Maternity Quality and Safety Programme

Annual Report 2015 - 2016

COUNTIES MANUKAU HEALTH

1 Introduction

Acknowledgements

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Abbreviations

ANZNN	Australia and New Zealand Neonatal Network
BMI	Body Mass Index
CM Health	Counties Manukau Health
CYF	Child, Youth and Family
DHB	District Health Board
DiP	Diabetes in Pregnancy
ELT	Executive Leadership Team
GAP	Growth Assessment Protocol
GDM	Gestational Diabetes Mellitus
GP	General Practitioner
HIE	Hypoxic Ischaemic Encephalopathy
ICD10	International Statistical Classification of Diseases and Related Health Problems, 10th Revision
IOL	Induction of Labour
KFNC	Kidz First Neonatal Care
LARC	Long Acting Reversible Contraception
LMC	Lead Maternity Carer
MAT	National Maternity Collection
MCIS	Maternity Clinical Information System
MELAA	Middle Eastern Latin American African
MEWS	Maternity Early Warning Score
MFYP	Maternity First Year of Practice programme
MoH	Ministry of Health
MQSP	Maternity Quality and Safety Programme
MQSGG	Maternity Quality and Safety Governance Group
NISG	National Influenza Specialist Group
NMDS	National Minimum Data Set
NMMG	National Maternity Monitoring Group
NZHIS	New Zealand Health Information Service
iPM	Patient Administration System (PAS)
PIMS	Patient Information Management System
PMMRC	Perinatal and Maternal Mortality Review Committee
PHO	Primary Health Organisation
SGA	Small for Gestational Age
SUDI	Sudden Unexpected Death in Infancy
TMGG	Transitional Maternity Governance Group
TMRPB	Transitional Maternity Review Project Board

Introductory Comment

Counties Manukau Health is pleased to provide the fourth report to the Ministry of Health for the Maternity Quality and Safety Programme for the 2015/16 financial year.

This report covers initiatives undertaken in the past 12 months as part of continuing to implement the Maternity Quality and Safety Programme (MQSP), which was extended mid-year by the Ministry of Health (MoH) for a further three years. It also provides information requested by the National Maternity Monitoring Group. In the first two years the MQSP Report focused on the activity identified in the Maternity Quality and Safety Plan. Last year and again this year we have endeavored to take a broader view and summarise quality improvement activity underway across our maternity system. The Perinatal and Maternal Mortality Review Committee recommendations and actions taken will also be included from next year.

In addition we have retained the user friendly design of the report in the hope that the information is more engaging, accessible and relevant to key stakeholders such as employed and self-employed midwives, general practitioners (GPs), women and whaanau who live and/or birth in our district.

Counties Manukau Health (CM Health) remains committed to the needs of our community and strives to provide appropriate, accessible, quality clinical care to our women and their babies.

Counties Manukau Health Maternity Strategy

Aim

"Our aim at Counties Manukau Health is to support the provision of quality maternity care which is woman centred, safe and equitable for all mothers and babies"

Principles

Maternity care is provided in a culturally appropriate way which supports care that protects, promotes, and supports normal childbirth for women and babies, with evidence based medical intervention when required.

Women will easily access a local lead maternity carer who will provide individualised care, navigate and support the woman and her family/ whaanau through the maternity care system as close to home as possible.

Having a baby and the transition to parenthood is recognised as a socially significant event for families/whaanau.

Childbearing women and their families are supported to make choices which are underpinned by the maternity care providers sharing evidenced based information.

Maternity care is co-ordinated across settings and disciplines to maximise safety and use resources wisely.

People who work in the maternity care system are provided with a safe and respectful environment in which they can learn and grow together.

The quality of maternity care and services is measured and evaluated.

CM Health Shared Vision and Values

We aspire to live and breathe our values every day as the foundation of our strategic actions:

- **Valuing everyone** Make everyone feel welcome and valued
- **Kind** Care for other people's wellbeing
- **Together** Include everyone as part of the team
- **Excellent** Safe, professional, always improving

Background

For several years, CM Health has had an increased focus on improving the quality of maternity care provided to women living in the district.

The Perinatal and Maternity Mortality Review Committee (PMMRC) first noted in their 2008-09 report that Counties Manukau had a higher perinatal related mortality than the New Zealand average.[1] Two years later, in 2011, PMMRC specifically recommended that *"further research was warranted to understand the higher rate of perinatal-related mortality in Counties Manukau."*

While it was thought, and later confirmed, that women living in Counties Manukau have a higher prevalence of risk factors, which explain the poor maternity outcomes compared to other women birthing in New Zealand, there was a desire to review the birthing of maternity care to women in the district to identify opportunities for improvement of outcomes for women and their babies by addressing these risk factors as well as other system issues.[2,3] To this end an independent external review panel was established to review the maternity care system and provide recommendations to guide a tangible action plan. This external review panel provided their report at the end of 2012.

The recommendations of this report were then translated into a work plan which has guided considerable work in the maternity sector in CM Health. This work plan was overseen by a Maternity Review Board which reported through to the Executive Leadership Team (ELT) and the Board. In addition there was also work being undertaken at a strategic level looking at how we could "Achieve Better Outcomes for All" and, at the end of 2012, preconception, the antenatal period and first years of life were captured as a priority area under the "First 2000 days" programme.

This increased focus on maternity care in CM Health coincided with the implementation of the MoH led MQSP. The work of the MQSP and the work resulting from the maternity review have been connected through the Maternity Quality and Safety Governance Group (MQSGG) reporting through to the Maternity Review Board.

At the end of 2014 the Maternity Review Board entered a transitional period as it moved from a project structure to business as usual. This has taken time to implement. There is now a Transitional Maternity Governance Group (TMGG) which the MQSGG currently reports to. Members of the TMGG recently presented to the CM Health Board, as well as two of the original external review panel members, about the initiatives underway and the work completed across the maternity sector as a result of the increased focus on improving maternity care. A process is now underway to merge the MQSGG work with existing provider maternity obstetric quality groups (Appendix 1) to ensure one group has a view across the whole sector. This structure has yet to be finalised.

[1] PMMRC. 2009. Perinanatal and maternity Mortaility in New Zealand 2007. Third Report to the Minister of Health July 2008 to June 2009. Wellington: Ministry of Health http://www.hqsc.govt.nz/assets/PMMRC/Publications/Third-PMMRC-report-2008-09.pdf

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

[3] Those risk factors for which CM Health 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 .

Purpose of Annual Report

The purpose of CM Health's MQSP Annual Report is to:

- Provide information about the quality improvement work underway in the Counties Manukau area to women living and birthing in our district as well as the maternity workforce.
- Provide the MoH with the contractually required information as set out in Section 2 of MQSP Crown Funding Agreement Variation.
- Document CM Health's progress towards achieving the MQSP Work Plan deliverables in 2015/16.
- Describe the work planned to improve the quality and safety of maternity services to be delivered in 2016/17.
- Provide feedback to the NMMG on their priority areas.
- Benchmark against New Zealand Maternity Clinical Indicators.
- Work with the PMMRC recommendations to bring about improvements to specific areas identified.

Alignment with the New Zealand Maternity Standards

The New Zealand Maternity Standards provide guidance for the provision of equitable, safe and high-quality maternity services throughout New Zealand. They consist of three high-level strategic statements to guide the planning, funding, provision and monitoring of maternity services by the MoH, DHBs, service providers and health practitioners.[4]

Standard One: **Maternity services provide safe, high-quality services that are nationally consistent and achieve optimal health outcomes for mothers and babies.**

8.2 Report on implementation of findings and recommendations from multidisciplinary meetings;

8.4 Produce an annual maternity report;

8.5 Demonstrate that consumer representatives are involved in the audit of maternity services at CM Health;

9.1 Plan, provide and report on appropriate and accessible maternity services to meet the needs of the Counties Manukau region;

9.2 Identify and report on the groups of women within their population who are accessing maternity services and whether they have additional health and social needs.

Standard Two: **Maternity services ensure a women-centred approach that acknowledges pregnancy and childbirth as a normal life stage.**

17.2 Demonstrate in the annual maternity report how CM Health have responded to consumer feedback on whether services are culturally safe and appropriate;

19.2 Report on the proportion of women accessing continuity of care from a Lead Maternity Carer (LMC) for primary maternity care.

Standard Three: **All women have access to a nationally consistent, comprehensive range of maternity services that are funded and provided appropriately to ensure there are no financial barriers to access for eligible women.**

24.1 Report on implementation of the Maternity Referral Guidelines processes for transfer of clinical responsibility.

[4] Ministry of Health. 2011. New Zealand Maternity Standards: A set of standards to guide the planning, funding and monitoring of maternity services by the Ministry of Health and District

Alignment to the CM Health Maaori Health Plan

The CM Health Maaori Health Plan 2015/16[5] had a focus on improving breast feeding rates for Maaori infants (refer to section 4.1.3 in the plan) and reducing SUDI (refer to 4.1.11 in the plan). This report describes work aligned to these priority areas in the relevant sections.

[5] Counties Manukau District Health Board, 2015. Maaori Health Plan 2015/16. http://countiesmanukau.health.nz/assets/About-CMH/Reports-and-planning/Maori-and-pacific-health/2015-2016-Maori-Health-Plan.pdf

Aims and Objectives of MQSP

The MoH's funded MQSP is in its fourth year at CM Health. The aim of the CM Health's MQSP is to bring together stakeholders to monitor maternity care and thus improve communication, teamwork and the quality of maternity care available to women and their babies' within Counties Manukau.

The key objectives for the implementation of the MQSP in year 2015/16 included:

- Provide woman-centered maternity care that meets the health needs of the population.
- Continue to implement, review and establish systems and processes to support the provision of quality and safe care. This work will be guided by the New Zealand Maternity Clinical Indicators and other available data and will contribute to achieving the National Maternity Standards and will be responsive to the NMMG recommendations.
- Ensure professional stake-holders are well informed and engaged in quality and safety activities.
- Consolidate a comprehensive consumer network across the Counties Manukau district to provide input into the development, implementation and maintenance of the MQSP.
- Achieve key outcomes for quality improvement activities in the community, primary and secondary/tertiary sectors.
- Share resources and work cohesively across the DHBs to develop new initiatives and processes to improve the service as they are identified.
- Work in partnership with all health agencies providing women's and children's health services, to continue to forecast, develop and enhance a seamless service.
- Ensure there is a clear understanding of how the MQSGG functions within the Women's Health Quality Framework.
- Strengthen the interface between community, primary and secondary care.

Maternity Quality and Safety Governance Group. FROM LEFT: Thelma Thompson, Mel Tapp, Claire Eyes, Ann Konz, Sue Tutty, Lyn Stark, Pip Anderson, Lesa Freeman, Larissa Pereira, Amanda Hinks and Donna Westerlund. ABSENT: Adrienne Priday, Amanda Jeffries, Helenmary Walker Megan Tahere, Kara Okesene-Gafa, Sarah Tout, Sarah Wadsworth, Vanitha Kalra.

2 Our District

The following chapter outlines key information about our district including the wider population and the geographical area where they live, the characteristics of the women we provide maternity services for and some detail about the facilities where we provide care.

Our Population

CM Health is responsible for providing (or funding) maternity services for women living in Counties Manukau.

In 2015, CM Health provided health and disability services to an estimated 521,820 people who reside in the local authorities of Auckland, Waikato District and Hauraki District. Our population is growing at a rate of one to two percent per year; one of the fastest growing DHB populations in New Zealand. From 2015/16 to 2025/26 the number of new residents in Counties Manukau is projected just over 84,000.

There are a diverse range of needs that can be further distinguished by four geographical locality areas that have been defined covering the Counties Manukau district: Mangere/Otara, Eastern, Manukau and Franklin.

The Counties Manukau district has an ethnically diverse population: 39% NZ European/Other, 24% Asian Other, 21% Pacific Island and 16% Maaori. Twelve percent of all New Zealand's Maaori population, 37% of New Zealand's Pacific Islanders and 21% of New Zealand's Asian population live in Counties Manukau.

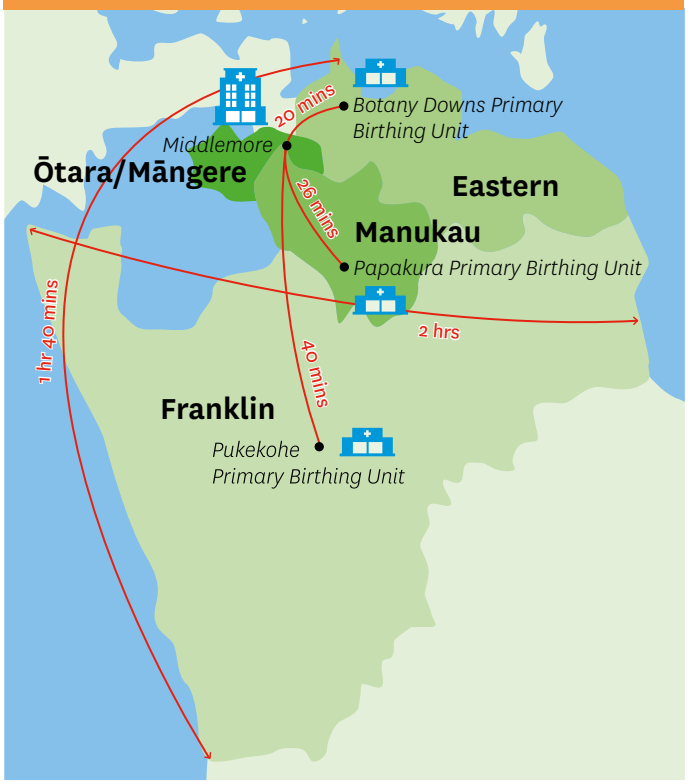
Compared with other DHBs, Counties Manukau has the second highest number of Maaori (after Waikato), the highest number of Pacific Islanders, and the second highest number of people (after Auckland DHB) who identify as Asian ethnicities.

If current population projections remain appropriate, the Asian population of CM Health will continue to increase the fastest of our ethnic groups, followed by Pacific Island, then Maaori, while our NZ European/Other population will show little growth.

At the time of the 2013 Census 36 percent of the Counties Manukau population lived in areas classified as being the most socio-economically deprived in New Zealand. Fifty-eight percent of Maaori, 76% of Pacific Islanders and 45% of 0-14 year olds in Counties Manukau lived in the most deprived area (NZdep 9 or 10) at the time of the 2013 Census. On the basis of the NZDep 2013 measure, Otara, Mangere and Manurewa are the most socio-economically deprived areas in the Counties Manukau district.

FIGURE 1.

Map showing locality and geographical boundaries of CM Health and facilities



The Women We Serve

BY DR PIP ANDERSON, PUBLIC HEALTH PHYSICIAN

CM Health is responsible for providing maternity services to women who live within the Counties Manukau DHB boundary. Most women (84%) living in Counties Manukau choose to birth at CM Health facilities (Table 1).

A woman, living in Counties Manukau, may birth at another facility for a range of reasons. One reason is if a woman has a self-employed LMC midwife[6] who has an access agreement with another DHB. There are a small number of women who are referred to ADHB because of identified fetal complications such as congenital heart disease or severe maternal cardiac conditions. A woman may also birth at another facility if she goes into labour unexpectantly while away from home. Of note also are the 422 women domiciled predominantly in the Otahuhu (ADHB domicile) who use CM Health maternity facilities and services.

The majority of Counties Manukau women who birthed at another DHB's facility in 2015 birthed at an Auckland District Health Board (ADHB) facility. In 2015, 61% of women living in Counties Manukau who birthed at ADHB facility lived in Howick, with 37% of these women being Chinese women.

The characteristics of women who live in Counties Manukau and birthed in 2015 (regardless of where they birthed) are shown in Table 2.

Of the women who live in Counties Manukau and birthed in 2015, 30.2% were Pacific Island, 26.4% were NZ European/Other, 20.3% Maaori, 10.1% were Indian and 6.9% were Chinese. It is important to note that ethnicity is prioritised[7] (Table 6).

The number and rate of births to women aged less than 20 years of age has continued to decrease in Counties Manukau since 2012 with 472 women, domiciled to CM Health aged <20 years, giving birth in 2015 (Figure 2).

TABLE 1.

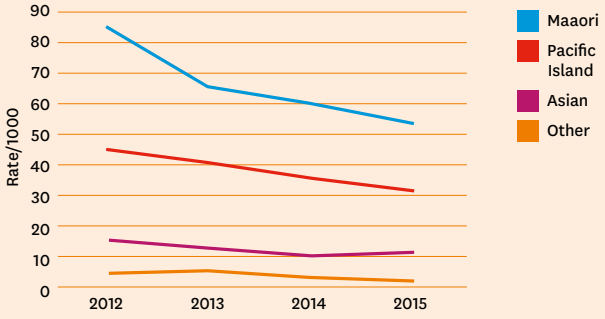
Location of birthing for Counties Manukau Women, 2012-2015

DHB LOCATION OF BIRTHING	2012	2013	2014	2015
Counties Manukau	7415	6845	6771	6625
Auckland facilities	1087	1064	1196	1161
Waitemata facilities	50	50	41	48
Elsewhere	69	46	88	87
TOTAL	**8621**	**8005**	**8096**	**7921**
Percentage Birthing at Counties	86.0%	85.5%	83.6%	83.6%

Source: National Minimum Dataset (NMDS). Note women who birth reflect the number of women giving birth rather than the number of babies born. Note there is variation in the data extracted from Health Intelligence and Informatics and data extracted from NMDS and as the NMDS is updated these numbers differ slightly from numbers in last year's report.

FIGURE 2.

Birth rate, <20 years, by ethnicity, for women living in Counties Manukau, 2012-2015



Source: NMDS. Extracted by Dean Papa 2015.Denominator is women aged 15-19 years Census 2013 updated projections 2015.

[6] Note that throughout the document 'self-employed LMC midwife' is the term used to describe midwives caring for women who claim funding, from the MoH, through Section 88 for their services. Other terms commonly used include lead maternity carer (LMC).

[7] This is a process which assigns the ethnicity of a person who has given multiple responses to just one ethnicity in order to ensure that the total by ethnicity equals the total number of women. This means that if a woman identifies as more than one ethnicity only one ethnic group is assigned to her with Maaori prioritised first followed by Pacific, then Asian and then European. Prioritisation conceals diversity within, and overlap between, ethnic groups by eliminating multiple ethnicities from data.

TABLE 2.

Demography of women living in Counties Manukau who birthed in 2012-2015, regardless of DHB of birth

	2012		2013		2014		2015	
	NO.	%	NO.	%	NO.	%	NO.	%
Maaori	1969	22.8%	1724	21.5%	1689	20.9%	1606	20.3%
Pacific Island	2773	32.2%	2534	31.7%	2484	30.7%	2396	30.2%
NZ European/Other	2245	26.0%	2162	27.0%	2164	26.7%	2088	26.4%
Indian	620	7.2%	652	8.1%	715	8.8%	802	10.1%
Asian Other	405	4.7%	381	4.8%	412	5.1%	483	6.1%
Chinese	609	7.1%	552	6.9%	632	7.8%	546	6.9%
<20 years	698	8.1%	580	7.2%	511	6.3%	472	6.0%
20-24 years	1920	22.3%	1809	22.6%	1717	21.2%	1569	19.8%
25-29 years	2354	27.3%	2142	26.8%	2326	28.7%	2237	28.2%
30-34 years	2167	25.1%	2088	26.1%	2207	27.3%	2273	28.7%
35-39 years	1142	13.2%	1115	13.9%	1037	12.8%	1083	13.7%
40+ years	340	3.9%	271	3.4%	298	3.7%	287	3.6%
Unknown	112	1.3%	105	1.3%	161	2.0%	292	3.7%
decile 1-2	663	7.7%	560	7.0%	586	7.2%	534	6.7%
decile 3-4	942	10.9%	871	10.9%	874	10.8%	865	10.9%
decile 5-6	937	10.9%	910	11.4%	938	11.6%	937	11.8%
decile 7-8	1283	14.9%	1231	15.4%	1275	15.7%	1241	15.7%
decile 9-10	4684	54.3%	4328	54.1%	4262	52.6%	4052	51.2%
CMDHB nfd*	9	0.1%	23	0.3%	11	0.1%	53	0.7%
Franklin	906	10.5%	809	10.1%	846	10.4%	826	10.4%
Howick	1772	20.6%	1682	21.0%	1749	21.6%	1718	21.7%
Mangere & Otara	2329	27.0%	2225	27.8%	2097	25.9%	2027	25.6%
Manukau	3605	41.8%	3266	40.8%	3393	41.9%	3297	41.6%
TOTAL	8621		8005		8096		7921	

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

The MoH provided DHBs with a national analysis of the National Maternity Collection (MAT) for 2014.[8] This data is derived from the National Minimum Data Set (NMDS), LMC[9] claims for services provided under the Primary Maternity Services Notice, as well as data from Births, Deaths and Marriages collected by the Department of Internal Affairs.

Historically the MAT has not had good coverage of all the data elements for CM Health women because it relied on LMC claim data for body mass index (BMI) and smoking status. In CM Health we have always had large percentage of women receiving their care from DHB services and their data for BMI and smoking status was not included in MAT. The Ministry of Health has been working to improve the coverage of MAT and now receives information from the DHBs primary maternity services as well as LMC claims. While the dataset is still not complete it has far better coverage of these data elements than in previous years (Table 3). Therefore there are limitations in generalising the data from MAT to all women living in CM Health.

[8] Data provided by Simon Ross, Ministry of Health.
[9] This includes GPs and private obstetricians that provide antenatal care as well as self-employed LMC midwives.

TABLE 3.

Women birthing in 2014, Counties Manukau versus the rest of New Zealand

	COUNTIES MANUKAU		REST OF NEW ZEALAND	
ETHNICITY	**NO.**	**%**	**NO.**	**%**
Maaori	1941	23.4%	12390	24.3%
Pacific Island	2563	30.9%	3619	7.1%
NZ European/Other	1864	22.5%	26287	51.6%
Asian	1759	21.2%	7491	14.7%
MELAA	150	1.8%	1118	2.2%
Unknown	12	0.1%	23	0.0%
TOTAL	**8289**		**50928**	
TRIMESTER OF BOOKING	**NO.**	**%**	**NO.**	**%**
1	3444	41.5%	33766	66.3%
2	2991	36.1%	13237	26.0%
3	552	6.7%	2038	4.0%
Postnatal	132	1.6%	187	0.4%
Unknown	1170	14.1%	1700	3.3%
TOTAL	**8289**		**50928**	
BMI	**NO.**	**%**	**NO.**	**%**
Extremely Obese (40+)	501	6.0%	1775	3.5%
Obese (30-39)	1957	23.6%	9664	19.0%
Overweight (25-29)	1946	23.5%	13980	27.5%
Healthy weight (18-24)	2563	30.9%	23242	45.6%
Underweight (<18)	67	0.8%	464	0.9%
Unknown	1255	15.1%	1803	3.54%
TOTAL	**8289**		**50928**	
SMOKING STATUS AT BOOKING	**NO.**	**%**	**NO.**	**%**
No	6090	73.5%	41888	82.2%
Unknown	1169	14.1%	1712	3.4%
Yes	1030	12.4%	7328	14.4%
TOTAL	**8289**		**50928**	

Source: MAT provided by MoH 2016. Note this data is sourced from NMDS, LMC claims and Births, Deaths and Marriages.

Unfortunately data regarding socioeconomic stats was not included in the extract provided by MoH for 2014. Table 3 shows data for Counties Manukau domiciled women compared to the rest of New Zealand.

A higher percentage of women living in Counties Manukau, and having babies, are Pacific Islanders compared to the rest of New Zealand. Table 3 shows that 30.9% of women living in Counties Manukau, who birthed in 2014, were identified as Pacific Island compared to 7.1% in the rest of New Zealand. Only 22.5% of women birthing in Counties Manukau were NZ European/Other compared to 51.6% of women birthing in the rest of New Zealand. A higher percentage of women living in CM Health booked after the first trimester and are overweight or obese compared to the rest of New Zealand. It is worth noting the data is less complete for CM Health women with a high percentage of unknown for both weight and smoking status compared to the rest of New Zealand.

Our Maternity Workforce

BY THELMA THOMPSON, DIRECTOR OF MIDWIFERY PRACTICE

CM Health's aim is for maternity care to be planned around the needs of women and their whaanau/families. Health professionals will work in a connected and co-ordinated way to ensure needs are met so that women and their whaanau/families have positive experiences and confidence in our maternity system. The workforce in the Counties Manukau area is made up of doctors, midwives, nurses, allied health and support staff.

The Obstetrics and Gynaecology service operates across the community with services at Middlemore Hospital and Manukau SuperClinic and runs specialist clinics in localities including Otara, and the Papakura and Pukekohe Primary Birthing Units. An obstetrician is on site, at Middlemore Hospital, 24 hours per day seven days per week and available to self-employed LMC midwives, community midwives and GPs for consultation. The Obstetrics and Gynaecology service is staffed by specialists, fellows, registrars, senior house officers, midwives, nurses and support staff who are all part of this dedicated team. This team also includes clinical nurse specialists who operate the Early Pregnancy Clinic, an onsite contraception service and the Ferinject clinic based on Birthing and Assessment. In addition there are perinatal loss and maternal and fetal medicine midwife specialists.

There were 270 midwives who identified CM Health as their first work area in the 2015 Midwifery Council of New Zealand workforce survey. This is 8.9% of the 3033 midwives nationally with an Annual Practicing Certificate (APC). The average age of a midwife at CM Health is 47.6 years compared with 47.8 years nationally. The percentage of midwives in CM Health who give New Zealand Maaori as their first, second, or third ethnicity is 9.3% compared with 9.2% nationally. The percentage for Pacifika midwives is 4.1% for CM Health compared with 2.4% nationally.

The CM Health's long term workforce strategy has focused on providing future workforce stability through increasing the local midwifery workforce to match the demographics of the Counties Manukau area. Strategies have included providing scholarships and mentoring programmes supported by The Tindall Foundation, Pu Ora Matatini Maaori Midwifery CM Health Pacific Unit, Pacific Midwifery Student Scholarships, the Midwifery Education and Development Service, a Graduate Programme and support for self-employed midwives.

Pu Ora Matatini Maaori Midwifery Scholarship Programme

Since 2010, CM Health has worked on a wraparound student support scholarship programme. The aim is to support and grow Counties' Maaori midwifery workforce. This has been made possible due to the support from the Tindall Foundation. The Maaori Health team, CM Health, manages this programme. There have been 10 scholarship graduates since 2011.

There are currently 10 scholarship recipients with four more scholarships available in 2016. Maaori midwifery students currently make up 25% of the total number of students at Auckland Univeristy of Technology (AUT). Their attrition rate is now the same as other students. "Experience with Maaori students showed that the wrap around support has significantly contributed to the improvement in success and retention for those students" (Judith McAra-Couper, Head of Midwifery School, AUT).

Pasifika midwifery students 2016.

Pacific Midwifery Scholarship Programme

The Pacific Midwifery Student scholarship programme commenced in February 2014 offering five scholarships for Pacific midwifery students per year. The scholarships are funded by the Pacific Health Development Unit at CM Health.

The programme specifically supports students in two ways. The first is an "Aunties Programme" run by Counties Pacifika midwives. These midwives "adopt" a student and support them through regular meetings (at least monthly) and catch ups in between. The meetings focus on ideas about how to cope with study, family and work commitments, specific midwifery questions, contacts, and also can involve meeting with other students and Aunties.

The second mechanism of support is a dedicated position which provides Pasifika student support and clinical education. This role was developed as part of a joint venture between the AUT Health Faculty, Midwifery School, Ko Awatea and CM Health to address the retention and success rates of Pasifika midwifery students.

In April 2016, Pasifika Midwives Aotearoa hosted their second successful 'Island Night' fundraiser. The theme this year, 'Growing Pasifika Midwives', was aimed at recruiting more Pasifika students into the midwifery programme. The funds raised go towards supporting Pasifika students nationwide.

The number of Pasifika students in 2015 in the midwifery programme is 12%. The attrition rate for the students between year two to three is 50% in 2016 in comparison to 28% in 2013. The aim is for 20% of Manukau Campus intake in 2016 to identify as Pasifika.

The Midwifery Education and Development Service

The Midwifery Education and Development Service commenced in 2007 as a joint project with AUT. The service was set up to increase the number of Counties Manukau students by increasing the number of clinical placements and having a satellite midwifery school based at Middlemore Hospital. The AUT School of Midwifery, moved to AUT's Manukau Campus in 2014. Fifteen student midwives who graduated in April 2015 reside in the Counties Manukau area. 25 of the 94 students in their third year and 28 of the 112 in their second year reside in the Counties Manukau area. This is in comparison to 2007, where there were a total of four students in the whole three year programme.

An evaluation of the Midwifery Development Education Service at Counties Manukau Health – a student and staff perspective occurred during 2015 by Heather Donald, Anna Fielder and Judith McAra-Couper. The project was funded by AUT and CM Health. The executive summary is attached as Appendix 2.

Support for New and Graduate Self-Employed LMC Midwives to the Counties Manukau Area

The support provided for graduates and new self-employed LMC midwives to the area comprises:

- Orientation run by Counties Manukau staff.
- Support by LMC midwife liaisons either in an individual or group setting. This support is additional to the compulsory Midwifery First Year of Practice programme (MFYP) for graduate midwives.
- Orientation to the maternity systems within CM Health which can include administration, referral processes and computer training Maternity Clinical Information System Maternity Care Information System (MCIS).
- Orientation to Middlemore Hospital (MMH) and the three outlying primary birthing units if requested.
- A *Maternity Information Directory* and a *Community Prescribing Guide for Maternity Care* pharmacology guide available on-line, with hard copies available to all new access holders.
- Access to computer programmes off site via complimentary VPN (currently changing to CITRIX).
- Access to a $2000 set up practice fund for the purchase of midwifery equipment. Access to this fund has been extended to new to LMC practice midwives, as well as graduate midwives, with the view to attracting more self-employed LMCs to the Counties Manukau region.

Graduate Programme

CM Health has provided and co-ordinated a graduate midwifery programme for over 10 years and is constantly reviewing and adapting it to meet evolving needs. The programme is led by the midwife co-ordinator. This role specifically supports new graduate employed midwives and new graduate self-employed LMCs, an orientation programme for new to service midwives and now also includes new to area self-employed LMC midwives.

The trend over the past five years shows that approximately 50 of those who are employed in the graduate programme will, within their first five years, choose to move into self-employed LMC midwifery practice. Thirty graduates have been employed between 1 July 2014 to 31 May 2016 and 15 have commenced work in Counties Manukau as self-employed LMCs. Twenty seven of the 30 midwives are still employed and 13 of the 15 midwives continue to work as LMCs in CM Health.

Our Maternity Services

BY AMANDA HINKS, SERVICE DEVELOPMENT MANAGER MATERNITY SERVICES & LYN STARK, MATERNITY QUALITY AND SAFETY CO-ORDINATOR

LMC Liaison Midwives community mix and mingle.

Maternity care provision at a DHB level is shaped by the funding framework, the available workforce, the location of primary birthing facilities and maternal choice,[10] CM Health supports the national policy direction of women being cared for by a self-employed LMC midwife providing continuity of care/carer.

A woman's choice of maternity care provider is influenced by her understanding of the system, preferences, past experience, the level of care required, proximity of facility and self-employed LMC midwife availability.[11,12,13] All women living in Counties Manukau have the option of either engaging with a self-employed midwife or accessing maternity care through DHB provided services.

Currently if a GP sends a referral through to CM Health maternity services, it is triaged, involving a review by a specialist midwife for risk factors which could impact on the pregnancy. It is at this stage referrals either requiring further specialist obstetric advice or suitable for LMC care are forwarded accordingly.

Historically CM Health has by default provided DHB primary maternity services to a high percentage of women, compared with other DHBs around the country, because of a shortage of LMC midwives. Also because of the overall midwifery shortage since the 1980s, CM Health enabled a unique model of shared antenatal care with local GPs.[14]

Over the past four years this percentage has changed due to an increase in the number of self-employed LMC midwives working in the district. This increase, combined with a falling birth rate and a smaller number of GPs offering shared care, has meant that 67% of women are now booked to birth in a facility with a self-employed LMC midwife (Table 4). Over the past two-and-a-half years the DHB has implemented strategies raising the importance of early engagement with a LMC including social media marketing.

TABLE 4.

Maternity provider at time of booking, 2015

MATERNITY PROVIDER	2012	2013	2014	2015
DHB services	52%	50%	33%	31%
Self-employed LMC midwife	48%	50%	67%	67%
unknown	-	-	-	2%

Source: Healthware and Badgernet tables. Extracted by Health Intelligence and Informatics 2016.

[10] Jackson C Antenatal care in Counties Manukau District Health Board; A focus on maternity Care. 2011
[11] Health Services Consumer Research. Maternity Services Consumer Satisfaction Survey Report 2007. Auckland: Ministry of Health; 2008.
[12] 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.
[13] 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.
[14] 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 CM Health employed community midwife and are birthed at a CM Health facility by a DHB employed midwife. For those GPs wishing to continue in shared care, on-going Continuing Medical Education in this area will be required.

Table 5 shows the percentage of women by maternity provider at the time of birth in 2015. It is worth noting that a small percentage of women move to self-employed LMC midwifery care from booking to birth through active encouragement by the DHB for women to engage with a self-employed LMC midwife.

TABLE 5.

LMC at the time the women birthed, 2015[15]

MATERNITY PROVIDER	TOTAL	%
Self-employed LMC*	5241	72%
Shared Care	71	1%
DHB midwives/ obstetric team	1892	26%
CM Health employed LMC	101	1%
Private obstetrician	3	0%
TOTAL	7308	

Source: Healthware and Badgernet tables. Extracted by Health Intelligence and Informatics 2016.

Although GPs are now less involved in the direct management of pregnancy and birth than they were historically, primary care still has an important role to play as many women visit their primary care provider to confirm their pregnancy. This provides the opportunity for the GP to undertake an initial assessment, explain the maternity care system and support the woman to find a self-employed LMC midwife. It is also an opportunity to arrange recall for immunisations such as Influenza and Pertussis.

Tables 6 and 7 describe the ethnicity and deprivation of women by LMC at the time of birth using CM Health facilities. Of note is that Maaori/Pacific Island/Chinese women and women in deprivation 9-10 tend to remain with the DHB provider. Table 8 describes the different services available to women living in Counties Manukau.

TABLE 6.

Maternity provider at the time of birth by ethnicity, 2015

ETHNICITY	SELF-EMPLOYED LMC*		SHARED CARE		DHB MIDWIVES/ OBSTETRIC TEAM		CM HEALTH EMPLOYED LMC	
Maaori	1002	66.2%	19	1.3%	486	32.1%	7	0.5%
Pacific Island	1683	66.2%	28	1.1%	795	31.3%	35	1.4%
NZ European/Other	1551	85.8%	9	0.5%	217	12.0%	30	1.7%
Indian	568	70.0%	8	1.0%	225	27.7%	10	1.2%
Asian Other	292	71.9%	7	1.7%	97	23.9%	10	2.5%
Chinese	148	64.6%	0	0.0%	72	31.4%	9	3.9%
TOTAL	5244	71.8%	71	1.0%	1892	25.9%	101	1.4%

Source: Healthware and Badgernet tables. Extracted by Health Intelligence and Informatics 2016.

TABLE 7.

Maternity provider at the time of birth by deprivation index, 2015

DEPRIVATION INDEX	SELF-EMPLOYED LMC*		SHARED CARE		DHB MIDWIVES/ OBSTETRIC TEAM		CM HEALTH EMPLOYED LMC	
1-2	342	80.1%	0	0.0%	66	15.5%	19	4.4%
3-4	567	82.3%	4	0.6%	100	14.5%	18	2.6%
5-6	408	81.6%	2	0.4%	80	16.0%	10	2.0%
7-8	751	75.0%	9	0.9%	232	23.2%	9	0.9%
9-10	3173	67.7%	56	1.2%	1413	30.1%	45	1.0%
Unknown	3	0.2%	-	0.0%	-	94.8%	-	5.1%
TOTAL	5244		71		1892		101	

Source: Healthware and Badgernet tables and Census 2013. Extracted by Health Intelligence and Informatics 2016.

*This will include a small no. of births by private obstetricians.

[15] The maternity provider reported here is the provider at the time of birth.

TABLE 8.

Primary Services available in Counties Manukau

SELF-EMPLOYED LMC MIDWIFE

Self-employed LMC midwives provide antenatal, labour and post-natal care using, primarily, a continuity of care model by the same midwife. Self-employed LMC midwives in Counties Manukau birth women at one of the three primary birthing units, the woman's home or the secondary care facility. Self-employed LMC midwives can also choose to provide primary maternity care for women who require a secondary maternity service e.g. diabetes in pregnancy. If pregnancy or birth complications occur then care may be continued by their midwife with support from an obstetrician and/or a hospital midwife.

CM HEALTH EMPLOYED LMC MIDWIFE

This service provides continuity of midwifery care throughout pregnancy, labour, and the postnatal period including home birthing. A CM Health employed midwife works within a case-loading team model to provide care as an 'employed' LMC. They primarily care for women who plan to birth at Botany Downs or Papakura primary birthing units.

CM HEALTH COMMUNITY MIDWIFE

When a woman cannot find a LMC or her care requirements are complex, the woman can receive care by a DHB community midwife who provides antenatal and postnatal continuity of care in her home or at a community clinic. Midwife Specialists for women requiring tertiary level care are also included in this group. Community midwives are located at Manukau and at each of the three primary birthing units. A drop in service is also offered at Dawson Road, Otara. Intrapartum care is provided by DHB core midwives in each of the four facilities.

SHARED CARE

Antenatal care is shared between the woman's GP and a CM Health community midwife. The majority of the antenatal visits are provided by the GP, with a minimum of four antenatal visits offered with a CM Health community midwife. Labour care is provided by a CM Health employed midwife at Middlemore Hospital or at two of the three primary birthing units and postnatal care is provided by the CM Health community midwife. If a woman's pregnancy becomes medically complicated care is transferred to the DHB Maternity Services.

