	0.0

Source: National Minimum Dataset. Note: Ethnicity is prioritised. NZ Deprivation Index is at Census Area Unit level. Suburbs are Auckland City subdivisions.* nfd= not further defined

A higher percentage of Maaori, Pacific and Indian women living in Counties Manukau birthed at a Counties Manukau facility compared to European/Other women living in Counties Manukau. A higher percentage of Chinese women living in Counties Manukau had an outborn delivery than European/Other women living in Counties Manukau.

A higher percentage of women living in the most affluent areas (decile 1-2) birthed at other DHB facilities compared to women living in the most deprived areas (decile 9-10). Young women had the lowest percentage of births at another DHB facility, the percentage of women delivering outside CM Health increased with increasing age until 30 and then no further increase was seen. Women living in Manurewa had the highest percentage of births at a CM Health facility while women living in Howick had the lowest percentage of deliveries at CM Health facility.

CM Health Women who delivered at a CM Health Facility 2012

Table 5 shows the Number of CM Health women delivering in CM Health facilities. The majority (85%) of women living in Counties Manukau deliver at a CM Health facility, with most of these deliveries occurring at the Middlemore hospital site. The highest percentage of women, by ethnic group, delivering at primary birthing units were European/ other women, followed by Maaori and Chinese women. A low percentage (5%) of Pacific women delivered at a PBU. The percentage of women delivering in a primary birthing unit was highest in the Franklin area with 76% of women living in Franklin delivering at a primary birthing unit. The lowest percentage of women birthing at a primary birthing unit was women living in Mangere were only 1% of women delivered at a primary birthing unit. Overall 17% of women living in Counties Manukau delivered at a primary birthing unit.

Table 5. CMDHB Women who delivered at a CM Health Facility, 2012

	Number of Women Delivered				% of Deliveries
	MMH	Botany	Papakura	Pukekohe	at PBU
Ethnicity					
Maaori	1330	42	188	103	20%
Pacific	2514	46	65	22	5%
Asian					
Indian	248	39	1	3	15%
Chinese	578	23	15	7	7%
Other Asian	280	30	5	3	12%
European/Other	1391	174	96	222	26%
Total	6341	354	370	360	15%
Maternal Age					
<20 years	574	18	47	29	14%
20-24 years	1553	69	111	82	14%
25-29 years	1723	114	107	91	15%
30-34 years	1451	108	75	95	16%
35-39 years	784	39	27	54	13%
40+ years	256	6	3	9	7%
NZ Deprivation Index 2006 Decile (CAU*)					
Unknown	568	116	21	29	23%
Decile 1-2	471	71	21	46	23%
Decile 3-4	578	42	28	120	25%
Decile 5-6	1045	51	80	61	15%
Decile 7-8	3679	74	220	104	10%
Decile 9-10	4755	95.2	238	4.8	
Suburb					
Howick	713	204	6	0	23%
Otara	788	55	4	0	7%
Papatoetoe	1036	31	8	0	4%
Mangere	1311	11	1	0	1%
Manurewa	1374	39	112	2	10%
Papakura	649	12	225	15	28%
Franklin	470	2	14	343	43%
Maternity Provider (2010-2012)					
LMC only	9996	765	965	1082	22%
Shared Care	3098	48	73	3	4%
Closed Unit	5465	86	104	21	3%
LMC with SAH delivery	140	0	0	0	0%
Team	296	191	27	1	37%

Source: Healthware. Note totals slightly different from NMDS data. Note: MMH: Middlemore Hospital; PBU: Primary Birthing Unit. Ethnicity is prioritised. NZ Deprivation Index is at Census Area Unit level. Suburbs are Auckland City subdivisions. LMC=Self- employed Midwife self-employed but have access agreement to use CMDHB facilities. Closed Unit = All care provided by CMDHB midwives and obstetricians for moderate to high risk women. LMC with SAH delivery= Self- employed Midwife LMC but delivery done by DHB Midwife. Team = Caseloading/Team Midwife - CMDHB midwife

Maternity Provider

The maternity provider reported here is the provider at the time of birth, although for women who used Secondary Care only for labour and delivery the maternity provider at the onset of labour is used. A woman can change her maternity provider at any time during her pregnancy. These data are derived from Healthware, a Counties Manukau information management system which captures information about women accessing Counties Manukau facilities. While the majority of women living in CMDHB deliver in Counties Manukau facilities, a proportion, as described above, do not.

Table 6. Maternity Provider at time of delivery

Provider	Number of women (%)			
	2009	2010	2011	2012
Private Facility Only	55%	58%	58%	56%
Shared Care	17%	17%	15%	11%
Closed Unit	24%	23%	23%	30%
Private Facility with SAH delivery MW	1%	1%	1%	0%
Team	2%	2%	3%	2%

Note: Data extracted by Decision Support 2013. These data relate to CMDHB resident women who deliver at CMDHB facilities. Private facility =Self-employed Midwife with access agreement to use CMDHB facilities. Closed Unit = All care provided by CMDHB midwives and obstetricians for moderate to high risk women. LMC with SAH delivery= Self- employed Midwife LMC but delivery done by DHB Midwife. Team= Caseloading/Team Midwife - CMDHB midwife

Table 7 provides data about the choice of maternity provider by ethnicity. European/Other women most frequently used a self- employed LMC as their maternity care provider (76%) followed by Closed Unit care (14.6%) with only a small percentage of these women using shared care (4.7%) or Team care (3.6%). Maaori women also most frequently used a self- employed LMC as their maternity provider (58%), followed by Closed Unit (27%) and Shared care (13.1%). Pacific women used a self- employed LMC most commonly (46%) followed by Closed Unit (31%) and Shared care (21%). Chinese women living in Counties Manukau who delivered at a Counties Manukau facility received there maternity care through Closed unit care most frequently (46%) followed by LMC (44%) while only 1.6% used Shared care.

Table 8 provides information about choice of maternity provider by deprivation. Crude rates of Self- employed LMC were lower in women living in decile 7-10 compared to women living in more affluent areas. In contrast crude rates for Shared care were higher in women living in more deprived (decile 5-10) areas compared to women living in less deprived areas (decile 1-4).

Table 7. Maternity Provider Use in CMDHB by Ethnicity, 2010—12

	No.	Crude Rate	Crude OR (95% CI)	P-value
Private LMC				
Maaori	3056	57.6 (56.2-58.9)	0.42 (0.39-0.46)	<.0001
Pacific	4189	45.9 (44.9-46.9)	0.26 (0.24-0.28)	<.0001
Chinese	268	43.5 (39.7-47.5)	0.24 (0.20-0.28)	<.0001
Indian	1011	52.2 (50.0-54.4)	0.34 (0.30-0.38)	<.0001
Other Asian	523	54.2 (51.1-57.3)	0.37 (0.32-0.42)	<.0001
Euro/Other	4676	76.4 (75.3-77.4)	ref	ref
Shared Care				
Maaori	695	13.1 (12.2-14.0)	3.04 (2.64-3.51)	<.0001
Pacific	1919	21.0 (20.2-21.9)	5.37 (4.72-6.11)	<.0001
Chinese	10	1.6 (0.9-3.0)	0.33 (0.18-0.63)	0.0007
Indian	359	18.5 (16.9-20.3)	4.60 (3.90-5.42)	<.0001
Other Asian	120	12.4 (10.5-14.7)	2.87 (2.29-3.59)	<.0001
Euro/Other	289	4.7 (4.2-5.3)	ref	ref
Closed Unit				
Maaori	1463	27.6 (26.4-28.8)	2.23 (2.03-2.44)	<.0001
Pacific	2844	31.1 (30.2-32.1)	2.65 (2.43-2.88)	<.0001
Chinese	286	46.4 (42.5-50.4)	5.07 (4.26-6.03)	<.0001
Indian	469	24.2 (22.4-26.2)	1.87 (1.65-2.12)	<.0001
Other Asian	283	29.3 (26.5-32.3)	2.43 (2.08-2.84)	<.0001
Euro/Other	894	14.6 (13.7-15.5)	ref	ref
Team				
Maaori	88	1.7 (1.4-2.0)	0.45 (0.35-0.58)	<.0001
Pacific	113	1.2 (1.0-1.5)	0.34 (0.27-0.43)	<.0001
Chinese	50	8.1 (6.2-10.6)	2.38 (1.73-3.28)	<.0001
Indian	49	2.5 (1.9-3.3)	0.70 (0.51-0.96)	0.0260
Other Asian	35	3.6 (2.6-5.0)	1.01 (0.71-1.46)	0.9385 (ns)
Euro/Other	219	3.6 (3.1-4.1)	ref	ref
LMC with SAH midwife				
Maaori	6	0.1 (0.05-0.24)	0.16 (0.07-0.37)	<.0001
Pacific	67	0.7 (0.6-0.9)	1.02 (0.70-1.50)	0.9151 (ns)
Chinese	2	0.3 (0.1-1.2)	0.45 (0.11-1.86)	0.2702 (ns)
Indian	48	2.5 (1.9-3.3)	3.51 (2.33-5.30)	<.0001
Other Asian	4	0.4 (0.2-1.1)	0.58 (0.21-1.60)	0.2903 (ns)
Euro/Other	44	0.7 (0.5-1.0)	ref	ref

Source: Healthware. Note: Only includes CMDHB women who delivered in CMDHB. Ethnicity is preferred. Private LMC=Self- employed Midwife self-employed but have access agreement to use CMDHB facilities. Closed Unit = All care provided by CMDHB midwives and obstetricians for moderate to high risk women. LMC with SAH delivery= Independent Midwife LMC but delivery done by DHB Midwife. Team = Caseloading/Team Midwife - CMDHB midwife

Table 8. Maternity Provider by Deprivation 2010-2012

	No.	Crude Rate per 100	Crude OR (95% CI)	P-value
Private LMC				
Decile 1-2	1393	64.4 (62.4-66.4)	ref	ref
Decile 3-4	1235	68.3 (66.1-70.4)	1.19 (1.04-1.36)	0.0104
Decile 5-6	1621	69.8 (67.9-71.6)	1.28 (1.13-1.45)	0.0001
Decile 7-8	2267	58.6 (57.1-60.2)	0.78 (0.70-0.87)	<.0001
Decile 9-10	7207	51.8 (51.0-52.6)	0.59 (0.54-0.65)	<.0001
Shared Care				
Decile 1-2	139	6.4 (5.5-7.5)	ref	ref
Decile 3-4	114	6.3 (5.3-7.5)	0.98 (0.76-1.27)	0.8732 (ns)
Decile 5-6	206	8.9 (7.8-10.1)	1.42 (1.13-1.77)	0.0022
Decile 7-8	524	13.6 (12.5-14.7)	2.28 (1.88-2.77)	<.0001
Decile 9-10	2409	17.3 (16.7-18.0)	3.05 (2.55-3.64)	<.0001
Closed Unit				
Decile 1-2	451	20.9 (19.2-22.6)	ref	ref
Decile 3-4	370	20.5 (18.7-22.4)	0.98 (0.84-1.14)	0.7581 (ns)
Decile 5-6	423	18.2 (16.7-19.8)	0.85 (0.73-0.98)	0.0262
Decile 7-8	941	24.3 (23.0-25.7)	1.22 (1.08-1.39)	0.0021
Decile 9-10	4054	29.1 (28.4-29.9)	1.56 (1.40-1.74)	<.0001
Team				
Decile 1-2	159	7.4 (6.3-8.5)	ref	ref
Decile 3-4	78	4.3 (3.5-5.4)	0.57 (0.43-0.75)	<.0001
Decile 5-6	55	2.4 (1.8-3.1)	0.31 (0.22-0.42)	<.0001
Decile 7-8	94	2.4 (2.0-3.0)	0.31 (0.24-0.41)	<.0001
Decile 9-10	168	1.2 (1.0-1.4)	0.15 (0.12-0.19)	<.0001
LMC with SAH midwife				
Decile 1-2	21	1.0 (0.6-1.5)	ref	ref
Decile 3-4	12	0.7 (0.4-1.2)	0.68 (0.33-1.39)	0.2905 (ns)
Decile 5-6	17	0.7 (0.5-1.2)	0.75 (0.40-1.43)	0.3850 (ns)
Decile 7-8	40	1.0 (0.8-1.4)	1.07 (0.63-1.81)	0.8124 (ns)
Decile 9-10	81	0.6 (0.5-0.7)	0.60 (0.37-0.97)	0.0360

Source: Healthware. Note: Only includes CMDHB women who delivered in CMDHB. NZ Deprivation Index is at Census Area Unit level. Private LMC=Self-employed Midwife self-employed but have access agreement to use CMDHB facilities. Closed Unit = All care provided by CMDHB midwives and obstetricians for moderate to high risk women. LMC with SAH delivery= Self- employed Midwife LMC but delivery done by DHB Midwife. Team = Caseloading/Team Midwife - CMDHB midwife

Timing of Engagement with Antenatal Care

The Ministry of Health has provided DHBs with National Maternity Collection (MAT) data for the trimester of LMC registration for 2011.[10] These data are incomplete for women living in Counties Manukau because of the high percentage of women who do not access self-employed LMC services. However the trimester of booking was recorded for 64% (n=5596) of CMDHB women and indicates that of these 64% of women living in Counties Manukau whose time of booking was recorded 46% (n=2590) of women booked in the first trimester, 45% (n=2514) booked in the second trimester, 8%(n= 467) in the third trimester and 0.4% (n=25) registered with an LMC in the postnatal period.

Jackson also reviewed time of booking[11] in her 2011 review of Antenatal care in Counties Manukau DHB and found that during 2007-2009, 16.8% of CMDHB women who delivered at CMDHB were booked by 10 weeks, 44.8% of women booked late at 10-18 weeks gestation, whilst 38.4% either booked very late (after 18 weeks) or did not book at all.[12]

[10] National Maternity Collection, Ministry of Health, 2013

[11] Booking gestation was used as a proxy for the onset of antenatal care because the date of the first antenatal assessment is not captured in any accessible local or national datasets. The extent to which Booking Date reflects the onset of antenatal care is unknown for most CMDHB women and requires further investigation.

[12] Jackson C. Antenatal Care in Counties Manukau DHB: A focus on Antenatal Care. 2011

Maternity Outcomes

The desired outcome of all pregnancies is a healthy mother and a healthy infant(s). The Ministry of Health reports annually on 12 clinical indicators based on the standard primipara in an attempt to allow meaningful comparison across DHBs. A summary of the 2011 data for Counties Manukau and Middlemore is provided in Table 9 and overall compares well to the New Zealand average in most cases. Of note women living in Counties Manukau were statistically significantly different from the NZ population for clinical indicator 3,4,5,6 and 9 and women delivering at MMH are statistically significantly different from the New Zealand population for indicator 4, 5 and 9.

A standard primipara living in Counties Manukau is less likely to have a Caesarean-section compared to a standard New Zealand primipara despite Counties Manukau having a comparatively socially deprived population with often high complexity. The reasons for this are unknown but it is hypothesised that population demography, population expectations, models of maternity care and collaboration between the maternity service providers may play a role.

A standard primipara living in Counties Manukau or delivering at MMH is less likely to undergo an induction of labour compared to a standard New Zealand primipara. It is not clear whether it is good to have a low induction of labour rate or not. While increasing induction of labour has a significant impact on workload for clinicians this needs to be balanced with the risks of not inducing women who may have an indication for induction. While the MMH induction rate is lower that the New Zealand average for a standard primipara it is increasing. Work is being done locally to review practice around induction of labour particularly in the context of neonatal outcomes.

Clinical Indicator 5 refers to Standard primipara with an intact lower genital tract. In 2011 both a standard primipara living in Counties Manukau or delivering at MMH was less likely to have an intact lower genital tract post-delivery compared to a standard New Zealand primipara. The term “intact genital tract” is not a precise term and the recognition of injury to the genital tract may vary by DHB. Identifying an injury depends on how the woman is examined after delivery and the culture that is pervasive in the delivery unit. At CM Health, the midwives and doctors have had extensive training in this area and the diagnosis of an “intact perineum” is not made until the patient has had a thorough examination including a PR examination to exclude an obstetric anal sphincter injury (OASIS). This is enhanced by the “no blame” culture within the DHB where staff are encouraged to report perineal trauma without fear of blame. The more thoroughly the patient is examined the more trauma will be identified and treated appropriately and this may account for the lower rate of ‘intact genital tract’ at CM Health. In addition it is recognised that women delivering at CMDHB are from a population living in highly deprived areas and have poor nutrition and which can result in poor quality tissues that may also predispose to perineal trauma.

A standard primipara living in Counties Manukau is more likely to have an episiotomy and no 3rd- or 4th-degree perineal tear compared to the New Zealand standard primipara. This is seen as a positive finding as an episiotomy done in the appropriate position can protect women from 3rd or 4th degree tears.

A standard primipara living in Counties Manukau or delivering at MMH is more likely to have a general anaesthetic compared to the New Zealand standard primipara. This is thought to reflect the rates of obesity in our population making regional forms of anaesthesia technically difficult.

Blood transfusion with vaginal birth is recorded as

higher for women living in Counties Manukau and Middlemore Hospital but does not reach statistical significance. For this indicator to be more useful it would be appropriate to also record the postpartum haemorrhage rate (PPH) for a standard primipara and we would encourage this for the future. As indicated by the Perinatal and Maternal Mortality Review Committee, and as part of our maternity review process, we are aware that late booking is an issue for our population and with this comes management of chronic anaemia. A significant number of our woman are anaemic at booking and without the opportunity to improve this antenatally, for the same blood loss at delivery, there will be a higher blood transfusion rate post-delivery. We believe this is the reason for our higher rates of blood transfusion in a standard primipara.

Table 9. 2011 Clinical Indicators for Standard Primipara by domicile of residence (CMDHB) and Middlemore Hospital in 2011

	Indicator	CMDHB women	Middlemore
1	Standard primiparae who have a spontaneous vaginal birth	70.8%. This is higher than the NZ average of 70% but is not statistical significantly different from the New Zealand average.	65.2%. This is lower that the NZ average of 65.6% but is not statistical significantly different from the New Zealand average.
2	Standard primiparae who undergo an instrumental vaginal birth	13.4%. This is lower than the NZ average of 13.9% but is not statistical significantly different from the New Zealand average.	15.2%. This is lower than the NZ average of 16% but is not statistical significantly different from the New Zealand average.
3	Standard primiparae who undergo Caesarean section	*13.1%.This is statistically significantly lower that the NZ average of 15.5%.	16.3%. This is lower than the NZ average of 17.9% but is not statistical significantly different from the New Zealand average.
4	Standard primiparae who undergo induction of labour	*2.7%. This is statistically significantly lower than the NZ average of 4.3%.	*3.0%. This is statistically significantly lower that the NZ average of 4.8%.
5	Standard primiparae with an intact lower genital tract (no 1st–4th-degree tear or episiotomy)	*20.3%. This is significantly lower that the NZ average of 33.1% of women.	*16.5%. This is significantly lower than the NZ average of 27.3%.
6	Standard primiparae undergoing episiotomy and no 3rd- or 4th-degree perineal tear	*21.8%. This is statistically significantly higher that the NZ average of 19%.	21.3%. This is higher than the NZ average of 22.1% but does not reach statistical significance.
7	Standard primiparae sustaining a 3rd- or4th-degree perineal tear and no episiotomy	2.7%. This is higher than the NZ average of 3.2% but does not reach statistical significance.	2.9%. This is higher than the NZ average of 3.2% but does not reach statistical significance.
8	Standard primiparae undergoing episiotomy and sustaining a 3rd- or 4th-degree perineal tear	1.3%. This is higher than the NZ average of 1.1% but does not reach statistical significance	1.8%. This is higher than the NZ average of 1.3% but does not reach statistical significance
9	General anaesthesia for Caesarean section	*12.2%. This significantly higher that the NZ average of 8.4%	*13.2%. This significantly higher that the NZ average of 8.3 %
10	Blood transfusion with Caesarean section	4.2%. This is higher than the NZ average of 3.3% and is borderline for reaching statistical significance.	4.3%. This is higher than the NZ average of 3.3% and is borderline for reaching statistical significance.
11	Blood transfusion with vaginal birth	1.8%. This is higher than the NZ average of 1.6% but does not reach statistical significance.	2.1%. This is not statistically higher than the NZ average of 1.8%.
12	Premature births (between 32 and 36 weeks gestation)	5.7%. This is lower than the NZ average of 6.1 and is borderline for reaching statistical significance.	6.3%. This is lower than the NZ average of 6.7 but does not reach statistical significance.

Source: Ministry of Health 2012. New Zealand Maternity Clinical Indicators 2010. Wellington. Ministry of Health. * Statistically significantly

Risk Factors for Poor Maternity Outcomes

It should be noted the prevalence of risk factors for poor maternity outcomes is higher in Counties Manukau women when compared to the rest of New Zealand.

Jackson concluded in her 2011 report[13] that:

> *"The CMDHB population of child bearing women and the maternity population (those actually giving birth) have a substantially different demographic profile to the New Zealand population. CMDHB mothers are younger on average than mothers across New Zealand and a greater proportion are Maaori, Pacific and Asian, and live in areas of high socioeconomic deprivation"*
>
> *These significant population differences pose challenges in making direct comparisons of health outcomes between the CMDHB population and the New Zealand population as a whole, and need to be considered when examining maternity care and outcomes in Counties Manukau".*

In addition when Jackson looked specifically at identified risk factors for perinatal death (including Body Mass Index, Smoking, Gestational diabetes, socio economic status, small for gestational age, post term, antenatal abruption, no antenatal care) she found that the prevalence in CM Health was the same or higher than the national prevalence, with the exception of advanced maternal age.

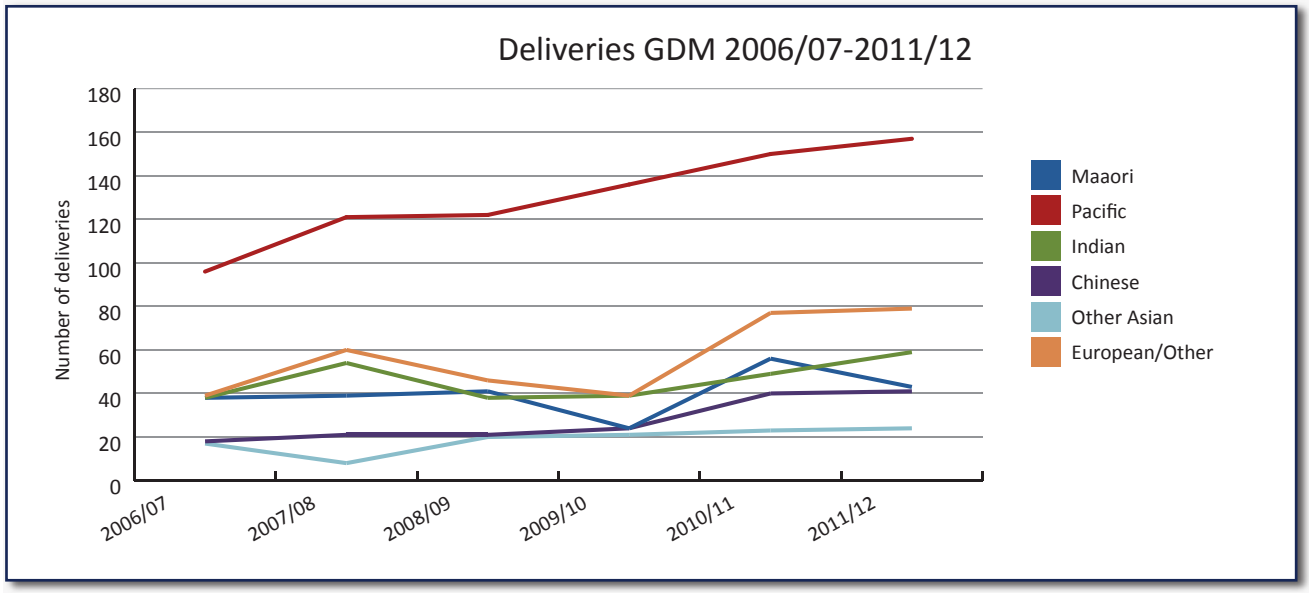
Those risk factors for which CMDHB women had a higher prevalence included overweight and obesity, smoking, hypertension in pregnancy, diabetes in pregnancy, low socio-economic status, no antenatal care, and small for gestational age.[14] The higher prevalence of these risk factors in CMDHB will contribute to the higher perinatal mortality rate noted by the PMMRC.[15]

Diabetes in Pregnancy

Diabetes in pregnancy (DIP), which includes both Gestational Diabetes (GDM) and pre-existing diabetes, represents a significant risk for poorer pregnancy outcomes and has implications for the future health of both mother and baby. Concern has been expressed locally and internationally about the increasing prevalence of diabetes in pregnancy. Winnard et al recently reviewed the prevalence of DIP in CM Health women.[16] This report found that while the total number of deliveries (8,500) and the number and proportion of deliveries by age for CMDHB women over the last six years has remained fairly constant, using the National Minimum Data Set the number of deliveries for Counties Manukau women identified with GDM has almost doubled over the six years from 2006/07 (225) to 2011/12 (407). The crude rate of deliveries identified with GDM for Counties women has correspondingly increased from 2.7% to 4.8%. The highest rates are in Indian (9.6%), Chinese (8.6%) and other Asian women (7.7%), but the largest volume of cases continues to be women of Pacific ethnicities (154 in 2011/12) (Figure1 and Table 10).

[13] Jackson C. Antenatal Care in Counties Manukau DHB: A focus on Antenatal Care (pg 120). 2011
[14] Jackson C. Antenatal Care in Counties Manukau DHB: A focus on Antenatal Care . 2011
[15] PMMRC. Fifth Annual Report of the Perinatal and Maternal Mortality Review Committee: Reporting mortality 2009. Wellington: Health Quality & Safety Commission 2011; 2011.
[16] Winnard D, Anderson P, MacLennan L, Okesene-Gafa K. Diabetes in Pregnancy in CMDHB, 2012.

Figure 1. Deliveries identified with GDM to CM Health resident women 2006/07 - 2011/12, trend by ethnicity



Source: Winnard D, Anderson P, MacLennan L, Okesene-Gafa K. Diabetes in Pregnancy in CMDHB, 2012.

Overall the volume of deliveries complicated by diabetes in 2011/12 was over 500, representing a crude rate of 6% of all deliveries for women resident in CMDHB.

Table 10. CMDHB women delivering in the 2011 year with GDM or pre-existing diabetes by age and ethnicity

Women with GDM or pre-existing diabetes	< 20	20-24	25-29	30-34	35-39	40 and over	Total	Ethnicity as % of total deliveries
Maaori	0	13	18	14	20	4	69	13.2%
Pacific	4	25	48	63	63	27	230	44.1%
Indian	0	3	17	20	14	2	56	10.7%
Chinese	0	0	8	15	9	5	37	7.1%
Other Asian	0	2	5	14	9	2	32	6.1%
European / Other	3	7	21	32	28	6	97	18.6%
Total	7	50	117	158	143	46	521	
Age group as % of total	1.3%	9.6%	22.5%	30.3%	27.4%	8.8%		

Source: Winnard D, Anderson P, MacLennan L, Okesene-Gafa K. Diabetes in Pregnancy in CMDHB, 2012.

Body Mass Index (BMI)

Overweight and obesity are recognised risk factors for a number of complications during pregnancy including gestational diabetes, preterm and post-term birth, induction of labour, caesarean section, macrosomia, stillbirth, and neonatal and maternal death[17]. In Jackson's 2011 report she found that between 2007-2009 35% of CMDHB women who delivered in CM Health facilities had a BMI within the normal range, 27% were overweight and 38% were obese[18]. It was also noted that there was marked variation in BMI by ethnicity with CMDHB Maaori women delivering at a CM Health facility being overweight and 38% were obese, while 25% of Pacific women were overweight and 61% were obese.

BMI on booking was extracted by Decision Support for 2012 and shows that 1.2 % of women booking at CM Health were underweight, 32% of women had a normal BMI, 26% of women were overweight and 41% of women were obese. This data is shown in Table 11 below and it can be seen in Figure 2 that the distribution of BMI varies by ethnicity.

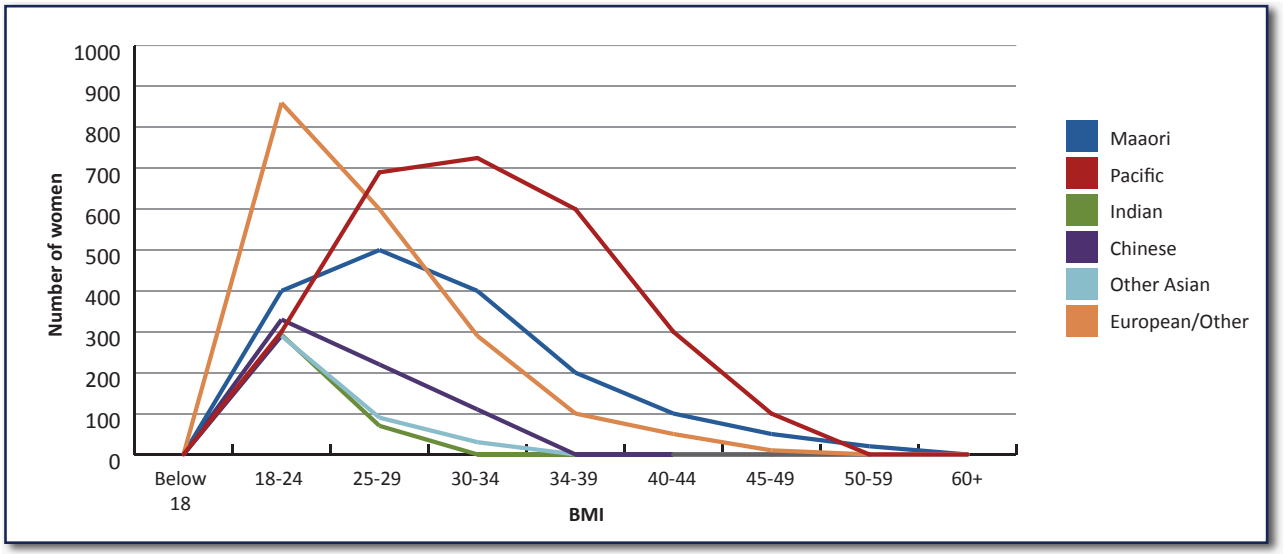
Table 11. BMI by ethnicity for women at time of booking at CM Health facility, 2012.

	NZ Maaori	Pacific Islander	Chinese	Indian	Asian Other	European/ Other	Not Stated	Total
Below 18	7	9	17	23	15	25		**96**
18-24	401	324	282	339	262	859	14	**2481**
25-29	512	676	51	210	73	526	10	**2058**
30-34	393	738	8	103	29	278	6	**1555**
35-39	202	591	2	13	1	122	3	**934**
40-44	95	294	1	2	1	46	2	**441**
45-49	39	108		3		14		**164**
50-59	12	58				3		**73**
60+	2	11						**13**
Total	**1663**	**2809**	**361**	**693**	**381**	**1873**	**35**	**7815**

Source: National Minimum Dataset. Note deliveries reflect the number of women giving birth rather than the number of births.

[17] Jackson C. Perinatal Mortality in Counties Manukau. 2011.
[18] Jackson C. Antenatal Care in Counties Manukau DHB: A focus on Antenatal Care (pg 120). 2011.

Figure 2. BMI by ethnicity at time if booking at CM Health facility, 2012.



Source: National Minimum Dataset. Note deliveries reflect the number of women giving birth rather than the number of births.

Smoking

Smoking during pregnancy is associated with a number of adverse pregnancy outcomes including miscarriage, placental abruption, intrauterine growth restriction, premature delivery, and stillbirth.[19] In addition, smoking during pregnancy has been associated with an increased risk of neonatal death, particularly as a result of Sudden Unexplained Death in Infancy (SUDI).[20]

There is currently no system that reliably captures smoking status of pregnant women in New Zealand. There is however a national health target which requires 90% of pregnant women to be offered advice and support to quit smoking at registration and booking and systems are being developed to allow this information to be captured systematically.

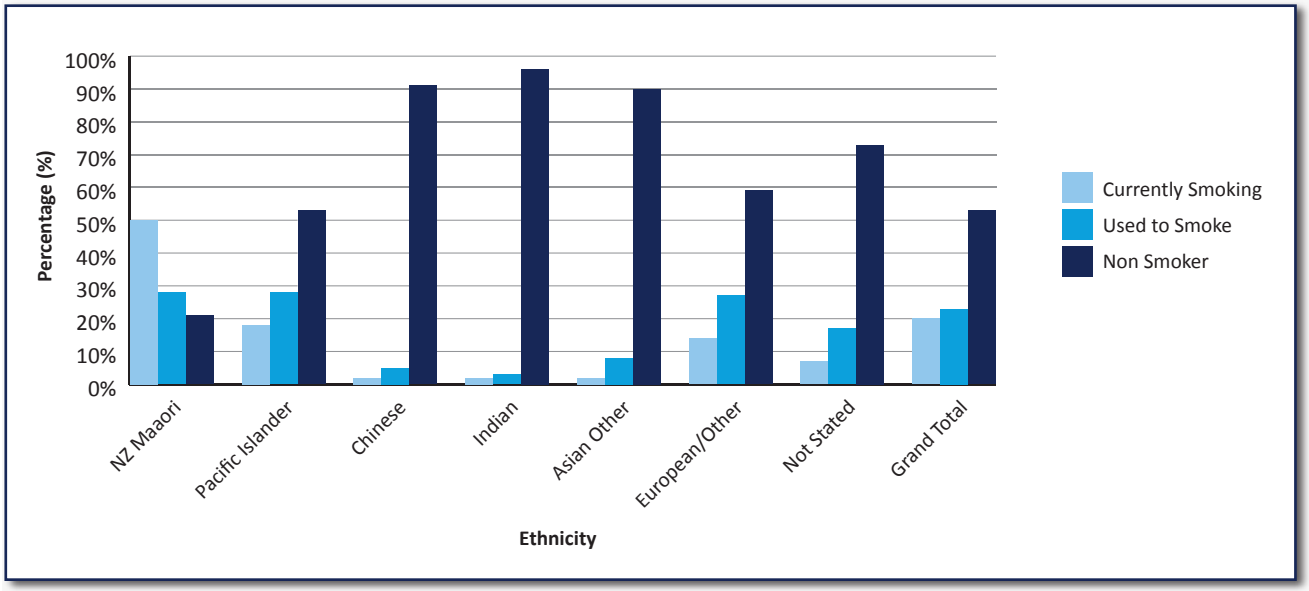
Smoking data is however captured variably in a number of databases. The New Zealand Child and Youth Epidemiology Service reports data from the National Maternity Collection and assess the proportion of women who smoked at first registration with a Lead Maternity Carer (LMC). This information is not as useful as in other parts of New Zealand because of the comparatively low percentage of women who book with an LMC. There are also demographic differences between women that book with different maternity providers (Table 7 and 8) that make it likely these data underestimate the smoking prevalence of Counties women. Smoking status is also captured through ICD coding on discharge. Historically this data has been difficult to interpret as while the women who are documented as smokers are well capture is has not been clear what proportion of women have been asked the question and therefore what denominator should be used. The impression is this data is improving as women are more consistently being asked about their smoking status.