PRIVATE OBSTETRICIAN

Women can engage with a private obstetrician who utilises CM Health facilities for birthing.

Secondary Services available in Counties Manukau

CM HEALTH EMPLOYED MIDWIFE

These DHB employed midwives work within the Middlemore Hospital facility providing secondary and tertiary midwifery care as required covering antenatal, intrapartum and postnatal care.

DIABETES IN PREGNANCY

For women with previous or newly diagnosed diabetes (Type I or II or Gestational) secondary care is provided by a multidisciplinary team which comprises an obstetrician, midwife, diabetes physician, and dietitian. Primary maternity care for these women may be provided by CM Health employed midwife specialists or DHB employed or self-employed LMC midwives.

MATERNAL FETAL MEDICINE/OBSTETRIC MEDICAL SERVICE

Women with complex medical conditions during pregnancy are seen by the specialist team (Obstetrician, Medical Physician and Anaesthetist as required) at Manukau SuperClinic. These women are provided with midwifery care by the women's LMC or a CM Health employed midwife specialist. Women with complex fetal conditions during pregnancy are seen by specialist services at Middlemore Hospital.

GENERAL SMO OBSTETRICIAN ANTENATAL CLINIC

Obstetric antenatal clinics run from Manukau SuperClinic, Dawson Road, Papakura and Pukekohe and provide obstetric consultations for women referred by CM Health community midwives and employed and self-employed LMC midwives.

MATERNAL MENTAL HEALTH SERVICES

The team offers assessment, treatment and advice for women who have developed mental illness during pregnancy or up to one year after the baby is born. The team consists of mental health nurses, social workers, psychiatrist, clinical psychologists and occupational therapists with specialist knowledge and experience in this field.

SOCIAL WORKER

This role navigates women, families and midwives towards social services in the community dependent on the family's needs. The social worker facilitates liaison between various services such as Child, Youth and Family (CYF), non-governmental organisations, infant and maternal mental health and the DHB Primary Maternity Services.

Our Maternity Birthing Facilities

BY AMANDA HINKS & LYN STARK

There are four facilities in Counties Manukau District where women can birth. CM Health supports the national priority to strengthen primary maternity services to promote and protect normal birth. A woman's decision about where she will give birth is influenced by a number of factors and may include advice from her midwife or GP, availability of a midwife, experience of family or friends, cultural expectations and media messages.

Women with low obstetric risk have a choice of three primary birthing units in Counties Manukau to birth in. CM Health's three primary birthing units are located in Botany Downs, Papakura and Pukekohe. In addition, Birthing and Assessment at Middlemore Hospital caters for primary as well as secondary births. In 2015, of the women that birthed at a CM Health facility, 12% birthed at a primary birthing unit (Table 9).

Although use of primary units has been decreasing in recent years, it was pleasing to see this percentage remained stable last year. Consideration continues to be given to how we can better support self-employed LMC midwives and women to utilise primary birthing units to birth in, as well as for receiving postpartum care. This is particularly important in light of national and international research supporting improved outcomes for healthy, well screened women. [16]

All three primary birthing units are Baby Friendly Hospital Initiative accredited (BFHI) and support the establishment of breastfeeding. As well as being located closer to where women and whaanau live, they provide women and their families with an option to use a purpose built pool for labour and/or water birth. Guidelines for admission to primary birthing unit guide a woman's suitability as there are no on-site obstetricians, emergency epidural or operating theatre facilities and the units

Baby Sophie along with sister Kaitlin who was also born at Pukekohe PBU, and big sister Rhianna who transferred back from MMH with Mum for postnatal care soon after birth.

are 20-60 minutes away from the secondary unit (depending on time of day and traffic). The primary birthing units are staffed by CM Health midwives and community midwives in each unit, with some employed LMC midwives working out of Botany Downs. Many of the local self-employed LMC midwives use the primary birthing units as a base for their antenatal clinics. The utilisation of the existing primary birthing units for birthing is reliant on our workforce and the women we serve, appropriately screened, choosing this option. Increasing births in our primary units will be an area for focus and development in the year ahead.

[16] Davis D, Baddock S, Pairman S, Hunter M, Benn C, Wilson D, et al. Planned place of birth in New Zealand: does it affect mode of birth and intervention rates among low-risk women? Birth. 2011;38(2):111-9. | Birthplace in England Collaborative Group. Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: The Birthplace in England national prospective cohort study. BMJ (Clinical research ed). 2011;343:d7400.

Middlemore

Births Total	Transfers In
6411	867

Middlemore Birthing and Assessment provides primary birthing services mainly for women residing locally; plus secondary maternity care where women or their babies experience complications that need additional maternity care involving obstetricians, paediatricians and other specialists; and tertiary maternity services for women and their babies who have highly complex clinical needs and require consultation with and/or transfer of care to a multidisciplinary specialist team. Birthing and Assessment integrates care with the community midwives and the three primary birthing units located within Counties Manukau.

Midwives:

- **55** Self-employed LMCs who actively birth at Middlemore
- **11** Core associate clinical midwife managers incl. unit midwife manager 6 FTE
- **50** Core midwives 33.35 FTE
- **6** Registered nurses 5 FTE
- **12** HCA 10 FTE
- **14** Ward Clerks 10.3 FTE

Facility Offers:

- **18** Birthing rooms
- **2** Flexi rooms can be used as birthing rooms, accommodates 4 women
- **5** Assessment rooms – total of 7 beds (2 doubles)
- **1** Ultrasound room
- **1** Clinic room
- **1** Whaanau room – not used for clinical care

Botany Downs

Births Total	Transfers In
350	1343

Botany Downs Birthing Unit is also known as "Whare Tapu". The conceptual meaning of Whare Tapu alludes to the most sacred beginning of life – the birth of a child. Botany Downs Birthing Unit is a purpose built facility located at 292 Botany Road, near the Botany Town Centre. Women are able to be supported by their families and significant others in a quiet and comfortable environment. Many women who birth at Middlemore Hospital choose to transfer to Botany Downs Birthing Unit for their postnatal stay.

Midwives:

- **16** Self-employed LMCs who actively birth at Botany
- **20** Core midwives incl. Charge Midwife Manager 12.2 FTE
- **3** Community midwives 1.7 FTE
- **3** Registered nurses 1.7 FTE
- **2** Clerical administrators 1.4 FTE
- **2** HCA 1.4 FTE
- **3** Team case loading midwives

Facility Offers:

- **12** Resourced beds
- **3** Double bed room
- **1** 3 Beded room
- **6** Single post-natal rooms
- **4** Birthing rooms
- **2** Birthing pools
- **5** Clinic rooms

Papakura

Births Total	Transfers In	SMO Clinic Hours
266	755	8hrs

Papakura Birthing Unit is the oldest of the three primary units having celebrated its 70th birthday in 2013. Papakura Birthing Unit is located in a historical farm house and came into being in 1958 following the takeover from the Auckland Area Health Board. Papakura Birthing Unit is part of the community and generations of local whaanau choose to birth here. It is centrally located, close to the local township and public transport routes.

Midwives:

- **14** Self-employed LMCs who actively birth at Papakura
- **19** Core midwives incl. Charge Midwife Manager 12.2 FTE
- **4** Community midwives 3.2 FTE
- **1** Registered nurse 0.3 FTE
- **2** Clerical administrators 1.4 FTE
- **2** HCA's 1.4 FTE

Facility Offers:

- **8** Resourced beds
- **5** Single post-natal rooms
- **1** 2 Beded room
- **1** 3 Beded room
- **3** Birthing rooms
- **1** Birthing room with pool
- **4** Clinic rooms

Pukekohe

Births Total	Transfers In	SMO Clinic Hours
281	434	8hrs

Pukekohe Primary Birthing Unit is a midwifery lead maternity hospital. It supports normal pregnancy and birth caring for low risk women and babies. It provides care for the entire Franklin district as well as part of the Waikato district. This huge area encompasses the Awhitu Peninsula, East to Kaiawa, South to Mercer and Waikaretu. There is a Pukekohe Maternity Resource Centre (PMRC) on site, providing women with information on all pregnancy related issues, with free pregnancy tests, pamphlets, library and equipment for hire.

Midwives:

- **16** Self-employed LMCs who actively birth at Pukekohe
- **14** Core midwives incl. Charge Midwife Manager 10 FTE
- **2** Community midwives 0.5 FTE
- **2** Registered nurses 1 FTE
- **2** Clerical administrators 1.2 FTE

Facility Offers:

- **8** Resourced beds
- **8** Single post-natal rooms
- **1** Double bed room
- **2** Birthing room with pools
- **3** Clinic rooms
- **1** Maternity resource centre

Women who birth at primary birthing units

The use of primary birthing units varies by ethnicity (Table 9) with the highest percentage of births occurring at a primary birthing unit being NZ European women (22% of all births to European women), followed by Chinese (17%), Maaori (15%), Asian Other (11%), Pacific Island (6%) and Indian (5%).

Our Indian women tend to favour birthing at Middlemore Hospital but also place of residence will contribute to low numbers of Indian women birthing at Botany Downs Birthing Unit.

In February 2016, a small study of Pacifika women in Counties Manukau entitled "Accessible, Affordable, Appropriate and Quality Maternity Care Pasifika women accessing primary Maternity Care" (Appendix 3) was undertaken. It was aimed at uncovering why 'low risk' Pasifika women in Counties Manukau area do not birth at primary birthing units, in particular Botany Downs primary birthing unit. The study was undertaken using semi structured interviews with 6 women who had used Counties Manukau birthing facilities and by definition of low risk could have birthed at a Primary Birthing Unit.

From this study factors identified as contributing to the difference in utilisation of the primary birthing units included:

- Location of the primary birthing units in relation to where women live. Women living close to birthing units may be more likely to use them e.g. Pacific Island women residing in Otara and Mangere will utilise Middlemore Hospital as their Primary Birthing Unit due to the distance needed to travel to the nearest Primary Birthing Unit.

"I chose Middlemore only because it was close to home, I didn't know about any other places to go and give birth, I didn't know about the aftercare, like Botany or Papakura – yeah. Because I didn't really live near them I wasn't really told about them"

- Culturally using a hospital for birthing is aligned to Pacifika expectations for birth.

"There was real mixed bag of reactions to the maternity units and Middlemore and things like sharing a room, how you were treated, the cleanliness of the place, supportive staff seemed in some ways to be more important than the actual place itself."

- The distance to be travelled to a primary birthing unit is also a factor for women living in the most deprived areas due to funds for transport or petrol.

"Otherwise it was hard for me because I'm not driving, and we only have one car and my husband's working as well, so he's got no time to come and drop me off. So it was easy, really easy for the midwife to come"

- Rates of obesity among ethnic groups, which equate to BMIs which preclude women from birthing at a primary birthing unit.
- The influence of family and friends was identified as a strong influence on place of birth from the small study.

"For me I always feel good when I talk to my other sister-in-law, she give birth here, she's from the Islands, and then she comes back here to give birth. I always talk to her, and she said, "Oh it's really nice, so I said oh, okay. She would give birth at Middlemore and then go back to the Islands"

- The facility where the LMC births their women or is their base drives pregnant women to choose one birth location over another.

"I went to Middlemore and had my baby and then went to Papakura Birthing Unit after that. I didn't know I could have my baby at Papakura. My midwife told me to go to Middlemore that is why I went there. For me though I think I would choose Middlemore, because this is the first baby I have had in this country. In fact if I have another baby I would still go to Middlemore"

- The admission criteria and cultural expectations are not aligned with our current configuration of primary birthing options CM Health is currently reviewing.

The study findings informed the following recommendations;

- Urgent need for information about place of birth to be given to all women.
- Information to be given to low risk women in an appropriate format which enables them to make the safest choice for them and their babies.
- User friendly decision making aid about place of birth needed.
- Public campaign to educate the community about place of birth.
- Primary units that are convenient for the majority of birth women.

CM Health is currently reviewing the configuration of primary birthing facilities because of current underutilisation of these facilities for birthing.

TABLE 9.

Women who birth at each CM Health Facility, 2015

ETHNICITY	MMH	BOTANY	PAPAKURA	PUKEKOHE	TOTAL	PBU	% OF BIRTHS AT PBU
Maaori	1283	45	126	60	1514	231	15%
Pacific Island	2401	63	58	19	2541	140	6%
NZ European/Other	1408	150	68	181	1807	399	22%
Indian	769	27	3	12	811	42	5%
Asian Other	360	32	6	8	406	46	11%
Chinese	190	33	5	1	229	39	17%
TOTAL	6411	350	266	281	7308	897	12%

AGE	MMH	BOTANY	PAPAKURA	PUKEKOHE	TOTAL	PBU	% OF BIRTHS AT PBU
<20 years	455	13	19	8	495	40	8%
20-24 years	1455	82	76	58	1671	216	13%
25-29 years	1831	95	85	99	2110	279	13%
30-34 years	1660	100	62	75	1897	237	12%
35-39 years	790	50	24	34	898	108	12%
40+ years	220	10	-	7	237	17	7%
TOTAL	6411	350	266	281	7308	897	12%

SUBURB	MMH	BOTANY	PAPAKURA	PUKEKOHE	TOTAL	PBU	% OF BIRTHS AT PBU
Botany	153	40	-	-	193	40	21%
East Rural	147	33	3	4	187	40	21%
Franklin	510	2	8	249	769	259	34%
Howick	180	61	-	-	241	61	25%
Mangere	1159	14	2	-	1175	16	1%
Manukau	319	19	8	-	346	27	8%
Manurewa	1341	24	77	1	1443	102	7%
Otara	682	57	3	-	742	60	8%
Pakuranga	185	59	-	-	244	59	24%
Papakura	451	8	136	13	608	157	26%
Papatoetoe	611	10	2	-	623	12	2%
Takanini	206	6	26	2	240	34	14%
Non-CM Health	209	15	1	12	237	28	12%
Otahuhu	258	2	-	-	260	2	1%
TOTAL	6411	350	266	281	7308	897	12%

MATERNITY PROVIDER	MMH	BOTANY	PAPAKURA	PUKEKOHE	TOTAL	PBU	% OF BIRTHS AT PBU
DHB midwives/ obstetric team	1847	26	14	5	1892	45	2%
Self-employed LMC*	4436	278	251	276	5241	805	15%
Private obstetrician	3	-	-	-	3	0	0%
Shared Care	70	-	1	-	71	1	1%
CM Health employed LMC	55	46	-	-	101	46	46%
TOTAL	6411	350	266	281	7308	897	12%

source: Health information and informatics standard one.

*This will include a small no. of births by private obstetricians.

3 Quality At Counties Manukau Health

Quality improvement has been long embedded in the culture at CM Health. However, the additional funding and focus provided by the national programme is welcomed and has enabled a coordinated approach to quality improvement activity in maternity services.

Structure and Support for MQSP

BY LYN STARK

There were a number of quality forums that were in place prior to the implementation of the MQSP. These included: the Women's Health Incident Meeting, Perinatal Morbidity and Mortality Meeting, Maternity Quality Forum, Obstetric Guideline Group, Obstetric Clinical Practice Group and the Clinical Ultrasound Working Group.

The Maternity Quality Forum has its own work plan developed in accordance with the Women's Health Quality Framework for DHB provided services. This work plan is overseen by the Women's Health Divisional Leadership Group who meets on a monthly basis.

It has been recognised that the current groups could be further streamlined and there is agreement that the MQSGG should have oversight over the range of quality activities across maternity services. This work is underway.

The MQSGG currently reports monthly to the TMGG which in turns reports to the ELT. While this was considered an interim measure while a new Child, Youth and Maternity Governance group was established, the current thinking is that the TMGG is useful and is likely to remain.

Additional funding and extension of the MQSP has allowed CM Health to retain a MQSP co-ordinator, support the continuation of a regular consumer forum as well as fund a number of quality improvement initiatives.

Key Roles and Groups Supporting Quality and Safety Work

- **Maternity and Quality Safety Co-ordinator.** This appointment, made in Dec 2014 for a fixed term and commenced early January 2015, was extended to 2017 along with the MQSP funding contract. Established to support the management and implementation of the MQSP across the CM Heath district the position involves participation in or leading projects that are part of a sector wide maternity strategy and covers service development, clinical leadership and communication involving initiatives to further improve maternity quality and safety.
- **Service Development Manager Maternity Services.** This role was created in 2014 after the dis-establishment of the Women's Health Portfolio Manager role. The role continues to move the work from the work streams formed under the recommendations of the external maternity review into business as usual. There is a strong emphasis on stakeholder engagement with an aim of integrating services and their development between DHB and primary care.
- **Clinical Quality and Risk Manager Women's Health and Kidz First**, is responsible for overseeing, co-ordinating and implementing quality initiatives, risk management and projects and working with key stakeholders to support the provision of high quality patient care across the continuum of services in accordance with CM Health's vision and values.
- **Perinatal Loss Midwife Specialist** co-ordinates the local monthly Perinatal Morbidity and Mortality meetings, which includes hospital staff as well as community based clinicians and consumers. This role also provides continuity and support for the women and their families who have had a perinatal loss.
- **Administrator** supports the MQSGG meeting and updates the actions in the Maternity Quality and Safety Workplan.
- **LMC Midwife Liaisons** appointed in February 2016 to progress early engagement, support new to area and new graduate LMCs and to enhance collegial relationships between primary and secondary care.
- **PHO Clinical Champions** appointed by the PHOs in November 2015, link with LMC liaisons to strengthen the areas of early engagement with LMCs and improve prevention of unplanned pregnancies.
- **Health Intelligence and Informatics Team, Population Health Team and Public Health Physicians** provide data analysis support for the MQSP.
- **Access Holders monthly meetings** funded by the MQSP and chaired by the Maternity Service Development Manager.
- **Consumer Panel** made up of 13 diverse CM Health consumer members and supported by an independent facilitator.

Specific Quality Initiatives Related to NMMG Recommendations and Clinical Indicator Findings

BY LYN STARK

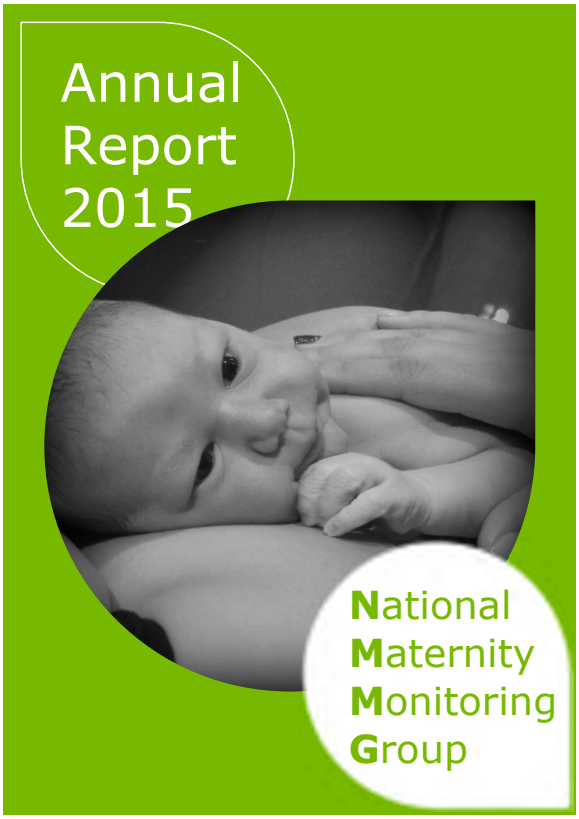
Review of the National New Zealand Maternity Clinical Indicators, in conjunction with the NMMG recommendations and locally sourced quantitative and qualitative data have driven the quality improvement activity undertaken in 2015/16 year.

The NMMG priority areas for action include:

1. Consistency in the quality of first trimester care
2. Timely registration with a self-employed LMC midwife
3. Access to and quality of primary maternity ultrasounds
4. Variation in gestation at birth: rates of induction of labour and monitoring of caesarean sections
5. National consistency in provision of co-ordinated maternal mental health services
6. Connecting and supporting our maternity consumer members
7. The New Zealand Maternity Clinical Indicators
8. Production of easy-to-read DHB MQSP Annual Reports.

The MoH has increased the set of clinical indicators to 21, some of which are based on the standard primiparae in an attempt to allow meaningful comparison across DHBs, and some which reflect the experience of all women who birthed, both by DHB of residence and hospital of birthing. It is important to note that while the MoH has chosen the 'standard primiparae' in an attempt to allow comparison, obesity and deprivation are not adjusted for.

The following sections describe in more detail the quality activities underway as CM Health continues to develop and enhance their MQSP to address the NMMG priority areas and the areas where the New Zealand Maternity Clinical Indicators have shown women living in Counties Manukau, or birthing at Middlemore, are different from the rest of New Zealand. In addition initiatives driven by local identification of salient issues (such as contraception – pages 59, 72-73) are also detailed in the following section.[17]



Source: http://www.health.govt.nz/publication/national-maternity-monitoring-group-annual-report-2015

[17] This includes review of local Healthware and MCIS data, local analysis of NMDS data, issues identified by internal review processes as well as opportunities for improvement identified by clinical staff.

1. Consistency in the Quality of First Trimester Care

BY DR SUE TUTTY, GENERAL PRACTITIONER LIAISON

First Contact Pregnancy Information Pack

This pack is funded by the MQSGG to go to all women on their first contact with a health professional, preferably at the beginning of their pregnancy. While the majority of our women see their GP for their pregnancy test, the packs are also supplied to outpatient clinics, the gynaecology ward and LMC midwives acknowledging they may be the first point of maternity care accessed by women.

The development of this First Contact Pregnancy Information Pack came from the work of The Otara Maternal and Child Health Services Integration Project[18] (The Otara project), a two year project funded by the Ministry of Health to improve maternity services in the Otara area. It was discovered through interviewing women that they found an antenatal pack useful and actually wanted more information in the pack than the health professionals had anticipated. This combined with the NMMG recommendation for more consistency in the quality of the first antenatal visit, and the requirement from section 88 that women be given written information covering a wide range of topics led to a request being made to MQSGG to fund the provision of the antenatal pack. This has now been progressed to business as usual.

The contents of the pack were discussed widely, keeping in mind its focus on improving the quality of the first antenatal visit. The consumer group attended a workshop to view, comment on and help in the selection of the pamphlets, choosing what they considered the most women friendly options. Their recommendations were followed with some clinical considerations also influencing the selections.

The Options for Care pamphlet was rewritten to place more emphasis on primary birthing units and includes a map showing the location alongside a photo of each unit.

A cover was created incorporating The Pregnancy Card design used for the Otara project and has an appealing photo of a mother-to-be in the shopping centre at Otara. The back cover contains a checklist of the contents inside to ensure that all the topics are covered as well as useful websites and a list of warning signs in pregnancy for quick and easy access. Inside is a space for the GP and the midwife to insert their name and contact phone numbers which is a very simple way to promote communication between GPs and midwives.

In support of these packs a discussion card was produced to assist health professionals, primarily in general practice, when talking through the pamphlets with women. This discussion card includes such advice as:

- When discussing immunisations offer to give the Fluvax immediately if it is the appropriate season and put a recall onto the practice management system for Boosterix immunisation at 32 weeks.
- Discuss appropriate weight gain in pregnancy and use of the accompanying chart to fill in the women's personal ideal weight gain.
- Ensure smoking cessation support is offered.
- Use the 1st trimester antenatal screening pamphlet as an opportunity to explain the need for engagement with their midwife by 10 weeks to allow time for discussion and organisation of this test, which must be done by 13 weeks and 6 days at the latest.

These discussions with our women help towards achieving improved outcomes on obesity and smoking that are part of our Maternity Clinical Indicators.

Each PHO in our DHB was asked to appoint a clinical champion to further the work of maternity services into primary care. The clinical champions have delivered the discussion cards and provided education around the First Contact Pregnancy Information Pack. Large group education sessions were also held in three of the PHOs and the packs were discussed at a DHB organised education session open to all doctors and practice nurses. The distribution of the packs continues to come from the DHB to the PHOs under the supervision of the clinical champions.

In the community the First Contact Pregnancy Information Packs are freely available to all midwives via either the Access Holders Meetings or from the Primary Birthing Units.

[18] The Otara Maternal and Child Health Services Integration project – *Outcomes Evaluation Report: Integrated Maternity and Child Health Services (April 2016)*. Not yet published.

2. Timely registration with a self-employed LMC midwife

BY AMANDA HINKS

During 2015 early engagement of pregnant women during the first trimester continued to be a focal point. The need to increase registrations in the first trimester of pregnancy and the evidence supporting early engagement was shared and discussed with all stakeholders. Figures 3 and 4 below reflect an increasing trend of early engagement with a LMC but the rate by ethnicity informs us we need to identify innovative ways of engaging our Maaori and Pacifika women over the following year.

FIGURE 3.

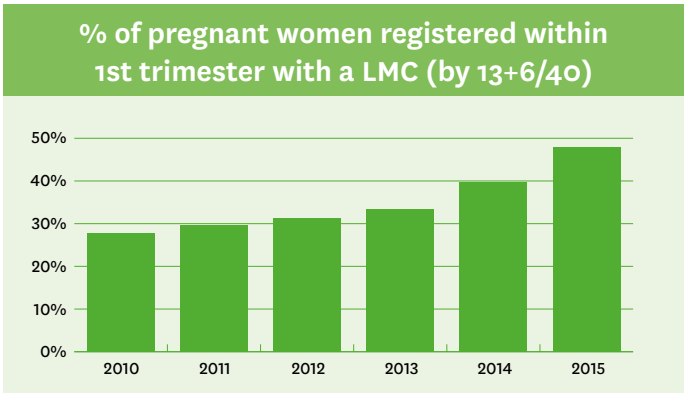
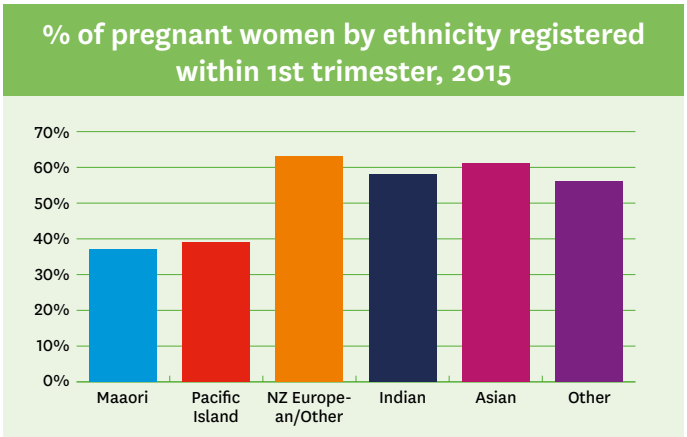


FIGURE 4.



What have we done this year to support women with accessing Maternity Care in Counties?

- During October 2015 there was a large poster campaign outside Middlemore Hospital at a very busy public transport and road junction, informing the community about engaging early with a midwife for pregnancy care and this image is on the DHB website.
- The introduction of Clinical Champions in Primary Health Organisations (PHO) who have allocated FTE to dedicate to the development of processes which support early engagement for pregnancy care for the pregnant women who are enrolled in their PHO. These roles link with the LMC midwifery liaison roles who are tasked with implementing processes and communications channels which support linking the pregnant woman with a LMC Midwife of her choice.
- The LMC midwife liaisons have started to build regular opportunities where self-employed LMC and DHB employed community midwives can meet over a shared lunch with invited colleagues from Primary Care to enhance face to face communication and keep up to date with news and share stories in a supported environment.
- The LMC Liaison Midwives are also linking in with existing educational and professional development opportunities available to DHB employed midwives to find out if self-employed LMCs can access the same. This is to attract and retain our self-employed LMC midwives in CM Health area.
- The three primary birthing units across the district provide information about self-employed LMC midwives and their availability at their reception desk areas and women seeking a midwife are encouraged to drop in. Pukekohe, a rural primary birthing facility, has a resource centre which pregnant women or those needing a LMC can access 5 days a week between office hours.
- The introduction of the Mokopuna Ora pregnancy and parenting curriculum will further reinforce the messages supporting early engagement for pregnancy care and support with finding a LMC. Information and resources will be available as a cellphone application and supported by face to face interactions and groups tailored to meet the needs of Teens, Maaori and Pacfika mothers and their

families from October 2016 in Counties Manukau. www.mokopunaora.co.nz and www.tapuaki.org.nz

- Direct referrals via Text messaging service to self-employed LMC midwives.

Redirection of referrals

The redirection of referrals of pregnant women referred into the DHB by their GP who are seeking a self-employed LMC midwife. The text messaging service contacts LMCs in a geographical area and the LMC contacts the DHB for further details about the referral and then makes contact with the pregnant woman. The graphs in figures 5 and 6 indicate the residential areas where women are re-referred onto a LMC and their final model of care. This reflects the geographical area where unbooked mothers present from and enables us to identify this is an area in need of strengthening links with LMCs and increasing LMC coverage.

FIGURE 5.

Residential area of pregnant women re-referred using text messaging system

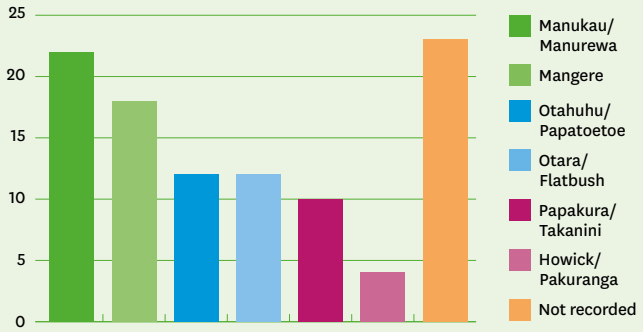
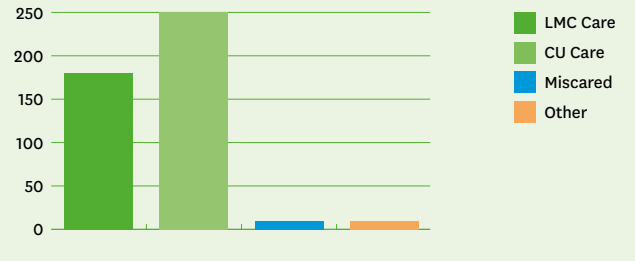


FIGURE 6.

Final model of care for pregnant women re-referred using text messaging system



3. Access to and quality of primary maternity ultrasounds

BY AMANDA HINKS

12 week scan.

20 week scan.

Improving access to Ultrasound scans during pregnancy

For continued improvement of Maternity Services to occur the NMMG outlined access to and quality of primary ultrasounds as an area that action was required. Attention was drawn towards the specific issues around cost, timing, quality and the rising numbers being requested.

Access to affordable and timely ultrasound scans has been a focus this year. Affordability of the co-payment was not an issue for pregnant women in South Auckland until October 2015 when a co-payment for the anatomy scan was introduced by a community provider operating in our high NZ deprivation index areas. CM Health now has all its community ultrasound scan providers charging a co-payment.

What has been done to address equity issues in ultrasound provision?

From October 2015 the DHB started a system where pregnant women in financial difficulty and who state they are unable to attend an ultrasound scan due to the financial barrier are able to receive assistance for an anatomy scan. Earlier in 2016 the co-payment requested by the provider was extended to cover growth scans and post-dates assessment. The co-payment for one provider was per fetus, which meant extra fees for multiple pregnancies. Faced with other providers starting to charge co-payments for anatomy and growth scans the system of supporting pregnant women with co-payment funding needed to be extended to all our providers in Counties Manukau. From October 2015 to date the DHB has funded 100 co-payments.

A further issue has arisen as we try to gauge the demand for the co-payment funding. There is no prospective transparency about which healthcare professional or agency refers pregnant women for ultrasound investigations, or the type of ultrasounds that these women receive. There is also no data that records the domicile or ethnicity of pregnant women receiving ultrasound scans, or information regarding the time it takes to receive an ‘urgent’ or ‘semi-urgent’ scan.

Primary Options for Acute care (POAC) has been appointed to trial an administrative process whereby requests for urgent obstetric scans are placed same day or within 48 hours of the request. This service contract commenced on 1 July 2016.

POAC’s criteria for accessing urgent maternity ultrasound scans are;

- Malpresentation after 36/40
- Growth scan
- Post-dates growth and liquor volume assessment
- Where an urgent fetal anatomy scan is required e.g. confirmed maternal Zika viral infection
- Pregnancy anatomy scans after 24/40
- Low suspicion of an ectopic pregnancy.

Other issues with ultrasound scans are quality of reporting and access to the reports. Both of these issues have been escalated to a regional ultrasound forum for further investigation and action.

4. Variation in gestation at birth: rates of induction of labour and monitoring of caesarean sections

BY DR SARAH TOUT, CLINICAL DIRECTOR WOMEN'S HEALTH & DR PIP ANDERSON

It is recognised that caesarean section and induction rates have been increasing in recent years. It has been signalled by the NMMG that they are interested in better understanding the reasons for planned early birth (e.g. induction, elective caesarean sections). The work that has been undertaken to review induction of labour is described.

Caesarean Sections

Clinical Indicator 4 (Rates of caesarean section for standard primiparae) is higher for women living in Counties Manukau or birthing at Middlemore Hospital, but not statistically significantly higher, than the New Zealand average (see page 42 clinical indicator table).

The vast majority of all women who birth at CM Health facilities do so by normal spontaneous birth (70.4%) (Table 10). In 2015 22.8% of women birthed by caesarean section and rates appear to be plateauing with the percentage being very similar to 2014 (Figure 7).

TABLE 10.

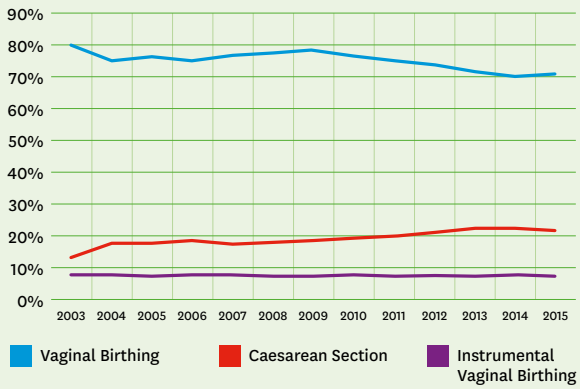
Birthing method for all women who deliver at a CM Health facility, 2015

BIRTHING METHOD	TOTAL	% OF TOTAL
Vaginal Birthing	5146	70.4%
Caesarean Section	1665	22.8%
Instrumental Birthing	497	6.8%
TOTAL	7308	100.0%

Source: Healthware and Badgernet. Extracted by Health Intelligence and Informatics 2016. This includes all women who deliver at CM Health facility

FIGURE 7.

Mode of birthing for all women birthing at CM Health facility, 2003-2015

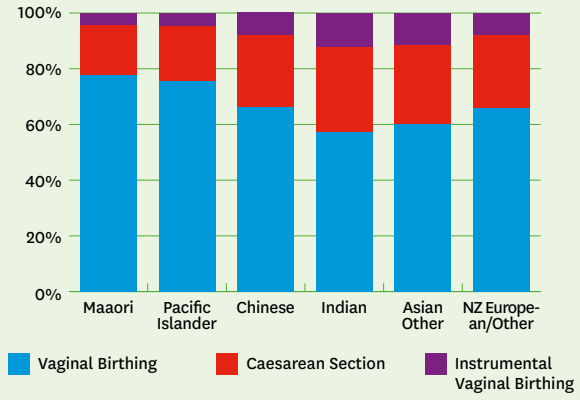


Source: Healthware and Badgernet. Extracted by Health Intelligence and Informatics 2016.

Mode of delivery varies by ethnicity. In 2015 82% of Maaori women and 81% of Pacific Island women who birthed at a CM Health facility had their babies by vaginal birth (including instrumental births). Indian women have the highest percentage of deliveries by caesarean section (30%) and instrumental vaginal birth (12%) and the lowest percentage of vaginal births (57%) (Figure 8).

FIGURE 8.

Mode of birthing for all women birthing at a CM Health facility, by ethnicity 2015

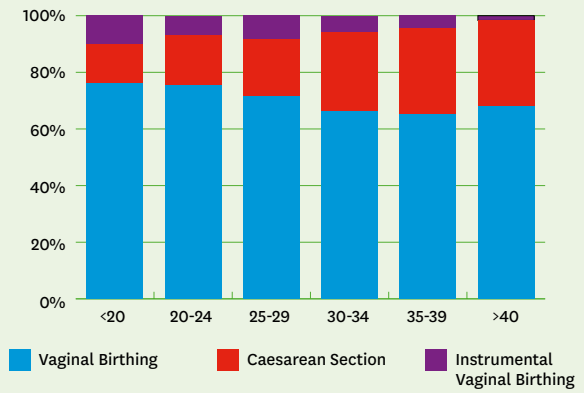


Source. Healthware and Badgernet tables. Extracted by Health Intelligence and Informatics 2016. Ethnicity is preferred.

The percentage of women birthing by vaginal birth at Counties Manukau decreases with increasing age and the caesarean section rate increases (Figure 9). In 2015 30% of women in both the 35-39 year group and the >40 year age group birthed by Caesarean section. In 2015 87% of women less than 20 years of age birthed by vaginal birth (including instrumental birth), 14% by caesarean section compared to women over 40 years where 70% had vaginal births (including instrumental births), 30% birthed by caesarean section.

FIGURE 9.

Mode of birthing, by age group, for all women birthing at CM Health facilities, 2015



Source: Healthware. Extracted by Health Intelligence and Informatics 2015.

The New Zealand Guideline Group currently recommends that women without additional risk factors, who have had a previous caesarean section, are offered a vaginal birth.[19]

The percentage of women birthing by vaginal birth after one previous birth by caesarean section has fluctuated from 2011 to 2015. In 2015 31% overall of women who had previously had a baby born by caesarean section went on to have a vaginal birth post caesarean section (Table 11). This is lower than in previous years.

TABLE 11.