At CM Health smoking status is noted on the booking form for those women booked to deliver at a CM Health facility and recorded in Healthware. When Jackson reviewed this data for 2007-2009 she noted that smoking data completeness varied by maternity provider, ethnicity, age group, parity, deprivation, and suburb which impacts of validity of the data.[21]

Healthware data for women booked at CM Health facilities by ethnicity is presented in Figure 3 and Table 12. Fifty percent of Maaori women were smoking at the time of booking while 17% of Pacific women and 15% of European /Other women were noted to be smokers at the time of booking. Indian and Chinese women had the lowest percentage of smokers at booking with 1% identifying as smokers. Overall 21% of women booking at CM Health facilities were identified as smokers at the time of booking, 23% as used to smoke and 56% were identified as non-smokers.

[19] Jackson C. Perinatal Mortality in Counties Manukau. 2011.
[20] Jackson C. Perinatal Mortality in Counties Manukau. 2011.
[21] Jackson C. Perinatal Mortality in Counties Manukau. 2011.

Figure 3. Percentage of women, by ethnicity, booked at CM Health, whose smoking status was recorded at time of first booking, 2012



Source: Healthware. Extracted by Decision Support 2013. Note smoking status not available for all women at time of booking.

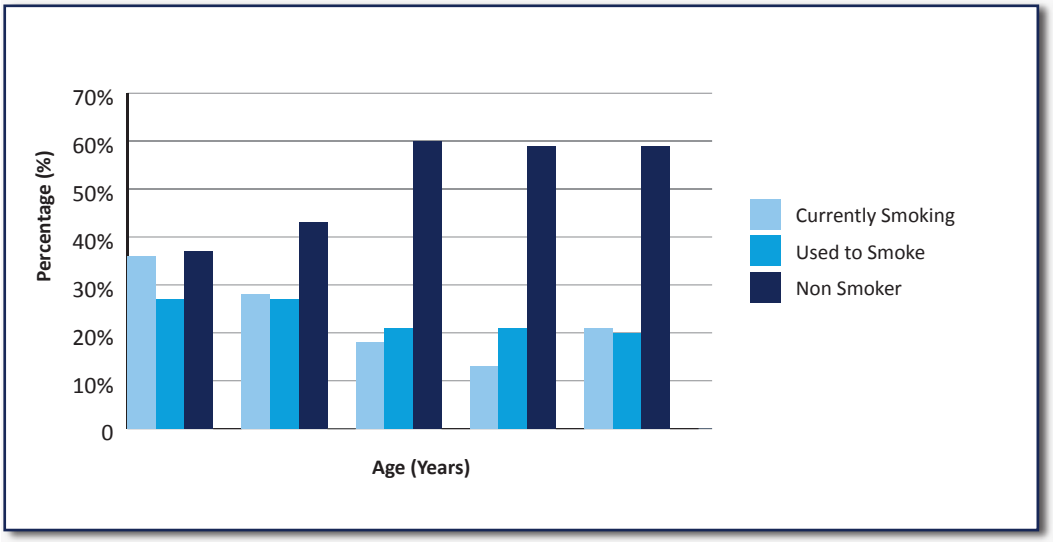
Table 12. Number of women, by ethnicity, booked at CM Health, whose smoking status was recorded at time of first booking, 2012

Smoking status	NZ Maaori	Pacific Islander	Chinese	Indian	Asian Other	European/ Other	Not Stated	Total
Currently Smoking	784	462	4	8	5	246	2	**1511**
Non-Smoker	347	1487	260	620	279	983	22	**3998**
Used to Smoke	442	712	16	16	23	450	5	**1664**
Total	**1573**	**2661**	**280**	**644**	**307**	**1679**	**29**	**7173**

Source: Healthware. Extracted by Decision Support 2013. Note smoking status not available for all women at time of booking.

Smoking status also varied by age with a higher percentage of younger women documented as currently smoking compared to older women as shown in Figure 4.

Figure 4. Smoking status for women, by age, recorded at time of first booking, 2012.



Source: Healthware. Extracted by Decision Support 2013. Note smoking status not available for all women at time of booking.

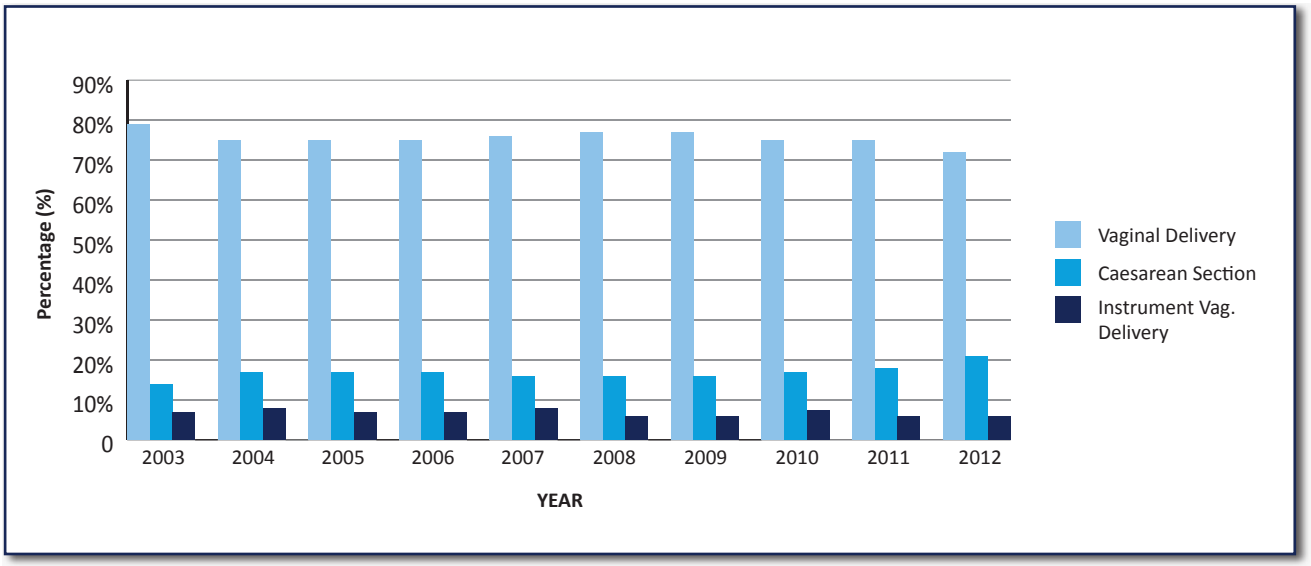
Clinical outcomes for women delivering at Counties Manukau Health facilities

The data provided in this section represents a facility view of outcomes for women delivering at Counties Manukau facilities. The Clinical Indicators provided by the Ministry of Health and reported above provide data for a standard primipara in order to allow comparison across DHBs. The data in the following section provides a facility view of outcomes for women birthing in CM Health facilities and their babies.

Mode of delivery

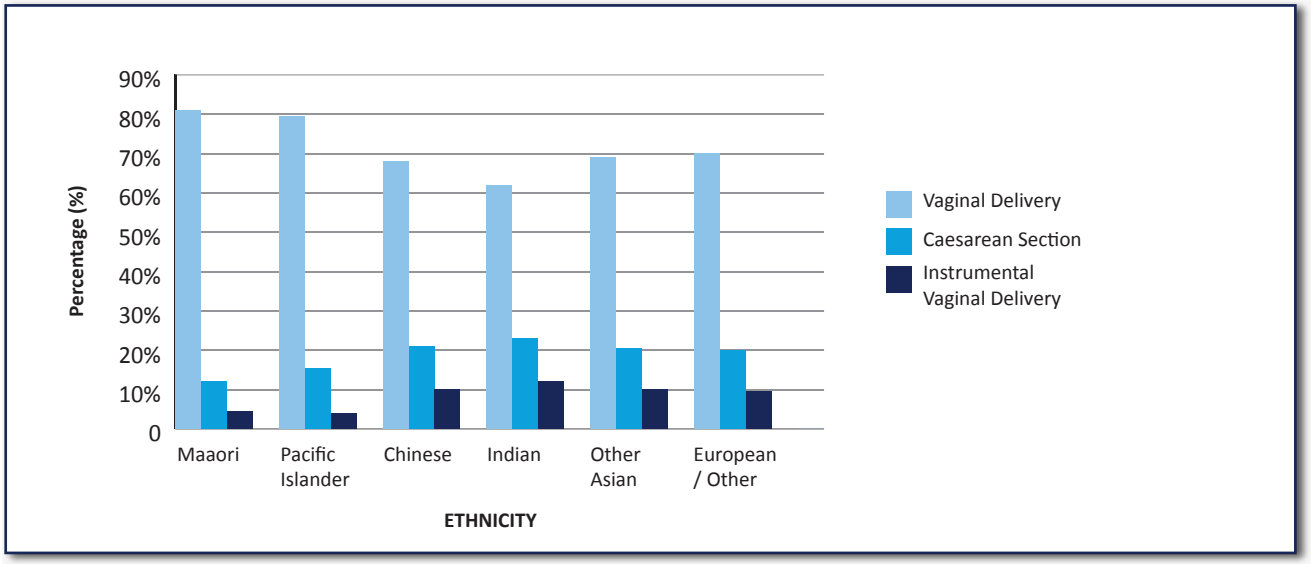
The vast majority of deliveries to women birthing at CM Health facilities is by normal vaginal delivery. The Caesarean section rate has been increasing over the last 3 years and with 21.1% of all deliveries by Caesarean section in 2012. 82% of Maaori women and just under 80% of Pacific women who deliver at a CM Health facility have their babies by vaginal delivery. Indian women have the highest percentage of deliveries by C-Section (24%) and instrumental vaginal delivery (13.2%) and the lowest percentage of vaginal deliveries (63%).

Figure 5. Mode of delivery for all women delivering at a CM Health facility by calendar year 2003-2012



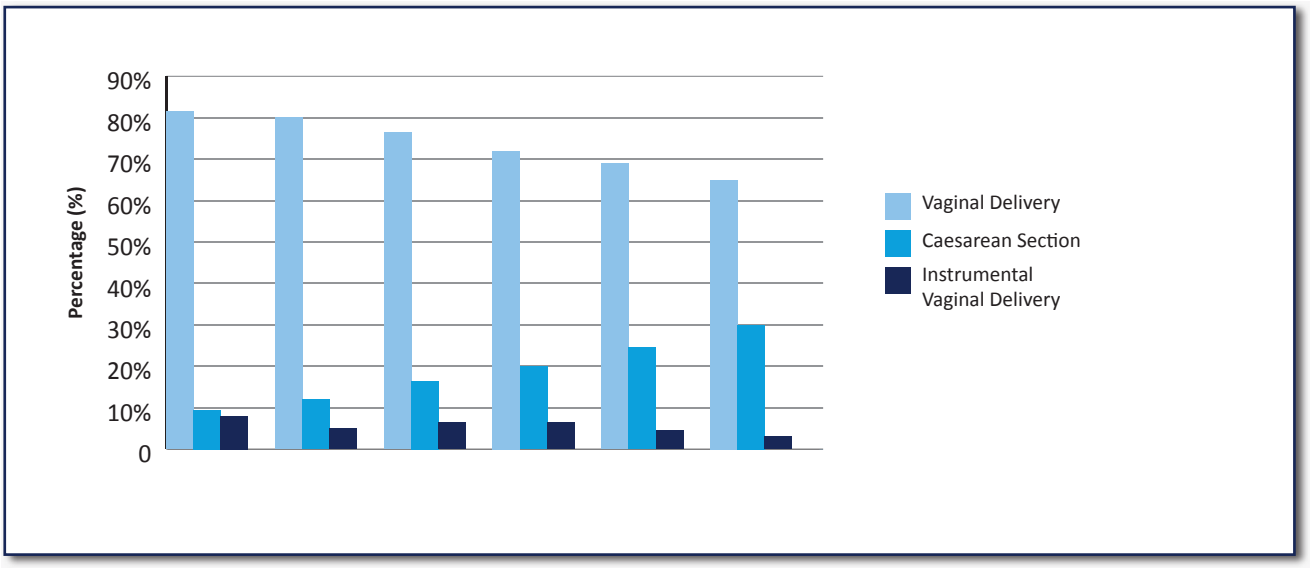
Source: Healthware. Extracted by Decision Support 2013. All CMDHB sites including homebirths.

Figure 6. Mode of delivery for all women delivering at a CM Health facility, by ethnicity, 2009-2012



Source: Healthware. Extracted by decision Support 2013. Ethnicity is preferred.

Figure 7. Mode of delivery by age group for all women delivering at a CM Health facility, by age, 2009- 2012.



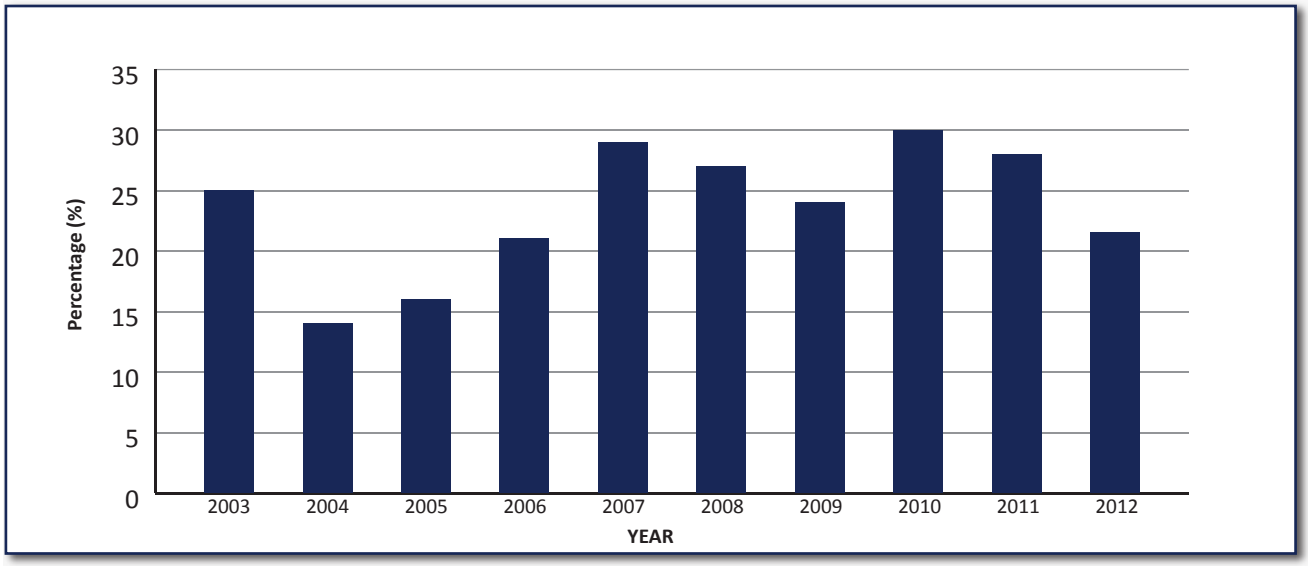
Source: Healthware. Extracted by Decision Support 2013.

The percentage of women delivering by vaginal delivery decreases with increasing age while conversely the Caesarean Section rate increases. 82% of women less than 20 years of age deliver by vaginal delivery, 10% by Caesarean Section and 8% by instrumental vaginal delivery compared to women over 40 years 66% deliver by vaginal delivery, 30% by Caesarean Section and 4% by instrumental vaginal delivery.

Vaginal Birth after Caesarean Section

The percentage of women delivering by vaginal delivery after one previous delivery by Caesarean Section has fluctuated from 2003 to 2012. In 2012 21% of women who had previously had a baby born by Caesarean Section went on to have a vaginal delivery post Caesarean section (Figure 8).

Figure 8. Vaginal Delivery after Caesarean Section, 2003-2012, for women delivering in CM Health facilities.



Source: Healthware. Extracted by Decision Support 2013. Denominator: Cases in which the women has had one previous baby born by C-Section. Numerator: Number of women achieving vaginal birth. Only the first vaginal birth post C-Section is counted not multiple vaginal births.

Uterine rupture (following Caesarean Section)

Uterine rupture is defined as a disruption of the uterine muscle extending to and involving the uterine serosa or disruption of the uterine muscle with extension to the bladder or the broad ligament.

Since 2007 uterine rupture rate has been below 0.74% which is the recognised risk of uterine rupture following vaginal birth after a Caesarean section.

Table 13. Uterine rupture following Caesarean section, for all women delivering at a CM Health facility 2007-2012

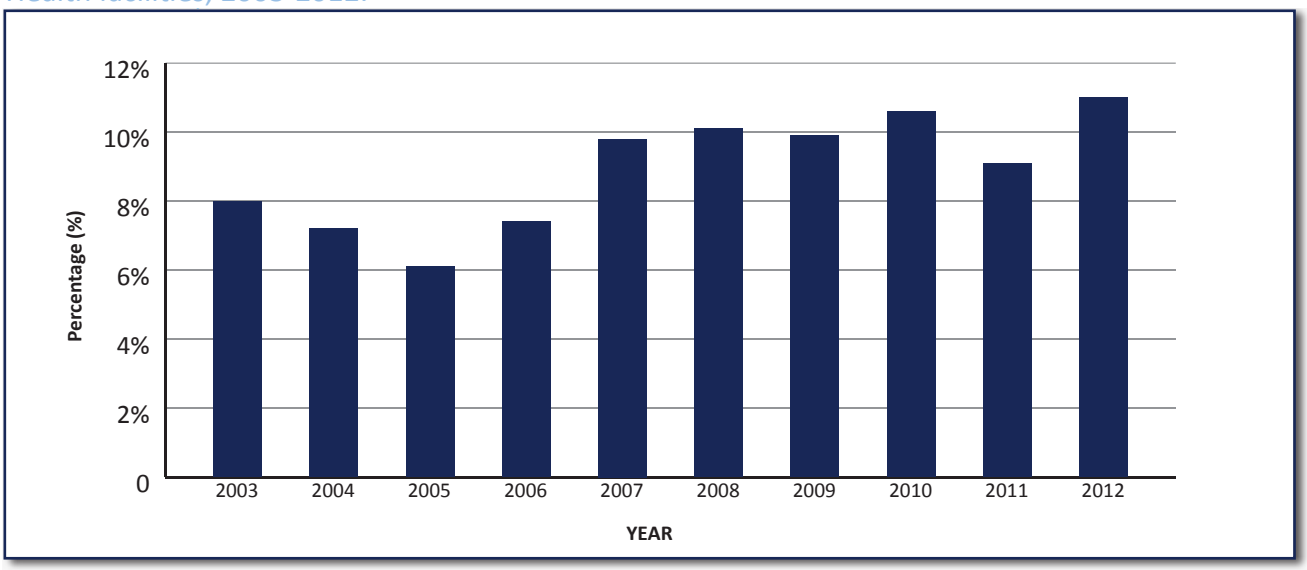
Year	Uterine Rupture	Total C-Sections	% of Uterine Ruptures
2007	1	1051	0.10%
2008	1	1054	0.09%
2009	2	1025	0.20%
2010	2	1097	0.18%
2011	6	1108	0.54%
2012	2	1259	0.16%

Source: Healthware. Extracted by Decision Support 2013. All patients who have an ICD-10 code of O71.1 "Rupture of uterus during labour" who had also had a previous 'Caesarean Section'.