Women who had a vaginal birth following a Caesarean Section, 2011-2015

YEAR	MONTHS	CAESAREAN	VAGINAL	%VBAC
2011	Jan-Jun	122	117	49.0%
	Jul-Dec	159	101	38.8%
2012	Jan-Jun	152	96	38.7%
	Jul-Dec	161	101	38.5%
2013	Jan-Jun	173	88	33.7%
	Jul-Dec	155	95	38.0%
2014	Jan-Jun	170	88	34.1%
	Jul-Dec	196	88	31.0%
2015	Jan-Jun	166	64	27.8%
	Jul-Dec	152	80	34.5%

Source: Health Intelligence and Informatics extracted 2015. Caesarean: All women who had an Caesarean during that year who had had one previous CS; Vaginal: All women who had a vaginal birth that year who had had one previous CS.

What have we done to review Caesarean Section rates?

In last year's report we described ways in which we hoped we could use routinely collected data to help us understand our Caesarean section rates more fully. Unfortunately the introduction of the MCIS has not allowed this to date. Once the information system issues have been resolved we hope to continue with this work.

Induction of Labour

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

Clinical Indicator 5 (Induction of labour among standard primiparae) is lower for women living in Counties Manukau, and for women birthing at Middlemore, than the New Zealand median but does not reach statistical significance (see clinical indicators). Local data from CM Health facilities, presented opposite, shows that inductions have been increasing (Table 12).

[19] New Zealand Guidelines Group. Care of women with Breech Presentation or Previous Caesarean Birth. Wellington, New Zealand Guidelines Group, 2004.

TABLE 12.

Induction of Labour by parity as a percentage of births, for all women birthing at CM Health facility, 2010-2015

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	7.4%	702	8.6%	1301	8148	16.0%
2011	643	7.9%	792	9.7%	1435	8125	17.7%
2012	794	9.8%	872	10.8%	1666	8065	20.7%
2013	757	10.0%	840	11.0%	1597	7380	22.0%
2014	774	10.6%	869	12.0%	1643	7291	22.5%
2015	801	11.0%	1045	14.3%	1846	7308	25.3%

Source: CostPro 1334 Procedure Block. Extracted by Health Intelligence and Informatics 2016.

What have we done to review Induction rates?

Increasing inductions may be driven by the clinical needs of our population, but the impact on workload and an evaluation of best practice needs to be considered. A regional induction of labour guideline has been developed to reduce local variation and support evidence based practice. The guideline was introduced at Middlemore Hospital in June 2014.

A number of audits of this guideline have been undertaken.

Induction of Labour Booking Process Audit 2016 (Appendix 4)

In April 2016 a team of trainee interns undertook an Induction of Labour (IOL) audit using the IOL Guideline as the gold standard and assessed the newly designed Birthing and Assessment IOL book to see what effect this has had on the revised IOL booking process.

The new IOL book was introduced in 2015 and clearly states the booking criteria for all IOL with the main points being:

- Postdates inductions cannot be booked before 41.5 weeks but will be guaranteed to be induced within 48 hours.
- GDM women can be booked when they are 36 weeks gestation for IOL at 38 weeks.

The audit found that the new system was reducing the over booking of places and has changed the custom and practice that had historically occurred with women being booked into limited available spaces 12 weeks prior to the planned induction. It was pleasing to find 89% of bookings fitted the criteria, which was very close to the 90% target, equating to 6.18 bookings per day. With a remaining 30% cancellation rate, the IOL book identified this equated to 4.32 IOL's being completed on a daily basis.

It was recognised that emergency bookings do not always get recorded in the IOL book (acute admissions needing immediately IOL) and these would need to be identified in the future.

Follow Up Induction of Labour Audit

An Induction of Labour audit is currently being undertaken to determine whether all booked IOL at Counties Manukau continue to be in accordance with the regional Auckland Consensus Guideline on Induction of Labour 2014.

At the same time this audit is looking at:

- the method used for IOL – Cooks Catheter vs Prostaglandin
- the rates of failed IOL, if any, and with which method
- the mode of birth following IOL
- the provision of midwifery care following IOL – self-employed or DHB midwife or a combination of both.

With the new booking process that was developed following the Induction of Labour Audit in January-March 2014 we now have the ability to capture all bookings and obtain more accurate results on the number of IOL's required in Counties Manukau.

Core midwives at work.

Other considerations

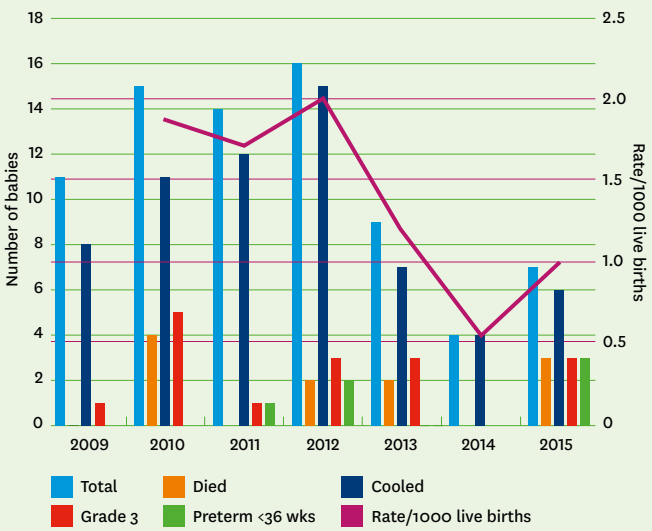
While concerns have been expressed about the rising caesarean section and induction rates hypoxic ischaemic encephalopathy (HIE) rates have been trending down.

Figure 10 shows the total number of babies admitted to the neonatal care at MMH from 2009-2015 with HIE. In 2013 and 2014 all the babies were > 36 weeks while in 2015 three babies were <36 weeks. Most babies were cooled over the five year period with six out of seven cases of HIE cooled in 2015. The total number of babies admitted with HIE peaked in 2012 at 16 cases. In 2015 seven babies with HIE were admitted.

While it is uncertain at this time why the number of babies with HIE has decreased so dramatically post 2013 there are several possible contributory factors including earlier recourse to delivery by caesarean section, more liberal use of scalp lactate sampling for abnormal cardiotocographs (CTGs), earlier identification of SGA babies and earlier induction of labour for these babies.

FIGURE 10.

Hypoxic Ischaemic Encephalopathy (HIE), Middlemore Hospital, 2009-2014



Source: Numerator data provided by Middlemore Hospital Neonatal Care. Denominator data NMDS live births at CM Health facilities only.

5. National Consistency in Provision of Co-ordinated Maternal Mental Health Services

BY DR VANITHA KALRA, PSYCHIATRIST MATERNAL MENTAL HEALTH

Early identification and easy access to services for the assessment and treatment of mental illness during the perinatal period is identified as a crucial factor in determining the health outcomes for mothers with mental illness and their babies. A key determinant to achieve this is a well integrated health system where the maternity services and the mental health services are well co-ordinated in the care of women with mental illness.

Mental Health Services are provided by several services within CM Health. The Intake and Assessment teams provide triage, support at the point of entry and acute assessments. The Community Mental Health teams based in four centres across the Counties catchment area provide ongoing care for mothers with chronic mental illness. The Child and Adolescent Services provide for the young mothers under the age of 18. Maternal Mental Health clinicians can support and work alongside any of the above services to ensure that management is tailored for specific perinatal needs.

Specialist perinatal services are provided via the Maternal Mental Health Team based at Whirinaki (Child, Adolescent and Family Mental Health Services). The Maternal Mental Health Team provide specialist care for women who are pregnant or up to 12 months post-partum, and are experiencing a moderate to severe mental health problem where the mental health problem adversely impacts upon their pregnancy or abilities to fulfil the roles and responsibilities associated with motherhood. The multidisciplinary team includes psychologists, occupational therapists, social workers, nurses, peer support specialists, a Maaori cultural advisor and a specialist maternal mental health psychiatrist.

The range of services provided includes:

- Acute assessment and treatment of mental illness
- Ongoing case management
- Liaison and referral to other agencies
- Therapy for specific mental illnesses
- Pre-pregnancy/preconception consultation
- Case consultation to the adult mental health services around specific perinatal issues
- Case consultation to GPs and other primary care providers including maternity services.

The services are delivered in the community at Whirinaki, adult mental health centres, and maternity unit Middlemore Hospital site. For women with multiple children, transport difficulties or other barriers to access to care, the clinicians provide assessment and treatment through home visits.

The acute treatment options available for this group of women are:

- Inpatient Mental Health services. For acute illness with safety concern services are provided a Tiahomai. When the concerns are related to impaired bonding due to being unwell, the Mother and Baby Unit is an option. This is a regional 3 bed unit shared by the 3 metro Auckland DHBs.
- Those women who can be managed in a less restrictive environment have access to Awhi Rito, a 4 bedded respite facility. This unit is based in Manurewa, hence more accessible to women in the South Auckland area. Women, along with their babies up to the age of 12 months can have acute admissions as well as planned admissions to this unit.
- For those women with mental illness unable to access any of the above acute facilities due to being the main carer for other older children or other reasons, the home based respite options are available. This is a service provided by health care workers who work with the mother and baby in their own home to provide support.

Referral processes

- Referrals are received through a single point of entry system called the Intake and Assessment Team via phone, fax or e-referral.
- Referrals to this service can be self-referrals from consumers, clients, general primary care providers, maternity services or any agencies who have identified a need for assessment and treatment of possible mental illness.
- Agencies or individuals considering a referral can access support with this process by contacting the duty clinician from the Maternal Mental Health Team.
- All perinatal referrals are triaged by the Intake and Assessment Team alongside the Maternal Mental Health clinician and allocated to the Adult Mental Health services or Maternal Mental Health team.
- All referrals under the age of 18 are triaged by The Child, Adolescent and Family services.
- Referrals for specific cultural needs are also triaged by the Intake and Assessment Team and allocated to Maaori or Pacific Mental Health Services.
- A phone number is provided for emergency/urgent contact for mental health services.

Progress between maternal mental health liaison and maternity service providers

Maternity ward on middlemore hospital site

A maternal mental health clinician has been identified to provide 2 hours of liaison to the maternity ward on a weekly basis. The day and time will be directed by the Maternity Charge Midwife. The clinician is able to provide:

- Information about Mental Health services
- Information about referral processes
- Assessment of clients on the ward when there are questions around their mental wellbeing
- Flyers and resources related to Maternal Mental Health for the Ward.

Community birthing units

Maternal mental health clinicians are allocated to be available to provide the above mentioned areas of support as well as providing clinical support. This may be in the form of brief assessment to aid prompt access to the referral pathway. They may also assist with acute assessments as specified in the Acute Perinatal and Infant Mental Health Project.

Sharing client information

The need for sharing client information at critical times e.g. during labour and birthing or Emergency Department presentations is a recommendation that is part of most morbidity and mortality reviews. There is current dialogue to ensure that the electronic documentation systems can support this.

The Vulnerable Infant Forum

Further to the Development of the Vulnerable Infant Forum which is coordinated monthly by Manurewa CYF, and the Introduction of Te Ao Marama, a vulnerable women's forum last year, there is strong evidence of progress and liaison. These two forums have representation from the CM Health Community Midwifery Service, Maternity Service Development Manager, Maternal Mental Health services, CM Health Social Workers; CM Health Child Protection Team representative; CM Health CYF Liaison Social Worker. Over the last year there have been several case studies reflecting good information sharing and facilitation of access to appropriate services.

Information & training

Over the last year 3 information sessions were provided at the various CYF's sites around south Auckland.

The annual midwives Maternal Mental Health Workshop is a one day programme delivered by the Maternal Mental Health team to share knowledge and systems interface.

6. Connecting and Supporting Our Maternity Consumers Members

BY AMANDA HINKS

Rebecca Passi and baby Ryder.

What our Maternity Panel Consumers say

"It's been a great experience being a member of the DHB Maternity consumer panel. Having a voice as a consumer is important. I also found the opinions of the other panelists well informed and thought provoking. Being on the panel also enabled me to spread the word about the good work that CM Health is doing."

Rebecca Passi, Manukau, Mother of four

"As a mother of two, I would really have enjoyed being part of the pregnancy and parenting education provider decision making team. Thank you for consideration and please keep me in mind if any further opportunities should arise."

JoJo Fan (Qing Hui), Papakura, Mother of two

"I found my experience in the group very rewarding and interesting. I find the topics brought to the meetings will help the community and the women preparing to having babies."

Courtney Tauranga, Manurewa, Mother of seven

"I have been a member of the Maternity Consumer Panel for over 2 years. Being on this panel has given me the opportunity to share my experience and the experiences of women, that is friends, family, and my community of their engagement with maternity services in CM Health. It is through this panel that I have become a voice piece for our women and their families, particularly our Pasifika women. This panel has also given me some insight into the maternity system within CM Health and the importance of a consumer voice in these health forums, so that consumers can be heard and be a part of the decision making of their health."

Metua Daniel-Atutolu, Papakura, Mother of four

CM Health is aware that in order to improve outcomes for our women and babies we need to understand women's experience of the health system and implement changes that meet their needs. In order to do this we are working towards much greater and more meaningful involvement of our consumers.

The function of the Maternity Consumer Panel is to provide advice and feedback on maternity services to the management of the CM Health. The advice is to inform the DHB and other providers (e.g. self-employed LMC midwives, general practice) on the design and direction of maternity services, how people can access them and how effective services are in providing the services and meeting women's and family's needs

Our Maternity Consumer Panel was set up in November 2014 and runs successfully due to a variety of factors; The format of the meetings is semi-formal, there is a mutually agreed agenda, minutes are taken, children are welcome and refreshments and time to mix and mingle is incorporated in the meeting structure.

The group meet regularly, once every 3 months for 2 hours and are respectful of each other's views and opinions. The group readily accept and welcome new people to the group and take an active interest in each other. The tone of respect is strong, all our consumers are remunerated, opinions are sought regularly on location and the time and day of the meetings is mutually set ahead a year ahead. A consumer meeting has not needed to be canceled since commencing in November 2014. The group's membership has remained quite consistent which signifies the value members place on their activity and the feed back above is a testament to this. The panel has had some minor changes to its membership over the last year and welcome two Maaori mothers and their children.

Despite representing our community demographic it is noted the group still require membership from our teen mothers and Indian ethnicity. One of our teen mothers lives and studies in a rural area and has transport problems and another moved out of the area.

Communication is undertaken via email from an independent facilitator and minutes are circulated quickly after the meeting. As the DHB representative I aim to safeguard the group by encouraging those who interact with the group to apply a consumer lens over our language and how we communicate.

This can be a steep learning curve for those of us not in regular contact or communication with our consumers. CM Health has invested in the consumers and has demonstrated this through opening up opportunities for our consumers to be involved e.g. funding attendance at the 2016 PMMRC Conference and 2016 NZCOM conference.

TABLE 13.

Consumer Panel Membership via locality, Nov 2015

CM HEALTH LOCALITY	NUMBER OF MEMBERS	% OF THE CM HEALTH POPULATION
Manukau (Papatoetoe/Manukau, Manurewa/Clendon and Takanini/ Papakura/Drury)	6 (55%)	37%
Otara/Mangere (Northern Papatoetoe region and straddles the isthmus at Otahuhu)	1 (9%)	21%
Eastern (Howick, Pakuranga, Dannemora, East Tamaki and Flat Bush and extends to the rural areas of Beachlands, Maraetai, Clevedon, Kawakawa Bay and Orere Point)	2 (18%)	28%
Franklin (Pukekohe, Tuakau, Waiuku, and Pokeno)	2 (18%)	14%

BACK LEFT TO RIGHT: Thelma Thompson, Christine Tokoara, Metua Daniel-Atutolu, Courtney Tauranga and Baby Magic, Amanda Hinks, Larissa Pereira, Isis McKay, Anna Baker, Lyn Stark. FRONT LEFT TO RIGHT: Odette Frost- Kruse, Dana Owens and Fraser, Rebecca Passi and Ryder, Jojo Fan (Qing Hui), Mel Tap and Matilda. UNABLE TO BE PRESENT: Donina Tuagalevao, Adele Mueller, Nicole Ranby-Latuselu, Daphne Leakehe.

Over the past 12 months The Maternity Consumer Panel have been consulted or discussed:

- *Preventing Anaemia During Pregnancy* talk cards.
- Healthy Mums and Babies Study.
- Te Rito Ora community breastfeeding and baby feeding support service.
- Maternity Quality and Safety Programme Report Launch.
- The content of the first antenatal pack.

Areas for development of the Maternity Consumer Panel

The need for consumer contribution in other forums across the CMDHB maternity service's is recognised and currently being worked through. We have negotiated with an experienced consumer who has been working with maternity services for a number of years to lead some changes with the current group to address what CM Health needs to do to progress the integration of consumer activity going forward.

Currently this group is not connected with the wider CM Health Women's Health Consumer quality/governance structure. The group is not as effective or sustainable as it could be and is vulnerable to disestablishment. There is no formal accountability process to and from the group.

The benefits of a refreshed consumer panel is for the consumers to:

- Become better connected/integrated into the maternity services clinical governance structure and the CM Health Consumer Council – which increases the ability of the group to influence change and help set the agenda for quality maternity services.
- Make the maternity service accountable to the women and their whaanau in the CM Health community.
- Address issues about Women's health services by including consumer voices – what are some examples of issues with care that members of the panel are concerned about? How can things be improved?
- More autonomy/control over agenda items – not just a tick box, opportunity to participate in the development of the agenda and direction of the group.
- Increased opportunities for involvement, training, personal/professional development.

Proposed Consumer Quality Group (CQG):

Approximately 4 self-appointed members

- To meet bi-monthly (5x per year).
- Chaired and facilitated by consumer with the idea that eventually the group will take over its own facilitation.
- Fits with the rest of the Counties Manukau Health Quality structure.
- Members could also have the opportunity to be consumer representatives on other quality groups e.g. SUDI, contraception, smoking cessation.
- Members will be supported by the CQG facilitators and offered induction and on-going support.
- Participation remunerated.

Consumer Forum:

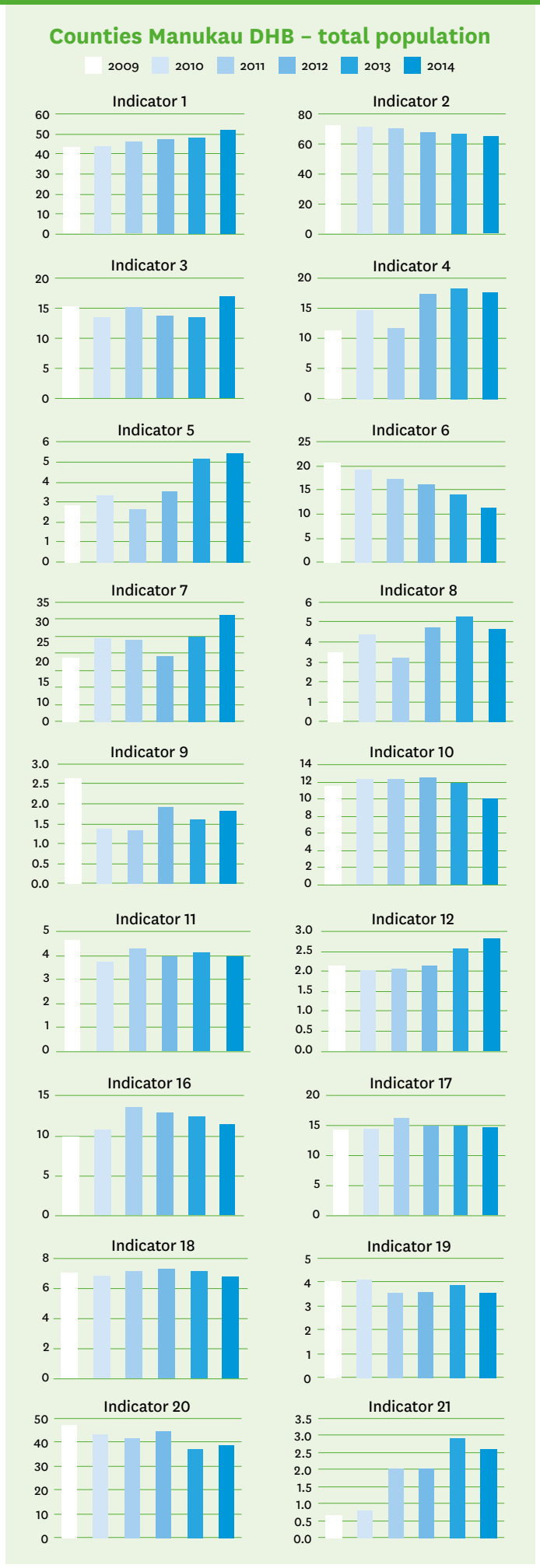
- Made up of current panel members, BFHI consumers & Chair of DHB Consumer Council.
- 2x consumer forums annually.
- Members of the CQG group will attend and report on quality initiatives and activities.
- Presentations of relevant research/programmes/policies/ quality improvement activities happening in CMDHB maternity services and wider consumer activities.
- Participation remunerated.

7. The New Zealand Maternity Clinical Indicators

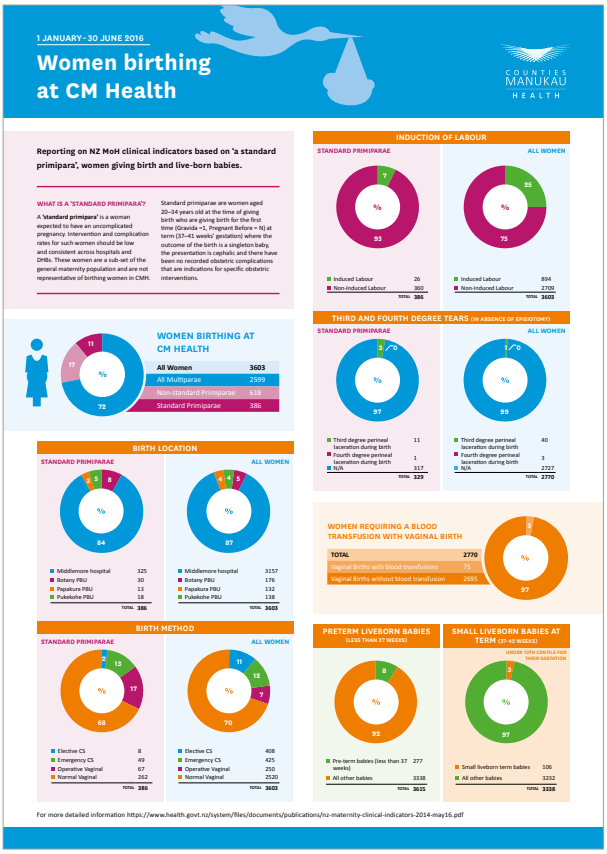
A clinical indicator is a measure of the clinical management and outcome of health care received by an individual. See Appendix 5.

Counties Manukau DHB – total population

INDICATOR		2009	2010	2011	2012	2013	2014
1. Registration with a LMC in the first trimester of pregnancy	**Rate (%)**	**43.6**	**44.3**	**46.2**	**47.7**	**48.2**	**52.1**
	Numerator	2,251	2,429	2,586	2,735	2,723	3,294
	Denominator	5,167	5,484	5,594	5,738	5,649	6,324
2. Standard primiparae who have a spontaneous vaginal birth	**Rate (%)**	**72.4**	**71.1**	**70.2**	**68.2**	**66.9**	**65.1**
	Numerator	872	853	835	773	761	744
	Denominator	1,205	1,199	1,189	1,133	1,137	1,142
3. Standard primiparae who undergo an instrumental vaginal birth	**Rate (%)**	**15.3**	**13.6**	**15.1**	**13.9**	**13.5**	**16.9**
	Numerator	184	163	180	157	153	193
	Denominator	1,205	1,199	1,189	1,133	1,137	1,142
4. Standard primiparae who undergo caesarean section	Rate (%)	11.4	14.7	11.8	17.5	18.4	17.6
	Numerator	137	176	140	198	209	201
	Denominator	1,205	1,199	1,189	1,133	1,137	1,142
5. Standard primiparae who undergo induction of labour	**Rate (%)**	**2.8**	**3.3**	**2.6**	**3.5**	**5.2**	**5.4**
	Numerator	34	40	31	40	59	62
	Denominator	1,205	1,199	1,189	1,133	1,137	1,142
6. Standard primiparae with an intact lower genital tract (no 1st- to 4th-degree tear or episiotomy)	Rate (%)	20.6	19.2	17.3	16.1	14.1	11.3
	Numerator	220	196	182	151	131	106
	Denominator	1,068	1,023	1,049	935	928	941
7. Standard primiparae undergoing episiotomy and no 3rd- or 4th-degree perineal tear	**Rate (%)**	**18.9**	**24.1**	**23.8**	**18.9**	**24.8**	**31.1**
	Numerator	202	247	250	177	230	293
	Denominator	1,068	1,023	1,049	935	928	941
8. Standard primiparae sustaining a 3rd- or 4th-degree perineal tear and no episiotomy	Rate (%)	3.5	4.4	3.2	4.7	5.3	4.7
	Numerator	37	45	34	44	49	44
	Denominator	1,068	1,023	1,049	935	928	941
9. Standard primiparae undergoing episiotomy and sustaining a 3rd- or 4th-degree perineal tear	**Rate (%)**	**2.6**	**1.4**	**1.3**	**1.9**	**1.6**	**1.8**
	Numerator	28	14	14	18	15	17
	Denominator	1,068	1,023	1,049	935	928	941
10. Women having a general anaesthetic for caesarean section	Rate (%)	11.5	12.4	12.3	12.5	11.9	10.1
	Numerator	180	211	211	247	240	204
	Denominator	1,562	1,702	1,719	1,976	2,017	2,014
11. Women requiring a blood transfusion with caesarean section	**Rate (%)**	**4.6**	**3.7**	**4.3**	**3.9**	**4.1**	**4.0**
	Numerator	72	63	74	78	83	80
	Denominator	1,562	1,702	1,719	1,976	2,017	2,014
12. Women requiring a blood transfusion with vaginal birth	Rate (%)	2.1	2.0	2.1	2.1	2.6	2.8
	Numerator	150	144	145	144	157	177
	Denominator	7,018	7,056	7,022	6,790	6,142	6,271
13. Diagnosis of eclampsia at birth admission	**Rate (%)**	**0.07**	**0.07**	**0.03**	**0.03**	**0.01**	**0.00**
	Numerator	6	6	3	3	1	0
	Denominator	8,580	8,758	8,741	8,766	8,159	8,285
14. Women having a peripartum hysterectomy	Rate (%)	0.10	0.08	0.06	0.13	0.09	0.02
	Numerator	9	7	5	11	7	2
	Denominator	8,580	8,758	8,741	8,766	8,159	8,285
15. Women admitted to ICU and requiring ventilation during the pregnancy or postnatal period	**Rate (%)**	**0.06**	**0.05**	**0.06**	**0.02**	**0.02**	**0.02**
	Numerator	5	4	5	2	2	2
	Denominator	8,580	8,758	8,741	8,766	8,159	8,285
16. Maternal tobacco use during postnatal period	Rate (%)	9.8	10.7	13.6	12.9	12.3	11.3
	Numerator	726	819	1,051	974	769	754
	Denominator	7,407	7,642	7,750	7,578	6,235	6,644
17. Women with BMI over 35	**Rate (%)**	**14.2**	**14.5**	**16.2**	**14.9**	**15.0**	**14.8**
	Numerator	1,055	1,113	1,267	1,153	976	1,038
	Denominator	7,417	7,695	7,821	7,755	6,487	7,031
18. Preterm birth	Rate (%)	7.0	6.9	7.1	7.4	7.2	6.8
	Numerator	609	606	628	652	591	563
	Denominator	8,647	8,838	8,794	8,823	8,224	8,276
19. **Small babies at term (37–42 weeks' gestation)**	**Rate (%)**	**4.1**	**4.1**	**3.5**	**3.6**	**3.8**	**3.5**
	Numerator	325	337	285	290	292	272
	Denominator	8,012	8,196	8,143	8,158	7,607	7,698
20. Small babies at term born at 40–42 weeks' gestation	Rate (%)	47.1	43.3	41.8	44.5	37.0	38.6
	Numerator	153	146	119	129	108	105
	Denominator	325	337	285	290	292	272
21. Babies born at 37+ weeks' gestation requiring respiratory support	**Rate (%)**	**0.7**	**0.8**	**2.0**	**2.0**	**2.9**	**2.6**
	Numerator	53	66	166	167	221	199
	Denominator	8,026	8,212	8,151	8,161	7,613	7,702



Note: Indicators 13 to 15 (showing severe maternal morbidity) are not presented as graphs due to very low numbers (see table for rates and counts).



Quarterly Clinical Indicator A3 Infographic Report

BY LYN STARK

CM Health has commenced producing a quarterly infographic data poster to raise awareness of the New Zealand Maternity Clinical Indicators and to inform our maternity care providers of the outcomes of care we are providing to our women. This has been in response to the NMMG's request for the New Zealand Maternity Clinical Indicators not only to be reviewed and responded to but to be socialised to increase general understanding of what they are and what their purpose is.

Our data analysts have been able to gather the information requested, via MCIS, which allows us to provide very current information to our workforce. We chose infographics to present this information in an engaging way. The indicators cover a range of areas throughout a CM Health woman's pregnancy journey and include: birth numbers clarifying percentage of women who are standard primips, non-standard primips or multiparae; birth location to raise awareness of use of our primary birthing facilities; birth method, induction of labour and third and fourth degree tears comparing standard primips with all women; women requiring a blood transfusion with a vaginal birth; preterm liveborn babies and small liveborn babies at term.

It is envisaged this project will evolve with time as we receive feedback from our maternity workforce, give more context to the information as it grows and incorporate more of the indicators.

Example of work done to address clinical indicator findings:

Blood Transfusion and Post-Partum Haemorrhage

BY DR SARAH TOUT & DR SARAH WADSWORTH, CLINICAL LEAD OBSTETRICS

CM Health definition of a post-partum haemorrhage (PPH) is an estimated blood loss of 500mls or greater in the first 24 hours following birth. It is a potentially life threatening complication of birth.

As it is difficult to accurately estimate the amount of blood loss the MoH have chosen 'requirement for blood transfusion' as the Clinical Indicator to be a more objective measure of blood loss during or following birth.

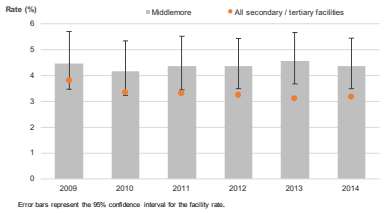
There are a number of recognised risk factors for PPH which include a prolonged second stage of labour, instrumental birthing, vaginal lacerations, induction of labour, augmentation of labour with oxytocin, large for gestational age newborn, retained placenta, hypertensive disorders and abnormal placentation.[20]

Clinical Indicators 11 (blood transfusion with caesarean section) and 12 (blood transfusion with vaginal birth) reflect the requirement for blood transfusion during birth admission. Women living in Counties Manukau and/or birthing at Middlemore Hospital continue to have higher rates of blood transfusion during birth admission than that of the New Zealand median in 2014 (see Figures 11/12).

FIGURE 11. **Clinical Indicator 11**

Middlemore
(tertiary facility)

Indicator: Women requiring a blood transfusion with caesarean section
Numerator: Total number of women requiring a blood transfusion with caesarean section
Denominator: Total number of women who undergo caesarean section



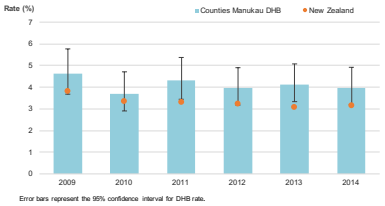
Error bars represent the 95% confidence interval for the facility rate.

Rate (%)	2009	2010	2011	2012	2013	2014
Middlemore	4.5	4.2	4.4	4.4	4.6	4.4
All secondary / tertiary facilities	3.8	3.3	3.3	3.2	3.1	3.2
Numerator						
Middlemore	59	58	66	75	78	74
All secondary / tertiary facilities	577	505	489	500	471	476
Denominator						
Middlemore	1,325	1,395	1,512	1,721	1,708	1,696
All secondary / tertiary facilities	15,192	15,142	14,837	15,535	15,231	15,085

Publication: New Zealand Maternity Clinical Indicators 2014
Source: National Maternity Collection

Counties Manukau DHB
Total population

Indicator: Women requiring a blood transfusion with caesarean section
Numerator: Total number of women requiring a blood transfusion with caesarean section
Denominator: Total number of women who undergo caesarean section



Error bars represent the 95% confidence interval for DHB rate.

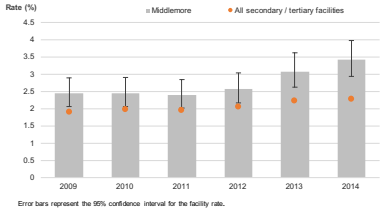
Rate (%)	2009	2010	2011	2012	2013	2014
Counties Manukau DHB	4.6	3.7	4.3	3.9	4.1	4.0
New Zealand	3.8	3.3	3.3	3.2	3.1	3.2
Numerator						
Counties Manukau DHB	72	63	74	78	83	80
New Zealand	578	508	490	500	471	476
Denominator						
Counties Manukau DHB	1,562	1,702	1,719	1,976	2,017	2,014
New Zealand	15,238	15,247	14,875	15,574	15,252	15,094

Publication: New Zealand Maternity Clinical Indicators 2014
Source: National Maternity Collection

FIGURE 12. **Clinical Indicator 12**

Middlemore
(tertiary facility)

Indicator: Women requiring a blood transfusion with vaginal birth
Numerator: Total number of women requiring a blood transfusion with vaginal birth
Denominator: Total number of women who give birth vaginally



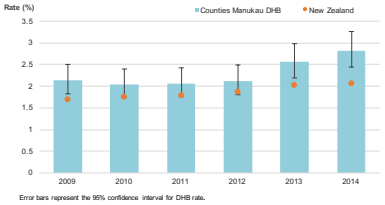
Error bars represent the 95% confidence interval for the facility rate.

Rate (%)	2009	2010	2011	2012	2013	2014
Middlemore	2.4	2.5	2.4	2.6	3.1	3.4
All secondary / tertiary facilities	1.9	2.0	2.0	2.0	2.2	2.3
Numerator						
Middlemore	130	127	127	131	143	161
All secondary / tertiary facilities	740	775	746	777	800	825
Denominator						
Middlemore	5,322	5,188	5,301	5,105	4,639	4,711
All secondary / tertiary facilities	39,069	39,328	38,248	38,044	36,020	36,165

Publication: New Zealand Maternity Clinical Indicators 2014
Source: National Maternity Collection

Counties Manukau DHB
Total population

Indicator: Women requiring a blood transfusion with vaginal birth
Numerator: Total number of women requiring a blood transfusion with vaginal birth
Denominator: Total number of women who give birth vaginally



Error bars represent the 95% confidence interval for DHB rate.

Rate (%)	2009	2010	2011	2012	2013	2014
Counties Manukau DHB	2.1	2.0	2.1	2.1	2.6	2.8
New Zealand	1.7	1.8	1.8	1.9	2.0	2.1
Numerator						
Counties Manukau DHB	150	144	145	144	157	177
New Zealand	826	862	845	875	889	908
Denominator						
Counties Manukau DHB	7,018	7,056	7,022	6,790	6,142	6,271
New Zealand	48,989	49,211	47,424	46,747	43,964	44,102

Publication: New Zealand Maternity Clinical Indicators 2014
Source: National Maternity Collection

[20] UpTodate. Risk factors for postpartum haemorrhage. Accessed 8/7/2014.

In addition we have reviewed the local data for women birthing at a CM Health facility who have a PPH. The percentage of women having a PPH is shown in Table 14 as a percentage of all women birthing at a CM Health facility.

TABLE 14.

Percentage of Post-Partum haemorrhage of all births for women birthing at CM Health facilities, 2003-2015

YEAR	PPH CASES	ALL BIRTHS	% OF ALL BIRTHS
2003	521	6505	8%
2004	493	6763	7%
2005	428	6968	6%
2006	575	7821	7%
2007	802	8149	10%
2008	827	8179	10%
2009	797	8056	10%
2010	872	8148	11%
2011	750	8125	9%
2012	899	8065	11%
2013	758	7380	10%
2014	860	7291	12%
2015	1061	7308	15%
TOTAL	9643	98758	10%

Source: CostPro, standard health informatics source 2016, O720 or O721 diagnoses codes.

TABLE 15.

Percentage of women, birthing in CM Health, who have a Post-Partum haemorrhage and require a blood transfusion, 2003-2015

YEAR	BLOOD TRANSFUSIONS	ALL PPH CASES	TRANSFUSIONS AS % OF PPH
2003	87	521	16.7%
2004	67	493	13.6%
2005	91	428	21.3%
2006	90	575	15.7%
2007	125	802	15.6%
2008	169	827	20.4%
2009	165	797	20.7%
2010	144	872	16.5%
2011	154	750	20.5%
2012	185	899	20.6%
2013	149	758	19.7%
2014	165	860	19.2%
2015	169	1061	15.9%
TOTAL	1760	9643	18.3%

- In 2015 15% (up from 12%) of all women birthing at a CM Health facility had a PPH (Table 14).
- Of those women who had a PPH while birthing at a CM Health facility 15.9% (down from 21%) received a blood transfusion (Table 15).
- The majority of PPH occur in Pacific Island women (44%) (Table 16).
- The majority of PPH (70%) occur in women living in deprivation index 9 and 10 (Table 17).

TABLE 16.

PPH by Ethnicity, 2015

ETHNICITY	TOTAL	% OF ALL PPH
Maaori	198	19%
Pacific Island	470	44%
NZ European/Other	197	19%
Indian	117	11%
Asian Other	51	5%
Chinese	28	3%
TOTAL	1061	

TABLE 17.

PPH by Deprivation Index, 2015

DEP13	TOTAL	% OF DEPRIVATION INDEX
1	26	2%
2	22	2%
3	62	6%
4	26	2%
5	19	2%
6	27	3%
7	91	9%
8	47	4%
9	188	18%
10	553	52%
TOTAL	1061	

The decision to provide a blood transfusion post-birthing is influenced by the degree of blood loss, the post-labour haemoglobin level and the availability of intravenous iron. As we have outlined in our last two reports, late booking and low iron stores at booking are issues for our population for many reasons and make the management of chronic anaemia a challenge. We believe these are reasons for our higher rates of blood transfusion in women giving birth.

Despite the increase in PPH rates which is in part due to more accurate recording of cumulative blood loss MCIS we are pleased to note the drop in blood transfusion rate despite the increase in PPH rates which may be attributed to our work on anaemia over the last year.

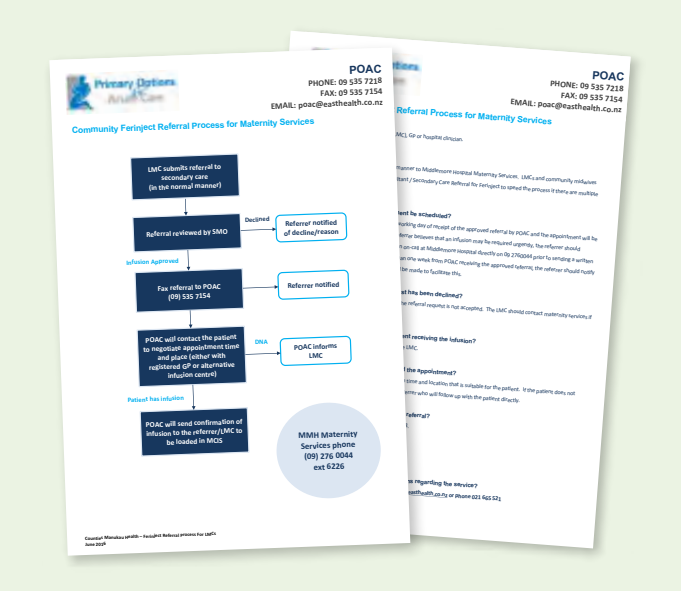
What has changed in the last year in identifying and treating anaemia in pregnancy?

Most importantly the new and comprehensive CM Health ***Iron Deficiency Anaemia (IDA) In Pregnancy and Post-partum – prevention and Management*** Guideline was completed and socialised through a number of avenues.

It includes clear guidelines and pathways to ensure the following practices are undertaken:

- Inclusion of serum ferritin to booking bloods to identify Fe deficiency as early as possible in pregnancy;
- Management of low ferritin levels earlier and appropriately using the well-defined pathway for specific situations i.e. maintenance vs treatment when prescribing oral iron;
- Prescribing of the subsidised and therefore least costly oral iron supplements;
- Appropriate treatment prior to and then, if required, streamlined referral process for Ferinject I.V.treatment.

To further enhance this guideline complimentary visual resources for both practitioners and women are nearing completion. The maternity practitioner resource is an informative desk flip chart and includes IDA prevention and management information directly from the guideline for easy reference. As well as providing helpful conversation starters and nutritional information it covers the effects of low iron on both mother and baby to help educate families on the importance of iron intake. It has been especially designed as a helpful tool for everyday use. Accompanying the flip chart is a fridge magnet reiterating the specific, consistent messages CM Health would like to encourage, especially around simple nutritional advice.



Refer to Appendix 6 for the full Community Ferinject Referral Process for Maternity Services document.

Other Progress

- CM Health has included Ferritin with its own antenatal screening booking bloods form and it is an expectation this will be done for all women with their first pregnancy bloods.
- As reported last year CM Health introduced Ferinject I.V. iron onto the Hospital Medicines List (HML) and supported its use in the hospital for treatment of significant anaemia not responding to oral therapy. Enhancing this, the Day Assessment IV Iron Clinic commenced twice weekly in May 2015. Approximately 6 women per clinic day attend. The clinic is nursing led and any midwifery concerns on the day are referred into the Assessment unit. This clinic will be superseded by moving the administration into primary care.
- A referral pathway and guideline for the prescribing and administration of Ferinject into primary care has been commenced. This is in line with CM Health 'Healthy Together' strategy to support services delivered 'closer to home' and therefore reducing the need to come into a secondary care facility.
- Introduction of the maternity early warning score (MEWS) chart to quantify blood loss more accurately, this form is now used for all women labouring at MMH.
- Negotiating the funding at cost price for the provision of iodine, folic acid and ferrous sulphate for pregnant women who are in financial difficulty.

Third and Fourth Degree Tears

BY DR LOUISE TOMLINSON, SENIOR MEDICAL OFFICER

Obstetric anal sphincter injuries (OASIS) are a well-recognized cause of severe maternal morbidity and can have a major impact on women's lives, both in the postpartum period and longer term. Over the last 10 years we have seen a number of changes in our understanding of perineal trauma.

The MoH Clinical Indicators 6-9 (see page 42) reflect the degree of damage to the lower genital tract from vaginal birth among standard primiparae. Each of the indicators is intended to reflect different issues and encourages reflection by DHBs on what can be done to improve rates of intact lower genital tract, assess risks to mother and infant before undertaking an episiotomy (i.e. support restricted rather than routine use of episiotomies) and consider factors related to labour management that might impact on third and fourth degree tears.

The definition of OASIS, first described by Abdul Sultan, is currently used by CM Health and includes defining an intact perineum as having no visible trauma to the perineum; a first degree tear involves a graze to the vaginal skin only; a second degree tear involves perineal muscles (superficial transverse pereni muscle and bulbospongious); a third degree tear is broken into three categories: 3a, 3b, 3c and a fourth degree tear is through the anal mucosa.

This said identifying an "intact genital tract" may vary depending on the skill of the assessor. At CM Health these definitions have been rigorously taught and followed when assessing a perineum after birth. In CM Health 11% of standard primiparae have intact lower genital tracts (no 1st to 4th-degree tear or episiotomy) (Clinical indicator 6). This is in keeping with the studies showing rates of at least 80% perineal trauma at birth.[21]

After reviewing the clinical indicator data for 2014 it was noted that:

- Standard primiparae living in CM Health or birthing at Middlemore hospital are statistically significantly less likely to have an intact genital tract compared to the NZ median. (Clinical indicator 6).
- Standard primiparae living in CM Health or birthing at MMH are more likely to have an episiotomy and no third or fourth degree tear compared to the NZ median. (Clinical indicator 7)
- The percentage of Standard primiparae living in CM Health or birthing at MMH having a third or fourth degree tear and no episiotomy is slightly higher than NZ median but not statistically significantly so (Clinical indicator 8).
- The percentage of Standard primiparae living in CM Health or birthing at MMH having a episiotomy and third or fourth degree tear is slightly higher than NZ median but not statistically significantly so (Clinical indicator 9).

The reason for the low percentage of women living in Counties Manukau or birthing at a CM Health facility having an intact genital tract is likely to be complex. Known risk factors for OASIS include primiparity, fetal weight, large for gestational age (LGA), body mass index (BMI) and ethnicity.[22] International evidence suggests an additional risk for women of Indian/ Asian descent.[23] It is recognised that women birthing at CM Health are from a population living in highly deprived areas, have poor nutrition, high rates of obesity and a higher rate of anaemia which can result in poor quality tissues that may predispose to perineal trauma.

We have also examined our local MCIS data for all women birthing at a CM Health facility in terms of 3rd and 4th degree tears (Table 18). In 2015, 2.3% of women who had a vaginal birth had a 3rd degree tear while 0.14% of women had a 4th degree tear. Over the past two years CM Health has seen a drop in our OASIS rates from the 2012 3.2% and 2013 3.4% to 2014 2.5% and 2015 2.4%

[21] Kettle C, Tohill S: Perineal care. Clin Evid (Online) 2008. [http://www.ncbi.nlm.nih.gov/pubmed/19445799] (accessed 20th June 2012).

[22] Ampt AJ, Ford JB, Roberts CL, Morris JM. Trends in obstetric anal sphincter injuries and associated risk factors for vaginal singleton term births in New South Wales 2001-2009. Aust NZ JObstet Gynaecol. 2013 Feb;53(1):9-16.

[23] Ampt AJ, Ford JB, Roberts CL, Morris JM. Trends in obstetric anal sphincter injuries and associated risk factors for vaginal singleton term births in New South Wales 2001-2009. Aust NZ J Obstet Gynaecol. 2013 Feb;53(1):9-16.

TABLE 18.

Anal Sphincter injuries for all women birthing at CM Health facilities, 2003-2015

YEAR	3RD DEGREE TEARS	% TOTAL VAGINAL BIRTHS	4TH DEGREE TEARS	% TOTAL VAGINAL BIRTHS	TOTAL VAGINAL BIRTHS	3RD & 4TH TEARS % OF VAGINAL BIRTHS
2007	141	2.1%	6	0.09%	6867	2.1%
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%	6618	2.4%
2011	148	2.3%	17	0.26%	6534	2.5%
2012	189	3.0%	14	0.22%	6333	3.2%
2013	185	3.2%	7	0.12%	5725	3.4%
2014	130	2.3%	8	0.14%	5610	2.5%
2015	128	2.3%	8	0.14%	5643	2.4%

Source:CostPro O702 or O703 diagnoses codes.

What have we done this year?

In the last two years we have moved from simply teaching and training our staff on the identification and management of 3rd and 4th degree tears towards also focusing on risk reducing strategies. In early 2016 a new Perineal Care Guideline was released with the purpose of promoting education on strategies and providing consistent management of second stage to reduce the extent of perineal trauma sustained at vaginal birth. Importantly two aspects of risk reducing strategies have been encouraged intrapartum: warm compresses and perineal massage as these techniques can reduce rates of anal sphincter injury by 50%.[24]

In 2014 an audit of all vaginal births during the month of July (404 births) was undertaken to assess current practice. A reaudit is being undertaken in August 2016 to quantify the impact of the new guideline on practice. We look forward to reporting on this in next year's MQSP Annual Report.

A recent perineal repair workshop in action.

[24] Cochrane database of systematic reviews – perineal techniques during the second stage of labour for reducing perineal trauma. 2011, Vigdis Aasheim, Anne Nilsen, Mirjam Lukasse, Liv Reinar.

Weight Management

BY DR PIP ANDERSON

Being overweight or obese at the start or during pregnancy is recognised as a risk factor for a number of complications including gestational diabetes, preterm and post-term birth, induction of labour, caesarean section, macrosomia, stillbirth, and neonatal and maternal death.[25] BMI is now collated in the MoH Clinical Indicator 17 (page 42) which records women with BMI over 35.

In 2015 data collected for all women booking at a CM Health facility showed 1% of women were underweight, 27% of women had a normal BMI, 23% of women were overweight and 38% of women were obese.[26] At booking BMI was not known for 10% of women (Table 19). The distribution of BMI varies by ethnicity with 29% of Maaori women birthing at CM Health facilities, who had a known BMI, were overweight; 50% of Maaori women were obese. For Pacific Island women when BMI was known, 21% were overweight at booking while 68% were obese in 2015.[27]

TABLE 19.

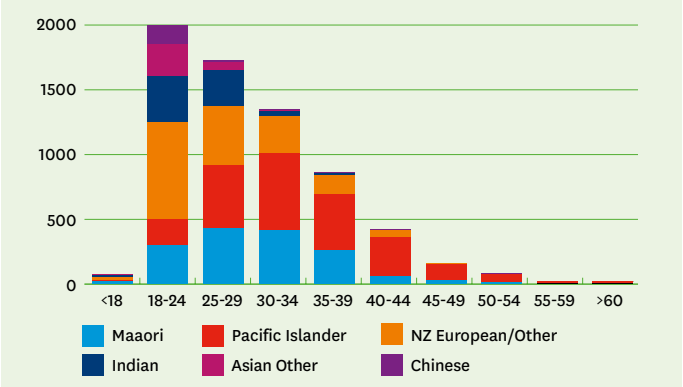
Booking BMI for women birthing at CM Heath facilities, by ethnicity, 2015

BOOKING BMI	MAAORI	PACIFIC ISLAND	NZ EUROPEAN /OTHER	INDIAN	ASIAN OTHER	CHINESE	TOTAL
<18	6	6	28	22	10	13	85
18-24	267	244	711	359	267	160	2008
25-29	377	475	499	251	62	37	1701
30-34	329	613	242	72	23	9	1288
35-39	201	448	120	29	7	-	805
40-44	59	289	54	8	-	-	410
45-49	31	108	14	2	-	-	155
50-54	16	45	5	-	-	-	66
55-59	-	9	3	-	-	-	12
>60	5	3	4	1	-	-	13
Unknown	223	301	127	67	37	10	765
TOTAL	**1514**	**2541**	**1807**	**811**	**406**	**229**	**7308**

Source: Badgernet and Healthware. Extracted by Health Intelligence and Informatics 2016. All women birthing at CM Health facility. Note BMI data was not available for all women booked at CM Health facilities

FIGURE 13.

BMI by ethnicity at time if booking at CM Health facility, 2015



Source: Healthware and Badgernet. Extracted by Health Intelligence and Informatics 2016. Ethnicity is preferred.

Addressing obesity is challenging issue not least as evidence suggests the interventions that are most likely to have the biggest impact sit outside the health sector. Issues such as the wider food environment including the availability and cost of healthy food are significant issues that sit outside the health sector and beyond an individual's control.[28] CM Health continues to promote the MoH 'Guidance for Healthy Weight Gain in Pregnancy' and these are provided in the first antenatal pack. The importance of discussing weight gain in pregnancy is being led by the LMC liaison midwives and the GP clinical champions (refer to page 29).

[25] Jackson C. Perinatal Mortality in Counties Manukau. 2011.
[26] 9.1% unknown
[27] Note unknown BMI was excluded from the denominator
[28] Swinburn BA1, Sacks G, Hall KD, McPherson K, Finegood DT, Moodie ML, Gortmaker SL The global obesity pandemic: shaped by global drivers and local environments.

Other Quality Initiatives

Diabetes in Pregnancy

Background

BY DR PIP ANDERSON

Diabetes is a significant and growing problem in Counties Manukau due to the challenges our population face with weight control in the context of an obesogenic environment and the associated socioeconomic drivers which can lead to a diet dominated by less costly high sugar, fat and carbohydrate food and beverages.

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.

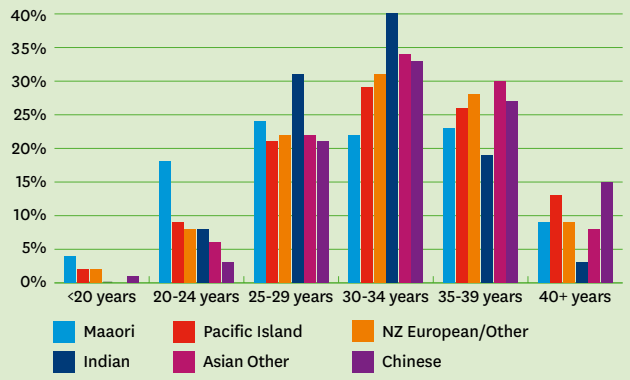
The percentage of women who birth at a CM Health facility identified with diabetes in pregnancy has increased from 3.1% (246) of all births in 2006 to 8.6% (630) of all births in 2015. This was an increase of 48 women between 2014 and 2015. The largest volume of diabetes in pregnancy cases continues to be women of Pacific ethnicities with 242 women identified has having diabetes in pregnancy in 2015 (Table 20).

In 2015 38% of women birthing at a CM Health facility with DiP were Pacific Island, 19% were Indian, 16% were Maaori, and 15% NZ European/Other.

Figure 14 shows the percentage of women with DiP by age and ethnicity over a 10 year period. The percentage shown is the percentage of all women of that ethnicity who gave birth in 2015 therefore across each ethnicity the bars will total 100%. For instance in the 30-34 year old age group, of the 655 Indian women who had DiP 263 (40%) of them were aged 30-34 years. This is different from Pacific Island women, for example, where 29% (587) of all Pacific Island women with DiP are in the 30-34 years age group with higher percentages, compared to Indian, in the other age bands.

FIGURE 14.

Diabetes arising or pre-existing during pregnancy by age and ethnicity as a % of total women birthing, 2006-2015



Source: CostPro. Extracted by Health Intelligence and Informatics 2016. Includes all women birthing at a CM Health facility, with DIP regardless of domicile.

TABLE 20.

Women birthing at CM Health facilities identified with diabetes in pregnancy, regardless of domicile of residence, 2006-2015, trend by ethnicity

YEAR	MAAORI	PACIFIC ISLAND	NZ EUROPEAN /OTHER	INDIAN	ASIAN OTHER	CHINESE	TOTAL	% OF ALL BIRTHS
2006	42	128	40	22	9	5	246	3.1%
2007	32	167	44	40	10	11	304	3.7%
2008	49	178	60	49	11	9	356	4.4%
2009	46	165	42	42	16	10	321	4.0%
2010	41	200	61	47	24	16	389	4.8%
2011	53	230	77	57	25	11	453	5.6%
2012	66	224	82	87	37	38	534	6.6%
2013	64	210	64	93	33	34	498	6.7%
2014	66	259	89	99	38	33	584	8.0%
2015	102	242	93	119	44	30	630	8.6%

Source: CostPro ICD 10 O24* diagnosis codes. Extracted by Health Intelligence and Informatics 2016. Includes all women birthing at a CM Health facility regardless of domicile.

Diabetes in Pregnancy Services

BY KARA OKESENE-GAFA, OBSTETRICIAN & GYNAECOLOGIST, CLINICAL LEAD DIABETES IN PREGNANCY O&G SENIOR LECTURER UNIVERSITY OF AUCKLAND & LESLEY MACLENNAN, CLINICAL SPECIALIST MIDWIFE – DIABETES

Vision

To align with the Counties Manukau "Healthy Together" Strategic Plan 2015-2020 objective of "safe, quality healthcare services" provided by professionals whom are well trained and knowledgeable in their areas of expertise.

Aims

Decrease morbidity and mortality to the mother and baby due to dysglycemia in pregnancy by:

- Optimising Glycaemic Control pre-pregnancy and during pregnancy with the aim of reducing adverse outcomes as a result of dysglycemia in pregnancy.
- Identifying and recognising women with diabetes in pregnancy and managing associated co-morbidities
- Providing diabetes in pregnancy care which is acceptable, accessible, and efficient
- Developing effective communication between health professionals, the women, and their family and Whaanau regarding the importance of optimum diabetes control in pregnancy.
- Identifying high risk or vulnerable groups and reducing inequalities for health.

Our Team

Role/Contribution to Diabetes in Pregnancy (DiP) team

Specialist Midwives

- The Clinical Midwife Speciality/Specialist – Diabetes deliver clinical midwifery care, management and education for women engaged in CM Health Diabetes in Pregnancy service. The midwives provide clinical leadership and diabetes expertise to the CM Health Women's Health team and external providers.

Physicians/Fellows

- Manage women who attend the outpatient diabetes in pregnancy clinics and those admitted on the maternity wards with diabetes.
- Provide support to diabetes in pregnancy specialised midwives who see and manage difficult cases or frequent non-attenders to clinic appointments.
- Assist in updating our diabetes in pregnancy guidelines.

Obstetricians, obstetrics fellow and registrars

- Review and manage women in the diabetes in pregnancy clinics and on the wards when women are admitted for blood sugar stabilisation or for any other obstetrics reasons.
- Monitor maternal (including management of co-morbidities) and fetal wellbeing as well as determine the timing of delivery.
- Assist with updating the diabetes in pregnancy guidelines.
- Provide CME for some GP practices in South Auckland e.g. new gestational diabetes guidelines and HUMBA research.

Dietitians

- Dietary education, monitor and evaluate what diabetes in pregnancy women are eating.
- In conjunction with the midwives group education sessions are run where all diabetes in pregnancy women (apart from Type 1 diabetes and those with english as a second language) are seen at their first appointment. This first appointment includes intensive dietary education and how to use a blood sugar level meter.
- Type 1 and those needing an interpreter have a 1:1 session with the dietitian.

Community health workers

- Support the women at the education session and assist the midwives with engaging women who may be difficult to contact.

Diabetes in Pregnancy education session.

What we have achieved

- Implemented the MoH "Screening, Diagnosis and Management of Gestational Diabetes (GDM) in New Zealand a clinical practice guideline" 1 July 2015. The Guideline was released in December 2014.
    - A diabetes update session was delivered by DiP midwives to 219 nurses and midwives attending their annual Patient Safety Training. This included completion of an eModule on Ko Awatea Learn as pre reading. The eModule is completed by every new nurse and midwife employed at Women's Health.
    - The MoH guideline was discussed at education sessions to the midwives at the new graduate training day and to nurses undertaking a postgraduate Short Course Certificate in Diabetes Care and Management at MIT.
    - Presentations by the DiP midwives to;
        - Otara Maternal and Child Health Project Mix and Mingle evening
        - Neonatal Nurse College Aotearoa Annual Scientific meeting
        - Dietary and Lifestyle Management for pregnant women with HbA1c 41-49 workshops
        - Whitiora Diabetes Nursing service at CM Health.
- "Dietary and Lifestyle Management for pregnant women with HbA1c 41-49" workshops facilitated by Elaine Chong, Diabetes Dietitian, as part of the implementation of the MoH GDM Guideline. The guideline recommends that the primary care provider should now offer screening for Type 2 diabetes at 3 months postpartum. Women attending the DiP service are informed about the risk of developing Type 2 diabetes and advised to see their GP at 3 months for an HbA1c test. In addition to the letter to the GP by the DiP physician, during the pregnancy. DiP midwives create a letter on concerto which is sent at completion of woman's pregnancy to the GP to advise date of delivery with GDM and that she requires an HbA1c postpartum.
- Development of a resource for 'Pregnant women at risk of Gestational Diabetes' to meet an identified need for information for pregnant women with HbA1c 41-49 before 20 weeks or with high BMI. The finalised English version would be available tentatively by September 2016. Funding is being sought to adopt and translate this into Samoan, Tongan, Hindi and Chinese.
- Improved access to dietitian support by reconfiguring clinics
- HbA1c added as part of the CM Health antenatal booking bloods in pregnancy form.
- A one month audit (February 2016) of over 500 women was carried out to see how well LMCs and clinicians are implementing the GDM guidelines statement that "all pregnant women to have HBA1c with their booking bloods preferably <20 weeks gestation".
- CME programs for GPs in the region to explain the GDM guidelines.
- Reconfiguration of our clinic to improve patient flow and increase efficiency.
- All members of the multidisciplinary DiP team were trained in the use of MCIS electronic notes system and are now reasonably confident to use the system.
- Clinicians in the clinic (physician, obstetricians and dietitians) now have their own clinic codes for monitoring, audit and service improvement.
- An oral health pilot has been completed and has identified oral health in diabetes pregnant women as an area of high needs. (Contact person: Christine McKay)
- All DiP inpatient guidelines were reviewed in 2015 by the multidisciplinary team and published in April 2016.
- Involvement in research (Target, GEMS and HUMBA).
- Resource midwife/nurse role established on the maternity ward and Birthing and Assessment focused on diabetes care. Aim of the role was to improve inpatient support. The development of the inpatient support was presented as a poster *"Supporting Inpatient Care for Women with Diabetes in Pregnancy at CM Health – Resourcing the carers and Improving Diabetes in Pregnancy Hospital Care"* at the Australasian Diabetes In Pregnancy Annual Scientific meeting in August 2015.

HbA1c uptake during pregnancy Audit 2016 (Appendix 7)

The Ministry of Health released a national diabetes in pregnancy guideline which recommends all women have a HbA1c with booking bloods. This guideline was formally adopted in CM Health in July 2015. CM Health undertook an audit in February 2016 to understand if this test was being routinely performed for women birthing in Counties Manukau. The audit found 67.8% of women who delivered in February had an HbA1c undertaken during pregnancy with 47.1% of these women having had the test prior to 20 weeks gestation. This audit has highlighted the low compliance of HbA1c prior to 20 weeks. This may be due to the guideline's recent implementation and may be impacted by late booking (meaning some women are unable to have the test prior to 20 weeks). It would be informative to repeat this audit process.

Nutrition Workshops

BY ELAINE CHONG, DIETITIAN-DIABETES

Last year's MQSGG Workplan 7.12 had the objective of *Identifying women with HBA1c of 41-49 at <20 weeks gestation*. The accompanying action was to support self-employed LMC midwives and maternity carers with increased education around healthy weight gain in pregnancy and giving advice to all women during pregnancy, including those with HbA1c 41-49.

Six workshops on 'Dietary and Lifestyle Advice' for Pregnant Women with HbA1c 41-49 were provided in November and December 2015 and provided across different localities in Counties Manukau. A total of 74 health professionals attended, of which two thirds were midwives practising in Counties Manukau and included a mix of both employed and self-employed LMC midwives.

All attendees were supplied a complimentary, ready-to-use resource pack and invited to review two resources being developed: **A Basic Guide to Food for Pregnant Women at Risk of Gestational Diabetes** and **Meal ideas for Pregnant Women at Risk of Gestational Diabetes.**

Encouragingly fifty-two written feedback forms were received giving a response rate of 70%. From these:

- **94%** reported a better understanding of the MoH guidelines.
- **96%** reported a better understanding of the CM Health algorithm.
- **94%** reported an increase in confident in providing 'Dietary and lifestyle advice' with the other 6% reporting no change in their confidence.
- **94%** indicated that they planned to use the resources in the nutrition packs.
- More than **95%** reported the workshop met their needs.

A follow up questionnaire was done in June 2016 to assess the relevance of knowledge gained in the practitioners day-to-day work and identify knowledge gaps and what further support might be helpful.

Summary: Feedback showed the workshops were well received. A proposal for an additional 3 workshops in 2016 was made. The first was held at Botany SuperClinic on the 21 March 2016.

Diabetes in Pregnancy service

Research

DiP team have been involved in the clinical trials TARGET and GEMS, which are coordinated from the Liggins Institute at the University of Auckland together with local site investigators in Counties Manukau. The GEMS Study asks the question 'Which diagnostic threshold for gestational diabetes is best for the health of mothers and babies?' Due to the need for blinding, DiP midwives see women enrolled in GEMS who are referred to the diabetes service with a positive GDM diagnosis only, without numerical values for the glucose tolerance test (GTT).

The TARGET Study asks the question 'Which glycaemic targets are best for the health of women with GDM and their babies?'. In this study, Counties Manukau started out using the less tight glycaemic targets and randomised on the 1 March 2016 to the tighter glycaemic targets. DiP midwives have attended all educational sessions and meetings related to these studies and continue to provide important feedback to ensure they can run effectively.

HUMBA – Healthy Mums and Babies study is also ongoing. This is a 2x2 factorial designed randomised controlled trial of nutritional intervention or nutritional advice with or without probiotics in obese pregnant women (BMI>30) with the aim of reducing gestational weight gain in the mother and infant adiposity. The required number of women to be randomised were 220 and 141 women have been randomised so far with another 79 more to go. A significant number of women have already birthed and some of the women and babies now up to their 4-6 months follow up after birth. Funding is currently being sought to follow up these women and children at 1 year after birth to identify any long lasting effects of the interventions. (Of note, HUMBA is not specifically a DiP research rather it is more around healthy nutrition and reduction of gestational weight gain to improve pregnancy outcomes).

The National Maternity Clinical Information System (MCIS)

BY DEBRA FENTON, SERVICE MANAGER PRIMARY MATERNITY CARE

Following the CM Health external Maternity Care Review in 2012, we were requested to prioritise the implementation of a comprehensive and integrative maternity information system. It was identified that all health practitioners involved in the care of mother and baby needed to access accurate and timely clinical information, which was not being achieved with our legacy systems. As part of the national 'early adopter' DHB group, CM Health commenced using the MCIS in October 2014 and completed the roll out of the MCIS by October 2015.

Currently all women booked to birth at CM Health have an electronic record, supported by old paper notes, observations and medication charts. The transition for primary maternity carers has been relatively smooth and has improved communication between LMCs, GPs, DHB maternity, allied health and other support staff, either using the MCIS directly, via VPN or access to Concerto summary documents.

Across the 2015 year we have also seen improvements in the functionality of the MCIS with each release, including a fully functional partogram and the integration of the GROW programme to easily monitor fetal growth.

However, there remain concerns regarding the functionality and complexity of the system which is highlighted for women with complex histories and emergency situations. Therefore CM Health are currently preparing to transition secondary care maternity services to a more paper based/Concerto process to support the practice of all clinicians to assist consistent documentation and easy access to information.

Clinician groups at CM Health are also currently working with the MoH to look at what it would take, in terms of time and financial assistance, to make the functional improvements required to make the system 'fit for purpose' across secondary maternity services. Depending on the outcome of that piece of work, consideration may then be made for CM Health to again work directly with the vendor with the goal to move back onto the electronic MCIS platform at a later date.

Core midwives using mobile computers.

Women's Health and Kidz First Divisional Report

BY DR LESA FREEMAN, KIDZ FIRST AND WOMEN'S HEALTH QUALITY AND RISK MANAGER

Each month the General Manager, Business Manager and Clinical Quality and Risk Manager produce the Women's Health and Kidz First Divisional Report that is submitted to the Director of Hospital Services and the Hospital Advisory Committee (a subcommittee of the DHB Board). This report is then presented by the General Manager to all of the service managers, senior nurses, midwives and administration team leaders at a monthly Kidz First and Women's Health briefing meeting.

Contained within the divisional report is the Women's Health Score Card which in addition to volumes, occupancy, length of stay, human resource information (e.g. leave taken, staff turn-over) provides a section on Improved Quality, Safety and Experience of Care and provides data on the compliance of all of the maternity facilities in the completion of audits such as safe sleep weekly, emergency trolley and hand hygiene monthly, and occupational health and safety (bi-monthly); as well as data on family violence prevention training, the total percentage of caesarean section and inductions of labour performed, infants exclusively breastfeeding at discharge from Middlemore Hospital (total, Maaori and Pacific Island) and consumer experience survey responses.

Women's Health Pastoral Care Guideline

BY DR LESA FREEMAN

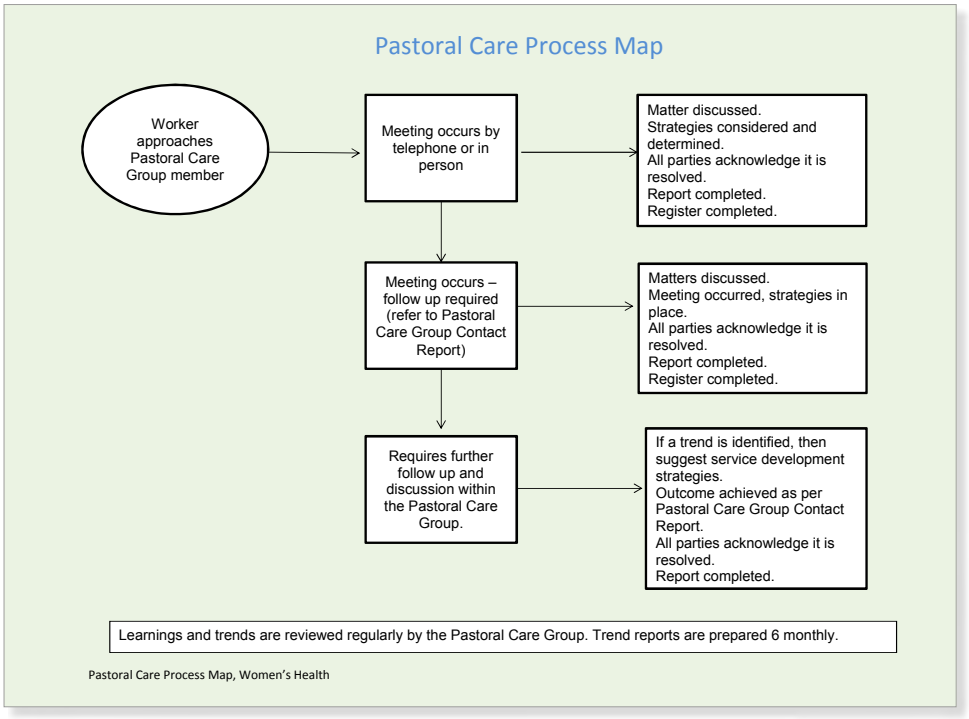
In November 2015 a working group and a steering group were set up to develop a pastoral care guideline and a pastoral care group for Women's Health to implement anti-bullying and anti-harassment charters and processes, and ensure a just culture, in accordance with CM Health's Values.

The pastoral care guideline (Appendix 8) recognises Women's Health's commitment to the physical, mental and emotional well-being and general welfare of all healthcare professionals, including contractors, self-employed LMCs, visiting healthcare professionals support staff, and students. The guideline provides a supportive framework for any worker to be able to raise and address concerns where communication has broken down or behaviour has been exhibited and/or experienced which has caused discomfort and has left the worker with unsatisfactory resolution.

Two meetings were held with the steering group, comprising representatives from NZCOM, MERAS, NZNO and CM Health Employee Relations, to review the draft guideline, process map and contact report before it was sent out to for wider stakeholder consultation and signed off by the Women's Health Division at its April 2016 committee meeting.

Nominations and expressions of interest were sought in May/June 2016 to fill the ten Women's Health Pastoral Care Group positions, comprising: two specialist obstetrician and gynaecologists; an obstetric and gynaecology registrar, two midwives, a LMC liaison midwife; a self-employed LMC midwife; a nurse; a clerical administrator/ward clerk and a service manager.

Once the Women's Health pastoral care group is established employee relations will provide education related to pastoral care and provide background support. The pastoral care group will hold regular closed meetings (at least quarterly) to identify and discuss any trends or incidents. The pastoral care group will further report quarterly to the Women's Health Divisional Meeting outlining trends and current issues relating to pastoral care. The General Manager for Women's Health will in turn report the trends and issues related to pastoral care to the Women's Health Joint Consultative Committee and other forums as deemed appropriate.



Pastoral Care Process Map, Women's Health

Engaging With Our Maternity Workforce

Maternity Monthly e-Update

BY LYN STARK

'Our Maternity Monthly' (OMM), a CM Health's monthly e-Update, commenced publication in March 2015 and is produced by the MQS co-ordinator. It is widely circulated to all CM Health's maternity care providers and interested allied health practitioners. It is also available on SouthNet, via a direct link on the Women's Health page. Interestingly just over half (54%) of the people opening the OMM email view it on their desktop computers with the other 46% using their mobile phones.

OMM is a one-stop-shop covering a wide variety of information relevant to our maternity health professionals. Encompassing information from all areas under 'Our People' including the Primary Birthing Units, it also features newly released or refreshed guidelines, quality and risk matters, maternity service developments, Access Holders minutes and regular updates on local projects and innovations. A 'Highlight' section often features photos of topical events and the broad list of upcoming events is indexed chronologically to be extra helpful for referencing.

OMM is aimed at improving communication and the integration of various services by increasing awareness of one another and the role we all play in working towards providing the best possible care for CM Health's women and whaanau.

Women's Health Serious Adverse Event Forums

BY DR LESA FREEMAN

Over 65 people attended the inaugural Women's Health Serious Adverse Event (SAE) forum on Wednesday 16 March 2016. The two hour session commenced with a presentation on the SAE process and root cause analysis methodology followed by the investigation teams presenting two cases. The pathologists, midwives, self-employed LMC, obstetricians, gynaecologists and registrars, and medical and midwifery students in attendance participated in discussion on the implementation of the recommendations and organisational learnings.

A further SAE forum was held on Wednesday 20 April with four cases (two gynaecology and two obstetric) presented by their respective investigation teams. Fifty-five people attended including a number of health professionals from other services which provided the opportunity to share knowledge and tools in the implementation of the recommendations.

These SAE Forums will continue to be scheduled on a quarterly basis.

Inaugral SAE presentation.

Access Holders Meetings

BY AMANDA HINKS

The CM Health monthly meetings with our self-employed LMCs are called Access Holders meetings as we have some Obstetricians who hold access agreements. The meetings are held early morning, with breakfast supplied, acknowledging and in appreciation of our Access Holder's time and effort attending. The early start also allows an opportunity to mingle and network prior to the official business starting and was decided on after consultation with the attendees.

The day of the meeting alternates Tuesdays and Wednesdays, also following consultation, to accommodate those who have a set clinic time and are unable to attend a regular day. Our terms of reference allow for third year students being welcome to attend with or without their placement midwife for experience. We have a regular attendance of between 20-25 people which includes DHB staff and management of five on average, who are able to attend every other month.

The agenda has set items but is also open for items to be added either prior to or on the day of the meeting. Over the past twelve months there has been increased face to face communication between Well Child Providers, researchers, and wider DHB and self-employed colleagues. The feedback from those who attend the meetings has been positive.

May's access holders meeting.

PHO Appointed Clinical Champions

BY DR SUE TUTTY

The Clinical Champions for maternity care were given three main objectives:

- Effective facilitation of early pregnancy care with particular emphasis on good working relationships with self-employed LMC midwives
- Reducing unplanned pregnancy
- Enrolment within general practice of all newborns by 2 weeks of age.

While the contract started in July, the work was begun by clinical nurse leads in the PHOs until the appointments were made in November. The clinical champions come from varied backgrounds and include a GP, an overseas qualified obstetrician, a nurse clinical lead, a midwife and a pharmacist/project manager. Each one is in direct contact with their management teams in the PHOs and the discussion at meetings is robust.

The first task was to formulate and then take a questionnaire out the practices to discuss with the nurses, doctors and practice managers what their needs were. Not only did this provide a very useful starting point for further interventions but it was an opportunity for the clinical champions to introduce themselves in a non-threatening way and to start the conversation over quality improvements in the way maternity care is being managed. This supports the first recommendation from the NMMG that all women are receiving evidence informed early pregnancy care.