Post-Partum Haemorrhage

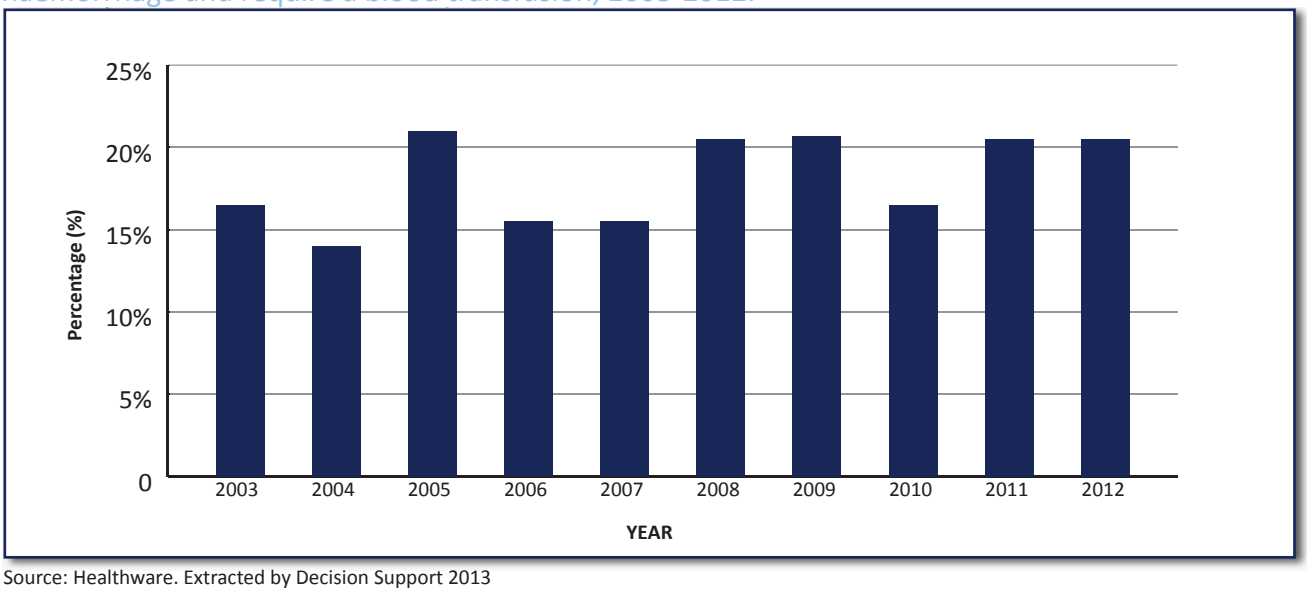
A Post-Partum haemorrhage (PPH) is defined as an estimated blood loss of >/=500ml in the first 24 hours following birth. The percentage of women having a PPH is shown in Figure 9 as a percentage of all women delivering at a CM Health facility. In 2012 11% of all women delivering at a CM Health facility had a PPH. Of those women who had a PPH while delivering at a CM Health facility 21% received a blood transfusion (Figure 10).

Figure 9. Percentage of Post-Partum haemorrhage of all deliveries for women delivering at CM Health facilities, 2003-2012.



Source: Healthware. Extracted by Decision Support 2013.

Figure 10. Percentage of women, delivering in CM Health facilities, who have a Post-Partum haemorrhage and require a blood transfusion, 2003-2012.



Source: Healthware. Extracted by Decision Support 2013

Induction of labour

Labour may be induced for a number of indicators including pre labour spontaneous rupture of membranes, post -dates, pre eclampsia, intrauterine growth retardation, diabetes, maternal medical complications, intra uterine death, decreased liquor, prolonged latent phase and large for dates.

As outlined in the clinical indicators section the percentage of inductions is increasing in CM Health facilities. This may be appropriate but does have an impact on workload. Work is currently underway looking at the guidelines for induction of labour in different situations.

Table 14. Induction of Labour by parity as a percentage of births, for all women delivering at CM Health facility, 2010-2012.

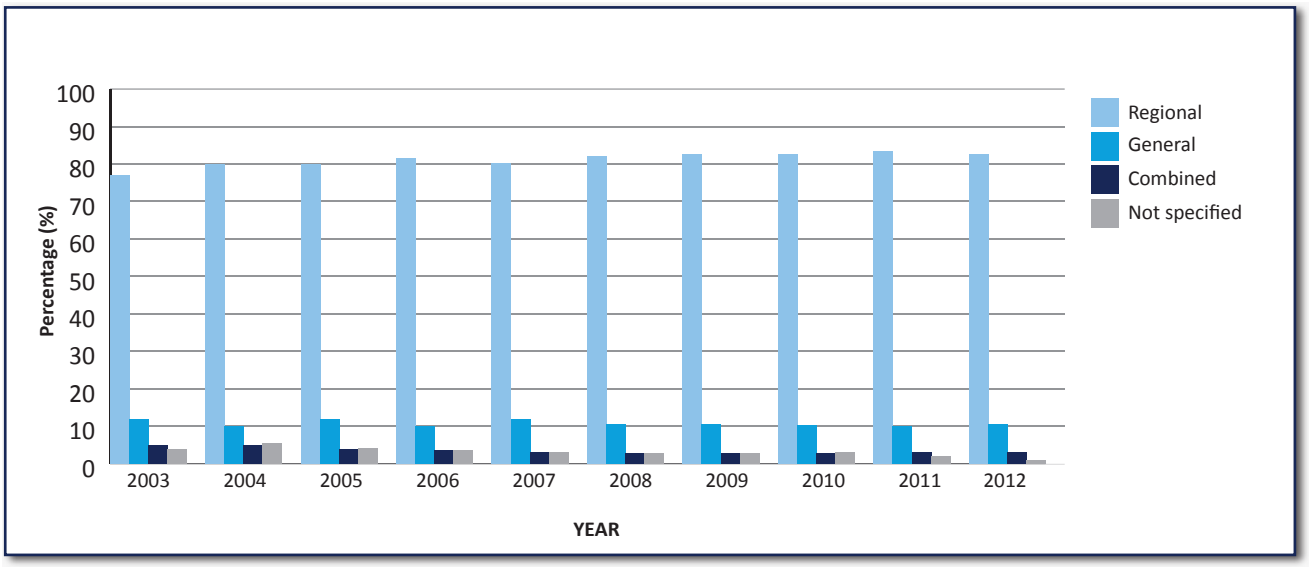
Year	Nulliparous Inductions	Nulliparous Inductions as % of all births	Multiparous Inductions	Multiparous Inductions as % of all births	All Inductions	All Births	Inductions as % of all births
2010	599	7%	702	9%	1301	8148	16%
2011	643	8%	792	10%	1435	8125	18%
2012	794	10%	872	11%	1666	8065	21%

Source: Healthware. Extracted by Decision Support 2013

Anaesthetic for Caesarean section

There are a number of options available for providing anaesthetic to women undergoing a Caesarean section. Figure 11 shows the percentage of regional, general and combined anaesthetics as a percentage of all deliveries at CM Health facilities. The majority of women have a regional anaesthetic when undergoing a Caesarean section. The percentage of women, delivering at a CM Health facility who have a general anaesthetic was 11.5% in 2012 and this has been static over the last 5 years.

Figure 11. Anaesthetic type as a percentage of all deliveries at CM Health facilities 2003-2012.



Source: Healthware. Extracted by Decision Support 2013.

Obstetric Anal-Sphincter Injuries - 3rd and 4th degree tears

Third and Fourth degree tears involve the anal sphincter complex and can led to significant long term complications.

Third degree tears are defined as follows:

- 3a- Less than 50% of the external anal sphincter thickness torn
- 3b-More than 50% of external anal sphincter torn
- 3c both external and internal sphincter torn
- Fourth degree tears involve both the anal sphincter complex and the rectal mucosa.

Table 15 shows the anal sphincter injuries for all women delivering at CM Health facilities 2003-2012. In 2012 3% of all women who had vaginal births had a third degree tear and 0.22% of women giving birth vaginally had a fourth degree tear.

Table 15. Anal Sphincter injuries for all women delivering at CM Health facilities, 2003-2012.

Year	3rd degree Tear	% total Vaginal births	4th degree Tear	% total Vaginal births	Total vaginal births	3rd & 4th tears % of vaginal births
2003	62	1.1%	8	0.14%	5588	1.3%
2004	85	1.5%	11	0.20%	5609	1.7%
2005	96	1.7%	5	0.09%	5757	1.8%
2006	107	1.7%	17	0.26%	6446	1.9%
2007	141	2.1%	6	0.09%	6831	2.2%
2008	154	2.3%	15	0.22%	6817	2.5%
2009	143	2.1%	14	0.21%	6720	2.3%
2010	142	2.1%	14	0.21%	6690	2.3%
2011	148	2.2%	17	0.26%	6619	2.5%
2012	189	3.0%	14	0.22%	6364	3.2%

Source: Healthware. Extracted by Decision Support 2013. All patients who have an ICD-10 code of O702 or O703. Third or Fourth degree perineal laceration during labour. For the 10 years from 2003 to 2012 2% of all vaginal births result in a 3rd degree tear and 0.2% results in a 4th degree tear

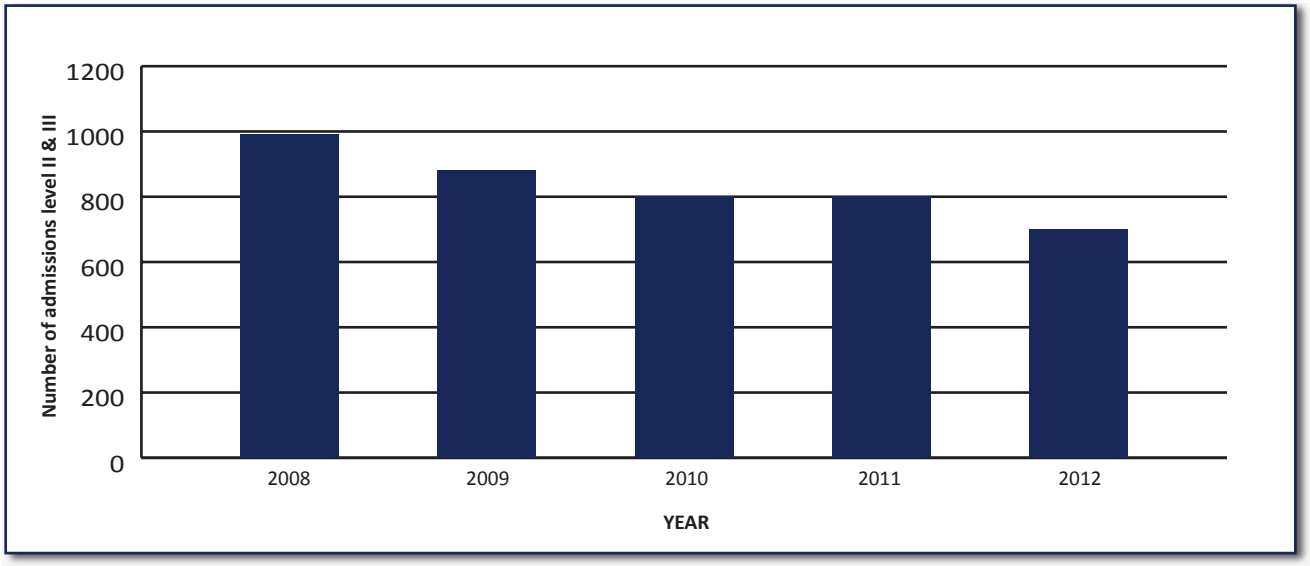
Neonatal Outcomes

It is important when considering the quality of the maternity services that neonatal outcomes are reviewed as the management of women during pregnancy and labour obvious impacts on the outcomes for their babies.

It is noted that the percentage of premature births in a standard primipara living in Counties Manukau or delivering in MMH is lower than for a standard NZ primipara.

The Neonatal Unit at Middlemore Hospital has 36 cots and provides care for both level II and III babies. The number of admissions to the unit has been decreasing from 2008 with 714 admissions to the unit in 2012 (Figure 12).

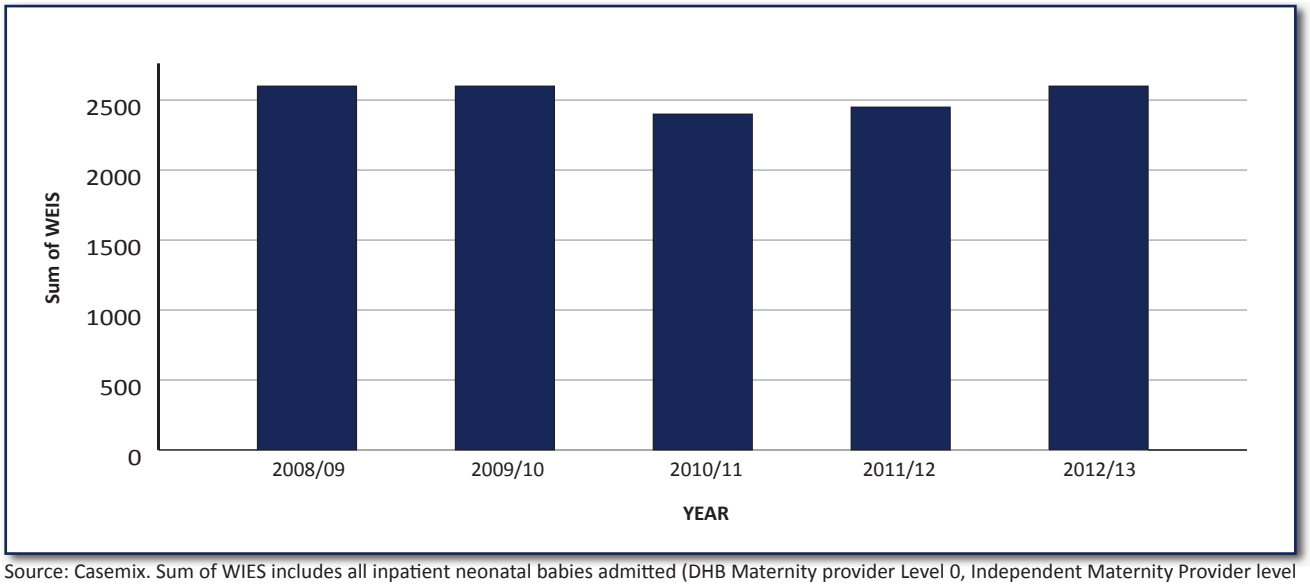
Figure 12. Total admissions to Middlemore Neonatal Unit, Level II & III, 2008-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit

Over this time however the WIES[22] value has remained essentially unchanged (Figure 13) and although overall the total admissions may have decreased Figure 14 shows that over this time period the number of admissions for babies <32 weeks gestation has remained constant.

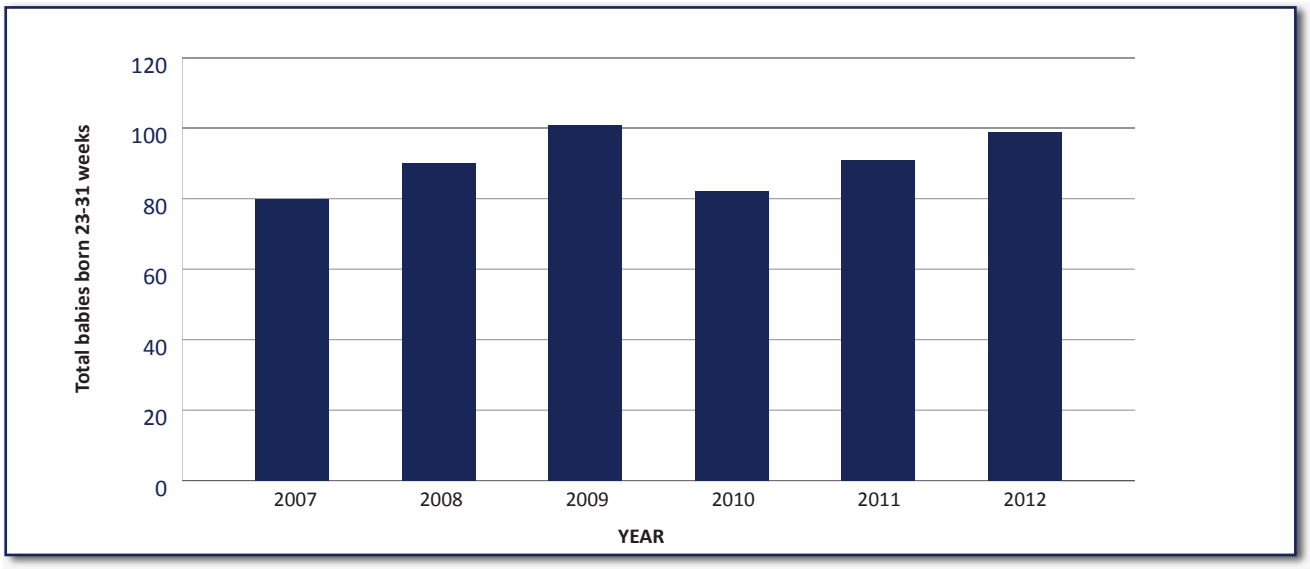
Figure 13. Sum of WIES by Financial Year, 2008/9-2012/13.