The Regional Early Engagement group: This group surveyed general practitioners (GPs) in the entire Auckland area and found a wide range of expertise and billing practices. A further discussion with the MoH followed on from this with regards to their expectations of GPs. It was clarified that best clinical practice was for a complete first antenatal visit to be done, as stipulated in section 88 of the New Zealand Public Health and Disability Act, which has a particular emphasis on screening, appropriate assessment, discussing options of care and providing written information to women. Having this standard of care clearly documented is useful when moving out to practices.

The Otara Maternal and Child Health Services Integration project[29] (The Otara project): This 2 year project, which finished in February 2016, was funded by the Ministry of Health to work in the Otara area and covered four main workstreams: keeping people well, proactively finding women and children in need, enabling women and children to access quality integrated treatment and care by developing care pathways, information sharing systems and care coordination roles and monitoring the effectiveness of care by developing and implementing a measurement framework for child and maternal health improvement.

The Otara project began by doing case studies to help identify the needs of women in the Otara community and then developed several streams of work:

- The pregnancy card – a check list for patients to keep informed about their pregnancy and to provide more communication between GPs and midwives.
- The pregnancy pack – providing women with information to help empower and equip them to navigate the health care system and make informed choices during and after their pregnancy.
- A new document was developed that can be embedded into the practice management system of each practice to record the first antenatal visit and provide a checklist for that visit. Through the clinical champions this has now been offered to all PHOs within the Counties area.
- Free pregnancy tests at the pharmacy. This did not prove to lead to earlier engagement with a midwife so was discontinued.
- Antenatal Education – After multiple attempts at providing group pregnancy and parenting education, the Otara project team came up with a formula whereby the antenatal educator worked with women in their own home on a one to one basis. Although this appears costly initially, a one to one basis meant that material taking up to 8 sessions to cover could be covered in one or two sessions and tailored directly to the woman concerned. These classes were proving popular and provided the opportunity to educate the whole Whaanau including other pregnant women who might be in the extended family. Unfortunately the DHB has not been able to continue this system at present but is working on the provision of antenatal education.
- Directory of Midwives – this was a booklet containing photos of midwives and contact details to give women more information before they choose a midwife. While the photos add much to a list it was expensive to produce and was difficult to keep up to date and still required women to possibly make multiple phone calls before finding a midwife.

The Otara project worked with general practices in the Otara area so much of the work of this project has been handed over directly to the GP liaison for Women's Health and the Clinical Champions.

LEFT TO RIGHT: Kim Letford, Donna Ritchie, Dr Orna Mc Ginn, Daniel Tang, Amanda Hinks, Dr Sue Tutty, Heather Muriwai, Janine Thomas.

Promoting GP Relationships with LMCs

A section of the questionnaire that went out to the individual general practices asked about relationships with midwives and which GPs had co-located midwives or midwives that they worked with closely. A few GPs are in this situation and are able to refer their women to a midwife and know that they will be seen by the midwife; however the majority of practices do not know their midwives.

[29] The Otara Maternal and Child Health Services Integration project – Outcomes Evaluation Report: Integrated Maternity and Child Health Services (April 2016). Not yet published.

It has been shown that many of our women do see their GP early in their pregnancy but this is not always translated into early engagement with the midwife. In order to ensure that women are not lost to midwifery care the current recommendation to GPs is that, unless the GP can be sure the women is booked with a midwife and that the GP has been notified of this, the women should be referred to Women's Health to facilitate a midwife being found for her via the dialhog system. This is not seen as the ideal system but is a safety stop-gap until a better system can be organised.

With the appointment of two LMC Midwife Liaisons by the DHB at the beginning of this year this work can now be further progressed. They are working closely with the PHO Clinical Champions on early engagement and trying to promote relationships between GPs and midwives. This work is part of the second recommendation of the NMMG The shortage of self-employed LMC in the Counties area is one of the major difficulties in ensuring self-employed LMC care for all our women.

Preventing Unplanned Pregnancies in General Practice

The questionnaire to general practice and the work of the contraception group has highlighted a number of concerns over the provision of contraception services.

- The huge level of need within our community with 80% of women at a Jadelle insertion clinic reporting having had an unplanned pregnancy. This is well above the 40% figure from the Growing up in New Zealand study.
- The cost to women to insert Long Acting Reversable Contraception (LARCs).
- The lost opportunity for a discussion about contraception with a new mother at the 6 week check as there is no provision in Sect 88 for them to be seen. Some practices do routinely see the mother at the 6 week check but this is not a funded visit.
- A lack of skills among GPs in the insertion of LARCs.
- A need for maintaining competencies within general practice by having some GPs with a special interest in contraception inserting LARCs in sufficient numbers so that competencies are maintained.

These topics have been discussed at Clinical Champions meetings, investigated and the group is working on strategies:

- A contraception education session is being organised for GPs with models to practice insertions.
- Clinics are to be arranged in each PHO, to be led by the contraception nurse specialist from MMH or by GPs with overseas diplomas in family planning, to train GPs in the insertion of LARCs.
- Methods of funding the insertion of LARCs are being investigated. The ideal would be a national strategy however conversations with WINZ, the DHB and the PHOs are all being pursued to try to put a funding package together so primary care can fully pick up this work.
- The importance of the 6 week check needs to be stressed as an opportunity to discuss contraception and offer women choice. This is an opportunistic time with the women presenting to a GPs surgery for baby's immunisation, when she has recuperated from the birth and is often starting to be sexually active again. It is also an ideal opportunity for other health promotion activities such as screening for post-natal depression, checking the cervical smear is up to date, whether a rubella immunisation is needed, reinforcing breast feeding and maintaining mums smokefree after birthing. Some GP practices do this and charge the women or may use some other discretionary funding but this is not a funded visit and is an equity issue denying many of our women these services.
- With the adoption of the Auckland Regional health pathways there is a mechanism to publish names on the pathway of GPs who are LARC inserters to allow other GPs and midwives to refer their patients to them for these contraception services.

Smokefree

BY DR PIP ANDERSON

Promoting smokefree pregnancies is a key initiative that could have a major impact on improving health outcomes for infants born to women living in Counties Manukau. Smoking during pregnancy is associated with a number of adverse pregnancy outcomes including miscarriage, placental abruption, intrauterine growth restriction, premature delivery, and stillbirth.[30] In addition, smoking during pregnancy has been associated with an increased risk of neonatal death, particularly as a result of SUDI.[31]

There is no system that currently captures smoking status of pregnant women in Counties Manukau reliably. It was expected that MCIS would be able this year to do this, but unfortunately that is not the case (refer to section MCIS). The MAT data was provided to the DHB for 2014 (refer to the women we serve, page 15) but as explained previously this information is not as useful as in other parts of New Zealand because of the comparatively high percentage of women whose smoking status is not captured (14.1%). Smoking status is also captured through discharge coding. Historically this data has been difficult to interpret as while the women who are documented as smokers are well captured it has not been clear what proportion of women have been asked the question and therefore what the appropriate denominator is. The impression is that this data is improving as women are more consistently being asked about their smoking status.

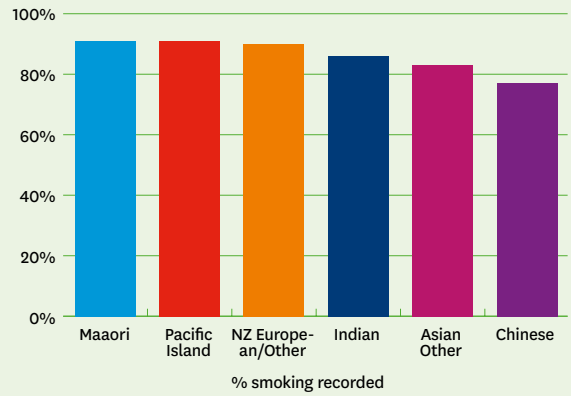
The data presented below is from the patient details section in the Patient Information System at CM Health and is the same data source as used in last year's report.

There is information available for 89% of women birthing in CM Health facilities in 2015 but there is some variability by ethnicity as shown in Figure 15. Data is most reliably captured for Maaori and Pacific Island (91%) followed by NZ European/ Other (90%). Data for Asian women was not as reliably captured with 77% of Chinese women, 86% Indian and 83% Asian Other women having their smoking status documented.

Smoking status at time of admission by ethnicity is shown for women who birthed at CM Health facility in Figure 15.[32]

FIGURE 15.

Percentage of women, who birthed at CM Health facilities, for whom smoking status was recorded, at time of admission, by ethnicity, 2015



Source: Extracted by Health Intelligence and Informatics from patient detail section of the Patient information system, 2016.

TABLE 21.

Number of women, by smoking status and by ethnicity, who birthed at CM facility, 2015

SMOKING STATUS	MAAORI	PACIFIC ISLAND	NZ EUROPEAN /OTHER	INDIAN	ASIAN OTHER	CHINESE	TOTAL
Currently Smoking	707	436	223	6	6	1	1379
Non-Smoker	329	1291	983	677	298	167	3745
Used to Smoke	345	591	412	12	32	9	1401
TOTAL	**1381**	**2318**	**1618**	**695**	**336**	**177**	**6525**

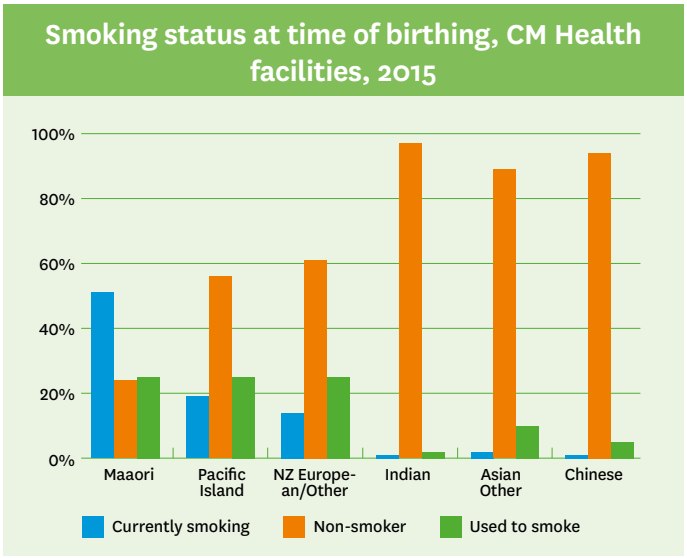
Source: Extracted by Health Intelligence and Informatics from patient detail section of the Patient information system, 2016.

[30] Jackson C. Perinatal Mortality in Counties Manukau. 2011.
[31] Jackson C. Perinatal Mortality in Counties Manukau. 2011.
[32] 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.

Ethnic disparities continue with 51% of Maaori women documented as currently smoking compared to 19% of Pacific Island women, 14% NZ European/Other women while only 1-2% of Asian women are documented as current smokers. Overall 21% of all women birthing at CM Health facilities were identified as a smoker at time of birthing in 2015 (Figure 16).

FIGURE 16.

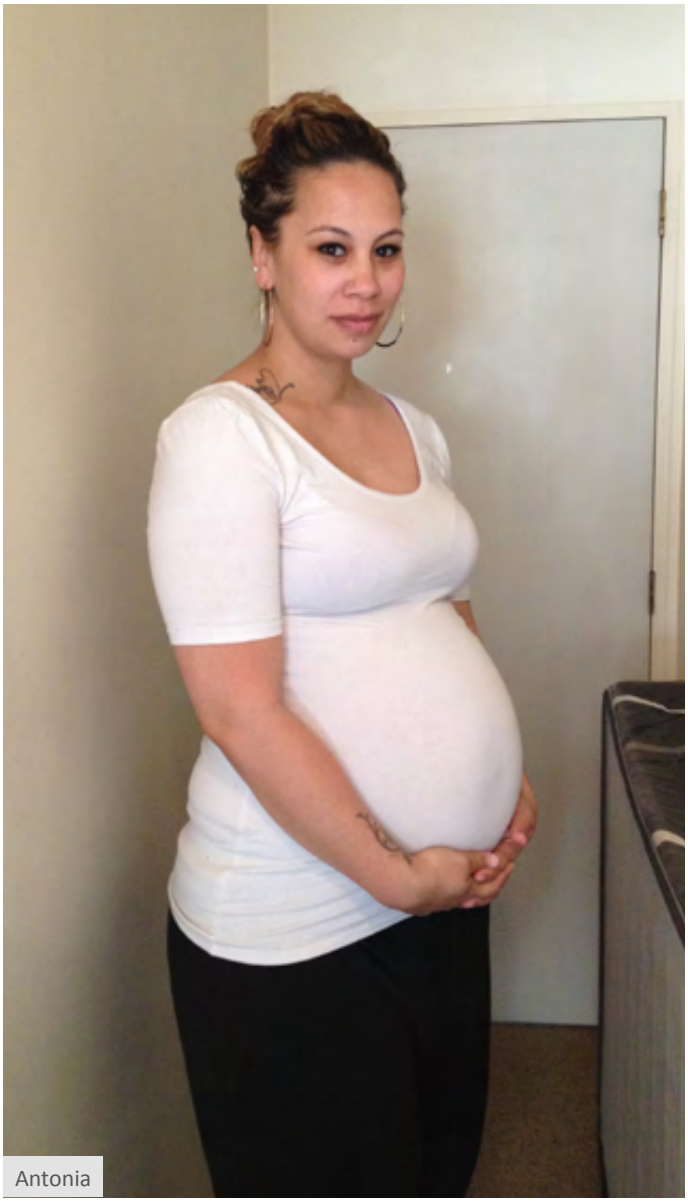
Smoking status at time of birthing, CM Health facilities, 2015



Source: Healthware. Extracted by Health Intelligence and Informatics from patient detail section of the Patient information system 2016. Note smoking status not available for all women at time of booking.

Smoking status also varied by age with 40.2% of women under 20 years smoking at time of birthing compared to 13.5% of those >40 years of age (Table 22).

Smoking during pregnancy is clearly an urgent issue for Maaori infants and infants of young mothers. Smoke free has been identified as a population health priority and work is being progressed and described as follows.



Antonia

TABLE 22.

Smoking status for women, by age, recorded at time of birthing for women birthing at CM facilities, 2015

SMOKING STATUS	<20	20-24	25-29	30-34	35-40	>40	TOTAL
Currently Smoking	163	437	368	251	131	29	1379
Non-Smoker	152	672	1154	1106	522	139	3745
Used to Smoke	90	377	389	349	149	47	1401
TOTAL	**405**	**1486**	**1911**	**1706**	**802**	**215**	**6525**
% SMOKING	**40.2%**	**29.4%**	**19.3%**	**14.7%**	**16.3%**	**13.5%**	**21.1%**

Source: Extracted by Health Intelligence and Informatics from patient detail section of the Patient information system, 2016. Note smoking status not available for all women.

BY MICHELLE LEE, SMOKEFREE ADVISOR, MATERNITY

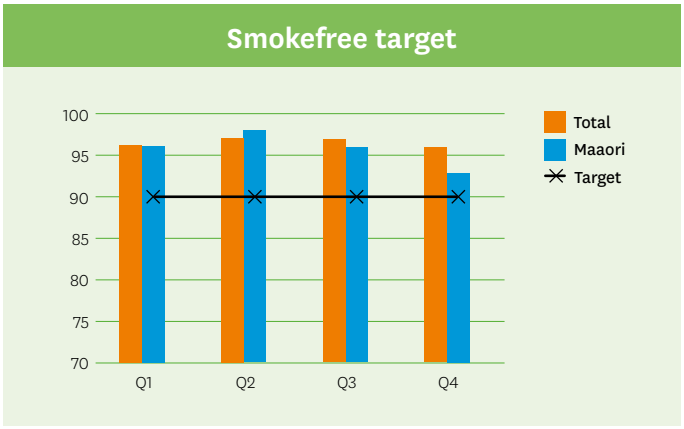
Smokefree target

MoH health target:

Ninety percent of pregnant women who identify as smokers at the time of registration with a DHB employed midwife or Lead Maternity Carer are provided with brief advice and support to stop smoking.

Data for the whole year has been collected by MoH from self-employed midwives using MMPO or LMC services systems. This data set has shown that the target has been consistently and equitably met for the whole year (Figure 17).

FIGURE 17.



Source : Ministry of Health

Data is now being collected from DHB employed midwives and publically reported. They are currently tracking at 100% for brief advice provided. Currently sitting at joint first out of 20 DHBs for providing advice and support to stop smoking.

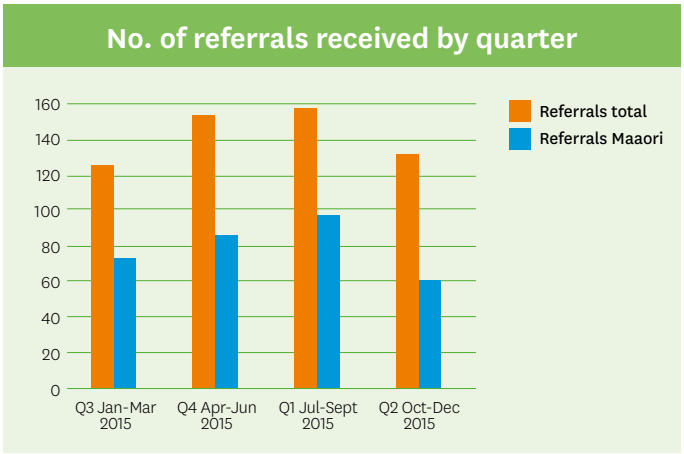
Anna and Cran.

Smokefree referrals

Internal target:

Fifty percent of smoking pregnant women accept a referral for support from the DHB's Living Smokefree Service, 60% for Maaori women. Although for each quarter of 2015 the number of referrals increased (apart from final quarter due to Christmas period), the estimated referral rate stayed consistently around the 40-45% mark for total population as well as for Maaori population (Figure 18).

FIGURE 18.



Source: Local programme data collection

Smokefree Pregnancy Incentives programme

In 2015, the MoH funded, 12 week rewards based behavioural support programme was delivered in 2 localities within Counties Manukau (Mangere/Otara and Manurewa). In October 2015, the programme was extended to the rest of Counties Manukau with the only remaining criteria for eligibility being gestation of less than 28 weeks.

- 434 pregnant women were referred to the programme (56% Maaori, 29% Pacific Island, 15% other). 65 partners and whaanau members were referred alongside.
- 267 pregnant women engaged on the programme (61% engagement rate). 59 whaanau engaged (90% engagement rate).
- 186 pregnant women set a quit date (69% quit date rate). 41 whaanau set a quit date (69% quit date rate).
- 115 pregnant women were smokefree at 4 weeks (61% quit rate). 22 whaanau smokefree at 4 weeks (53% quit rate).

The programme and its outcomes to date have attracted international interest and have been presented at the 2015 Oceania Tobacco Control Conference in Perth and the equity stream of APAC 2016. A poster was also presented at APAC which won an award for Value Based Healthcare.

A number of DHBs and NGO's across New Zealand have adopted the programme.

The Living Smokefree Service is currently awaiting an MoH decision to continue funding the intervention for another 3 years within business as usual model.

Midwife education

Across 2015, 38 DHB employed midwives and 8 Self-employed midwives attended a one hour Smokefree Best Practice education Session. A further 22 midwives underwent a 4 hour Smokefree education session provided by the MoH funded Smokefree midwives training contract.

Roxanne's Story

I smoked for 12 years from the age of 16 years. I smoked nearly 20 cigarettes a day, sometimes more, spending nearly $120 per week on smokes. There was a time I didn't think that I would ever be free of them. I thought I was stuck! Every time I was almost running out I would panic and go buy more.

I went to my GP and started taking Champix in an attempt to give up smoking but after about 9 days of using Champix I started to feel very nauseous. I wondered if the Champix was making me feel sick or maybe I was pregnant. I took a pregnancy test just in case and sure enough I was pregnant! I have one son who is four years old and I had miscarried twice before this pregnancy, one being an ectopic pregnancy. I didn't want to smoke in this pregnancy but I didn't know how to stop.

I went and saw my GP and he advised me that I can no longer take Champix while pregnant so I continued to smoke thinking I had no way out of this nasty habit. I then rang Quitline at 21 weeks pregnant wanting to try again as I felt terrible for poisoning my baby. Quitline was able to give me phone support and patches and gum and stuff but I didn't know if this was enough for me. Quitline told me about an incentives programme being offered in South Auckland which I was really interested in.

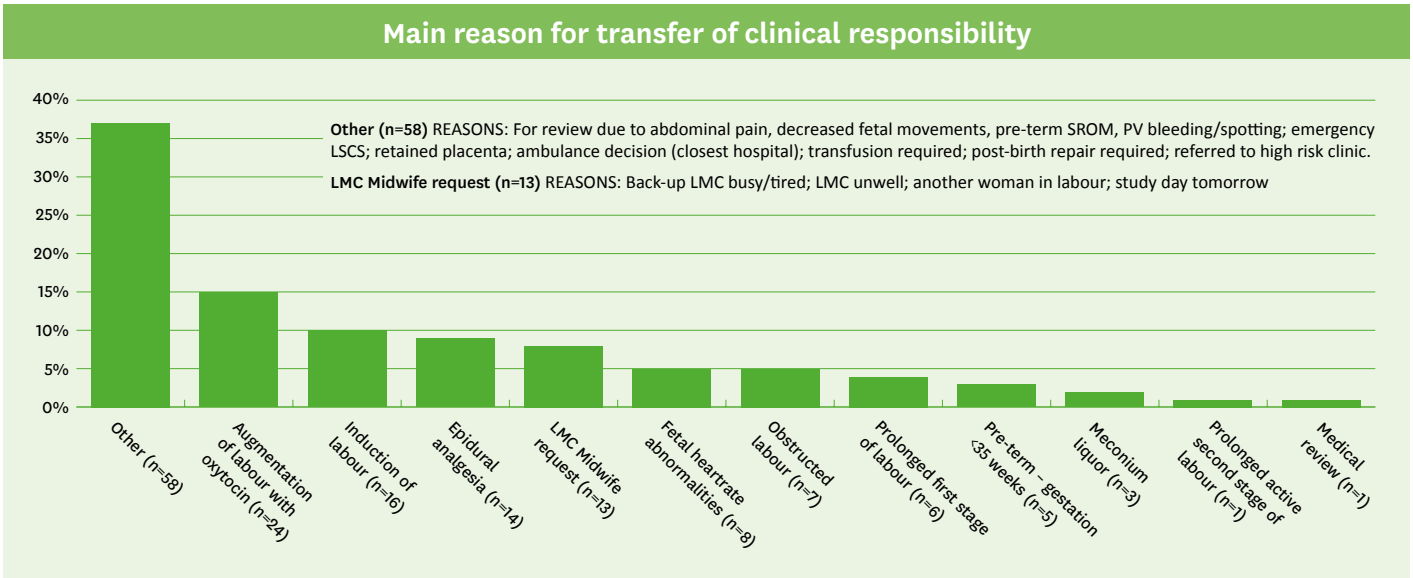
A lady from Middlemore hospital called me and set up a time to come and visit me at my home to see what kind of support I needed. The lady who came told me about the Smokefree Pregnancies Incentive Programme. I jumped at the chance to try it because I would have on-going specialised support and would also have incentives to keep me going in my journey of quitting this horrible habit I had been doing for 12 years of my life. The ladies from Smokefree pregnancies are so supportive, they listened to my ranting which I did a lot of during my pregnancy, I felt like I could call them at any time with any problems I was having quitting.

I am pleased to say I have now been Smokefree for 7 months and my daughter was happy and healthy, full term. I could not be more proud of my achievement. I would never look back into the cage of smoking. I cannot even be around it; it grosses me out so much. Thank you so much to the ladies at Smokefree pregnancies, I couldn't have done it without your support and incentive programme.

Transfer of Clinical Responsibility Audit

BY DR LESA FREEMAN & CINDY BLACKWELL, IMPROVEMENT ADVISOR KO AWATEA

FIGURE 19.



Background

In September 2015 the New Zealand College (NZCOM) asked CM Health if they would like to partake in a handover of clinical responsibility audit along with a couple of other DHBs.

Aim

To audit the practice of transfer of clinical responsibility against the Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines).

Method

A project team was formed and NZCOM's audit form along with a draft audit tool previously developed by CM Health were reviewed and a customised audit tool was designed.

The draft audit tool was circulated to members of the Midwifery Workforce Group (which includes seven self-employed LMC midwives) for review, and was discussed at their October 2015 meeting. The amended audit tool was then sent to NZCOM for review and agreement.

Members of the Midwifery Workforce Group piloted the audit tool during late October early November 2015. The most common National Referral Guideline codes were provided as tick-boxes on the audit form and a further field was provided for other. A guide was provided for the Referral Guideline codes of other scenarios, in each of the birthing and assessment rooms and at the midwives station, and midwives were asked to note the relevant code on the audit forum.

The transfer of clinical responsibility audit commenced on Birthing and Assessment on 21 November 2015 and ran until 9 February 2016, during which time 157 audit forms were completed and submitted. The forms were collated and the data analysed.

As completion of the audit forms was not mandatory, further evaluation was undertaken to find out the extent to which the actual transfers of clinical responsibility were captured in the audit forms. While there is no one place where all transfers of clinical responsibility are recorded in an easily accessible format, if a transfer occurs in the Birthing Unit it is recorded in the birth register. This was identified as a method to reconcile actual transfer of clinical responsibilities with those recorded in the audit forms.

Findings

Of the 157 forms submitted, 156 included a reason(s) for requesting transfer of clinical responsibility. However, only one of the 58 who selected 'other' also included an accompanying code.

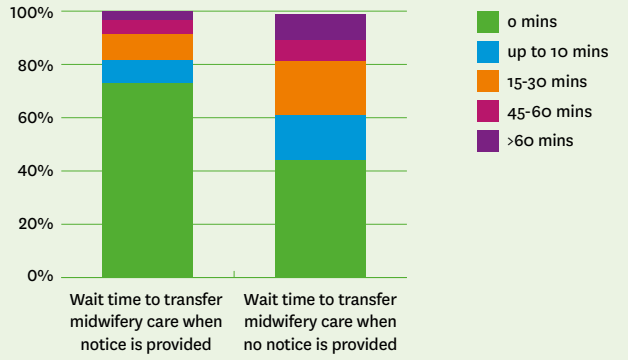
One-hundred-and-thirty-six of the 157 (87%) recorded some information relating to a three-way conversation, with 50% recording that a three way conversation occurred between the self-employed LMC midwife, specialist obstetrician and the

woman. One-hundred-and-thirty-one (83.5%) further recorded that a discussion occurred between the self-employed LMC midwife and the clinical charge midwife.

One-hundred-and fifty-four recorded whether or not a request was made to transfer midwifery care at the same time as transfer of clinical responsibility, or subsequently. Of the 119 forms where it was recorded that a transfer of midwifery care occurred, 82 included the time of request, the handover time requested, and actual handover time. Calculations on this data showed how much notice was given to core staff, and any wait times that occurred. In nearly three quarters of instances, an immediate handover was requested. Of the 22 recorded instances of handover of midwifery care where notice was given, the median wait time was 2.5 minutes after the requested handover time.

FIGURE 20.

Wait time when transfering midwifery care with and without notice



One-hundred-and-thirty-nine of the 157 forms (89%) recorded what time the transfer of clinical responsibility occurred identifying that 49% occurred between 3pm and midnight.

The reconciliation process showed that there were 136 instances of a transfer of clinical responsibility recorded in the birth register between 21 November 2015 and 9 February 2016. Of these 136 instances, 48 (35%) were documented on the audit form. Of the 88 instances where a transfer of clinical responsibility occurred but were not captured in the audit, records show that 86% were accompanied by a request for transfer of midwifery care. A further 13% had a later, subsequent transfer of midwifery care, as the self-employed LMC midwife was not present at the birth. It is important to note that this reconciliation process accounted for transfers of clinical responsibility for birthing women only.

The findings from this audit have been presented at a number of midwifery forums, and three areas of note were identified:

1. Communication of the need to handover midwifery care.
2. Ambiguity of the definition and documentation of the three way conversation.
3. High proportion of handover requests occurring between 3pm and midnight.

At the Midwifery Workforce Group meeting on 12 May 2016, suggestions were sought on what could be done to improve the challenges identified above and the following recommendations were made:

Recommendations:

1. **Communication of the need to handover midwifery care:**
   a. Review and re-socialise CM Health's communication guides for consultation and transfer and make these operational. Incidents where individuals do not follow the communication guides for consultation and transfer are to be escalated, and if not resolved an incident is to be recorded.
   b. Identify and make 'standard practice' the Charge Midwife Managers' activities that facilitate effective communication between LMCs and the unit, and contribute to a collaborative and timely handover of midwifery care when needed.
3. **Ambiguity of the definition and recording of a three way conversation:**
   a. Educate and reinforce the definition of a three way conversation as per the Referral Guidelines.
   b. Model correct practice of the three way conversation.
   c. Use the MCIS three way conversation field and record in the tick boxes that a three way conversation has occurred.
3. **High proportion of handover requests occurring between 3pm and midnight:**
   a. Review medical and midwifery staffing to reflect workload and acuity.

Representatives from the Midwives Workforce Group and the audit project team have subsequently developed an action plan to implement these recommendations.

Perinatal Review Process

BY DEBBIE DAVIES, PERINATAL LOSS MIDWIFE SPECIALIST

Perinatal mortality is reviewed nationally by the Perinatal and Maternal Mortality Review Committee and presented at an annual national conference. This is well attended by CM Health staff. Follow up on the recommendations from the PMMRC is now incorporated into CM Health's Quality and Safety Governance Group's Workplan.

In addition CM Health has its own perinatal and maternal mortality meeting four weekly, where local cases are discussed and recommendations to improve outcomes are made. They are run over three hours and a range of professionals attend this multidisciplinary meeting. It is now business as usual for CM Health to have a Perinatal Loss Midwife Specialist. This has been so successful that other DHBs are looking into or have appointed similar positions. From the initial major changes in the first two years, our service has continued to consolidate over the last twelve months.

Korowai made and gifted by volunteers.

Further Progress improving management of perinatal deaths

Enhancement of the processes surrounding family care in the situation of perinatal loss by:

- Improving our family space with additions to the area that make it a more comfortable place for whaanau at this very sad time.
- Offering Korowai, made by a group of volunteer ladies from Papakura Marae, to our families. This has been a particularly touching gift to be able to offer, most especially for our families from Maaori origin.
- Continuing to have a good working relationship with Baby Loss New Zealand.
- Some families have chosen to use the services of Heartfelt (a free photography service) which has provided some precious memories and comfort to families at this particularly difficult time.
- Utilising the two "Cuddle cots" donated through Middlemore Foundation. These cool cots enable families to be able to have their deceased baby with them in the ward. For many families keeping baby close to them is really important and it is a cultural expectation for some of our communities.

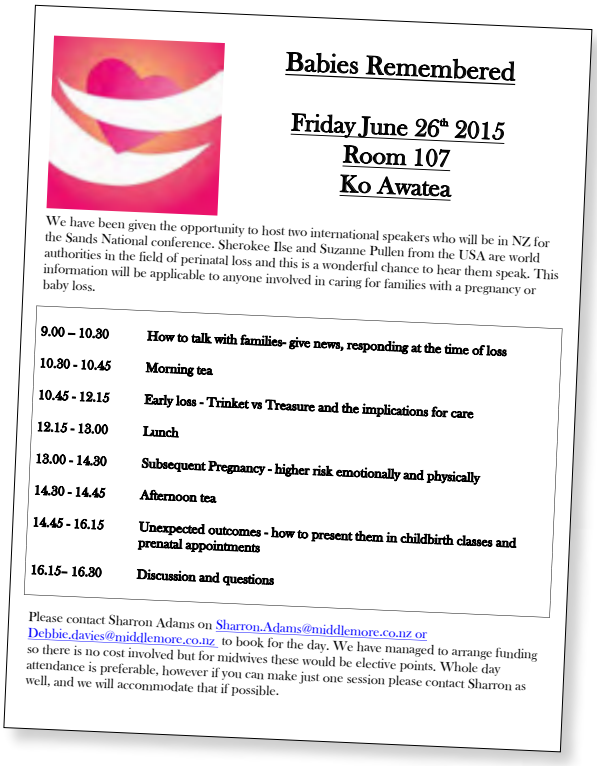
Continued improvement in providing care for Counties women and whaanau by:

- Improving identification of perinatal losses as Serious Adverse Events (SAE), where appropriate, with the process that follows. The resulting recommendations are continuing to be implemented and are expected to impact on the care of individual women to improve outcomes in their subsequent births as well as bring about general practice change where indicated.
- Focusing on education, continuing to reach new graduate midwives, nurses working in maternity, neonatal care and gynaecology, house officers, registrars. Two workshops have been run: 'Unexpected Outcomes in Pregnancy and How to Care for a Family When Their Baby Dies." Thirtyeight staff members attended these workshops and represented various areas in the organisation as well as

self-employed LMC midwives. This day included a very powerful presentation from a consumer who had lived through this experience and the value of her personal input was acknowledged by all present.

Highlights from the last year:

- Two world renowned presenters and authors, Suzanne Pullen and Sherokee Isle presented a full day workshop on site at Middlemore Hospital. Both bereaved parents, they now advocate for the meaningful care of families who have experienced the loss of a baby at any gestation. Suzanne has completed her Doctorate in communication of medical professional with clients. The day was entitled "Babies Remembered" and the topics included: How to talk with families, early loss, subsequent pregnancy and unexpected outcomes. It was widely attended and encouraged meaningful discussions on improvement of care across the full pregnancy loss journey from miscarriage to neonatal death.
- The perinatal loss midwife specialist was invited to speak at one of the community ultrasound services on how to deliver bad news to families sensitively. This was attended by 15 of their staff members and generated some very positive discussion.
- An invitation to present at the Neonatal Nurses College Aotearoa Annual conference has created the opportunity for improved communication and integration with the Neonatal Care team and the perinatal loss midwife. This has resulted in the perinatal loss midwife being included much earlier in situations where a family has the difficult decision to end care for their baby. This has allowed families to have discussions around what they may like to consider before they make this decision, or before they carry out end of life care. This may mean the opportunity to get photographs of their baby while they are still alive, or even to create a memory they had previously planned for such as reading a certain book to the baby while still alive. These are important parts of parenting and enabling the grieving process which is inevitable in these situations. For families being able to have a professional who is not involved in the baby's clinical care to discuss the concerns they have about what happens once baby does die is often useful. It has also facilitated open communication to enable appropriate follow with the people and services that may be able to help with an improved outcome next time.



Babies Remembered

Friday June 26th 2015
Room 107
Ko Awatea

We have been given the opportunity to host two international speakers who will be in NZ for the Sands National conference. Sherokee Ilse and Suzanne Pullen from the USA are world authorities in the field of perinatal loss and this is a wonderful chance to hear them speak. This information will be applicable to anyone involved in caring for families with a pregnancy or baby loss.

9.00 – 10.30	How to talk with families- give news, responding at the time of loss
10.30 - 10.45	Morning tea
10.45 - 12.15	Early loss - Trinket vs Treasure and the implications for care
12.15 - 13.00	Lunch
13.00 - 14.30	Subsequent Pregnancy - higher risk emotionally and physically
14.30 - 14.45	Afternoon tea
14.45 - 16.15	Unexpected outcomes - how to present them in childbirth classes and prenatal appointments
16.15– 16.30	Discussion and questions

Please contact Sharron Adams on Sharron.Adams@middlemore.co.nz or Debbie.davies@middlemore.co.nz to book for the day. We have managed to arrange funding so there is no cost involved but for midwives these would be elective points. Whole day attendance is preferable, however if you can make just one session please contact Sharron as well, and we will accommodate that if possible.

Implementation of the Growth Assessment Protocol (GAP)

BY JOYCE COWAN, NZ GAP LEAD EDUCATOR, MIDWIFE

Being small for gestational age (SGA) is strongly associated with stillbirth. A New Zealand study on stillbirth at term showed that 37% of stillborn babies were growth restricted (Stacey et al, 2012)[33], and New Zealand data (PMMRC, 2014)[34] reports that for all stillbirths of growth restricted babies during 2007-2012, only 22.6% were recognised as SGA antenatally. Antenatal detection with timely delivery can lead to significant risk reduction (Gardosi, Giddings, Clifford, Wood & Francis, 2013)[35].

Course attendees.

CM Health is currently introducing the GAP programme into maternity care. In May and June this year 74 midwives attended training sessions at Middlemore, following on from workshops previously been held in 2014 and 2015.

The GAP programme consists of the following elements:

1. Implementation of evidence based protocols and guidelines
2. Training and accreditation of all staff involved in clinical care (includes standardised fundal height measurement and use of customised growth charts)
3. Rolling audit and benchmarking of performance

Use of customised standards better identifies the babies that are not reaching their growth potential, and more accurately identifies those pregnancies at risk of increased perinatal morbidity and mortality than does use of population growth standards, which do not adjust for individual maternal characteristics. A recent Australian study showed that detection of fetal growth restriction was doubled with the use of customised growth charts (Roex, Nikpoor, Van Eerd & Dekker (2012)[36].

The Growth Assessment Protocol (GAP) was pioneered by the UK based Perinatal Institute and has recently been linked with a significant reduction in stillbirth (Gardosi et al., 2013).

While CM Health and Tairawhiti have been the first to implement GAP, there are several other DHBs considering adopting the programme. Initial workshops are provided by the Perinatal Institute educators, and then continued by the local trainers supported by the Perinatal Institute and a link team comprised of obstetric, ultrasound and midwifery leaders. Feedback from midwives attending the workshops has been very positive and further education sessions are planned for obstetric and ultrasound staff.

[33] Stacey, T., Thompson J. M.D., Mitchell E.A., Zuccollo J.M., Ekeroma A.J., & McCowan L.M.E. (2012). Antenatal care, identification of suboptimal fetal growth and risk of late stillbirth: Findings from the Auckland Stillbirth Study. Australian and New Zealand Journal of Obstetrics and Gynaecology; 52: 242-247.

[34] PMMRC (2014). Eighth Annual Report of the Perinatal and Maternal Mortality Review Committee: Reporting mortality 2012. Wellington: Health Quality & Safety Commission.