Source: Casemix. Sum of WIES includes all inpatient neonatal babies admitted (DHB Maternity provider Level 0, Independent Maternity Provider level 0, Neonates L1, Neonates L2, Neonates L3).

[22] WEISS is a method of weighting individual discharges based on complexity.

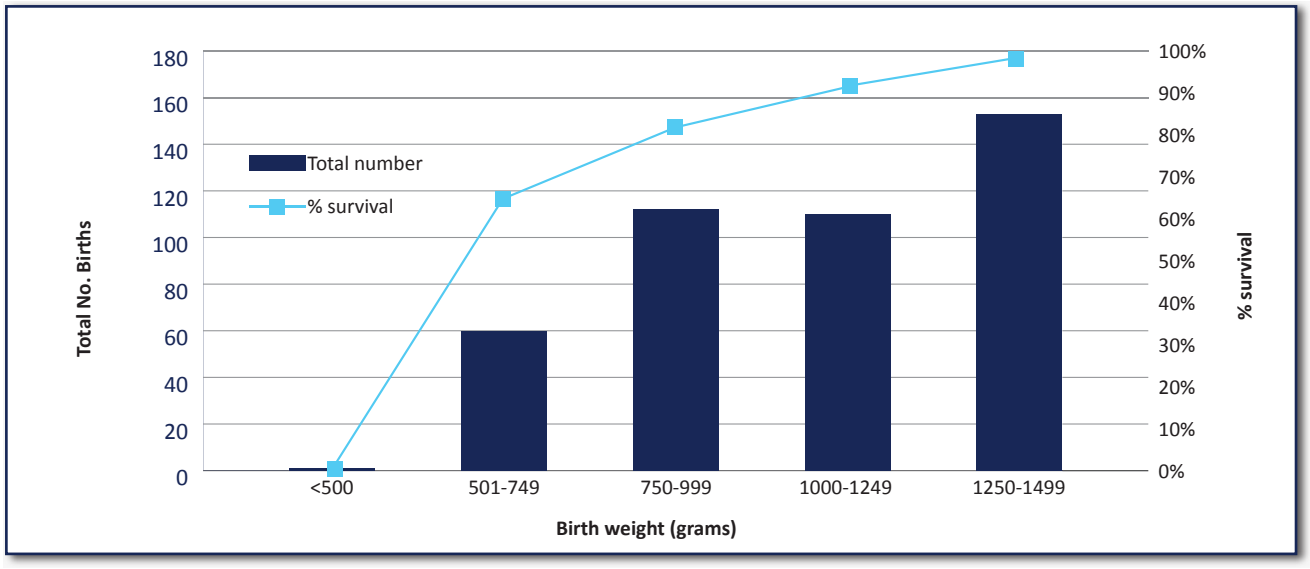
Figure 14. Total admissions to Middlemore Neonatal Unit, gestational age 23-31 weeks, 2007-2012



Source: Data provided by Middlemore Hospital Neonatal Unit

Between 2007-2012 there were 2 births <500grams, 60 births 500-749 grams, 114 births 750-749 grams and 266 births > 1000 grams. The survival rate for those less 500grams was poor (0%) but, as expected, survival steadily increased as birth weight increased (Figure15).

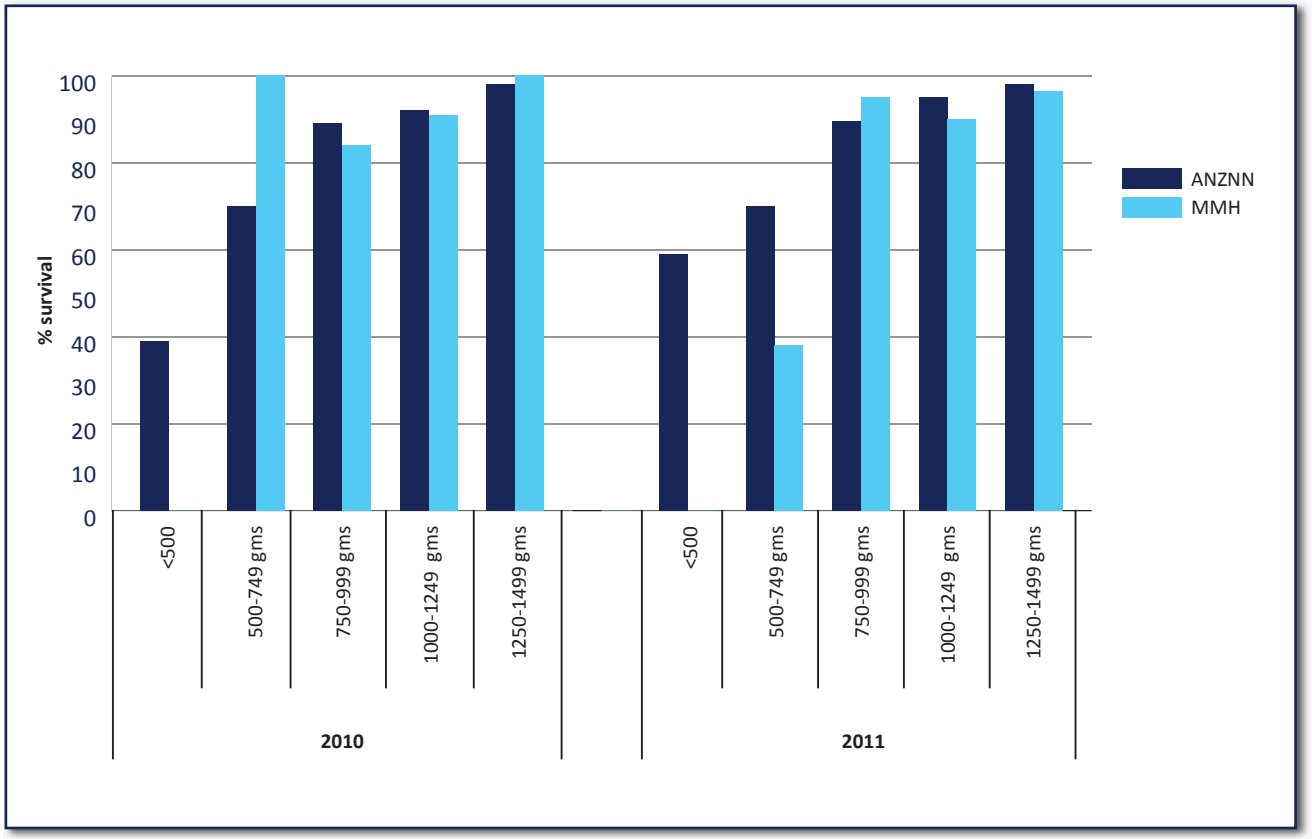
Figure 15. Number of births by birthweight and percentage survival by birthweight, Middlemore Hospital, 2007-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit

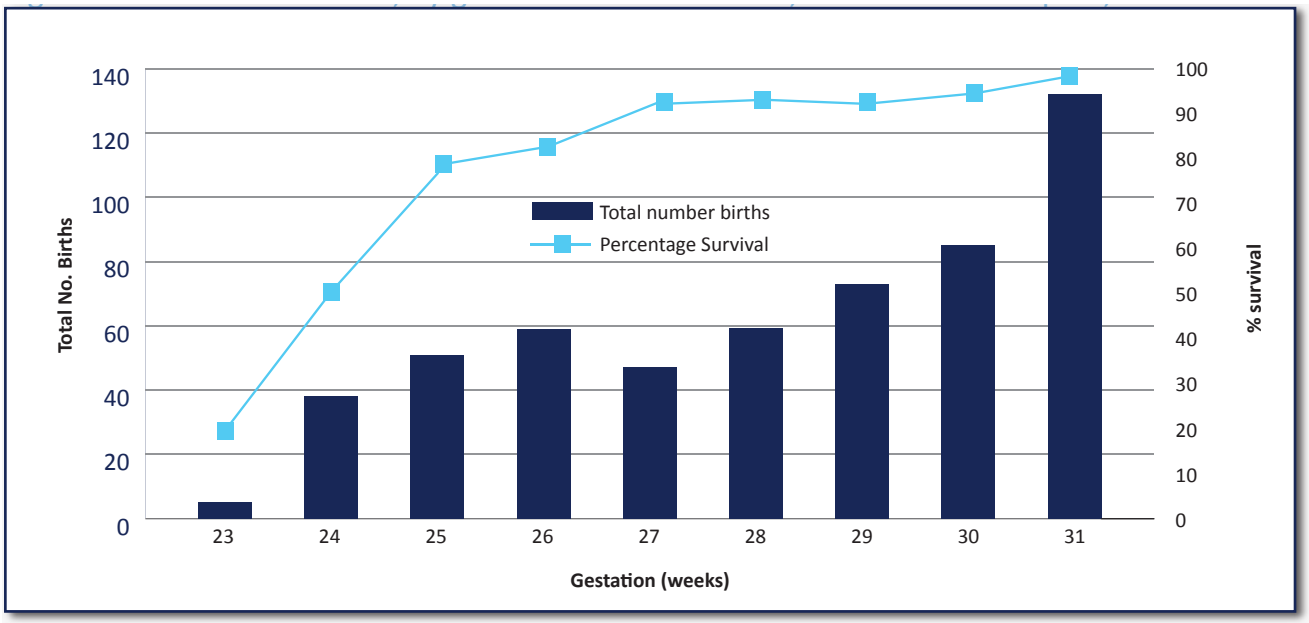
Figure 16 compares the percentage survival by birthweight for those babies admitted to the Middlemore neonatal unit with data from the New Zealand and Australian Neonatal Network (ANZNN).

Figure 16. Number of births by birthweight and percentage survival by birthweight, Middlemore Hospital, 2007-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit. Note no neonates < 500g admitted to MMH unit in 2010 and 2011.

Figure 17. Number of births, by gestation and % survival, Middlemore Hospital, 2007-2012.

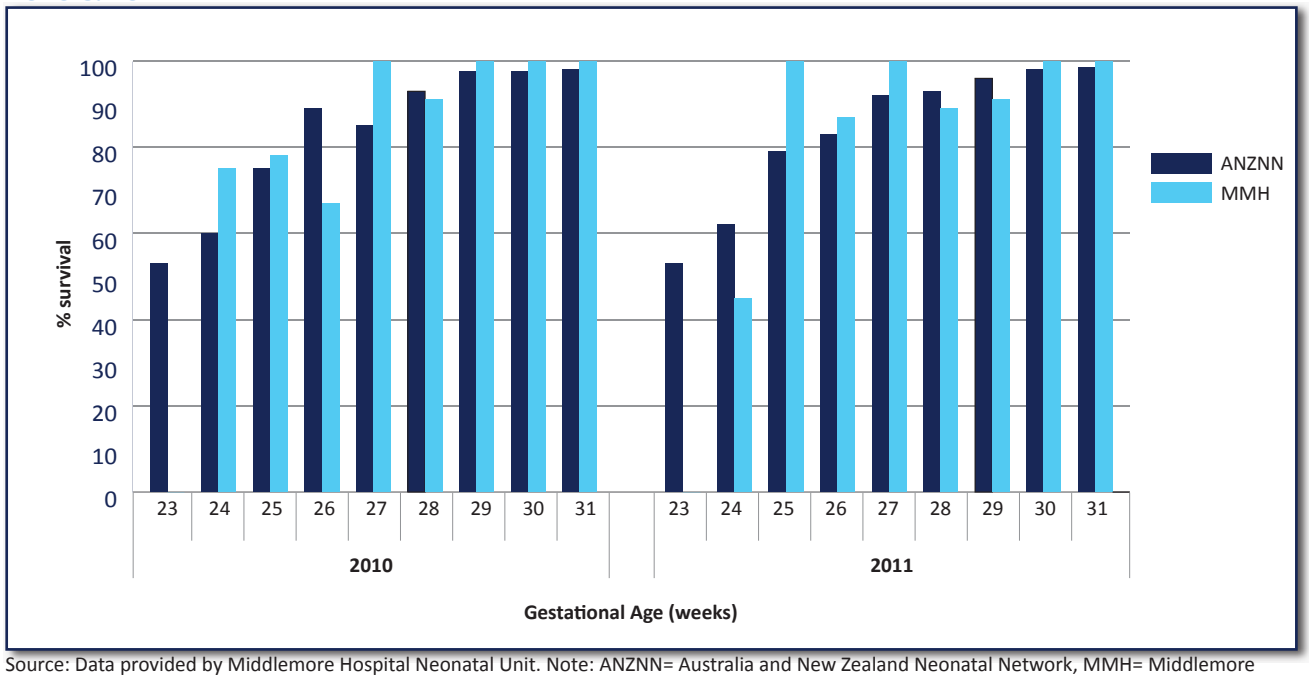


Source: Data provided by Middlemore Hospital Neonatal Unit

The total number of births at 23 and 24 weeks is low (5 and 26 respectively for the 6 years 2007-2012). Survival increases with increasing gestation with 99% of 31 week infants surviving (Figure 17).

By way of comparison Figure 18 shows Middlemore Hospital percentage survival by gestational age compared to the New Zealand and Australian Neonatal Network data.[23]

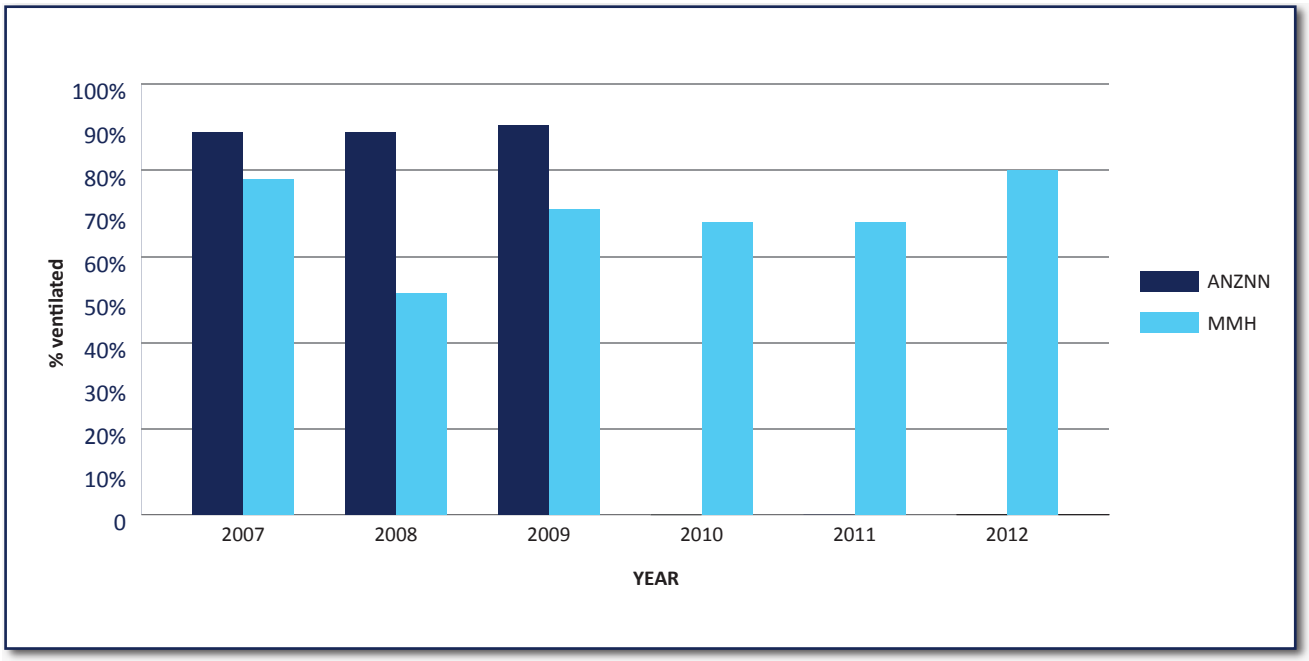
Figure 18. Percentage survival by gestational age, Middlemore hospital compared to ANZNN data, 2010 & 2011



Source: Data provided by Middlemore Hospital Neonatal Unit. Note: ANZNN= Australia and New Zealand Neonatal Network, MMH= Middlemore Hospital. Note there were no babies of 23 weeks gestation admitted to the MMH unit in 2010 and 2011.

[23] The New Zealand and Neonatal Network has complied data from all level III units in Australia and New Zealand contributing since January 1995 with level II units in New Zealand joining in 1998 and 9 Level II units in Australia currently contributing data. Collated by the University of New South Wales.

Figure 19. Percentage of 24-27 week gestation neonates ventilated, 2007-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit. Note: ANZNN= Australia and New Zealand Neonatal Network, MMH=Middlemore Hospital

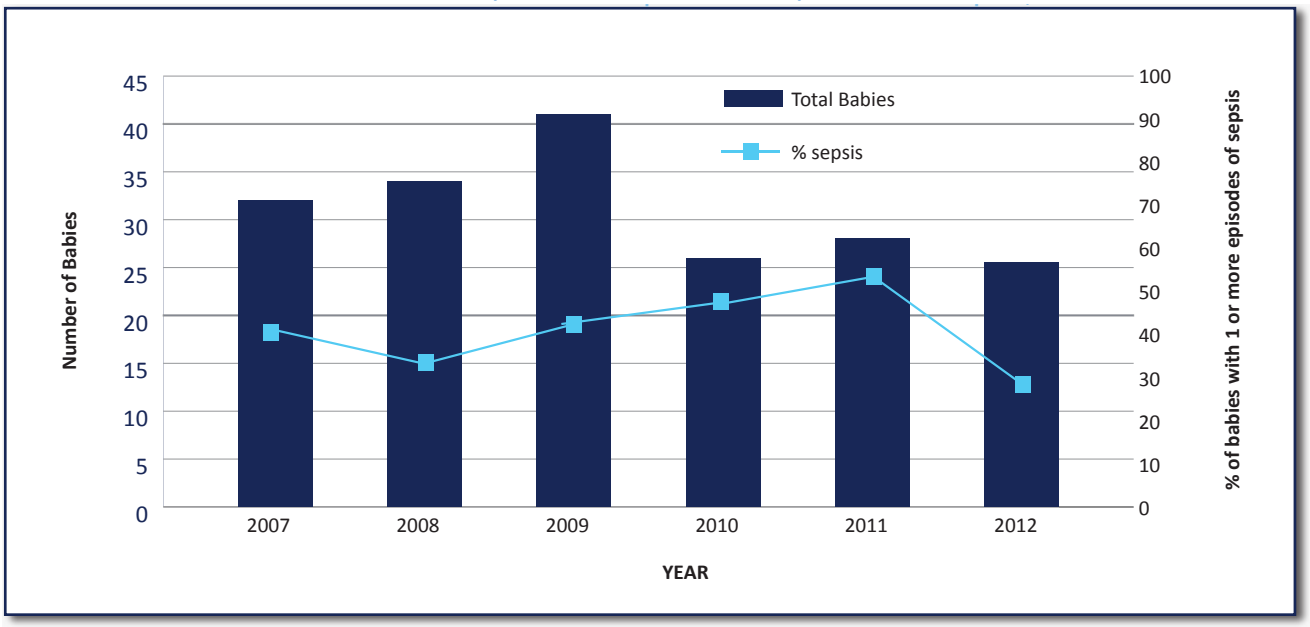
Figure 19 shows the percentage of 24-27 week neonates ventilated at Middlemore Hospital, 2007-2012. The percentage of these neonates ventilated has varied over this time period from 53% in 2008 to 81% in 2012. There is also comparison data shown from the Australian and New Zealand Neonatal Network (ANZNN) from 2007- 2009 which shows Middlemore Hospital has consistently had a lower percentage of these babies ventilated compared to ANZNN.

Infection is a well-recognised cause of morbidity and mortality in preterm infants. Figure 20 & 21 show the percentage of babies (< 28 weeks and 28-31 weeks gestation respectively) who suffered from one or more episode of late onset sepsis. The percentage of babies less that 28 weeks gestation who suffered from one or more episodes of late onset sepsis appeared to be trending up from 2008 to a peak of 53.6% in 2011 but this decreased in 2012 to a low of 26.9% over the reported time period. The percentage of babies born between 2 8-31 weeks gestation who had one or more episodes of sepsis appeared more stable over the reported time period with the lowest percentage (13%) of episodes of infection also been seen in 2012.

The ANZNN reported percentage of late onset sepsis in babies born less than 28 weeks for 2010 and 2011 was 29.6% and 25.4% respectively.

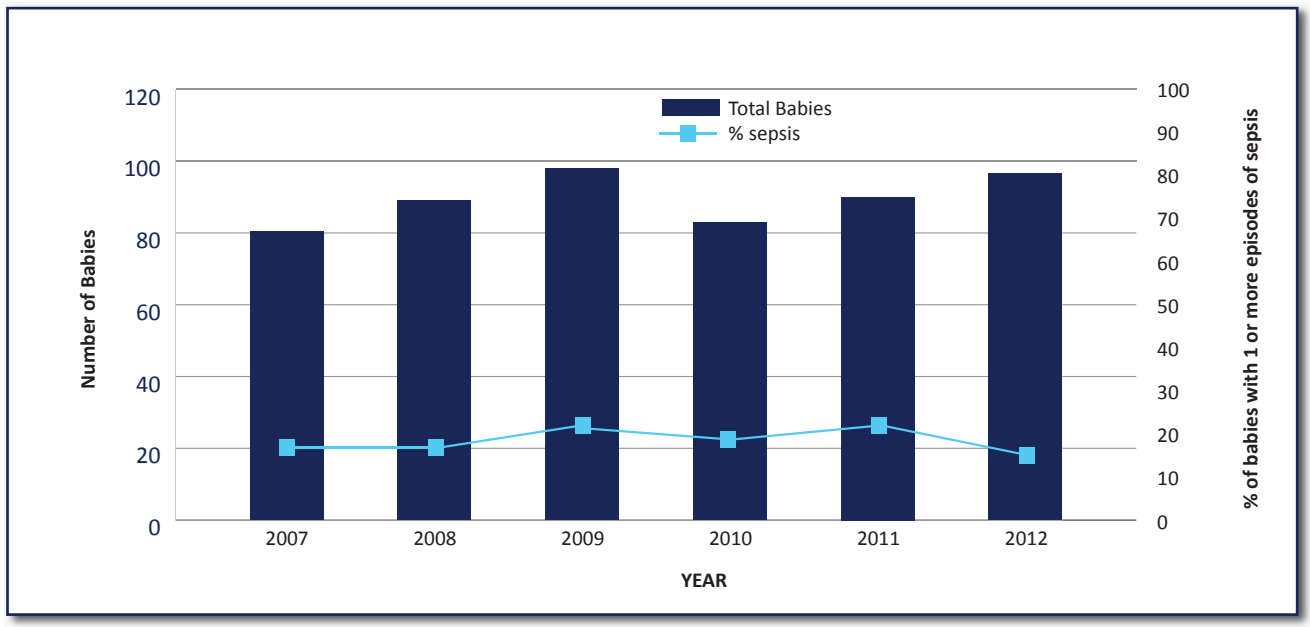
Early onset sepsis is less common than late onset sepsis. 3.7% and 3.3% of babies less than 28 weeks being admitted to the MMH neonatal unit in 2010 and 2011 respectively suffered from early onset sepsis. This was similar to the 2.6% reported by the ANZNN for both 2010 and 2011. For babies 28-31 weeks gestation admitted to the MMH neonatal unit 1% in 2010 and 2% in 2011 suffered from early onset sepsis.

Figure 20. Number of babies born at < 28 weeks gestation, admitted to the neonatal unit, and the % which suffered from one or more episodes of late onset sepsis, 2007-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit

Figure 21. Number of babies born at 28-31 weeks gestation, admitted to the neonatal unit, and the % which suffered from one or more episodes of late onset sepsis, 2007-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit

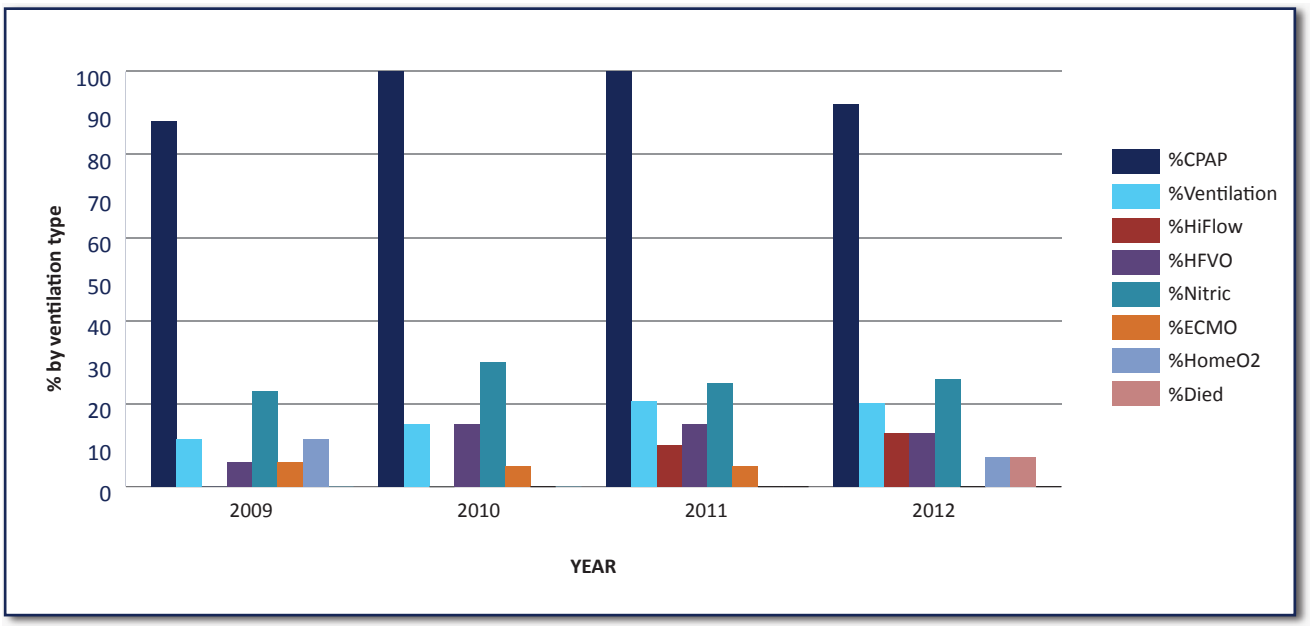
Meconium Aspiration Syndrome (MAS) is characterised by early onset of respiratory distress and hypoxaemia in a meconium—stained infant. The severity of Meconium Aspiration Syndrome can vary of mild respiratory distress requiring low flow oxygen to severe respiratory distress requiring more intensive ventilation support. The total number of babies, with MAS admitted to the neonatal unit, is shown in Table 16. Figure 22 shows that most of these babies were managed with CPAP ventilation. Only one baby died from this condition during this time period and that was in 2012.

Table 16. Number of babies with Meconium Aspiration syndrome admitted to the MMH neonatal Unit 2009-2012.

Year	Number of MAS
2009	16
2010	20
2011	19
2012	15

Source: Data provided by Middlemore Hospital Neonatal Unit

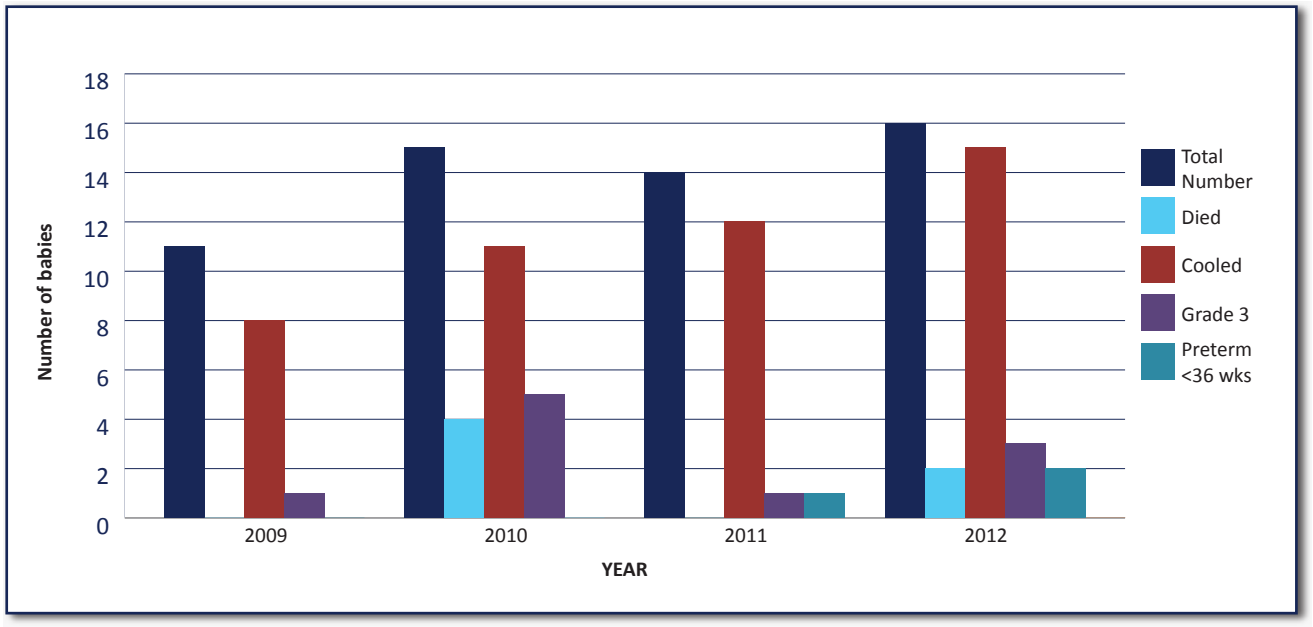
Figure 22.Mode of ventilation for meconium aspiration, 2009-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit

Hypoxic Ischaemic Encephalopathy (HIE) results from perinatal asphyxia (lack of oxygen to the brain around the time of birth). Moderate cooling significantly reduces death/major disability in newborns with moderate-to-severe HIE. Figure 23 shows the total number of babies admitted to the neonatal unit at MMH from 2009-2012 with HIE. The majority of these babies were > 36 weeks , most were cooled with 4 deaths in 2010 (27% of cases admitted to the unit)) and 2 deaths in 2012 (13% of cases admitted to the unit).

Figure 23. Mode of ventilation for meconium aspiration, 2009-2012.



Source: Data provided by Middlemore Hospital Neonatal Unit

There are a number of important neonatal outcomes that are collected by the ANZNN and some comparison data from The Middlemore neonatal unit is shown in Table 17. The percentage of babies admitted to MMH neonatal unit, at less than 28 weeks gestation, who were diagnosed with necrotising enterocolitis (NEC) was similar to the percentage reported 2008-2011 by the ANZNN. The percentage of babies with Chronic Lung Disease (CLD) was similar to the data reported by the ANZNN for babies 27-31 weeks gestation . The percentage of babies, < 28 weeks gestation, with a grade 3 or 4 IVH was higher than the percentage reported by the ANZNN in 2011 (24.1% vs 10.5%). In 2010 the percentage of babies < 28 weeks with ROP +3 was higher (12.5%) than that reported by the NZANN (10.7%) but was lower in 2011 (7.7% vs 13.4%).

Table 17. Percentage of babies at given gestation, with outcomes of NEC, CLD, IVH, ROP and EOS, Middlemore hospital compared to ANZNN data.

	NEC		CLD				IVH 3 & 4		ROP +3	
	< 28 weeks		<28weeks		<32 weeks		< 28 weeks		< 28 weeks	
	NZANN	MMH	NZANN	MMH	NZANN	MMH	NZANN	MMH	NZANN	MMH
2008	10.1%	11.1%		32.0%		15.4%		2.9%		13.3%
2009	8.6%	11.1%		28.9%		12.7%		18.6%		13.5%
2010	10.5%	7.4%	44.8%	55.6%	22.0%	21.2%	11.5%	7.4%	10.7%	12.5%
2011	6.5%	6.7%	53.4%	33.3%	24.0%	19.6%	10.5%	24.1%	13.4%	7.7%
2012		7.1%		39.3%		25.3%		15.4%		11.1%

Source: Provided by the Middlemore Hospital Neonatal Unit. NEC= necrotising enterocolitis, CLD= Chronic Lung Disease, IVH= Intraventricular haemorrhage, ROP= Retinopathy of Prematurity, EOS= Early onset sepsis. Note denominator used for CLD is" total all" not just those that survived to 36 weeks in order to be consistent with NZANN data. IVH denominator is all that had an USS. ROP denominator is all that had an eye exam.

Breastfeeding at Discharge

Middlemore Hospital and the Primary Breastfeeding units are all Baby Friendly Hospital Initiative (BFHI) accredited. Breastfeeding at discharge is collected although this field is poorly completed with only 60% of records being complete. Of babies with data recorded 80% were exclusively breastfed at discharge, 6% artificially feed and 14% partial breastfeeding. The data for 2012 is provided below by ethnicity in Table 18. European /Other have the highest rates of exclusive breastfeeding at discharge (84%) while Asian other have the lowest percentage of fully breastfed babies at discharge (71%).

Table 18. Breastfeeding at discharge from CM Health facility for 2012.

Ethnicity	Exclusive	Artificial	Partial
NZ Maaori	77%	12%	11%
Pacific Islander	82%	5%	13%
Chinese	74%	6%	20%
Indian	80%	1%	18%
European Other	84%	4%	12%
Asian Other	71%	0%	28%
Grand Total	**80.09%**	**6.10%**	**13.81%**

Source: Healthware. Extracted by Decision Support 2013. Note only includes data for 60% of discharges.