[35] Gardosi J., Giddings, S., Clifford, S., Wood, L. & Francis, A. (2013). Association between reduced stillbirth rates in England and regional uptake of accreditation training in customised fetal growth assessment. BMJ Open; 3:e003942.

[36] Roex, Nikpoor, van Eerd, Hoddyl & Dekker (2012) Serial plotting on customised fundal height charts results in doubling of the antenatal detection of small for gestational age fetuses in nulliparous women. Australian and New Zealand Journal of Obstetrics and Gynaecology 2012; 52: 78–82.

Baby Security Bracelets

BY DR LESA FREEMAN

A trial of baby security bracelets commenced mid-February 2016 on the Maternity Ward. Sensors were placed throughout the maternity floor, stairwells and building. Several scenarios have subsequently been developed to test the validity of the tracking system. This was demonstrated by the provider to the Equipment and Asset Manager, duty managers and security and involved tracking the security bracelets via an tablet throughout the Galbraith block. The trial proved very successful with little delay in the sensors picking up the movement of the bracelets. A business case for the implementation of the baby security bracelets has been developed.

Safe Sleep Auditing

BY DR LESA FREEMAN

As of October 2015, safe sleep auditing is undertaken weekly utilising the Care Compass methodology as a point of care survey instrument to identify safety concerns in real time whilst the women and babies are inpatients. This provides an opportunity for healthcare workers to intervene, make improvements and ensure women and caregivers receive Safe Sleep education prior to discharge.

The safe sleep audit tool is completed on five women and their babies in each of the postnatal care facilities (Maternity North and South, Pukekohe, Papakura and Botany Downs Primary Birthing Units) and within Kidz First Surgical, Medical and Neonatal Care giving a total of 40 audits per week.

Care Compass

Care Compass
Safe sleep audit

General / demographics	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Audit date					
NHI					
Ethnicity					
Ward					

Safe sleep	Tick if yes, leave blank if no or n/a				
	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5
1. Does the mother currently smoke?					
2. Has education been received about safe sleep?					
3. Is there documentation of PEPE (place, eliminate, position, encourage) message discussion?					
4. Is the baby being held by an alert adult? **If YES remaining questions are not applicable – finish audit**					
5. Is the baby in their own bed?					
6. Is the baby positioned correctly?					
7. Is the bedding appropriate?					
Safe sleep audit completed?					

The audit tool crtieria is consistent with that of the Northern Region Safe Sleep Observational Audit Tool. The data is entered into CM Health's patient safety measures database and reported on within the Kidz First and Women's Health monthly Scorecard and Divisional Report. The Scorecard and Divisional Report are presented by the General Manager at the monthly Kidz First and Women's Health briefing meetings and at the six-weekly Hospital Advisory Committee six weekly. The information is further displayed on each ward/units quality and safety boards.

Pepe in a Wahakura.

Consumer Experience Feedback

BY DR LESA FREEMAN

All CM Health inpatients with an email address are sent two weeks post discharge a link to the CM Health Inpatient Experience Survey. This survey is then open for a three week period to complete.

Categories within the inpatient experience survey include: three things that make the most difference to the quality of care and treatment; information; communication; dignity and respect; involvement in decisions; pain and nausea; confidence in care; cleanliness; food and dietary needs; support of whaanau; co-ordination of care; cultural needs; other things; overall rating; and opportunity for improvement.

The quantitative and qualitative data can be viewed electronically on the patient experience reporting portal. Overall ratings are included in the Women's Health monthly scorecard and presented by the General Manager at the monthly briefing meetings. CM Health further produces a monthly Inpatient Experience Report utilising one of the survey categories as a theme.

Women's Health, as of May 2016 received 514 inpatient experience surveys for the fiscal year. Strategies are currently being explored to increase the amount of feedback received such as providing women with tablets so that they can complete the survey during their hospital stay.

A hard copy CM Health Feedback Form 'Have Your Say' is also provided to postnatal women with their lunch menus. The information received is entered into the feedback reporting system and the statistics are reported monthly in the Women's Health Divisional Report.

The 'New Zealand College of Midwives Consumer Feedback Forms, Hospital Midwife' are also made available for women to provide feedback on the core midwives involved in their care. The core midwives in turn reflect and present this information as part of their midwifery Standards Review.

Improving Infant Nutrition Project

BY AMY CARTER, SENIOR PROJECT MANAGER CHILD, YOUTH AND MATERNITY

Te Rito Ora

In 2015, the Te Rito Ora service (Appendix 9) was launched by CM Health as part of the Improving Infant Nutrition Project. Te Rito Ora is a free community based service that provides breastfeeding and baby feeding support to mothers and whaanau who live in Counties Manukau. The service comprises of the following components:

- Peer Support Programme based on the La Leche League Peer Counsellor Programme. Kaitipu ora workers and peer supporters provide baby feeding support and encouragement to mothers and whaanau. The Kaitipu Ora workers and peer supporters are mothers with breastfeeding experience who are trained to support mothers and whaanau. Support is provided face to face, via text, over the phone and in group settings. Since its launch, 18 Peer Supporters have completed the full training.
- Te Rito Ora Drop-in Clinic provides a place where mothers and whaanau can drop in without an appointment for breastfeeding and baby feeding support, and a coffee and kai with other mothers. Four drop-in clinics are run weekly in Papakura and Manurewa.
- Community based lactation consultant service provides specialist support for mothers with complex breastfeeding issues. This service is provided at community based clinics and in the home.
- Community based workshops and cooking classes that promote healthy eating and nutrition for the whole family with a focus on pregnant mothers and infants and toddlers.
- Supporting implementation of Baby Friendly Community Initiative accreditation in those organisations who are working to become and/or maintain their accreditation.

CM Health Education for Maternity Carers

BY KATHY OGILVY, PROFESSIONAL DEVELOPMENT TEAM LEAD WOMEN'S HEALTH AND KIDZ FIRST

In the last year CM Health has offered and continues to provide the following education to core and self-employed midwives and nurses working within Women's Health. The choice of education provided is in response to the annual needs analysis, critical incidents and trends identified by the services and organisation and the Ministry of Health.

As well as the usual Emergencies and Midwifery Practice Days and BFHI Workshops, courses offered have included:

- A one hour CM Health values presentation as part of the mandatory training for all nurses and midwives.
- Two normal birth workshops, *Care of the Normal and Recognising Risk*, to promote normal birth.
- Diabetes education available through an on line learning module and
- Four GAP education sessions provided by the Perinatal Institute and a brief update is also part of the Midwives Annual Update Day.
- Two *Grief and Loss* workshops.
- Two *Caring for High Acuity Women* workshops which have been well received and helped staff to have a better understanding of the complex needs of CM Health women.
- An annual RANZCOG CTG workshop and a CTG update as part of the Midwives Annual Update Day.
- Perineal Repair Workshop
- Professional Issues in Midwifery
- A *Maternal Mental Health* Workshop.
- A *PROMPT* course held in a one of the Primary Birthing Units.
- A CADs run *Alcohol and Other Drugs* study day.

Manukau SuperClinic Living our values session.

Living our values session

BY LYN STARK

In support of CM Health's development and socialisation of its new values – Kind, Valuing Everyone, Excellent and Together – a specific maternity edition of 'Living Our Values' was held at the Manukau SuperClinic (in October 2015). This session was arranged in acknowledgment of the close and interconnected relationship maternity carer providers have working both in the community and clinically on site alongside one another within CM Health maternity facilities.

It was set at an alternative evening time and located at the Manukau SuperClinic, which is closer to the southern located Primary Birthing Units and staff, to capture a wider audience. A light meal was served in recognition that many would be coming straight from work and giving up their evening to attend.

Nineteen of the twenty three attendees were midwives and included a mix of core and self-employed midwives who had travelled from Pukekohe, Papakura and the Eastern suburbs to attend. A relaxed and informative evening was shared by all with the added appeal of sharing maternity related narratives. The information on implementing CM Health's values in everyday practice was shared creatively and the evening was very well received by those who attended.

Contraception

BY DR SUE TUTTY

Contraception has been part of the MQSGG workplan since its inception and is seen as important to quality improvement in maternity services. It could be considered part of standard three of the New Zealand maternity standards – to provide a comprehensive range of maternity services with no financial barrier.

The contraception group meets bimonthly and is alternating its meetings between a hospital and community location. The committee is chaired by the contraception nurse specialist and includes representatives from administration, postnatal ward, self employed LMC midwives and DHB midwives, senior clinical staff, midwife liaison and GP liaison and Family Planning.

The group is very aware of the distinction between unplanned and unwanted pregnancies and whilst most pregnancies are not unwanted the aim of this group is to give women the choice to plan their pregnancies and to allow space between their babies.

The initial work of the contraception group was looking at contraception services provided within the DHB.

Initial initiatives

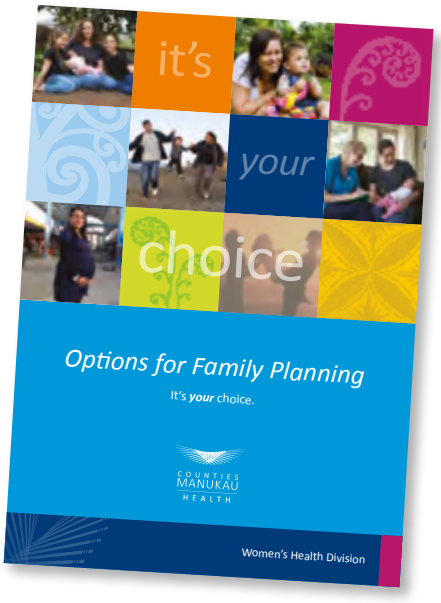
1. **Training midwives and nurses** on the post natal ward on the insertion of jadelles so this could be offered to women prior to discharge from hospital. This initiative has been slow to get established as there has been some resistance amongst the staff to see this as core duties.
2. **Training of registrars and house surgeons** on the post natal wards in the insertion of jadelles. The difficulty here is the constant turn over of house surgeons and the varied hours they work that makes it difficult to get them adequately trained. The advantage is that some of these house surgeons will become our GP workforce for the future.
3. The contraception nurse specialist runs a **clinic at Manukau SuperClinic** that accepts referrals, mostly from midwives, for the insertion of LARCs. She now also runs a clinic at Pukekohe Primary Birthing Unit extending our services rurally, as well as providing training in the insertion of LARCs to the maternity staff there. The clinic at Manukau is seen as a backup measure for women, however it is accepted that the provision of contraception should lie in primary care. There is a high DNA rate at this clinic for new mums and approximately a six week wait.
4. Contraception has been included as a **discussion point on all specialist maternity letters.**
5. **Education of midwives:** Midwives are offered a comprehensive training programme in contraception so they are able to fully advise their women preferably before birthing but certainly in the post natal period.

New Initiatives

1. **Change to the Terms of Reference** (TOR) of the Contraception Group. The TOR of the Contraception group was initially to look at the services provided by secondary care post partum. This focus has now been extended to provide contraception choices for women in all stages of their life.
2. **Puerperal tubal ligation:** Medical staff are giving increased priority to these procedures planning to perform them first on an acute list each day. Unfortunately this is not always possible.
3. Extension of the **vasectomy programme:** Mr Snip has the contract to provide vasectomy services for Counties Manukau. Previously couples needed to have requested this service postnatally before baby was six weeks old. This has now been extended in three ways:
   - by referral up to six months after the birth
   - GPs who are doing first specialist assessments for tubal ligation can refer the partners of all women requesting a tubal ligation
   - all couples with four or more children can be referred for a vasectomy directly from their GP.

4. The work of the **PHO Clinical Champions** in preventing unwanted pregnancies (see page 60).

5. **Evaluation:** Research on the number of unplanned pregnancies in select groups of women, the training requirements and midwives' confidence when discussing contraception has been done. A larger evaluation is being planned with the assistance of the Ko Awatea research team with the extension of contraception group's the work.



IUCD (NO HORMONE)

DESCRIPTION:
- Small plastic device containing copper
- Placed into the uterus (womb)
- Inserted six weeks or more after giving birth

ADVANTAGES:
- Lasts for up to 10 years but can be removed at any time
- No hormonal side effects

DISADVANTAGES
- Needs to be removed by a doctor or nurse

OK WHEN BREASTFEEDING ✓

MIRENA - INTRAUTERINE SYSTEM

DESCRIPTION:
- Small plastic device containing a hormone which is released slowly
- It is placed into the uterus (womb)
- Inserted six weeks or more after giving birth

ADVANTAGES:
- Lasts for up to 5 years but can be removed at any time
- Lighter periods or no periods
- Provides treatment for women with heavy bleeding

SIDE EFFECTS & DISADVANTAGES
- Can cause irregular bleeding in first few months, usually settles
- Needs to be removed by a doctor or nurse

OK WHEN BREASTFEEDING ✓

JADELLE (IMPLANT)

DESCRIPTION:
- Two rods thinner than a matchstick inserted under the skin of upper arm

ADVANTAGES:
- Lasts for up to 5 years but can be removed at any time
- May stop periods

SIDE EFFECTS & DISADVANTAGES
- Irregular bleeding which may require treatment
- Needs to be removed by a doctor or nurse

OK WHEN BREASTFEEDING ✓

DEPO PROVERA (INJECTION)

DESCRIPTION:
- Injection every 12 weeks

ADVANTAGES:
- May stop periods

SIDE EFFECTS
- Can cause irregular bleeding

OK WHEN BREASTFEEDING ✓

PROGESTOGEN ONLY PILL (MINI PILL)

DESCRIPTION:
- A daily pill that contains one hormone

ADVANTAGES:
- May stop periods

SIDE EFFECTS & DISADVANTAGES
- Have to remember to take every day at the same time (within three hours)
- Can have irregular bleeding or spotting

OK WHEN BREASTFEEDING ✓

Options for family planning

"It's **your** choice"

"Speak to your Midwife/GP before baby is 6 weeks old"

"It could be **free** of charge. **Ask now**"

COMBINED ORAL CONTRACEPTIVE PILL (COC)

DESCRIPTION:
- A daily pill that contains two hormones

ADVANTAGES:
- Periods usually shorter, lighter and less painful
- Regular periods

SIDE EFFECTS & DISADVANTAGES
- Have to remember to take every day (within 24 hours)
- Cannot be used by some women who are overweight, smoke or have high blood pressure
- Cannot be used whilst breastfeeding

CONDOMS

DESCRIPTION:
- Thin rubber device that fits over the man's erect penis
- Collects sperm

ADVANTAGES:
- Protects against some sexually transmitted infections

SIDE EFFECTS & DISADVANTAGES
- Have to remember to carry with you
- Unreliable unless used correctly

OK WHEN BREASTFEEDING ✓

TUBAL LIGATION (FEMALE STERILISATION) - TUBE TIE

DESCRIPTION:
- Surgery which requires a general anaesthetic
- Usually a "keyhole" procedure where a clip is put on each of the woman's tubes

ADVANTAGES:
- Permanent
- If you decide before birth of baby it can be done before you leave hospital after the birth

SIDE EFFECTS & DISADVANTAGES
- Only for women who are certain their family is complete

OK WHEN BREASTFEEDING ✓

VASECTOMY (MALE STERILISATION)

DESCRIPTION:
- Minor surgery on a man's scrotum (balls)
- Cut and tie vas deferens (tubes) that transport sperm
- Takes up to three months to be reliable

ADVANTAGES:
- Does not interfere with sexual performance
- A very effective method of contraception for men

SIDE EFFECTS & DISADVANTAGES
- Only for men who are certain their family is complete

OK WHEN BREASTFEEDING ✓

Influenza Vaccination

BY LYN STARK & KARYN SANGSTER, CHIEF NURSE ADVISOR PRIMARY & INTEGRATED CARE

Ensuring pregnant women receive Influenza vaccination is important to protect both themselves and their baby/babies. The MoH funds free influenza vaccinations for pregnant women. It is also important that staff are immunised to ensure they do not pass the virus onto women.

The materials developed for pregnant women by the National Influenza Specialist Group (NISG) were well disseminated throughout CM Health facilities and many staff have commented on the increased visibility of this campaign. Flu kits were more widely distributed to our self-employed LMCs following actions taken last year to ensure that the NISG were aware of the fact that many were not receiving them.

All pamphlets and information were also made available at the Access Holders meetings and socialised further in the CM Heath eUpdate 'Our Maternity Monthly' which is circulated to all maternity practitioners to ensure as wide a distribution of resources as possible. Stickers stating 'Go to your family doctor today for your free immunization' were again supplied to be placed on the pamphlets as a helpful prompt, with the intention of increasing uptake for pregnant women.

Dr Ravindra Raj, specialist obstetrician.

CM Health once again had an advanced communications plan and used a variety of visual display's to promote the Flu message 'Don't get it, Don't give it, Get immunised.' Internally CM Health recruited a peer vaccinator work force of 60 nurses, supported by Occupational Health staff who had met requirements to be authorised vaccinators. A coffee voucher was made available to all staff who had a flu vaccination. CM Health also extended vaccination services to self-employed LMC midwives, students and contractors on site.

Vaccinations were not offered at Manukau SuperClinic for Immunisation Week this year. We are currently looking at how to provide a nurse vaccinator as a regular service at the SuperClinic, to provide vaccinations at point of care. Women attending appointments with their midwife or obstetrician at CM Health Obstetric Clinics were encouraged to go to their GPs to have their vaccinations. We also worked alongside employed and self-employed LMC midwives to develop a process to start a conversation about influenza vaccines.

CM Health is hosting vaccinologist Dr Helen Petousis-Harris, to speak at a LMC midwife meeting in July to discuss maternal vaccinations. This meeting is being held in a community location for ease of attendance for practitioners.

As of 30 June 2016 the uptake of the influenza vaccine by DHB midwives was 50%, an increase of 8% from last year's 42%. While this still remains significantly lower than the organisational totals of 72% for medical, 64% for allied health and 64% for nursing it is an improvement. In 2016 CM Health continued its robust marketing campaign and availability of vaccination stations across the organisation and shifts (7am-11pm), as well as increased peer vaccinators in the maternity areas so it is encouraging to see the improvement in the uptake for midwives. CM Health will continue to focus on the need to increase influenza vaccine by DHB employed midwives.

Sudden Unexpected Death in Infancy

BY DR CHRISTINE MCINTOSH, GENERAL PRACTITIONER LIAISON

Very encouragingly CM Health is amongst the nine DHBs that have had an impact on Sudden Unexpected Death in Infancy (SUDI) rates in the past five years. There has been a 30% reduction in SUDI rate over the years 2010-2014, compared to 2005-2009 (from 1.44 to 0.96 per 1,000 live births)[37]. There was a 40% reduction in SUDI in Maaori infants. However, SUDI rates remain high in Counties Manukau for Maaori and Pacific Island families living in deprivation.

Since 2013 there has been a regional SUDI Policy and Action Plan, endorsed by the Regional Child Health Steering Committee, which has provided a framework for the CM Health SUDI work. SUDI is also a key indicator in the CM Health Maaori Health Plan.[38]

A significant part of the uptake and implementation of the regional SUDI Safe Sleep messaging is through the CM Health Safe Sleep Coordinator. This full-time role is dedicated to facilitating and progressing the SUDI Action Plan across CM Health and maintaining strong relationships regionally, and with our NGO partners Whakawhetu and TAHA. Notably the Safe Sleep Coordinator has also developed strong local networks including with smokefree services, social services, police, primary care and LMCs.

In the last year we have

- Continued consistent safe sleep messaging and modeling of safe sleep infant care practices at all of our primary birthing units, maternity wards, Kidz First and at Neonatal Care. These messages and practice are based on Whakawhetu's 'P.E.P.E.'[39] approach.
- Embedded weekly audits at all CM Health maternity facilities using the safe sleep audit criteria using the CM Health "Point of Care Measurement Tool".

CM Health progress towards SUDI Indicator targets

40% reduction in Maaori SUDI over 5 years

Maaori parents receiving safe sleep information from Well Child Provider from 55% to 73% in 2015

- Created an ongoing expectation of MoH approved workforce training and development courses on SUDI, including Whakwhetu online education. This will be a requirement for all heathcare workers working in our communities in Maternity, Kidz First and Well Child programmes.
- Continued consistent safe sleep messaging and modeling of safe sleep infant care practices at all of our primary birthing units, maternity wards, Kidz First and at Neonatal Care. These messages and practice are based on Whakawhetu's 'P.E.P.E.' approach.
- Extended our safe sleep programme to include the distribution of wahakura, in addition to the existing pepi-pod baby beds. Those eligible for the Safe Sleep Programme also includes face to face safe sleep education.
- Amalgamated the Smokefree Incentive Champion meeting with the SUDI Champions meeting which occurs monthly.
- Developed and completed a SUDI pathway on the Auckland HealthPathways to support primary care management of SUDI risk.
- Began discussions with Plunket on the concept of a regional "Baby Bed Bank".
- A Safe Sleep Calculator (SSC) is under development, primarily in the CM Health region. The SSC is based on the Cure Kids SUDI Risk Tool created by Prof. Ed Mitchell and constructed from the work of Prof. Bob Carpenter. A co-design process is underway to optimize the SSC for use in SUDI risk assessment. Over Summer 2015-2016 the SSC was trialed by self-employed LMC midwives as a Summer Studentship project. Currently work is underway, funded by Cure Kids, to continue the process of co-design and implementation of the SSC into Primary Care.

[37] 2016/17 SUDI Baseline and Target Information, Ministry of Health, Jan. 2016. http://nsfl.health.govt.nz/dhb-planning-package/201617-planning-package-and-review-plans/mhp-sudi-guidance (last accessed 13/05/2016)

[38] Counties Manukau District Health Board, 2015. Maaori Health Plan 2015/16. http://countiesmanukau.health.nz/assets/About-CMH/Reports-and-planning/Maori-and-pacific-health/2015-2016-Maori-Health-Plan.pdf

[39] P.E.P.E – **P**lace baby in his or her own baby bed; **E**liminate smoking in pregnancy, in the whanau and in the home; **P**osition baby on his or her back to sleep; and **E**ncourage and support mum so baby is breastfed. http://www.northlanddhb.org.nz/AboutUs/SUDIpreventionhealtheducation.aspx

4 Neonatal Care CM Health

Neonatal outcomes

BY DR MAISIE WONG, NEONATOLOGIST & DR LINDSAY MILDENHALL, CLINICAL LEAD NEONATES & DR PIP ANDERSON

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 impacts on the outcomes for their babies.

Kidz First Neonatal Care (KFNC) is part of CM Health's Kidz First Children's Hospital and works closely with Counties Manukau maternity services.

Situated adjacent to Kidz First wards, Theatre and Intensive Care complex, KFNC has 26 resourced cots with facilities to provide 18 intensive (level III) and 20 special care (level II) services to premature or unwell neonates. Resourced capacity can sometimes increase to meet regional and national demands during times of high need.

KFNC is staffed by a dedicated nursing workforce which includes a large complement of senior roles, including clinical nurse specialists, lactation consultants, clinical charge nurses, a nurse educator, clinical coach and a nurse manager. The medical team comprises senior medical officers, a permanent MOSS and rotating registrars. Allied health have an integrated role in the multidisciplinary team and close ties are held with Social work, Child protection, Speech Language therapy, KF home care and Dietitians. Transitional Care is provided by the maternity services and close working relationships with Women's Health ensure continuity of care and safe discharge to either midwifery care or Well Child providers.

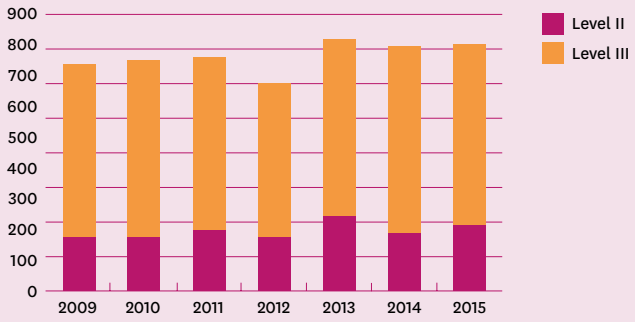
Family centred care and partnership with parents and Whaanau is integral to our model of care. To encourage parental confidence and independence our facilities and processes are designed to be welcoming and family friendly. Parents are encouraged to participate fully in the care of their baby at all levels and are supported to visit daily for extended periods.

Admissions to Neonatal Care

The number of admissions to the unit increased in 2013 compared to 2012, with 828 admissions, decreased slightly in 2014 (806 admissions) and remained stable in 2015 (Figure 21).

FIGURE 21.

Total admissions to Middlemore Neonatal Care, Level II & III, 2009-2015

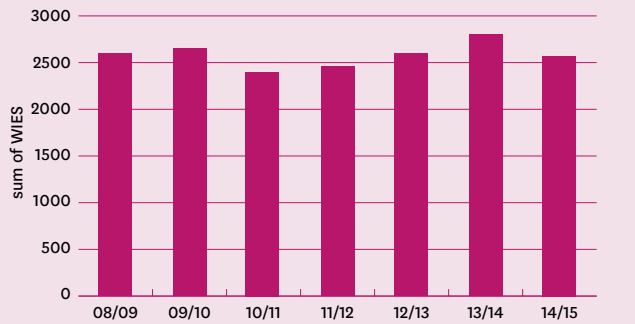


Source: Data provided by Health Intelligence and Informatics 2015. Each baby is only counted once ie if they are transferred from level III to level II they are not counted twice. This is a different data source to the data provided for the 23-31 week infants.

The WEIS value has remained reasonably stable 2008/9 to 2014/5.[40]

FIGURE 22.

Sum of WIES by financial year, 2008/9-2014/15



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).

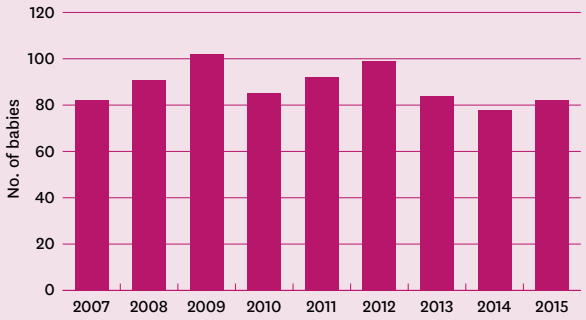
[40] WEIS is a method of weighting individual discharges based on complexity.

It is noted that the percentage of premature births in a standard primiparae living in Counties Manukau or birthing in Middlemore Hospital is lower than the New Zealand median (refer to Clinical Indicator section, page 42).

The number of admissions of babies 23-31 weeks decreased from 99 in 2012 to 78 in 2014 with numbers up slightly in 2015 to 82. (Figure 23).

FIGURE 23.

Total admissions to Middlemore Neonatal Care, gestational age 23-31 weeks, 2007-2015



Source: Data provided by Middlemore Neonatal Care 2016. Collected as per ANZNN guidelines.

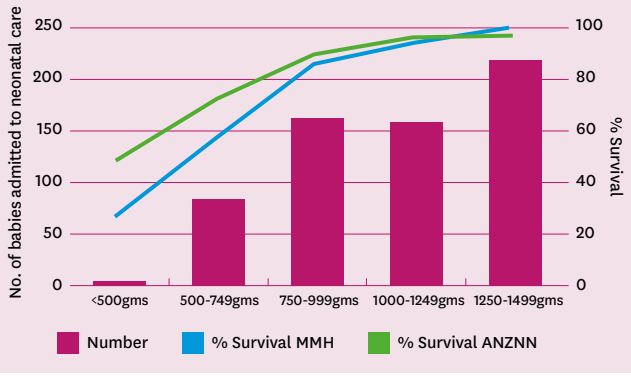
Survival by birth weight and gestational age

Between 2007-2015 there were four admissions with birthweight <500gms, 84 with birth weight 500-749gms, 162 with birth weight 750-999gms and 378 with birth weight 1000-1499gms. The survival rate for those less than 500gms was poor (25%) but, as expected, survival steadily increased as birth weight increased (Figure 24). Figure 24 also compares the percentage survival by birth weight for those babies admitted to Middlemore Neonatal Care with data from the Australian and New Zealand Neonatal Network (ANZNN).

Figure 25 shows Middlemore Hospital percentage survival by birthweight compared to the Australian and New Zealand Neonatal Network data.[41] There were no neonates <500gms admitted to MMH unit in 2007, 2008, 2009, 2011 or 2015. There was one baby admitted <500gms in each year 2010, 2012, 2014 who did not survive and one baby admitted <500gms in 2013 who did survive.

FIGURE 24.

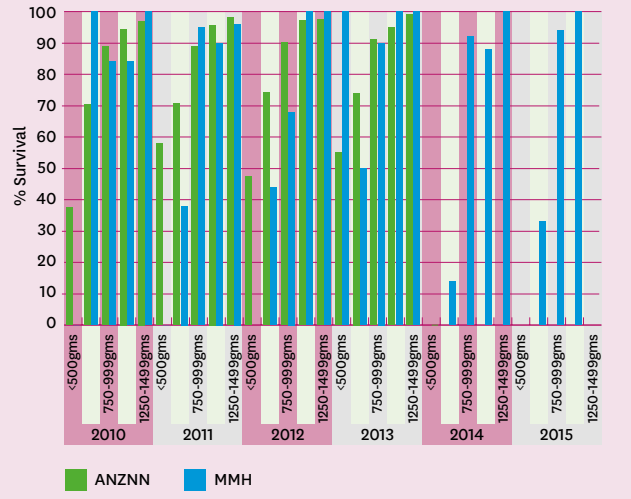
Number of admissions by birth weight and percentage survival by birth weight.
Middlemore Hospital, 2007-2015 compared to ANZNN survival by birthweight 2010-2013



Source: Data provided by Middlemore Hospital Neonatal Care 2016 .Collected as per ANZNN guidelines. Provided by MMMH Neonatal Care Note: ANZNN= Australia and New Zealand Neonatal Network, MMH= Middlemore Hospital. Number = MMH numbers.

FIGURE 25.

Percentage survival by birth weight.
Middlemore Hospital compared to ANZNN data, 2010-2013. Middlemore Hospital data only 2014-2015



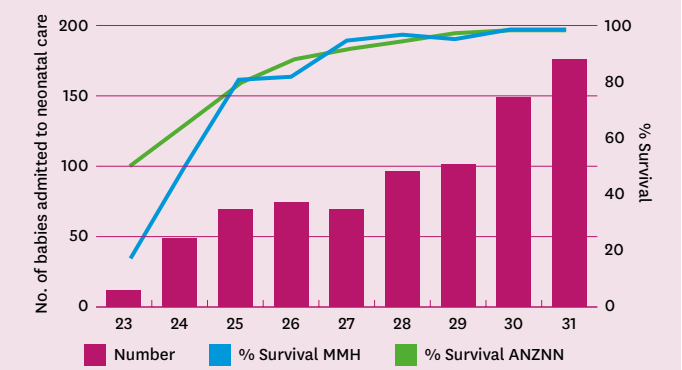
Source: Data provided by Middlemore Hospital Neonatal Care 2016. Collected as per ANZNN guidelines and provided by MMH Neonatal Care. Note: ANZNN= Australia and New Zealand Neonatal Network, MMH= Middlemore Hospital.

[41] 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. Provided by MMH neonatal care.

The total number of admissions to the Neonatal Care at 23 and 24 weeks is low (12 and 49 respectively for the nine years 2007-2015) (Figure 26).

FIGURE 26.

Number of admissions, by gestation and percentage survival. Middlemore Hospital, 2007-2015 compared to ANZNN survival by gestation 2010-2013

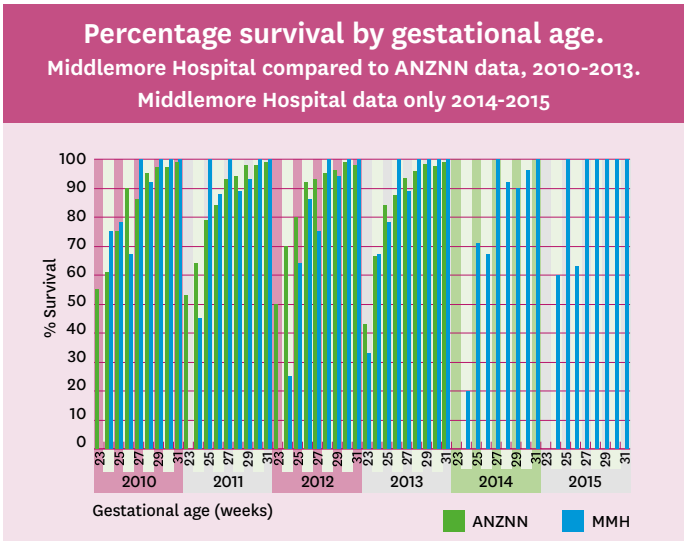


Source: Data provided by Middlemore Hospital Neonatal Care 2016. Collected as per ANZNN guidelines.
Note: ANZNN= Australia and New Zealand Neonatal Network, MMH= Middlemore Hospital.

There were no babies of 23 weeks gestation admitted to Middlemore Neonatal Care in 2010 and 2011 (Figure 27). In 2012 there were two babies admitted at 23 weeks who did not survive. In 2013 there were three babies admitted at 23 weeks and one survived and in 2014 and 2015 there were two babies admitted at 23 weeks in each of those years and none survived. Survival improves with increasing gestation with 99% of 31 week infants surviving 2007-2015.

FIGURE 27.

Percentage survival by gestational age.
Middlemore Hospital compared to ANZNN data, 2010-2013. Middlemore Hospital data only 2014-2015

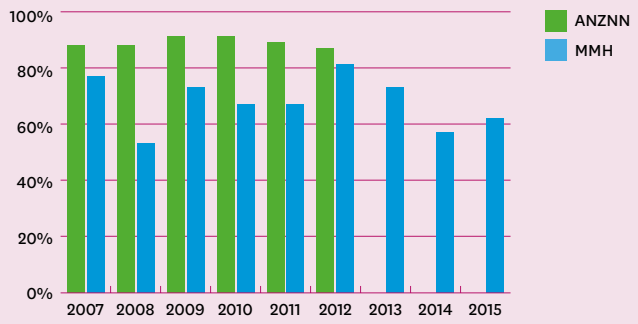


Source: Data provided by Middlemore Hospital Neonatal Care 2016. Collected as per ANZNN guidelines.
Note: ANZNN= Australia and New Zealand Neonatal Network, MMH= Middlemore Hospital.

Figure 28 shows the percentage of 24-27 week neonates ventilated at Middlemore Hospital, 2007-2015. The percentage of these neonates ventilated has varied over this time period with a low of 53% in 2008 to a peak of 73% in 2012. There is also comparison data shown from ANZNN from 2007-2012 which shows Middlemore Hospital has consistently had a lower percentage of these babies ventilated compared with data from ANZNN. In 2014 two babies had minimally invasive surfactant therapy (MIST). In 2015 no babies between 24 to 27 weeks gestation received MIST.

FIGURE 28.

Percentage of 24-27 week gestation neonates ventilated, 2007-2015.
Middlemore Hospital compared to ANZNN data, 2010-2012. Middlemore Hospital data only 2013-2015



Source: Data provided by Middlemore Hospital Neonatal Care 2016. Collected as per ANZNN guidelines.
Note: ANZNN= Australia and New Zealand Neonatal Network, MMH= Middlemore Hospital.

Infection

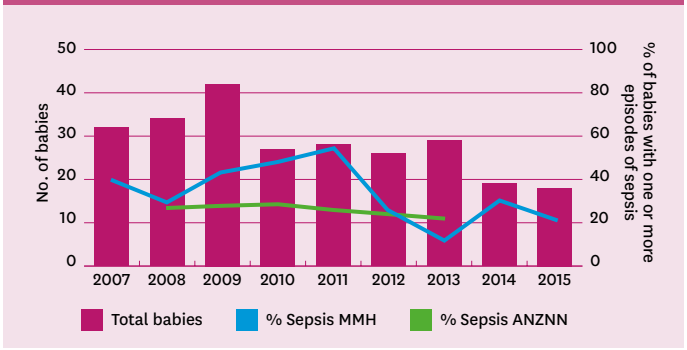
Infection is a well-recognised cause of morbidity and mortality in preterm infants. Figures 29 and 30 show the percentage of babies (<28 weeks and 28-31 weeks gestation respectively) who had one or more episode of late onset sepsis, with available ANZNN data as a comparison. The percentage of babies less than 28 weeks gestation who had one or more episodes of late onset sepsis appeared to be trending up from 2008 to a peak of 53.6% in 2011 subsequently this decreased to a low of 13.8% in 2013. The percentage of sepsis in babies <28 weeks was 22% in 2015.

The percentage of babies born between 28-31 weeks gestation who had one or more episodes of sepsis appears more stable over the reported time period although the lowest percentage (1.7%) of infection was seen in 2015. There has been a quality improvement initiative undertaken to improve the way central

lines were inserted and maintained during this period and is temporally associated with the decrease percentage of babies that have had an episode of sepsis. Routine Lactoferrin use may also have contributed to the decreased incidence of sepsis seen in 2013-2015.

FIGURE 29.

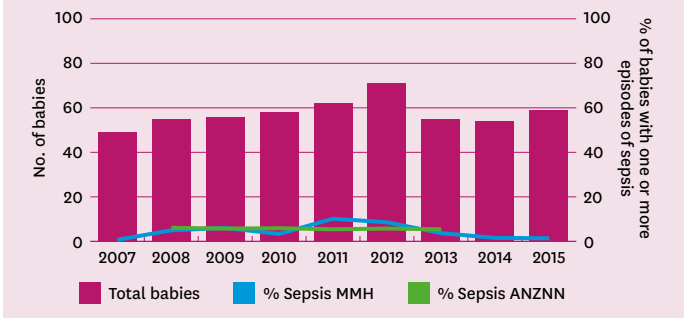
Number of babies born at <28 weeks gestation, admitted to neonatal care, and the percentage who had one or more episodes of late onset sepsis, 2007-2015
Middlemore data compared to ANZNN data 2008-2013



Source: Data provided by Middlemore Hospital Neonatal Care 2016. Collected as per ANZNN guidelines.
Note: ANZNN= Australia and New Zealand Neonatal Network, MMH=Middlemore Hospital.

FIGURE 30.

Number of babies born at 28-31 weeks gestation, admitted to neonatal care, and the percentage who had one or more episodes of late onset sepsis, 2007-2015
Middlemore data compared to ANZNN data 2008-2013



Source: Data provided by Middlemore Hospital Neonatal Care 2016. Collected as per ANZNN guidelines.
Note: ANZNN= Australia and New Zealand Neonatal Network, MMH=Middlemore Hospital.

Early onset sepsis is less common than late onset sepsis. Four percent (n=1) of babies less than 28 weeks admitted to Middlemore Hospital Neonatal Care in 2015 suffered from early onset sepsis.

Meconium Aspiration Syndrome

Meconium Aspiration Syndrome (MAS) is characterised by early onset of respiratory distress and chest X-ray consistent with MAS in an infant exposed to meconium in the liquor. The severity of MAS can vary from mild respiratory distress to severe respiratory distress requiring more intensive ventilation support. The total number of babies, with MAS admitted to the neonatal care, is shown in Table 23. Figure 31 shows that most of these babies were managed with Continuous Positive Airway Pressure (CPAP) ventilation. Only one baby died from this condition during this time period and that was in 2012.

TABLE 23.

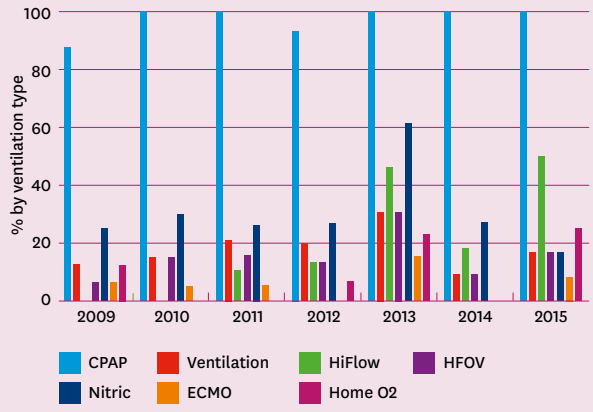
Number of babies with Meconium Aspiration syndrome admitted to MMH Neonatal Care 2009-2013

YEAR	NUMBER OF MAS
2009	16
2010	20
2011	19
2012	15
2013	13
2014	11
2015	12

Source: Data provided by Middlemore Hospital Neonatal Care 2016.

FIGURE 31.

Mode of ventilation for meconium aspiration, 2009-2015



Source: Data provided by Middlemore Hospital Neonatal Care 2016.

ANZNN comparison data

There are a number of important neonatal outcomes that are collected by the ANZNN and some comparison data from Middlemore Neonatal Care is shown in Table 24. The percentage of babies admitted to Middlemore Hospital Neonatal Care, at less than 28 weeks gestation, who were diagnosed with necrotising enterocolitis (NEC) was similar to the percentage reported 2008-2012 by the ANZNN. In 2013 the percentage of babies with NEC at MMH decreased compared to ANZNN data, which was sustained in 2014. This is temporally associated with the introduction of routine probiotic and lactoferrin use.

The percentage of babies with Chronic Lung Disease (CLD) was similar to the data reported by the ANZNN for babies <32 week's gestation. There has been a decrease in the percentage of babies <28 weeks at MMH with CLD but unfortunately there is no data from ANZNN to see whether there has been a reduction across the network.

The percentage of babies, <28 weeks gestation, with a grade 3 or 4 intraventricular haemorrhage (IVH) has been consistently higher than the percentage reported by the ANZNN since 2011. In 2010 the percentage of babies <28 weeks with retinopathy of prematurity (ROP) stage 3 and above was higher (12.5%) than that reported by the ANZNN (10.7%) but was lower in 2011 (7.7% vs 13.4%). Since then the percentage if ROP has increased to a high of 31.25% in 2015. The use of a retinal camera has been introduced into routine use. It is thought this is responsible for the increased diagnosis of ROP stage 3 as it enables a more detailed look at the retina. While the percentage of babies with ROP stage 3 and above increased in 2013, it is interesting to note that none required treatment. One case required treatment in 2014 and no patient required treatment in 2015.

Level III intensive cot space.

TABLE 24.

Percentage of babies at given gestation, with outcomes of NEC, CLD, IVH, ROP, Middlemore Hospital compared to ANZNN data

	NEC <28 weeks		CLD <28 weeks		CLD <32 weeks		IVH 3 & 4 <28 weeks		ROP Stage 3 and above <28 weeks		ROP Stage 3 and above Treatment <28 weeks	
YEAR	ANZNN	MMH	ANZNN	MMH	ANZNN	MMH	ANZNN	MMH	ANZNN	MMH	ANZNN	MMH
2008	10.1%	11.1%	N/A	32.0%	N/A	15.4%	N/A	2.9%	N/A	13.3%	9.1%	13.3%
2009	8.6%	11.1%	N/A	28.9%	N/A	12.7%	N/A	18.6%	N/A	13.5%	8.4%	10.8%
2010	10.5%	7.4%	44.8%	55.6%	22.0%	21.2%	11.5%	7.4%	10.7%	12.5%	7.3%	8.3%
2011	6.5%	6.7%	53.4%	33.3%	24.0%	19.6%	10.5%	24.1%	13.4%	7.7%	8.1%	3.8%
2012	8.0%	7.1%	48.4%	39.3%	21.1%	25.3%	9.6%	15.4%	12.9%	11.1%	N/A	5.6%
2013	8.0%	3.5%	49.2%	48.3%	22.6%	26.2%	8.5%	10.3%	14.3%	25%	N/A	0%
2014	N/A	4.3%	N/A	39.1%	N/A	23.1%	N/A	23.8%	N/A	21.4%	N/A	7.1%
2015	-	4.3%	-	26.1%	-	18.3%	-	22.7%	-	31.3%	-	0%

Source: Provided by the Middlemore Hospital Neonatal Care 2015. NEC= necrotising enterocolitis, CLD= Chronic Lung Disease, IVH= Intraventricular haemorrhage, ROP= Retinopathy of Prematurity. N/A= not available. 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.

5 Workplan

1	**PRINCIPLE** **Maternity care is provided in a culturally appropriate way which supports care that protects, promotes, and supports normal childbirth for women and babies, with evidenced based medical intervention when required.**		
		ACTIVITY	**MEASURE**
1.1	Culturally Appropriate	• Consumers and service users are included in service design. • Develop culturally appropriate mechanism to enable timely and meaningful feedback about CM Health maternity services.	• Membership includes a minimum two Maternity Consumers on MQSGG. • Maternity Consumer Panel made up of consumers that reflect the DHB Maternity population (including age, ethnicity, domicile) • At every Maternity Consumer panel meeting there is 75% attendance. • Increase women's feedback to 15% across maternity services. • Consumer representation on Maternity working groups, such as BHFI, SUDI, Smokefree and Maternity webpages.
1.2	Supporting Normal Childbirth	• Resources are produced to support the promotion of CM Health primary birthing facilities (including MMH). • Promote confidence and skills in the LMC workforce to birth in the Primary units.	• An increase in the total number of women birthing in primary birthing facilities by 2%, from 12% to 14%. • Increase in the number of LMC's offering care in the primary birthing facilities. • Explore subsidising PROMPT in the primary birthing units to all maternity health professionals.
2	**PRINCIPLE** **Women will easily access a local lead maternity carer who will provide individualised care, navigate and support the woman and her family through the Maternity care system as close to home as possible.**		
		ACTIVITY	**MEASURE**
2.1	Promote Early Engagement	• Exploring the possibility of incentivising early engagement for women. • Develop and disseminate LMC profile resource to GPs. • Communicate the expectation that GPs will support women to find a LMC. • Strengthen the mechanism of feedback to GPs from the registered LMC.	• Improve to 60% the percentage of women registered with a maternity care provider by 12 weeks, increasing reach across all ethnicities. • A reduction in numbers of unbooked women presenting in Birthing and Assessment Unit. • Document practice by practice the referral processes between our GPs and midwives to establish the current situation with the aim of increasing early engagement with SE LMC.

2.2	Enhancing the First Antenatal Visit	• Support health professionals meet the expected standard of care for the first antenatal visit. • Organise a Women's Health educational day for GPs. • Undertake consumer feedback survey about their experience of the First Contact Pregnancy Information Pack.	• Ferritin and HbA1c are measured at the first antenatal visit and women are prescribed iodine and folic acid. • Attendance at the Women's Health Day. • 80% satisfaction with the pack.
2.3	Provide Integrated Care	• Implementation of Mokopuna Ora pregnancy and parenting curriculum. • Improve communication and collaboration between primary care and midwifery providers through mix and mingle sessions and joint education sessions in Primary Care. • Promote an integrated approach to care with the LMC and GP.	• Courses running and well attended. • Run three joint GP education sessions. • Run three Midwife/GP mix and mingle events. • Increase the number of women receiving IV fluids for hyperemesis or ferinject in general practice.
3	**PRINCIPLE** **Having a baby and the transition to parenthood is recognised as a socially significant event for families.**		
		ACTIVITY	**MEASURE**
3.1	Identifying at Risk Situations	• Improve screening and socialise referral pathways for pregnant/new mothers requiring support to manage mental health, alcohol and drug use and/or family violence. • Support women to be smoke free during pregnancy by identifying and referring women to smoking cessation services. • Support parents and care givers to provide a safe smoke free space for baby by ensuring all LMCs/Well child providers are aware of how to access baby beds if required.	• Increase in referrals to maternal mental health which meet the referral criteria. • 95% of pregnant women who smoke are referred to a cessation service. • All families assessed with unsafe sleep environments will be referred to safe sleep team which is able to provide a safe sleep baby bed where required.
3.2	Patient Journey Information	• Develop service information web pages on the CM Health web site. • Develop a Welcome to New Babies webpage on CM Health website. • Develop an inpatient orientation resource for women and their whanau/support people to explain the services available to them while using CM Health facilities.	• Resource developed and socialised in all MMH facilities, particularly the new SUDI app. • Site developed. • Resource developed and implemented.
3.3	Contraception	• All women in Counties Manukau area are able to have access to appropriate and timely contraception by a skilled professional. • Education and skills training is made available for providers of contraception including LARCs.	• All women will receive contraception advice during pregnancy and after birth. • Increase the number of LARC insertions from 8% to 15% of contraceptive use. • The number of reported planned pregnancies increases.

4	PRINCIPLE **Childbearing women and their families are supported to make choices which are underpinned by the maternity care providers sharing evidenced based information.**		
		ACTIVITY	**MEASURE**
4.1	Obesity	• Improve the outcomes of women and babies affected by obesity by; – Communicating the expectation of recording an accurate height and weight on booking a woman for pregnancy care to primary maternity provider. – Ensure all women receive personalised information about optimal weight gain in pregnancy. • Audit booking forms for documentation of height, weight and BMI to gain a baseline figure.	• Some measurement of GPs using the First Contact Pregnancy Information Pack and first antenatal visit pathway. • 100% of booked women have height and weight recorded in clinical record.
4.2	Diabetes in Pregnancy	• Ensure the diabetes guidelines are adhered to by auditing the compliance of booking HbA1c and that the appropriate referral pathway is followed. • Implement nutritional cooking classes for pregnant women.	• 100% of women have an HbA1c included with first antenatal bloods. • 90% of booked women with an elevated HbA1c follow the appropriate pathway. • 100% of women with an HbA1c >50 at booking are seen in Diabetes in Pregnancy clinic within two weeks. • Attendance and evaluation survey.
4.3	Anaemia	• Ensure ferritin is completed with first antenatal bloods and treatment according to the Prevention and management of iron deficiency anaemia in pregnancy guideline is commenced. • Audit the number of women receiving an iron infusion within the DHB and via POAC.	• Audit that ferritin is completed with first antenatal bloods and treatment according to the Prevention and management of iron deficiency anaemia in pregnancy guideline is commenced. • Ferinject audit completed and reported with recommendations.
4.4	Consumer Information	• The First Contact Pregnancy Information Packs are distributed to all women at first point of contact. • Translate prioritised consumer pamphlets into the five most common languages of CM Health demographics.	• Audit the distribution of the First Contact Pregnancy Information Packs. • Prioritised pamphlets are translated and available in five the languages.
4.5	Immunisation	• Support health professionals in primary care and consumers to increase awareness about the importance of influenza and pertussis vaccination during pregnancy.	• Audit influenza coverage in pregnant women. • Audit numbers and referral pathways for boosterix given during pregnancy. • Circulate information/resources/educational opportunities about importance of pertussis and influenza vaccine to Primary Care health professionals and consumers.

5	PRINCIPLE **Maternity care is coordinated across settings and disciplines to maximise safety and use resources wisely.**		
		ACTIVITY	**MEASURE**
5.1	Quality Framework	• The development and implementation of a clear Quality Framework to include consumers and stakeholders across the Hospital Services and Primary and Community Directorate.	• Completed.
5.2	MQSP Annual Workplan	• An annual workplan and budget prioritisation process is devised by the MQSGG. • Advocate within the DHB for transparency of maternity funding streams to ensure sufficient resource to continue quality improvement work.	• Completed. • Transparent budget.
5.3	Clinical Indicators	• Communicate Clinical Indicators & DHB targets for maternity quality and safety to DHB provider services and primary care and consumers. • Assess and report the rate of women who receive a blood transfusion following a PPH. • Devise and implement a system to review the rationale for LSCS. • Audit of Induction of Labour guidelines against the regional guideline. • Audit Perineal Care outcomes.	• Quarterly infographic poster of maternity clinical indicators produced and circulated. • Report PPH indicator within infographic. • Devised and implemented. • AOL audit completed and reported with recommendations. • 3rd and 4th degree tear audit is completed.
6	PRINCIPLE **People who work in the maternity care system are provided with a safe and respectful environment in which they can learn and grow together.**		
		ACTIVITY	**MEASURE**
6.1	Pastoral Care	• Stakeholders are engaged in the resolution of communication issues through the pastoral care process. • Contributing to the development of educational opportunities to support the workforce.	• Pastoral Care report is produced quarterly. • Attendance at extracurricular educational opportunities offered.
6.2	Interfacing with the Community	• Stakeholders and consumers are represented and have their contributions valued.	• Minutes from Access Holders meetings are available on Southnet and in Our Maternity Monthly e-Update.
6.3	Healthy workforce	• Maternity care providers continue to be offered information and free vaccinations for petusiss and influenza.	• There is a continued annual increase in the uptake of influenza vaccinations for employed midwives.

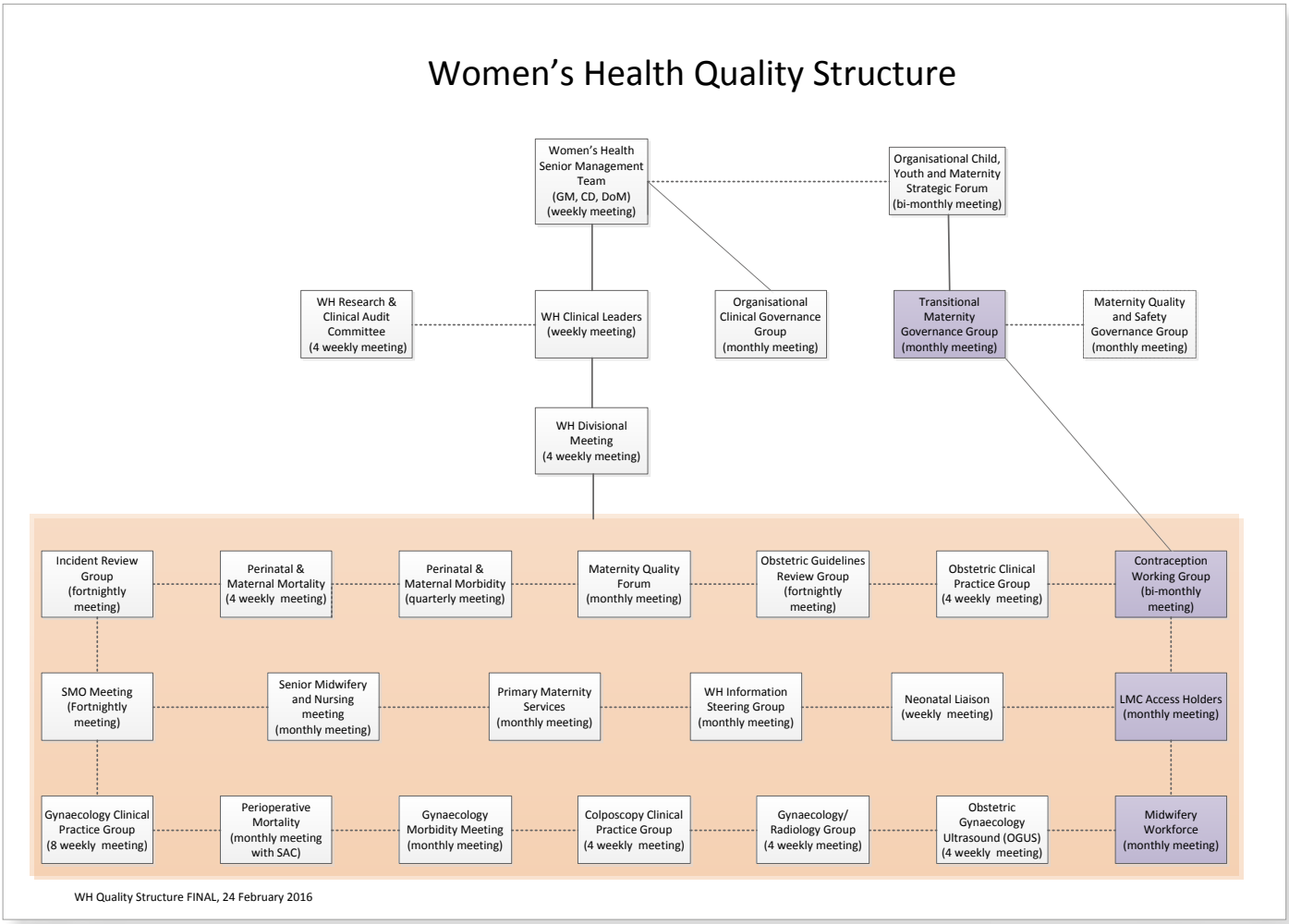
7	PRINCIPLE The quality of maternity care and service is measured and evaluated and reported on where required.		
		ACTIVITY	MEASURE
7.1	National Reporting	• Reporting to PMMRC, NMMG and MoH is undertaken. • National MQSP Co-ordinators meetings/ teleconferences information is reported on at the monthly MQSGG meetings.	• MQSP Annual Report completed. • Achievement of DHB and national quality improvement targets.
7.2	CM Health Reporting	• Reporting to stakeholders and consumers. • An annual workplan is devised reflecting the priorities of; – CM Health – MoH – NMMG – PMMRC – other organisations as appropriate – CMRYC • A follow up audit of the transfer of clinical care process to assess adherence to 2012 Guidelines for Consultation with Obstetric and Related Medical services. • Four weekly Perinatal Mortality Meetings.	• Annual launch of MQSP Report. • Regular updates given. • Audit done. • Attendance at meetings.

6 Appendices and Glossary

Appendices

APPENDIX 1.

Women's Health Quality Structure



APPENDIX 2.

An evaluation of the Midwifery Development Education Service at CM Health

An evaluation of the Midwifery Development Education Service at Counties Manukau Health – a student and staff perspective

EXECUTIVE SUMMARY

Heather Donald, Anna Fielder and Judith McAra-Couper
February 2016

Project funded by AUT University (AUT) and Counties Manukau Health (CMH)

i. Introduction

The Midwifery Development Education Service (MDES) is a joint innovation between Auckland University of Technology (AUT) and Counties Manukau Health (CMH). MDES is based on the Birthing & Assessment Unit (B&A) at Middlemore Hospital, and has as its overall objective the provision of high quality one-to-one clinical education in the field of midwifery. The service caters in particular for midwifery students, but also works with midwives and those working in allied fields. The service commenced in February 2007.

ii. Aims and methods of the study

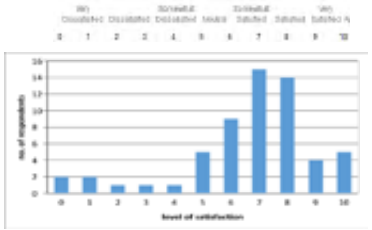
This evaluation focuses upon the effectiveness of MDES in relation to student learning and the impact of the service upon the culture of education within the unit. Other relevant topics have also been reported on as they emerged in the process of data collection. The evaluation has been carried out from the perspective of students and midwives who have worked in, with and alongside the service. It is based upon information obtained through online surveys, one-to-one interviews and focus group discussion.

69 participants participated in the online anonymous survey and 17 took part in in-depth interviews and/or a focus group.

iii. Research findings: strengths of the service

Overall the evaluation reveals considerable support for MDES and appreciation of the work it does. The service stood out as unique, making a difference. When respondents were asked how satisfied they were with their experience of the MDES service a large majority of respondents gave a positive response (above "neutral" in Figure ES1).

Figure ES1. Overall, how satisfied were you with your experience of the MDES service



n. = 59

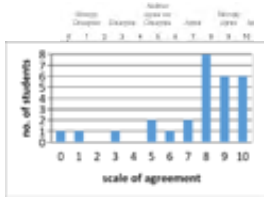
1

Education, feedback and appraisal

In particular praise was given to the fact that the service enables experienced midwives to focus upon providing one-to-one clinical midwifery education for midwifery students whilst caring for a woman and her baby. In the absence of wider responsibilities to the service that other clinical or management roles entail, it was felt that MDES midwives are able to provide a high level of focused and personalised education.

A large majority of students felt that it is beneficial to have MDES midwives working alongside them on a clinical shift (Figure ES2), and the service tended to be evaluated as making a positive difference to the working conditions of student midwives. The fact that MDES Educators have more *time* to dedicate to teaching than core midwives who also precept student midwives was seen to facilitate the provision of in-depth teaching, the teaching of skills that are time-consuming to learn (such as perineal suturing), quality feedback and discussion, and the staging of educational questioning and reflection. In being aligned with AUT as well as the Birthing and Assessment Unit, MDES educators were seen to be well situated to match the student learning requirements set by AUT with the clinical learning experiences available in the clinical area, and to advocate for students in that context. Educators operate from a unique 'vantage point' that enables them to adopt a more integrated approach to student learning than might otherwise be possible. There was a level of trust in the service that it would ensure the teaching of evidence-based best practice from expert practitioners. However, student midwives also frequently praised the quality of education provided to them by core midwives with some being ambivalent about comparing the quality of the two.

Figure ES2. It is great to have MDES midwives working alongside students in a hospital on shifts



Mean value = 7.57
n =28

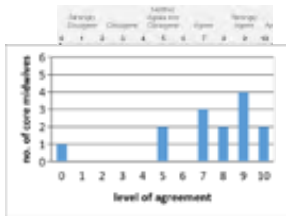
One of the strong points of MDES from the perspective of some midwife participants was also that it provides expertise in student appraisal, and a resource and support for core midwives who are also involved in educating and appraising students. From the perspective of AUT, such skills in student assessment and appraisal ensure high quality midwifery education and graduates.

2

Facilitating a "learning culture"

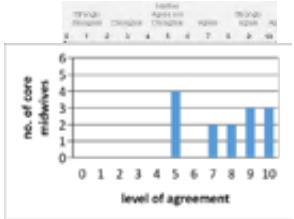
MDES was widely seen by midwifery research participants as having facilitated the development of a "learning culture" within the Birthing and Assessment unit (Figure ES3). The research suggests that at the time of data collection MDES had considerable support amongst core midwives and over 70% of core midwife respondents agreed that "MDES affects the student-midwife relationship in a positive way" (ES4).

Figure ES3. MDES affects the learning culture in Birthing and Assessment in a positive way



Mean value = 7.36. *n* =14

Figure ES4. MDES affects the student-midwife relationship in a positive way

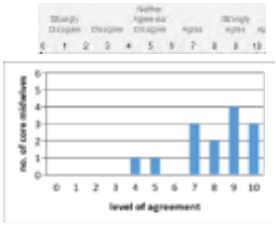


Mean value = 7.64. *n* = 14

In particular MDES was described as having supported the development of conditions in which student midwives are increasingly accepted as part of the team on Birthing & Assessment, and in which their education is more positively embraced by the wider staff. MDES was valued as a source of collegial and educational support for core midwives, and participating core midwives evaluated MDES very highly with over 85% of these survey participants agreeing or strongly agreeing with the statement "I appreciate having MDES midwives service at Middlemore" (Figure ES5). Core midwife participants also frequently agreed that MDES enhances the education of student midwives.

3

Figure ES5. I appreciate having MDES midwives service at Middlemore



Mean value = 8.00. *n* = 14

While core midwives still feel and are responsible for student midwives, there is evidence that the presence of MDES on the unit provides a resource for core midwives who are also teaching student midwives, alleviates some of the "pressure" of educating students particularly on a busy shift, and enables the unit to cater for more student midwives that would otherwise be the case. In the words of one hospital midwife, it's a "win-win situation". From the student midwife perspective there remain challenges related to being a student midwife in the B&A environment, but the evidence points in the direction of MDES having impacted positively upon the culture of learning there.

Professional opportunity

MDES Educator midwives enjoy the job. The work of the Educator (continually and simultaneously providing clinical care and education) was seen to be intense, but participants spoke of how it gave them an opportunity to work in a slightly different way to that in which a core midwife or a Lead Maternity Carer (LMC) midwife is able. The role was valued as supporting midwives to do "something different", to veer into the realm of midwifery education while maintaining a clear footing in clinical practice. The Educators rated the level of midwifery education provided by the service highly. In particular, MDES Educators tended to focus upon the fact that the service provides one-to-one midwifery education for students, and agreed that MDES enables the development of positive student-midwife relationships.

iv. Research findings: gaps, tensions and suggestions

Whilst the research participants were overwhelming positive about MDES and there were a number of research participants who made no negative comments about the service at all, others pointed to gaps and tensions in the service as they perceived them. Some students identified negative experiences with the MDES service and a few core midwife participants were critical of the service. Respondents also gave suggestions for ways in which they felt such challenges might be addressed.

Education versus appraisal, and feedback

Criticisms by student midwives often reflected the fact that MDES performs an appraisal function that may ultimately play a role in failing a student in a particular aspect of her midwifery education. Clinical appraisal and assessment is necessary in order to ensure that graduating midwives are safe and competent practitioners thereby protecting the safety of women and babies, however this function of MDES was identified as leading some students to be fearful of their time at MDES. The service sits at the heart of one of the main tensions in education, particularly of a clinical nature: the need to provide quality and supportive education in addition to appraising students to ensure public safety.

Research participants made a number of suggestions regarding how this tension might be productively approached. This included increasing continuity between student and MDES educators in order that students have a longer timeframe within which to feel comfortable with an Educator, familiarise themselves with her expectations and demonstrate learning. To contextualise this, over 60% of student midwife survey respondents had spent 1-4 days with MDES, around 15% had spent 5-8 days and under 24% had spent over 8 days. Students may not have spent all their time at MDES with the same Educator.

One student recommended that MDES more clearly differentiate between its educational support role and its assessment/appraisal functions. Both student midwives and Educators made suggestions that Educators might embark upon professional development in teaching and learning as well as in midwifery knowledge, and it was suggested by some that this might be at postgraduate level. Since data collection was carried out for this evaluation more MDES midwives have started to embark upon courses in tertiary education.

Some research participants referred to there being moments of inconsistency in the education and feedback provided by Educator midwives in relation to university expectations. It was perceived that some degree of inconsistency might be accepted from core midwives but was inappropriate in the context of a service that specialises in the provision of clinical education. *No participants spoke of unsafe practice.* Suggestions were made for enhancing consistency between university-based and hospital-based clinical skills teaching, including closer involvement of the Educators in clinical skills teaching at AUT and enhanced opportunities for MDES Educators to share information amongst themselves which might include updates on clinical teaching and research.

There was an awareness that MDES Educators have more time to focus upon midwifery education compared to other midwives yet some students and some MDES Educators felt that there was still not *enough* time particularly for the facilitation and writing of student feedback. A suggestion regarding this involved time *without clinical contact* to be specifically written into the Educator role. Suggestions for enhancing the student learning environment also included educators making time for clear identification of individual student learning goals at the beginning of each shift; the writing of student names on the whiteboard in B&A; the allocation of time and of private space specifically for student feedback sessions; and MDES Educators consistently role modelling respectful and collegial communication with students. The research reveals that these aspects of educational provision are already happening, but at the time of data collection it appeared that they were not happening for all students all of the time.

MDES as an 'in between zone': the importance of profile, relationships and communication

MDES was described as operating in something of an "in between zone" – between Birthing and Assessment Unit and AUT, but not quite constituting either. This has advantages such as enabling MDES Educators to work from a unique 'vantage point', although it also brings challenges. AUT Midwifery Department and Middlemore Hospital Birthing and Assessment Unit are two well established and understood 'institutions'. The profile of, and people's understanding of, MDES appears to be much lower, although some spoke of a perception that this has improved recently. A number of suggestions were made to further improve awareness of MDES including that MDES Educators regularly visit the university to familiarise students with the service prior to their arrival in the clinical area. A recommendation was also made for improved communication with and orientation of student midwives to the unit prior to the beginning of their first shift.

Participating core midwives tended to view MDES positively but communication between the two was not always seen to be optimal. Suggestions were made that communication between MDES and B&A might be improved by regular meetings or "coffee" with charge midwives (who were seen to act as something of a 'gate-keeper' to core midwifery), and of a consistent passing-on of messages regarding the operations of MDES. It was suggested that core midwives might be more involved in the workings of MDES through the introduction of 'split-contracts' in which midwives are able to work for a proportion of their week as core midwives and a proportion of their week as MDES Educators.

Partly as a result of operating 'between' other services, MDES was seen by some to have a relatively weak internal identity. In so far as there is need for such an identity to be strengthened, suggestions were made including the organisation of regular team meetings, and consideration of physical space being specifically allocated to MDES. Whether such suggestions are deemed necessary in the future or not, it was noted that team meetings would be most likely to work in conditions in which Educators have regular time specifically allocated for non-clinical responsibilities.

Supporting the educators, developing the service

MDES Educators currently receive orientation when starting in post and this was seen to be helpful particularly in orientating new comers to the working environment at Middlemore Hospital. Suggestions were also made for expanding the remit of the orientation to include an introduction to AUT, and some research participants recommended personalising, or individualising, the orientation process more, which it was thought might support new Educators to more quickly adapt to the expectations of the role particularly if they were unfamiliar with the unit. Over recent years the orientation of MDES Educators has been revised in line with such suggestions.

Remuneration for the post of MDES Educator was frequently mentioned as inadequately reflecting the responsibility of the role. However, remuneration for the post is above that of core midwives and is comparable with that of AUT midwifery lecturers. It is therefore possible that there is a lack of awareness amongst research participants of the MDES pay scale and how it sits in relation to the remuneration of other midwives, educators and lecturers.

In order to facilitate recruitment and retention of Educators, some gestured towards the post of Educator needing to be attributed increased autonomy and for the role to be diversified. Recommendations in this regard included Educators being more involved in teaching midwifery students at AUT; in study for Educators on adult learning being facilitated; and in a system being established where students could give feedback on their experience with MDES. It was also felt that the aforementioned idea of allocating Educators non-clinical time may alleviate some of the intensity of the job. In a slightly different vein it was suggested that the role of MDES in providing professional development and education for CMH staff members and new graduate midwives could be further utilised.

Finally, one of the most common critiques of MDES is that there are not sufficient numbers of MDES Educators. Overwhelmingly research participants suggested increasing the number of MDES midwives, a development that it was anticipated would support the service to grow and develop, thereby enabling MDES to benefit more students, to have a presence in other areas of maternity provision such as postnatal care, and to more easily work around the clock. It was also suggested that the service be expanded to other District Health Boards. In the words of one student midwife "The Educators are the way to go".

v. Conclusion

This evaluation concludes that MDES provides a valuable student learning service. It has also been integral to supporting the development of an enhanced learning environment on B&A. Yet there are some areas of tension and challenge, and suggestions are made for possible ways forward.

Some of the tensions and gaps identified by research participants in the service are already being addressed, and we are aware that since the research was conducted in 2015 moves are being made to replicate aspects of the MDES service in at least one other District Health Board. The suggestions for improvement outlined in this report tended to be offered by research participants in a spirit of generosity and desire to strengthen an already innovative and widely appreciated service. It is hoped that they will be read in such a spirit, and that they will provide a springboard for healthy and vibrant discussion that can facilitate the strengthening of an already successful service.

APPENDIX 3.

Accessible, Affordable, Appropriate and Quality Maternity Care. Pasifika women a ccessing primary Maternity Care

Section 1. Setting the Scene

1.1 Background to Research Project and literature review

In Counties Manukau District Health Board catchment area approximately 32% of the pregnant women in any given year are Pasifika (Jackson, 2011). Pasifika woman (71.5%) along with Maori women (74.9%) are more likely to have a spontaneous birth as compared to Asian (57.4%) and other ethnic groups (60.4%). However, the majority of Pasifika women give birth in tertiary hospitals (65%) rather than primary settings (Ministry of Health, 2012). This is despite the fact that in the United Kingdom the National Institute for Health and Care Excellence have advised low risk women it is safer for them to avoid hospital births and birth in primary units or at home (National Institute for Health and Clinical Excellence, 2014). The evidence is clear that for 'low risk women' it is safer to birth in primary units (Overgaard, Moller, Fenger-Gron, Knudsen and Sandall (2011), Birthplace in England Colloborative Group (2011), Davis et, al (2011). A recent large quantitative study in Counties Manukau showed that 'low risk' women birthing in primary settings of Papakura, Botany Downs and Pukekohe Maternity Unit are less likely to experience an emergency caesarean section, a postpartum haemorrhage, be admitted to HDU/ICU/Theatre and their babies are less likely to have an Apgar below 7 at 5 minutes (a measurement of babies' health and wellbeing – the score is out of 10) or be admitted to the neonatal unit and that these primary settings are as safe for babies, and safer for mothers, than the tertiary unit at Middlemore Hospital (Farry, 2015). The rationale for this study comes from the urgency to understand why 'low risk' Pasifika women bypass a primary unit where they more likely to have much better outcomes than in the tertiary unit to which they travel in order to give birth.

Section 2. Research project

2.1 Aims of the study

- To uncover why 'low risk' Pasifika women in Counties Manukau Area do not birth at primary units, in particular Botany Downs primary birthing unit.

1

2.2 The potential benefits of the research are that it will inform

-service provision for Pasifika women

-will facilitate culturally appropriate information being developed for Pasifika women around place of birth

-long term it will improve outcomes for 'low risk' Pasifika women if service providers can understand their views and needs around where they birth

2.3 Ethics

Ethics was obtained from AUTEC and from Counties Manukau Health.

2.3. Project management

This research project was led by Associate Professor Judith McAra-Couper and Annabel Farry. Ngatepaeru Masters acted as the research officer and Dinah Otukolo as research assistant. The group met every two weeks except over the three week Christmas close down period.

2.4 Research methods

A qualitative descriptive approach was used for this research. Such a methodological approach is appropriate where information and description needs to be generated about a particular situation or phenomenon, in this instance the choice of place of birth. Such an approach was useful in facilitating the process of eliciting stories, sharing informing and providing insight into the views and needs of Pasifika women participants in relation to place of birth.

2.5 Data collection

- 7 individual interviews were carried out (one interview was not started due to the fact the women was excluded from study due for clinical reasons).
- The interviews were semi structured and use open ended questions so that participants can share their views and tell their stories about why they chose to birth in a particular place.
- The interviews took between 30-90 minutes
- Interviews were audio taped with the permission of the research participants
- The Interviews were transcribed

2.6 Data analysis

- Content and Thematic analysis was carried out

2

- The transcripts were first were read and emerging themes coloured code by one member of team
- These themes and colour coding was checked by another member
- A coding tree was then created with the appropriate data linked to each code
- This consistent coding facilitated the emergence of patterns in the data leading to themes

2.7 Research project progress

Tasks	Date
Localities Ethics	Completed December 2015
Recruitment	Completed Mid January 2016
Interviews	Completed end of January 2016
Transcription	Completed 1st week of February
Data Analysis	Provisional data analysis completed 24th February
Presentation of provisional findings 24th February	Presentation of Provisional Findings to Counties Manukau Transition Governance Group
Research Report with provisional findings	Completed mid March

Chapter 3. Research Findings

Seven women were interviewed as part of this research but only six women's data could be included in the data as one of the women was excluded as she did not meet the criteria. The six women whose data was analysed were all healthy low risk women who could have birthed at a birthing unit. While the research focused on the questions of why 'low risk' Pasifika women in Counties Manukau Area do not birth at primary units there was also much material gathered in the conversation of the interview that is invaluable to understanding the birthing experience of Pasifika women that will be shared as part of the findings of this research.

3

All the women interviewed talked at length about the Midwifery service in New Zealand and for those women who had come from the Pasifika Islands to birth in New Zealand this was of particular interest to them. In order to understand the experience and needs of Pasifika women birthing in New Zealand we believe this information is invaluable.

3.1 Midwifery Service in New Zealand

Being cared for by a midwife is different in New Zealand

Participants spoke about how they and other women come over to New Zealand to have their babies here.

> Yes there are lots of women who come over here to have their babies and then they go back. Because, they already got the resident visa, and then come here and go back. When I got my resident visa, I'm really happy to have a resident visa, to come here, to give birth. Because my sister-in-law, they already talked to me about a hospital here and midwives here and come here and have my baby and I said okay.

A number of the participants spoke about the different things that happened to them when they gave birth in New Zealand.