Implementation of the Quality and Safety Programme in Counties Manukau Health 2012/13

MQSP governance and operations

Governance Structure for MQSP

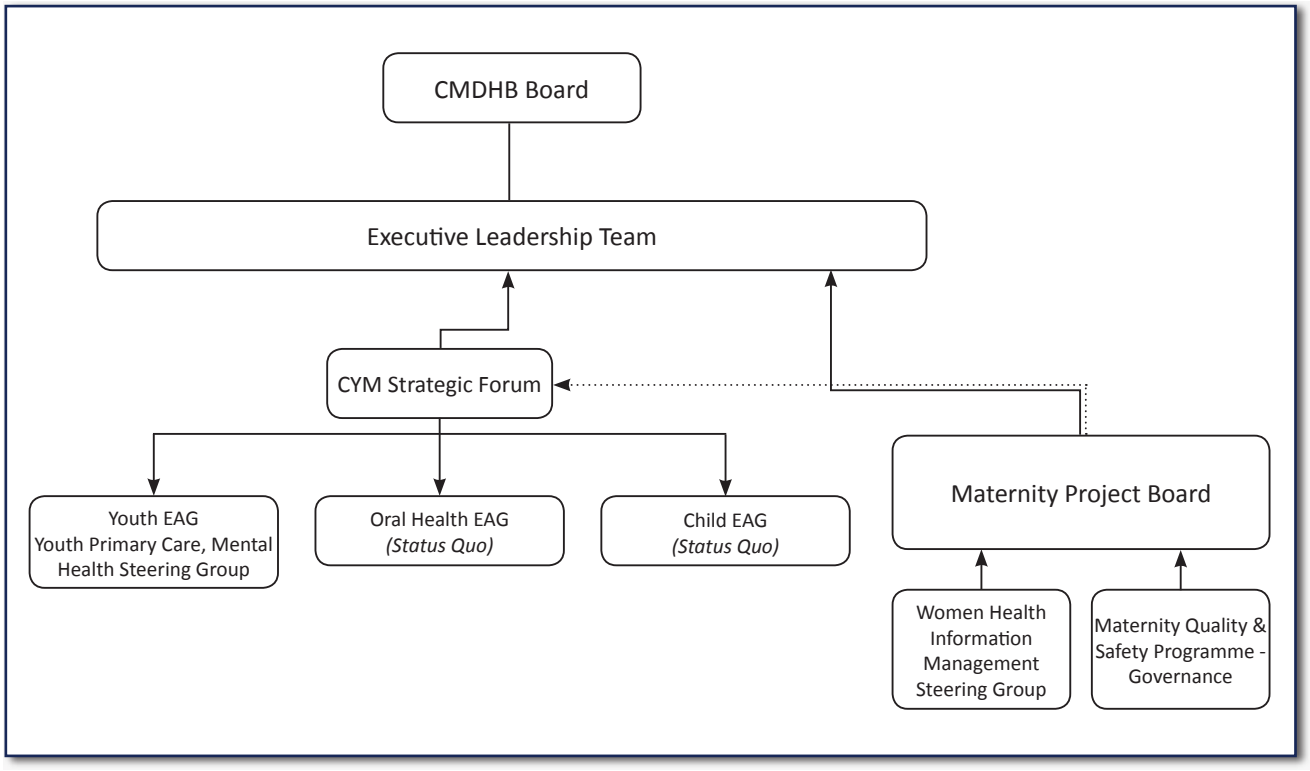
When the MQSP was initially developed in Counties Manukau the intention was that the governance for this group would sit with the Maternity Expert Advisory Group (MEAG). This was a recently established but pre-existing group whose function was to provide a mechanism whereby clinicians, academics and subject experts could provide expert advice to the Child, Youth and Maternity Strategic Forum to inform the planning, policy development and funding decision making across the funding and planning arm and provider arm of the DHB regarding issues related to the health and wellbeing of women of childbearing age as well as specific advice re maternity services. The Child, Youth and Maternity Strategic forum in turn could manage issues within member's delegated authority or escalate matters through to the Director Primary Health and Community Services to the Executive Leadership Team, or via board advisory groups to the Board.

The membership of MEAG was widened to incorporate a range of key maternity stakeholders and consumer representation and therefore meet the requirements of the governance group for the MQSP. MEAG functioned as the governance group of the MQSP from July 2012 until March 2013.

As outlined in the introduction to this report there was an external review of Maternity Care undertaken in Counties Manukau in 2012 which made some very specific recommendations around the governance of maternity services within the DHB.[24] As a result of this the Maternity Review Implementation Project Board has been established. This board is made up of key senior managers and clinical leaders from Counties Manukau Health as well as representation from self- employed LMCs and General Practice. It is chaired by the Director of Strategic Development who is a member of the Executive Leadership Team (ELT). This provides a direct link with the Executive Leadership Team. The new Maternity Programme Board has taken over some of the functions of the MEAG. As a result MEAG has narrowed its focus and is now known as the MQSP Governance Group and reports through to the Maternity Programme Board which in turn reports to ELT. This change essentially leaves the governance of the MQSP unchanged but does alter the reporting line of this governance group. This structure is shown in Figure 24.

[24] This report is available at http://www.countiesmanukau.health.nz/News_Publications/default.htm

Figure 24. Governance structure of MQSP



Membership of the MQSP Governance Group and Consumer Representation

The membership of the MQSP is broad and has representation of maternity stakeholders working in a range of settings. These include;

- Maori representation
- Pacific representation
- GP with involvement in Maternity
- Lead Maternity Carer x2 (Self employed midwives-1rural;1 urban) nominated by Auckland NZCoM
- Senior Obstetrician
- Senior DHB Midwife Secondary Services
- Senior DHB Midwife Primary Services
- Director of Midwifery
- Maternal Mental Health Services Representative
- Public Health Advisor to the Child, Youth and Maternity team
- Community Representations x2
- Child, Youth and Maternity Senior Portfolio manager
- Maternity Portfolio Manager
- Quality and Risk Manager

As stated above aspects of the External Maternity Review require wider consumer engagement. For example it was recommended that multi-media educational material is developed, with input from Pacific and Maaori communities, which emphasises why early access to maternity care, including pregnancy assessment and planning, is important. In order to achieve this a Project Board, comprising of consumers, is to be established to oversee the project "Maaori, Pacific and Vulnerable Women Consumer Engagement". In addition focus groups of Maaori, Pacific and Vulnerable women who have had recent experiences of maternity services have been undertaken to advise on issues including but not exclusively:

- Where they got their information about maternity care, pregnancy assessment and planning from, what they found useful, what was not?

- What value did it add to informed choice and decision making regarding service and care experience?
- Where would they normally go for advice and information? What form of information and communication do they find most useful?

As part of the External Review the panel interviewed 55 consumers and received 120 submissions. The collective feedback has provided useful consumer feedback and started consumer engagement. The External Maternity Review incorporated much of this feedback into their recommendations which are in turn driving the work programme. Consumer engagement will occur through the MQSP governance group and through the Consumer Panel as described above.

Roles to support the MQSP

There are a number of roles that support the MQSP. Most significantly a Maternity Portfolio Manager was recruited to the Child, Youth, Maternity team in July 2012 and is leading many of the activities of the MQSP. In addition a Perinatal Midwife Specialist has commenced within the Women's Health division. Her role is to co-ordinate the local monthly Perinatal Mortality meetings, that include hospital staff as well as community based clinicians, and to provide continuity and support for the women and their families who have had a perinatal loss. She is also able to be a resource for health professionals within the hospital and in the community who are involved with the care of these families, be they GPs, LMCs or hospital doctors and midwives. A project manager (self employed LMC) has been employed to establish a new project-The Self Employed Midwives integrated with Family Health Practice's Project. CM Health has a Decision Support Team and a Public Health team that provide data analysis support for the MQSP.

Information Sharing

One of the key activities identified in the 2012/13 MQSP was to resource and implement a network to facilitate the sharing of information for all health professionals that provide maternity care in Counties Manukau. The Womens Health Information Management Steering Group has been established (Figure 24) to support the DHB priorities for the management of information in women's health and maternity services in Counties Manukau. The group will report directly to the Maternity Project Board. The group is meeting and Terms of Reference have been established.

The two priority work programmes will be confirmed as the Implementation of the National Maternity Information system in Counties Manukau and the collection and reporting on smoking cessation and brief interventions for women in pregnancy. Progress had been made in 1 key area; namely providing self-employed midwives with access to hospital records through VPN so they are able to access this information remotely.

Quality Improvement Activities undertaken in 2012/13

The Quality Maternity Quality and Safety work plan is included in Appendix 2 with detail about the work that has been achieved in 2012/13. As outlined in the introduction there was an External Review of Maternity Care in the Counties Manukau District completed at the end of 2012 which has led to the development of a Maternity Care Action Plan Programme (attached as a supporting document). A summary of some of the activities in this plan which align with the MQSP are provided in Table 19 .The intention is that the work of MQSP and the Action plan programme will be complementary and led to better outcomes to women living or birthing in Counties Manukau.

Clinical Indicators analysis to drive quality improvement

- While the Caesarean- section rate is low when comparing a standard primipara living in Counties Manukau to the New Zealand average overall the Caesarean-section rate for women delivering at CM Health facilities is increasing with 25% of women undergoing a Caesarean-section in May 2013. Work is being done to look at the indications for Caesarean sections and understand why the percentage is increasing.
- Induction of Labour. As outlined in the discussion of the clinical indicators the percentage of induction of labour needs to be reviewed in the context of the outcomes for women and their babies. While the induction rate in a standard primipara has been low for Counties women and women delivering in MMH, the induction numbers are increasing overall for women delivering at a CM Health facility. Work is planned to understand whether the increasing induction rate is appropriate (including a review of the indications for induction) and also consideration given to the potential work force implications if the increasing numbers reflect good clinical practice.

Multidisciplinary review processes/meetings

- Monthly Obstetric clinical practice group meeting (multidisciplinary) focuses on guideline development
- Monthly incident meetings to look at trends
- Monthly OUGU quality meetings
- Monthly perinatal meetings with a teaching component of clustered conditions
- Weekly CTG teaching
- Weekly paediatric liaison meeting

Changes in Clinical practice that have been driven by MQSP initiatives

- As discussed in the workforce section there has been a long standing shortage of self-employed midwives working in Counties Manukau. Work is underway to encourage graduate midwives to work in Counties Manukau. Currently a programme is being established which provides support for new graduate midwives to each work with experienced midwives in partnership with several different GP practices. The development of community midwife specialists is also underway.
- In addition given that many women do access care through the hospital in Counties Manukau work has been done to improve the continuity of care for these patients. The Community midwifery service is completing the process of transitioning to new model of care to engage women in pregnancy and have the majority of her care provided by a "named" midwife. Community Midwives now have defined caseload women for antenatal and postnatal care and will negotiate with each woman the best location for her care. Home antenatal visits increasing to meet women's needs.
- Otara midwifery clinics now in Dawson Rd Maternity Clinic (co-located with a large Primary Care practice in Otara). The formal drop in service opened 15th April 2013. Clinic staff will actively seek to connect pregnant women with a self-employed LMC.
- Shared Care with GP's reduced to below 5% for May 2013.
- DNA rate for antenatal midwifery clinics has dropped below 15% with the introduction of Community Support Workers working with the Community Midwifery Service and the introduction of the new model of care.
- Breastfeeding rates at discharge from the maternity facility maintained above the benCM Healthark (BFHI) across all the ethnic groups.

Communication forums or networks that have been established or strengthened

- Communication commenced with GPs to refer all women early in pregnancy to either an LMC or CMDHB maternity services.
- Clear guidelines provided to Primary care about expectations of first antenatal visit
- Dedicated midwife who develops our patient information. We are in the process of updating these on Healthpoint for patient and external health professionals to access.
- Profiles of self-employed Midwives available through Healthpoint for both consumers and health professionals to access.

Other quality improvement activity

- An on-going audit for Caesarean-section wound infection. As part of this we have looked at management of wounds in the operating theatre and immediately post-op, standardised dressings and written a guideline for the ward management and after hospital discharge.
- Perinatal Midwife Specialist has commenced within the Women's Health division. Her role is to co-ordinate the local monthly Perinatal Mortality meetings, that include hospital staff as well as community based clinicians and to provide continuity and support for the women and their families who have had a perinatal loss.

The MQSP Plan/Priority Areas for 2013/14

The MSQP aligns closely to the work of Maternity Project Board in implementing the recommendations of the External Maternity Review and is providing the framework which informs the Quality Improvement work. There are a number of priority areas which have been identified for the 13/14 financial year. These are shown in Table 19.

Table 19. Maternity Quality and Safety priority areas for 2013/14

Governance and Clinical Leadership	ACTIVITY	TIMEFRAME
Alignment to the Maternity Action plan Recommendation 7 (b)	• The managerial and clinical reporting lines and structure within CMDHB Women's Health Services will be reviewed as part of the review process.	December 2014
Recommendation 7 (c)	• The vision and strategy for Maternity Services is in development with key stakeholders to be disseminated to the organization.	July 2013
Governance and Clinical Leadership		
Alignment to the Maternity Action plan Recommendation 9 (a)	• Counties Manukau Health are early adopters for the development and implementation of the National Maternity Clinical Information System. Timeframes determined by MoH. • Two groups have been formed (1) the Clinical Reference Group, and (2) the Women's Health Information Systems Steering Group. Meetings have commenced and are weekly and monthly respectively. • The Chair of the Steering Group is a member of the National Maternity Clinical Reference Group. • The Steering Group is accountable to the Maternity Review Project Board. • The Executive Leadership Team is informed by the Maternity Review Implementation Project Board.	July 2013
Recommendation 9 (b)	• Self-employed LMC forums are being reviewed as part of this process. • Self-employed LMCs are being connected to hospital information systems. • Healthpoint has been upgraded to update LMC profiles. • A stakeholder engagement and communications plan is in progress.	Completed In process July 2013
Data monitoring		
Alignment to the Maternity Action plan Recommendation 2 (d)	• The Pregnancy Booking Form is being reviewed as part of the National Maternity Clinical Information System implementation.	Implementation September 2013

Recommendation 8 (b)	• The National Maternity Clinical Information System development will include the monitoring of smoking cessation in pregnant women particularly the outcomes of women when referred to smoking cessation services during pregnancy.	December 2013
Co-ordination and Administration		
Alignment to the Maternity Action plan Recommendation 7 (d)	• The overarching Maternity Clinical Governance Groups are being reviewed. • Changes to date have been the disestablishment of the Maternity Expert Advisory Group (MEAG). • The establishment of the Maternity Quality and Safety Group which is accountable to the Maternity Review Project Board. This has a review date of December 2014. • The drivers for the change are the Maternity Quality and Safety Programme, the External Review of Maternity Care in Counties Manukau, the implementation of the Maternity Clinical Information System and the Prime Minister's Youth Mental Health Initiative. • The Executive Leadership Team is informed by the Maternity Review Project Board.	
Develop local clinical networks in partnership with clinical leaders.	CMDHB is developing local clinical networks in partnership with primary health care organisations and new entities. All clinical networks need to be aligned to ensure that there is no duplication of effort, specifically for busy clinicians, and measurable outcomes.	December 2013
Sector Engagement		
Alignment to the Maternity Action plan Recommendation 5 (b)	• Establishment of a "Maternity and Midwifery Workforce Development" Project Group to develop a workforce action plan to address workforce issues. • Self-employed LMCs and DHB employed midwives have been engaged in this process together through a series of workshops. • A core steering group has been selected to drive the agreed actions. There is wide representation from midwives across the district.	December 2013
Recommendation 9 (b)	• Self-employed LMC forums are being reviewed as part of this process. • Self-employed LMCs are being connected to hospital information systems. • Healthpoint has been upgraded to update LMC profiles. • A stakeholder engagement and communications plan is in progress.	Completed In process July 2013
Develop a sector engagement plan	To improve sector engagement for opportunities of sharing maternity information; national guidance, best practice guidelines; innovative practice; new research and local initiatives.	September 2012
Implement the sector engagement plan as approved by the MEAG	The sector will be better informed and have greater access to information. The sector will be integral in the implementation of the Maternity Quality and Safety Programme.	September 2013

ELEMENT 6 – Consumer Engagement		
Alignment to the Maternity Action plan Recommendation 2 (a)	• Establishment of a "Maaori, Pacific and Vulnerable Women Consumer Engagement" Project Group. • There are 5 consumer groups in total who will participate in a series of workshops through an external facilitator. • Themes from across the review will be discussed with the consumer groups to provide key information for the direction of development and planning for service changes within Women's Health. • After these workshops have completed, one of the consumer groups will continue as the consumer representatives for the Maternity Quality and Safety Group.	Completed In process – completion July 2013
ELEMENT 7 – Quality Improvement		
Alignment to the Maternity Action plan Recommendation 1	• There has been an establishment of a Project Board for the Maternity Review Implementation. • Members of the Board include General Manager, Kidz First & Women's Health; Senior Portfolio Manager, Child, Youth & Maternity; Director, Midwifery; Clinical Director, Women's Health; Lead Maternity Carer (Midwife); Public Health Physician; General Practitioner; Portfolio Manager, Women's Health.	Completed
Recommendation 7 (d)	• The re-structure of the MEAG to the Maternity Quality and Safety Group creates a forum where the key stakeholders can standardise the review process, identify areas for improvement and have the authority to implement the necessary changes at a clinical level and within local service delivery planning and policy.	Completed
Develop a sector engagement plan	To improve sector engagement for opportunities of sharing maternity information; national guidance, best practice guidelines; innovative practice; new research and local initiatives.	September 2012
Implement the sector engagement plan as approved by the MEAG	The sector will be better informed and have greater access to information. The sector will be integral in the implementation of the Maternity Quality and Safety Programme.	September 2013

Appendix 1. Recommendations from the External Review of Maternal Care

1. Implementation and Monitoring

    a) Appoint a dedicated Project Manager to ensure that the recommendations in this report are implemented and that progress is closely monitored at Executive Management and Board level.

2. Early Pregnancy Assessment and Planning

    a) Develop multi-media educational material, with input from Pacific and Maaori communities, which emphasises why early access to maternity care, including pregnancy assessment and planning, is important.

    b) Consider ways to incentivise women to attend a full pregnancy assessment appointment, with a midwife or general practitioner, before 10 weeks of pregnancy.

    c) Prioritise funding to enable this early pregnancy assessment/booking visit to be accessible to all women. This may include employment of midwives who have a special interest in early pregnancy care.

    d) Urgently review the current Pregnancy Booking Form to update screening and identification of clinical and social risk factors.

3. Ultrasound Scanning

    a) Undertake a detailed review of the provision of ultrasound scanning services across the CMDHB district and develop a plan to enable adequate access to scans for pregnant women, especially when a practitioner requests an urgent scan.

4. Prioritisation of Vulnerable and "High Needs" Women

    a) Establish a set of criteria to define and identify the most socially and medically vulnerable pregnant women.

    b) Establish a vulnerable women's multi-disciplinary group as soon as possible to which those women who are identified as most vulnerable can be referred.

    c) Consider ways in which those identified as most vulnerable can be provided with continuity of care — e.g., through LMC or caseloading DHB midwives and/or specialty teams with dedicated additional social work/community health worker input. Continuity of care, through an ongoing relationship with a single, consistent care provider, is particularly important for these women.

    d) Urgently consider the development of comprehensive social worker and/or community health worker support services, to assist pregnant women to address the social factors that may impact on their health status and their ability to access and receive appropriate maternity care.

5. Models of Care and Workforce

    a) Actively encourage women who are healthy and have a normal pregnancy to receive midwifery led care and to birth at a primary birthing unit.

    b) Improve the availability of LMC care throughout the district by increasing

self-employed midwifery numbers and expanding "caseloading midwifery" services through the DHB.

c) Seek an urgent review by the Ministry of Health of the section 88 funding mechanism for LMCs nationally, in order to create incentives to provide care for women who have clinical or social risk factors. This may include the introduction of an additional "high needs" or "deprivation" payment to ensure that actual costs associated with providing care to women with risk factors and social constraints are adequately covered (e.g., home visits for women without transport, extra visits for those who require additional monitoring or support at various stages of pregnancy).

d) Depending on the outcome of a review of section 88 funding by the Ministry, the DHB should consider supplementing section 88 funding to create incentives to provide care for women who have clinical or social risk factors.

e) Encourage midwives to work as self-employed practitioners in the CMDHB region to increase the number of LMCs available to provide care to women in the district. More support could potentially be provided to LMCs through the provision of ancillary clinical and non-clinical support services by the DHB and/or other incentives to make this an attractive option.

f) Re-establish the dedicated midwifery coaches/educators to support new graduate midwives and identify other measures that could be introduced to better support newly qualified midwives in both the community and DHB setting.

g) Externally benCM Healthark the current Full Time Equivalent (FTE) numbers and the composition of Counties Manukau midwifery, nursing and medical (Senior Medical Officer, Registrar and House Officer) staff in the community, Assessment Labour and Birthing Unit and Maternity ward at Middlemore Hospital and satellite CMDHB birthing units against other national and international providers. The purpose of such benCM Healtharking is to determine the appropriate level and mix of safe staffing in such units. Notwithstanding the significant midwifery and medical workforce constraints within CMDHB, it is essential that objective safe staffing levels are identified as a matter of priority. The benCM Healtharking should take into account the number of self-employed LMC providers practising in the district and their caseloads.

h) Ensure that experienced senior midwives are available 24 hours per day in both the labour and postnatal wards and that there are sufficient numbers of midwives to provide one-to-one care for women in labour.

i) Ensure that appropriate antenatal care is provided to those women not booked with a self-employed LMC.

j) Ensure that adequate numbers of clinics and suitably qualified multidisciplinary staff are available to provide care to women with high medical needs, e.g., those women with diabetes and underlying health problems.

k) Ensure that when "Shared Care" arrangements are necessary these are provided:

- by a specific nominated general practitioner who has an ongoing relationship with the individual pregnant woman; and
- in co-operation with experienced

midwives; and

- by GPs and midwives who work closely together in a co-ordinated manner to ensure continuity of care and consistency of core contact with the pregnant woman.

l) The long-term goal should be that all general practitioners providing Shared Care will have appropriate and up-to-date postgraduate qualifications in women's health and/or obstetrics and gynaecology. CMDHB should explore ways to support this occurring.

6. Family Planning

a) Review, as a matter of urgency, the current delivery and funding of family planning services in the CMDHB district. This issue needs immediate attention from both the Ministry of Health and Counties Manukau District Health Board. The Panel recommends that a full review be undertaken of the services currently offered in the region, with consideration given to the accessibility of these services, particularly for young and "at-risk" women. It is essential that all women are able to access appropriate advice and affordable contraception in a timely manner.

b) A plan for postnatal/subsequent contraception should be documented on the maternity antenatal care plan for all women, and should be further documented prior to discharge.

c) All women who leave CMDHB birthing facilities should ideally either be provided with contraception before discharge, or if needing to return for a long-acting reversible or permanent contraceptive method, have an appointment provided within 3–6 weeks of birth. The woman's choice and the plan should be documented in the clinical record and communicated to her GP.

d) Urgently consider additional ways of providing contraceptive advice and long acting contraceptives for women in Counties Manukau. This should include the following:

- introducing expert family planning midwifery/nursing roles in CMDHB;
- training more health professionals to provide quality contraceptive advice and contraceptive services (such as inserting IUDs and Jadelle) and prescribing contraception, so that women can leave hospital after birth with a long-acting contraceptive method if desired;
- providing mobile contraceptive services and "after-hours" and "drop-in" contraception clinics; and
- providing more co-ordinated and comprehensive school-based services including standing orders for emergency contraception and condoms.

e) Provide additional funding to extend Family Planning Association services in South Auckland to enable provision of:

- a drop-in clinic so that services can be provided when they are needed;
- extra after-hours clinics; and
- additional resources to train nurses, midwives, etc, to administer long-acting
- reversible contraception.

f) Counties Manukau women who require termination of pregnancy experience

difficulties accessing this service given the need to travel to Greenlane Hospital. This issue needs further exploration by the issue needs further exploration by the DHB, perhaps in the first instance by considering the establishment of a local non-surgical termination service.

7. Clinical Governance and Management

   a) Review current managerial and clinical reporting lines and structure within CMDHB Women's Health Services to allow more clinical input into decision making and ensure there are clear lines of accountability for maternity service provision across the CMDHB district, through to Board level.

   b) Confidential

   c) With key stakeholders, agree a vision and strategy for maternity services that is articulated by all the Senior Leadership Team of Women's Health as well as the CMDHB Planning and Funding division.

   d) Establish an overarching Maternity Clinical Governance Group, chaired by a senior clinician, that is accountable for overseeing maternity services across the Counties Manukau population. This group should include representation from all of the providers of maternity services for the CMDHB population. It should include representation from the CMDHB Planning and Funding division but have a governance reporting line separate from the Child Youth and Maternity Strategic Forum. The purpose of the Maternity Clinical Governance Group will be to provide assurance to the Senior Leadership Team of Women's Health, the Executive Leadership Team of CMDHB, and the Board in relation to the safety of maternity services.

8. Maaori and Pacific Women

   a) Improve the access to and quality (including cultural appropriateness) of maternity services for Maaori and Pacific women who are more likely to experience perinatal death. This includes ensuring that educational material and information is provided in a variety of languages, that the maternity workforce better reflects the wider community, and that maternity care is provided in a manner that more appropriately meets the needs and requirements of different cultural groups.

   b) Reinforce strategies to reduce the number of pregnant women who smoke. This may include the development of a KPI to measure smoking rates and smoking cessation rates amongst pregnant mothers at 15 weeks' gestation. Smoking cessation should be specifically monitored by further collection of data around outcomes in women referred to smoking cessation services during pregnancy.

   c) Develop culturally appropriate nutritional interventions to reduce pre-pregnancy obesity and optimise weight gain during pregnancy, especially for Pacific women. This could include training community health workers to provide nutritional advice to at-risk pregnant women.

9. Communication and Information

   a) Implement, as a matter of urgency, a comprehensive and integrated maternity information system.

   b) Implement a means of communicating effectively with self-employed LMCs, particularly in relation to key information about care provided by CMDHB to women booked with the LMC.

Appendix 2. Maternity Quality & Safety Work Plan

Governance and Clinical Leadership in Counties Manukau				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Review the Terms of Reference for the Maternity Expert Advisory Group	Ensure appropriate membership to involve community and consumer representation. Support the function of the group and roles of members to oversee the implementation of the Quality and Safety Programme.	Structure for Maternity Expert Advisory Group restructured into 1. Maternity Quality and Safety Governance Group 2. Women's Health Information Systems Steering Group	1 June 2013	Completed ToR completed for Maternity Quality and Safety Governance Group ToR completed for Women's Health Information Systems Steering Group
Recruit Women's Health Portfolio Manager	Resource to oversee the implementation of the Maternity Quality and Safety Programme	Senior Portfolio Manager for CYM	1 July 2012	Completed
Produce an Annual Report on maternity services and outcomes	Schedule B37 of the CFA February Omnibus requires that CMDHB produce an Annual Maternity Report	Request criteria an format from MOH (DOM) Contract someone to facilitate and write the report. (Senior Portfolio Manager for CYM) Current MEAG to define criteria provide assistance as required. Establish a review team inclusive of Public Health Registrars.	30 June 2013	Completed Draft for Annual Report Final copy to MoH 30 June

Local Communication Systems and Information Sharing				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Maternity stakeholders will be surveyed on methods of communication that meet their needs.	Current communication methods with health practitioners include mainly email and a Bimonthly Access holders meeting. Current Access holders meetings attract low attendance which could potentially be better attended if alternative communication methods are explored. Feedback is required from all stakeholders (health practitioners and C).	Maternity Portfolio Manager	25 February 2013	Completed All self employed LMC's have been offered Healthpoint as a communication portal. All self employed LMC's have been offered VPN access Access Holders meetings continue 2 monthly with increased attendance and positive communication
Develop a proposal that includes the feedback from LMC's, associated costs and benefits of different technologies. This will enable access to patient information held with secondary care Information Systems	Consider using technology (e.g. Shared Care or VPN) to create a central and accessible place for LMC's to access hospital systems.	Maternity Portfolio Manager	25 March 2013	Partial completion Over 75% of self employed LMC who have a case-load of 40 births per annum have VPN been trained in VPN and have VPN access. This allows remote access to Clinical systems within the DHB.
Develop an options paper for the MEAG that includes preferred approaches to communication processes and information sharing along with associated costs.	All options are considered based on preference of multiple stakeholders, logistics, affordability and timeliness for implementation.	Maternity Portfolio Manager	15 April 2013	Completed and presented 29 May 2013.
MEAG signs off on recommendation and oversees the implementation of the agreed approach.	Communication and information sharing improves the quality of maternity services provide to women living in Counties Manukau	MEAG	April MEAG Meeting 2013	Completed WHISSG has agreed to the roll-out of VPN to all self employed LMC with a case load of 40 birth per annum

Governance of Maternity Data In Counties Manukau				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Establish a Data Governance Group (subset of the Quality and Safety Governance group)	Benchmarked performance data increases national consistency of maternity care and sharing of information.	To discuss with Public Health their involvement (Pip Anderson)	5 February 2013	Completed
Terms of reference for the Data Governance Group will be completed and signed off by MEAG.	As above	MEAG	5 February 2013	The framework for this group has been adjusted. The Maternity Care Review Project Board is now the Data Governance Group. The Women's Health Information Systems Steering Group which reports to the Maternity Care Review Project Board is now overseeing the early adoption of the Maternity Clinical information System.
Prioritise the work programme for the data governance group for 2013.	There are a number of potential activities around data review that will contribute to improved quality outcomes and processes. The MEAG will consider the activities of highest priority for focus in 2013.	MEAG	5 February 2013	Under the governance of the Maternity Care Review Project Board

Coordination and Administration of the Quality and Safety Programme				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Stock take of current roles that include liaison activities.	There are a number of coordination / liaison roles established, but it is unclear as to the value that these roles add to quality improvement.	Maternity Portfolio Manager	18 March 2013	Completed
Complete a consultation process that will determine the gaps and / or overlaps of activities for midwifery liaison activities.	Integration of hospital and community based clinicians and services sop that women, their babies and families experience seamless services.	Maternity Portfolio Manager	25 April 2013	Partially completed In alignment with The Maternity Review Action Plan - Models of Care and Workforce Development, integration of hospital and community based clinicians has been developed with the project Self Employed Midwives integrated with Family Health Practices. Six new midwives (3 experienced and 3 new graduates) located in ETHC in Otara and Mangere. The project starts mid May 2013.
Develop local clinical networks in partnership with clinical leaders.	CMDHB is developing local clinical networks in partnership with primary health care organisations and new entities. All clinical networks need to be aligned to ensure that there is no duplication of effort, specifically for busy clinicians, and measurable outcomes.	Maternity Portfolio Manager Establishment of Midwifery Specialists –(3 FTE, aligned with Localities) for education/ liaison role to coordinate MOH objectives/ targets, quality activities, network groups for coordination of care (eg vulnerable women's groups); be a community resource for health practitioners. Work closely with Maternity Portfolio Manager Senior Portfolio Manager for CYM	TBC	Reassessment of this need along with the Maternity Care Review Project Board action plan is occurring.

Sector Engagement				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Complete a survey with the sector regarding methods of engagement (it is expected that there will be some overlap with the consultation around communications and information sharing.)	Maternity Stakeholders need to feel engaged with maternity services, planning and funding teams and consumers. Determining the preferred methodology for engagement is the starting point.	Maternity Portfolio Manager	1 March 2013	Completed The Maternity Review Action Plan - Models of Care and Workforce Development work stream engaged a provider to facilitate 5 workshops, with the last workshop held 19 June. The final report highlighted consistent themes from all workshops and recommendations for 2013-2014. One of the key recommendations was to establish a steering group with midwifery representation. Nominations have closed with a group of twelve employed and independent midwives. This steering group will also second GP, SMO and OB & GYN consultants when required.
Develop a sector engagement plan	To improve sector engagement for opportunities of sharing maternity information; national guidance, best practice guidelines; innovative practice; new research and local initiatives.	Maternity Portfolio Manager	15 June 2013	Sector Plan will be priority for 2013-2014
Implement the sector engagement plan as approved by the MEAG	The sector will be better informed and have greater access to information. The sector will be integral in the implementation of the Maternity Quality and Safety Programme.	Maternity Portfolio Manager and Midwifery Specialist	30 June 2013	Sector Plan will be priority for 2013-2014

Consumer Engagement				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Complete a stock take of consumer forums within CMDHB.	Understanding current consumer forums will support a coordinated approach to consumer engagement.	Maternity Portfolio Manager	I December 2012	Completed In collaboration with The Maternity Review Action Plan we are forming a Maternity Care Consumer Panel. This group was established to provide discussion and feedback from Maaori and Pacific women who have used our maternity services within the last 4 years. There are a number of key issues CM Health require feedback: • early engagement and assessment • nutrition • improving smoking cessation • family planning and contraception • culturally appropriate • use of primary birthing units The discussions and feedback will also be used for Maternity Quality & Safety.
When the stock take has been completed, there will be a consultation process to determine the gaps, and potential overlaps.	This will enable the MEAG to determine a way forward for ensuring the consumer liaison activities will meet the needs of consumers. If there is a shortage of consumer liaison roles determined then an options paper will be submitted to the MEAG.	Maternity Portfolio Manager Establishment of a Consumer Liaison to ensure consumer feedback occurs, facilitate the feedback forums, communicate information and be a resource for consumers	I February 2013	Completed and included in Maternity Review

Consumer Engagement				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Develop a consumer engagement plan.	The consumer engagement plan will reflect the needs of consumers and the results of the stocktake completed.	Maternity Portfolio Manager and Consumer liaison	15 June 2013	Completed included in Maternity Review
Implement the consumer engagement plan.		Maternity Portfolio Manager and Consumer liaison	30 June 2013	Completed Five consumer panels have convened: • Maaori and Pacific women who have birthed in CM within the last 4 years • Tangaroa High TPU • Taonga/James Cook High TPU • Taonga supportive housing TPU • Taonga community Young Mothers First workshop to held late 17 June and the last workshop 5 July.

The Scope and Visibility of Quality Improvement Activities in Maternity Services				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Develop and implement a quality framework which includes a broader view and involvement of all stake holders.	Multidisciplinary clinical leaders will drive clinical quality improvement activities leading to implementing changes in clinical practice, reduce unnecessary variation in practice and influence service delivery.	(MEAG)	1 June 2013	Current Quality framework is attached as an appendix. To include wider involvement with all stakeholders will be a priority of the Sector Plan for 2013-2014
MEAG will review current processes for clinical case review to ensure equal membership and participation of health professionals and consumers across the maternity care system.	Quality improvement activities and shared learnings from peers are enhanced when the process for review is inclusive of health professionals and consumers across the maternity care system	(MEAG)	5 February 2013	Completed. All practitioners are invited to lead, present and participate in clinic case reviews.
MEAG will review current formal review processes for serious and sentinel events to ensure equal membership and participation of health professionals and consumers across the maternity care system	Quality improvement activities and shared learning's from peers are enhanced when the process for review is inclusive of health professionals and consumers across the maternity care system	(MEAG)	5 February 2013	Partially completed. The process of review of sentinel events has being review. All practitioners involved are invited to participate. LMC's and GP's invited to become reviewers of sentinel events. GP's are not interested. Some interest with LMC's. More information required for process of training to be an assessor.

The Scope and Visibility of Quality Improvement Activities in Maternity Services				
Activity	**Rationale**	**Work plan (Name)**	**Completion date**	**Update - June 2013**
Establish a resource to coordinate the local review and investigation of data for evidence based clinical case review that includes community based clinicians and consumers.	Quality improvement activities and shared learning's from peers are enhanced when the process for review is inclusive of health professionals and consumers across the maternity care system		1 October 2012	Completed There is a Maternity Quality Risk position available to improve activities and shared learning's. A Peri-natal Midwife Specialist position has being established. This position coordinates the local review and improves practitioner involvement.
The Women's Health Portfolio Manager, Senior Portfolio Manager for CYM, the Clinical Advisor to the CYM team, and Chair of MEAG will all be responsible for escalation pathways and making recommendations to the CYM Strategic Forum, CMDHB Women's Health Quality Forums and Clinical Leaders Meetings.	Quality Improvement of services will require commitment from senior staff and Clinical Leaders. Some recommendations will have resource implications and require discussions and escalation within planning and funding.			