> It's different, here in New Zealand – my other three children were born in – this is the first one to be born here and it is really different from my country. With birth there is a lot of pain but here different because at home the nurse says if you want baby to come push-here I said to my husband 'call the midwife' because I feel like pushing and the midwife told my husband tell me don't push jut breath so I breath and feel baby coming and don't feel the pain.
>
> When in labour it is different as here I did the Siva, shaky shaky, for two hours!
>
> Yeah. When he comes out, I just relax for five minutes ten minutes, and then she asks me if I want to have a shower I say yes. When I come down to go to the bathroom—I can't feel the pain. When I go to have a shower, my mum, my husband's mother, helps me to do a lot of things. Then I say, "Oh, that's good." Then my mum said, "You have pain?" and I say No!

A couple of participants also spoke about things such as husbands and family being able to be involved in care and at the birth and being choices around things such as keeping the placenta.

> At this birth my husband got to cut the cord this is the first time this has happened – we feel very happy here as we are involved and they asked as about the placenta at home they throw it in rubbish but not here - I am very happy her that we get

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given the choice. My husband feels happy to cut the cord and that is why he comes from the Island for the birth.

The Midwife engaging with and including the husband was different from the previous experience the women had and was important

> When we go to see the midwife she always talk to my husband and says to him you have to come here, and talk to your baby. You come here, and you have to talk to your baby inside the mother—she always makes fun with us and involves him.

The other difference participants spoke about and that they really appreciated was been informed about things.

> The Midwife she really explained to me about things at home they don't tell us anything like with the cord they already just cut it and don't get permission or ask us if we want to cut it.

It is important to place this data within the context that informs birthing in different places. In New Zealand where midwifery and birth is situated primarily in a 'social' model of birth despite increasing intervention rates working in partnership with women and their families means providing them with choice and this is at the heart of the maternity system. Other systems which are based on a medical model are much more likely to be focused on the health professional and their authority, telling the women (patient) what to do and what is best for them and for people to be surrounded by strict rules and regulations.

Midwifery services in New Zealand are very user friendly (the midwife comes to you)

The participants all spoke about the service and how user friendly it was in many aspects especially where midwives came to the women.

> I went with the community midwife because she actually come and visited me in my house. It is really good thing not to have to come to clinic and I wanted a midwife who could come to my home

> Otherwise it was hard from me because I'm not driving, and we only have one car and my husband's working as well, so he's got no time to come and drop me off. So it was easy, really easy for the midwife to come

5

For some of these women without a car and with other children getting to a clinic was a barrier to them accessing midwifery care so they were very happy that the midwife came to them. The way Midwifery Care was provided in New Zealand made the care accessible for women.

Finding a Midwife – Bring polite and not wanting to upset anyone

The participants all shared their various experiences of trying to find a midwife and the challenges that presented.

> In fact the GP practice rung me as I hadn't rung anyone…so they got midwife to ring me thank goodness couldn't think me ring the midwife– the midwife gave me a choice about if she was my midwife but I said no your are alright –wouldn't want to upset anyone

> I've had different midwives for all of the three births the first two were Ok but the third one she was great I liked her and I am going to stick with her. She was cool my friend referred her whereas the others I just found online randomly.

> Yes I got a list from the GP but that is so hard to ring a midwife and in fact a midwife rung me so I didn't have to ring. She set up an appointment and I went and decided to just stick with her as easier and I was quite happy with her.

> So when I first found out I was pregnant, it was through my family doctors where I took a test—maybe I let it sink in for a few weeks before I processed that I was pregnant ...and they said the first thing to do is do some research and try and find a midwife. and I said "Oh how do I do that, I had no idea what midwife to did. Yes they gave me information because they saw my face, and then they looked at my reaction and thought "This girl is probably really surprised", and so they said, just, "If you come back, we'll give you a lot of information you need to know", and so I left knowing that I could go back to them, but I just wanted word-of-mouth as well, from my girlfriends that had babies, to see what I should do. I went for my scan, and then as soon as I found out my due date then I looked for a midwife. It took me maybe two weeks, a good two weeks for me to find a midwife.

The participants accessed midwives in different ways through GPs, referred by their friends, searching on line and a couple of them seem to have been followed up by either a GP practice or a midwife and an appointment made to meet with a midwife. The being followed up seems to be important in terms of engaging women with Midwifery care.

Midwives and staff kind and nice and make a good experience

6

> In my country the midwives I can tell from her face she is not happy with me at all at times. But here the midwife when I go and see her for a check up she always is so nice to me

> The midwives and staff are kind and that makes it a good experience

> Yes it took a while for contractions to get going and the midwife had to go off but she handed over to another midwife and she also was so nice and she helped m do so man things. Also the student they were both so nice and kind to me. They helped me so so much.

> You know it makes a difference when people nice and kind makes you feel good yes

> Yeah I think it has improved Middlemore – the service is better the staff are friendly and kind maybe because more staff don't know but were very nice

The research participants spoke at length about how nice and kind the midwives and staff where to them. In fact this seemed to have been the number one thing that was important to the women a salutary reminder of the importance of our interactions with women and their families and the impact a kind word has.

3.2 Choice about Place of birth

Not knowing and not being informed

There was a significant amount of data considering there were only six participants about not knowing about or understanding the maternity system or not being given information about choices and where to birth.

I didn't know - Being informed or not informed

A common theme in the interviews was 'I didn't know' so while the participants spoke about being informed about some things there were other things that they had no knowledge of

> Really you can have babies at the maternity units …I didn't know that

7

It was clear for some women they had very little knowledge about birthing options including things like water birth.

> Yes it was assumed I would birth at Middlemore – the midwife asked me if I wanted to and just said yes. I really wanted to have a water birth but I wasn't too confident on it – oh well probably the next one. No I didn't get any info about any choices about where I could birth – oh I might have got some written material but I didn't read it.

This participant also goes onto say

> Yes Middlemore it's a hospital, so that is where you give birth—yeah, you have to give birth at hospitals don't you. With my next baby if I have one I would do something different like try a water birth but I'd probably still have it at Middlemore, because it's the main place that I have given birth to with my last—with my three, yeah.

This participant would have preferred to go to Papakura but there seems to have been some confusion about her transfer

> I would have preferred to come to Papakura just because its closer to home and my sister in law was discharged to there. She too gave birth to my niece at Middlemore but went to Papakura afterwards and I just found the environment really good and closer to home

> To be honest the thing I didn't know that I could leave the next day, and my midwife did say to me, in the morning when you are ready to leave, just let them know, that—to notify her. And so we stayed, thinking we needed to see a doctor to come and let us go, and the nurses were coming in and out, and just doing their daily checks and stuff, and the thing is, I didn't know. So we stayed our second day there, and it wasn't until the third that I was like, "When is the doctor going to come see me", and they were like, "Oh, you don't need to see a doctor" and I was like, "Can I go home then?" and they said yes- they did want me to stay because she was not latching but someone should have let me know what the system was.

There was a disturbing amount of material about 'not knowing' or not been given information about the service and how things worked. This is an area in which there needs to be some serious efforts about informing Pasifika women about their choices.

Choice about where to give birth

8

The participants provided interesting insights into the choices they were given and the choices they would make about where to birth.

> I went to Middlemore and had my baby and then went to Papakura after that. I didn't know I could have my baby at Papakura. My midwife told to go to Middlemore that is why I went there. For me though I think I would choose Middlemore, because this is the first baby I have had in this country. In fact if I have another baby I would still go to Middlemore

Another participant also spoke about choice in relation to where she would given birth

> No one talked really about there being a choice about where to have baby, no no choices where given. The midwife mentioned Middlemore but no didn't mention Papakura but I went there after birth of baby.

This participant has a different perspective in that she sees Middlemore as providing a degree of safety for her

> I didn't know about other places to go give birth but then probably wouldn't have chosen them anyway in case anything happened—because I didn't want to go to a birthing care where, if anything happened, if things didn't go to plan then would have to come to Middlemore. Really all I knew was Middlemore so that was my choice.
>
> I chose Middlemore only because it was close to home, I didn't know about any other places to go and give birth, I didn't know about the aftercare, like Botany or Papakura—yeah. Because I didn't really live near them I wasn't really told about them

Maternity Units are places you go after you give birth

> No Papakura wasn't really mentioned at all we didn't really talk about anything over there. I just choose Middlemore. Yes it was the only one I knew about – I really thought those ones like Papakura you just go there after birth not for birth of baby.
>
> To be honest until you guys (the researchers) told me I thought those units were there for you to go to and recover after having your baby
>
> Yeah my family think you give birth at the hospital that is what we would think not a the after care centers

It was clear that for all of these women they really had no idea that they could birth and birth safely at Maternity units as opposed to Middlemore Hospital.

Experience or thoughts about maternity units

> I would go to Middlemore I didn't like Botany It was like a campground, how you couldn't eat in the room, and I wasn't in the mood to move around a lot. But I still ate in the room even though I wasn't allowed but yeah too many rules. So my third time round, Middlemore I think it was way better. I liked Middlemore, yeah.
>
> There was a little room to eat in but to me honest it was sore to move, I was tired just not in mood at all –also I find it hard that they only come if you call them they don't come round or check up so I might as well be at home.
>
> Postnatally the amazing midwife at Middlemore she recommended I go to Botany. She joked there is scones there And then I was like oh okay So I went into Botany and I had no idea what I was going into and when I walked in, my partner—So my partner and my mum dropped me and the baby off. The staff, I think we had a midwife take us to the room, set us up and told us about the facilities that were there, and if we needed anything just give them a call, they're there for anything and everything, and about lunch, breakfasts and dinners, about showers and toilets, and nappies and changing rooms and everything. And my first night I was by myself, because my partner couldn't stay and my mum couldn't stay, so I was really—I think I maybe pushed the bell or walked up to them maybe ten times in three hours or something because I was just nervous laughs—like what to do, what should I do, am I doing something wrong, or—And I was exhausted, and they said just sleep
>
> Yeah. I couldn't sleep, and—Because he was really mucous-y. And so that scared me even more and it's probably why I couldn't sleep as well. So he was bringing a lot of it up, gagging and—yeah so I was crying and I was like "I don't know what to do", and so the midwives were with me [for] most of the first and second night—by the third night he was really—he had settled down a lot. And plus I my midwife coming in, and she was really good, checking up on me and the baby and making sure everything was going good. So maybe by the third day, I was kind of—Everything was settling in, and I really wanted to go home. So my midwife said yeah, you can go home, she's happy with what she wanted from me. And so we came home, but the birthing care was amazing, the staff were amazing—if I was really exhausted they would come and change the baby for me, or—I'm quite a hands-on learner, so with the whole breastfeeding and latching I really wanted to do it myself, and they supported that.

This participant went to both Middlemore and Botany

The reason I chose.. well to be honest I was put off with the first one, I was put off Middlemore I felt it was dirty, the hospital felt dirty and it was hot and I didn't really like it at all. With my second baby I felt like I was rushed out to Botany to make room for someone new who needed by room. I had my baby and no room so they had to rush me and I knew they wanted me gone fast

Would I birth somewhere else? Well with this one Middlemore seemed Ok –it is crammed and you are stuck with the other people and it was hot and they said that was for baby's sake – for me because I have to share room and they are right next to you and you hear the snoring then might as well go home

For the participants while Middlemore itself was not great for them they could not speak highly enough of the staff

> But yeah Middlemore is amazing, everyone—Like I really didn't have any problems with their staff - their staff were amazing and they just made me feel really looked after

There was real mixed bag of reactions to the maternity units and Middlemore and things like sharing a room, how you were treated, the cleanliness of the place, supportive staff seemed in some ways to be more important than the actual place itself.

Choice is determined by what is closest to home – Close to home

> I… can't actually remember how we picked the place to birth, but did ask me, and I just said Middlemore because it was close but then I'm not really aware of the other birthing units.

For this participant she was given choices but she know she wanted to have baby at Middlemore

> Yes midwife gave me the choices of Botany birthing care, or Middlemore or Papakura. But I always—I knew that if I ever fell pregnant I wanted to have [the] baby in Middlemore, just because it's convenient because Middlemore is closest. And probably—mainly because it's closest and so my family or my mum could easily come and see me, and it was right there, so yeah, that's probably the reason why I chose Middlemore.

> The reason I go to Middlemore is because it is close to where we live I have no problem to go anywhere else but why when this is the closest. Yes if a primary unit was closest to me of course I would go there as I haven no worries about me or my baby
>
> The reason I had my baby at Middlemore was convenience to where I live…mind you the parking is a put-off . We got heaps of tickets when we had to come to see the baby so it's a put-off, if you're really sick I wouldn't go, because I haven't got the money for parking. But we actually paid for all-day parking, because we didn't really trust anyone to bring us up We didn't want to be a hassle, too. So we just paid all the parking. I didn't trust anyone to drive my car.

There was no doubt that convenience and being close to home was the main determining factor why women went to Middlemore. This raises a number of questions about the location of services for 'low risk' women who do not need to birth in a hospital

Influence of friends and family about where women birth

The influence of friends and family was significant on where women birthed.

> For me I always feel good when I talk to my other sister-in-law, they give birth here, she's from the Islands, and then she comes back here to give birth. I always talk to her, and she said, "Oh it's really nice, so I said oh, okay. She would give birth at Middlemore and then go back to the Islands
>
> My friend gave birth at Middlemore so I did
>
> My friends also preferred Botany they said it was better than Middlemore I went to try it out the second time but for me Middlemore was better I really enjoyed it.
>
> My family well sister in law gave birth at a birthing unit – that was in town near the domain – yes she went from Mangere to there but everyone else in my family has given birth in a hospital and at Middlemore
>
> Actually all my friends were like, "Don't go to Middlemore", they were all, "Go to Auckland, go to Auckland". I don't know if that's just because it's in South Auckland, the hospital, or—what just because it is in south Auckland – but they all birthed at Auckland even though they live in South Auckland. For me

> Middlemore was an awesome experience and I am normally sceptical about things, my husband always says I am high maintenance but I am not!
>
> My mum, she had my brother at Middlemore. And, because I think—Oh, that's my step-mum. And then with my actual real mum, she had my other brother at the Waitakere hospital, only because she's staying out West. I think one of my friends—yeah they've all mostly had it at Middlemore, that I know of so that is what I know

There is no doubt that one of the strongest influences on women about where they birthed was their family and friends. This is not surprising but does indicate that any education around place of birth will require a cultural change about where women birth.

There is so much more wonderful material that has not been put into this report that the women shared with us. I think the end of the data section needs to finish with the women's voice about their experience of birthing and their worldview of birth.

> I was working the whole time I had [the baby], when I was pregnant. I had my contractions in the morning, and then I go to work. I work, and then I was like huffing and puffing And then my water break and I was like more huffing and puffing. I was working in an industrial laundry Yeah, on my feet the whole day. And so I start at eight, finish at four so we came home at end of shift and had a shower and go straight away to the hospital. When we get there they say, "Oh, you're already seven centimetre[s]"

> Well—with my first, I gave birth to him at Middlemore, I had natural birth, there were no problems. Everything was just—it went good, it was a fast delivery, and my midwife said he flew out when I gave birth, when I pushed him out. First delivery was good. Second one, it took a little bit of time, only because I thought I was going to have [the] baby but it was only false contractions. So we were in hospital for probably almost six, seven hours, just to wait for the actual contractions to happen. In the end though nice natural birth for my second as well, no problems. And with my third it was a quick one as well, only two hours. And that was also a natural birth as well, no complications, everything went well. Yes for me I just always want the natural way. And I was just so used to it from my first experience, that's why I just did it with all—with my next two

Women who are such experts at birthing and trusting their babies deserve to birth in the places where they and their babies are safest.

Chapter 4: Recommendations

4.1 The primary findings about place of birth

- Lack of choice
- Lack of knowing about birthing options
- Low risk healthy women not being informed about where best for them to birth
- Culture of "we birth at Middlemore and that is where you have babies" and Middlemore staff 'so awesome'
- No birthing unit close to where women live
- Influence of family and friends about place of choice

4.2 Recommendations

- Urgent need for information about place of birth to be given to all women
- Information to be given to low risk women in an appropriate format which enables them to make the safest choice for them and their babies.
- User friendly decision making aid about place of birth needed
- Public Campaign to education the community about place of birth
- Primary units that are convenient for the majority of birth women

4.3 Dissemination of Research

- Findings presented 24th February Counties Manukau Health Transitional Maternity Governance Group
- Journal Article to be submitted June 2016
- Presentations will be given in the community

4.4 Next steps

- Survey of wider group of Pacific women (May 2016)

Final thoughts

This summer student scholarship project has gone very well. The research team, along with Dinah, have met all the objectives we set including the added bonus of presenting provisional findings to Counties Manukau Maternity Governance Group. As always the processes with research took longer than anticipated. In this project recruitment over the Christmas period meant a delay in starting the interviews.

However, once under way we managed to complete within two weeks. This has been a small pilot project and has run successfully with great learning for all the team, and especially for Dinah in terms of research and 'how' to do research. This summer student scholarship has also became a stream of research which will give voice to Pasifika women in relation to where they want to birth and we are confident has set the stage for future projects.

APPENDIX 4.

Induction of Labour Booking Process Audit 2016

MMH Booking for induction of labour (IOL) in pregnancy

Student Names: Date: 16/04/16
Piotr Gawor
Jophia Kommunuri
Clinical Supervisor: Index Category:
Dr Graham Parry Maternity – Antenatal
Hospital:
Middlemore (CMDHB)

Objective:
The aim of this audit was to critique whether bookings for Induction of Labour (IOL) at Middlemore Birthing and Assessment Unit were being made appropriately. Middlemore hospital (MMH) has the resources to perform five IOL per day, two in the morning (9am) and two in the evening (7.30pm) with an additional slot available in case of emergency. Prior to a change in protocol in 2014 many of these booking slots were being filled months ahead leaving little space for appropriate short notice post dates IOL. In many cases those IOLs booked months ahead and later cancelled, needlessly denied appropriate IOLs for other patients.

An audit of the new guidelines occurred in July 2014 which found that the reasons given for induction were appropriate, however the timing of booking was not assessed. That audit found that on average there were 6 IOLs per day. This audit asks whether the change in guidelines has brought about a change in booking patterns for IOLs at MMH in terms of number of IOL per day. An area for further study identified in that audit was whether the timing of bookings was appropriate and therefore this audit assesses whether the timing aspect of the guidelines was appropriate. An additional aspect of the audit was whether particular indications had higher rates of cancellation.

Standard:
The standard assessed is based upon the Auckland Consensus Guidelines of IOL modified for MMH. The MMH standard states that a booking should be accepted if(1):

Pregnancy is postdates (>41+4/40)
Gestational diabetes or diabetes (36+/40)
Multiple pregnancy two weeks in advance
All other indications one week in advance

Methods:
All inductions of labour from the 1st of February 2016 – 31st March 2016 documented in the IOL booking diary in Birthing and Assessment were reviewed by two Trainee Interns. Each IOL was assessed as appropriate or not based upon the booking date written in the diary and matched this for the indication given. If a booking date was not recorded this entry was excluded from the data set. Bookings without a reason, if recorded within one week of the entry day were included within the data set.

The indications for IOL was categorized into 29 main groups, with the ten top indications being: Gestational diabetes mellitus (GDM), spontaneous rupture of membranes, post dates, decreased fetal movements, preeclampsia, slowing growth, intrauterine growth restriction, prolonged rupture of membranes, small for gestational age and hypertension (other than PET). As per the previous audit similar categories were grouped together for statistical analysis for example GDM and T2DM were combined into a single Diabetes

1

category. Where an entry had multiple reasons for IOL then the main reason was counted. The assessment of this main reason was based on the judgment of the trainee intern.

Then, each case was assessed as to whether they were booked appropriately (yes or no) for IOL as per the Auckland Consensus Guidelines derived for MMH. Further information was collected and collated, including reasons for not proceeding with an IOL despite booking, number of IOLs booked per day and number of cancellations per day.

Results:
A total of 369 IOLs were booked over the 60 day period. On average 6.18 IOLs were booked for each day, 23.6% more per day than appropriate as per hospital protocol. However, of these bookings, an average of 4.32 IOLs were carried out, and 1.87 cancelled each day.
A total of 112 bookings were cancelled over the 60 days (30.19% of total bookings). 10 bookings were excluded for not having a booking date.
The top 5 indications made up approximately 60% of bookings

Indication	Number	Percentage of Total Bookings
Diabetes	71	19
Spontaneous Rupture of Membranes (SROM)	46	13
Post Dates (> 41+4 weeks gestation)	45	12
Decreased Fetal Movements	30	8
Preeclampsia (PET)	30	8
Total	208	60

Table 1

The next 5 indications made up approximately 21% of bookings

Indication	Number	Percentage of Total Bookings
Slowing Growth/IUGR	21	6
Intrauterine Growth Restriction (IUGR)	19	5
Prolonged Rupture of Membranes (PROM)	14	4
Small for Gestational Age (SGA)	12	3
Hypertension (other than PET)	11	3
Total	77	21

Table 2

Of the 371 bookings made over the 60 day period, 331 (89%) were appropriately booked as per the Auckland Consensus Guidelines, while 38 (11%) were deemed to be inappropriate.

Indication	Within Guidelines	Outside Guidelines	Percentage outside
Advanced Maternal Age	5	6	55
Hypertension	9	2	18
PET	25	5	17
Diabetes	64	8	11
Slowing Growth/IUGR	50	6	11
Post Dates	44	1	2
SROM	46	0	0
Decreased Fetal Movement	30	0	0

Table 3

Table 3 shows that advanced maternal age has the highest percentage of bookings that fell outside guidelines followed by hypertension, preeclampsia and diabetes.

2

Interpretation of Findings:
The very nature of a booking diary for IOL means that 100% of appropriate bookings without cancellations cannot be hoped for. However, it would be expected that a goal of 90% is reasonable given discussions with midwives and consultants on the unit. In their opinion some bookings must be made for reasons outside guidelines. The achieved rate of 89% appropriate is therefore very close to ideal according to the needs of the unit.

Although many bookings are seen as appropriate a number of findings do stand out. A large percentage of bookings outside guidelines fall to a small number of repeating conditions (advanced maternal age, hypertension, PET and diabetes). There may be room for education of those making bookings around the guidelines to improve the rates of compliance. This may simply be an awareness problem in that the new guidelines, which have only been implemented for over a year may not be familiar to all.

Compared to the previous audit a similar proportion of bookings are being made and similar indications continue to occupy the same proportion of the diary.

Although not measured explicitly in the audit it was noticed that many of the bookings only missed the date by one or two days. The reason for this was often because clinic days were only a small time before the cutoff. This appears to be because particularly diabetic clinics fall before the 36 week cutoff and the doctor will often make the booking outside guidelines to ensure the patient has a booking time and date immediately without having to return to clinic the week after.

Limitations:
Compared to previous audits completed with the same objective, the sample size was smaller. This could increase the potential for bias in results. However, results proportionally were similar to the previous audit.

There were two interpreters of the data set and they made individual decisions about which was the most important factor when multiple reasons for induction were given. Although multiple reasons were not common they may have underestimated inappropriate bookings.

Further Improvements:
Although the booking diary and guidelines have been a major improvement over the previous system. However, there may be a place for a change in the way in which clinic appointments are made. One option for the future is for lead maternity carers (LMC) to be the main booker of IOL appointments. This means that the LMC can make a booking at a time within guidelines as well as suitable for the schedule of the LMC.

Future QI topic recommendation:
IUGR and slow growth were high in terms of booking outside of guidelines. A future audit could look at whether on the basis of growth scans those bookings fulfill the requirements for IUGR.

References

1. Auckland consensus guideline on the induction of labour (2015)

3

APPENDIX 5.

New Zealand Maternity Clinical Indicators

Ministry of Health, 2016. *New Zealand Maternity Clinical Indicators 2014*. Wellington: Ministry of Health.

Introduction

What is a clinical indicator?

A clinical indicator is a measure of the clinical management and outcome of health care received by an individual. For each clinical indicator, there should be evidence that confirms the underlying causal relationship between a particular process or intervention and a health outcome (WHA 2007). Clinical indicators can enable the quality of care and services to be measured and compared, by describing a performance or health outcome that should occur, and then evaluating whether it has occurred, in a standardised format that enables comparison between services or sites (Mainz 2003).

What are the New Zealand Maternity Clinical Indicators?

The New Zealand Maternity Clinical Indicators show key maternity outcomes for each DHB region and maternity facility.

The purpose of the New Zealand Maternity Clinical Indicators is to:

- highlight areas where quality and safety could be improved at a national level
- support quality improvement by helping DHBs to identify focus areas for local clinical review of maternity services
- provide a broader picture of maternity outcomes in New Zealand than that obtainable from maternal and perinatal mortality data alone
- provide standardised (benchmarked) data allowing DHBs to evaluate their maternity services over time and against the national average
- improve national consistency and quality in maternity data reporting.

The New Zealand Maternity Clinical Indicators are evidence-based and cover a range of procedures and outcomes for mothers and their babies. Where possible, the New Zealand Maternity Clinical Indicators are aligned with international maternity indicators to enable international comparison.

The Ministry of Health develops and publishes the New Zealand Maternity Clinical Indicators with support from the National Maternity Monitoring Group and the New Zealand Maternity Clinical Indicators Expert Working Group.

It is an expectation of the New Zealand Maternity Standards that the New Zealand Maternity Clinical Indicators are reviewed every three years.

Table 1: New Zealand Maternity Clinical Indicators

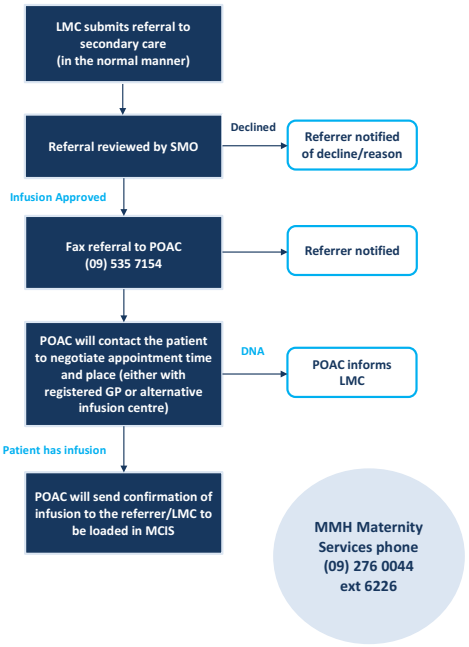
Population	Indicator		Numerator	Denominator
Women registered with an LMC	1	Registration with an LMC in the first trimester of pregnancy	Total number of women who register with an LMC in the first trimester of their pregnancy	Total number of women who register with an LMC
Standard primiparae	2	Standard primiparae who have a spontaneous vaginal birth	Total number of standard primiparae who have a spontaneous vaginal birth at a maternity facility	Total number of standard primiparae
	3	Standard primiparae who undergo an instrumental vaginal birth	Total number of standard primiparae who undergo an instrumental vaginal birth	Total number of standard primiparae
	4	Standard primiparae who undergo caesarean section	Total number of standard primiparae who undergo caesarean section	Total number of standard primiparae
	5	Standard primiparae who undergo induction of labour	Total number of standard primiparae who undergo induction of labour	Total number of standard primiparae
	6	Standard primiparae with an intact lower genital tract (no 1st- to 4th-degree tear or episiotomy)	Total number of standard primiparae with an intact lower genital tract with vaginal birth	Total number of standard primiparae who give birth vaginally
	7	Standard primiparae undergoing episiotomy and no 3rd- or 4th-degree perineal tear	Total number of standard primiparae undergoing episiotomy and no 3rd- or 4th-degree perineal tear with vaginal birth	Total number of standard primiparae who give birth vaginally
	8	Standard primiparae sustaining a 3rd- or 4th-degree perineal tear and no episiotomy	Total number of standard primiparae sustaining a 3rd- or 4th-degree perineal tear and no episiotomy with vaginal birth	Total number of standard primiparae who give birth vaginally
	9	Standard primiparae undergoing episiotomy and sustaining a 3rd- or 4th-degree perineal tear	Total number of standard primiparae undergoing episiotomy and sustaining a 3rd- or 4th-degree perineal tear with vaginal birth	Total number of standard primiparae who give birth vaginally
Women giving birth	10	Women having a general anaesthetic for caesarean section	Total number of women having a general anaesthetic for caesarean section	Total number of women who undergo caesarean section
	11	Women requiring a blood transfusion with caesarean section	Total number of women requiring a blood transfusion with caesarean section	Total number of women who undergo caesarean section
	12	Women requiring a blood transfusion with vaginal birth	Total number of women requiring a blood transfusion with vaginal birth	Total number of women who give birth vaginally
	13	Diagnosis of eclampsia at birth admission	Total number of women diagnosed with eclampsia during birth admission	Total number of women giving birth
	14	Women having a peripartum hysterectomy	Total number of women having an abdominal hysterectomy within 6 weeks after birth	Total number of women giving birth
	15	Women admitted to ICU and requiring ventilation during the pregnancy or postnatal period	Total number of women admitted to ICU and requiring over 24 hours of mechanical ventilation during admission any time during the pregnancy or postnatal period	Total number of women giving birth
	16	Maternal tobacco use during postnatal period	Total number of women identified as smokers at 2 weeks after birth	Total number of women with smoking status at 2 weeks after birth reported
	17	Women with BMI over 35	Total number of women with BMI over 35	Total number of women with BMI recorded
Live-born babies	18	Preterm birth	Total number of babies born under 37 weeks' gestation	Total number of babies born (live births)
	19	Small babies at term (37–42 weeks' gestation)	Total number of babies born at 37–42 weeks' gestation with birthweight under the 10th centile for their gestation	Total number of babies born at 37–42 weeks' gestation
	20	Small babies at term born at 40–42 weeks' gestation	Total number of babies born at 40–42 weeks' gestation with birthweight under the 10th centile for their gestation	Total number of babies born at 37–42 weeks' gestation with birthweight under the 10th centile for their gestation
	21	Babies born at 37+ weeks' gestation requiring respiratory support	Total number of babies born at 37+ weeks' gestation requiring over 4 hours of respiratory support	Total number of babies born at 37+ weeks' gestation

APPENDIX 6.

Community Ferinject Referral Process for Maternity Services

POAC
PHONE: 09 535 7218
FAX: 09 535 7154
EMAIL: poac@easthealth.co.nz

Community Ferinject Referral Process for Maternity Services



POAC
PHONE: 09 535 7218
FAX: 09 535 7154
EMAIL: poac@easthealth.co.nz

Community Ferinject Referral Process for Maternity Services

Who can refer?
The women's Lead Maternity Carer (LMC), GP or hospital clinician.

How do I refer a patient?
Referrals should be sent in the normal manner to Middlemore Hospital Maternity Services. LMCs and community midwives should send a separate Obstetric Consultant / Secondary Care Referral for Ferinject to speed the process if there are multiple issues which require consultant review.

How soon will the patient appointment be scheduled?
The patient will be contacted within one working day of receipt of the approved referral by POAC and the appointment will be scheduled within the same week. If the referrer believes that an infusion may be required urgently, the referrer should consult, by telephone, with the Obstetrician on-call at Middlemore Hospital directly on 09 2760044 prior to sending a written referral. If the infusion is required in less than one week from POAC receiving the approved referral, the referrer should notify POAC of this requirement and all efforts will be made to facilitate this.

How will the referrer know if the request has been declined?
Maternity services will inform the referrer if the referral request is not accepted. The LMC should contact maternity services if further information is required.

How will the LMC be advised of the patient receiving the infusion?
POAC will fax confirmation of the infusion to the LMC.

What happens if the patient fails to attend the appointment?
POAC will endeavour to organise the infusion at a time and location that is suitable for the patient. If the patient does not attend the appointment, POAC will inform the referrer who will follow up with the patient directly.

Who can be contacted to discuss a patient referral?
Phone the POAC coordination service (09) 535 7218.

What hours is the POAC service available?
POAC is available 24 hours, 7 days per week.

Who should I contact if I have further questions regarding the service?
Deanna Williams, POAC Service Manager: deannaw@easthealth.co.nz or phone 021 665 521

Counties Manukau Health – Ferinject Referral Process For LMCs
June 2016

APPENDIX 7.

HbA1c uptake during pregnancy Audit 2016

HbA1c uptake during pregnancy - CMDHB

Student Names: Sarah Correa and Penina Taimalelagi **Date:** 18th April 2016

Clinical Supervisor: Dr Kara Okesene-Gafa

Index Category: Antenatal **Hospital:** Middlemore Hospital

Standard

100% of women enrolled under Counties Manukau District Health Board (CMDHB) should undergo HbA1c testing with their booking bloods before 20 weeks gestation. (CMDHB Screening and Diagnostic Criteria for Diabetes in Pregnancy)

Exception: Refusal by patient

Methods

Eligible Population: Any woman enrolled under CMDHB, who gave birth in February 2016

Data Source: A list of NHIs was obtained from the Maternity Service Development Manager, CMDHB. Data was then sourced from Concerto Database (electronic records).

Sample: 582 women's records were sourced

Exclusion Criteria: Women with no estimated due date (EDD) recorded on Concerto. Four women were excluded, leaving 578 women to be included in this audit.

Variables: Ethnicity, lead maternity care (LMC) service provider

Specifications:

- *Ethnicity Groups were categorised according to the 2013 New Zealand Census Ethnic Group Profiles[1].*
- *For a patient to have HbA1c tested with booking bloods, the HbA1c result had to be dated on the same day as the results for HIV, treponema serology and rubella antibodies on Concerto.*

Results

The demographics for the 578 women included in the audit are summarised in Table 1. Figure 1 summarises the number of women who underwent HbA1c testing at various times. These results are also illustrated in a bar graph model in Figure 2.

Figure 1. Flow-diagram of results

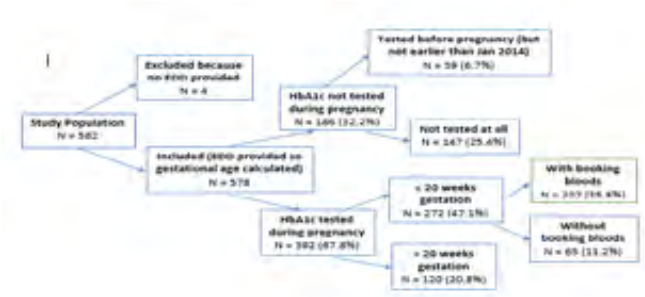


Figure 2. Graph showing timing of HbA1c test

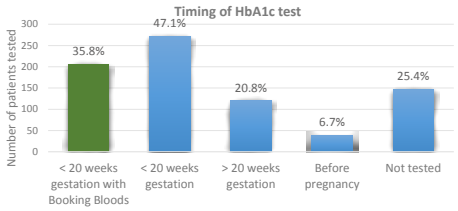


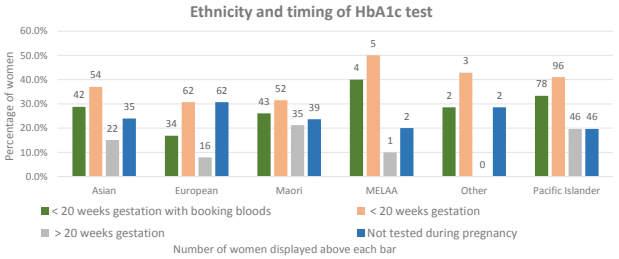
Table 1. Patient demographics

Number of patients in study sample = 578	
Age (years)	
Mean ± standard deviation	25.28 ± 5.81
Median	28
Range	15 – 46
Ethnicity (n, %)	
Pacific Islander	188 (32.5%)
European	140 (24.2%)
Maori	126 (21.8%)
Asian	111 (19.2%)
MELAA	8 (1.4%)
Other	5 (0.9%)
LMC service provider (n, %)	
Self-Employed	404 (69.9%)
DHB	121 (20.9%)
Unknown	53 (9.2%)

There were 18 different ethnicities the women in the study population identified with. These were further categorised into six ethnic groups stated in Table 1. The association between ethnicity and timing of HbA1c test is displayed in Figure 3.

The two main types of LMC service providers accessed by the women were Self-employed, and DHB care. Women that did not have information on LMC service provider were grouped into a category called "unknown" (9.2%, n = 68). The relationship between the type of LMC service provider and timing of HbA1c test is illustrated in Figure 4.

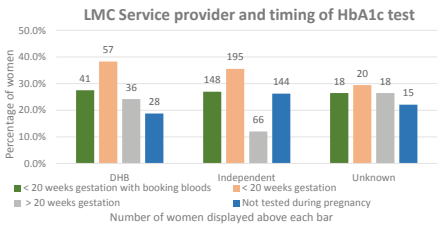
Figure 3. Bar Graph showing the relationship between ethnicity and timing of HbA1c test



Limitations

- Limited access to patients' notes - no way to identify if absent HbA1c result was due to patient refusal, test performed but result not recorded on Concerto, or LMC not requesting test.
- Some women may have discovered

Figure 4. Bar Graph showing the relationship between LMC and timing of HbA1c

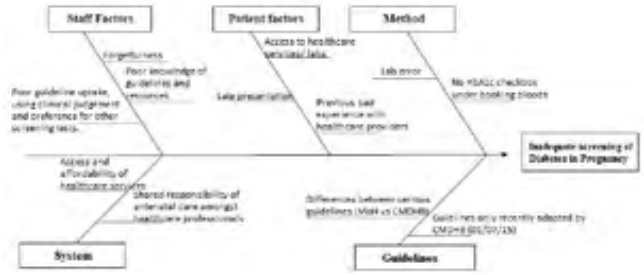


their pregnancy after 20 weeks gestation, therefore missed the opportunity for testing before 20 weeks.
- CMDHB guidelines only released on July 1st 2015. These guidelines would have only been in effect for about one month before most women were tested by LMCs. Therefore, auditing a population who gave birth in a later month may be more reflective of current practice.
- Discrepancies between CMDHB and Ministry of Health (MoH) guidelines for Diabetes in Pregnancy. MoH guidelines suggest that women with known Type 1 and Type 2 diabetes should not undergo HbA1c screening. LMCs may have been using MoH guidelines.

Interpretation of findings

- Poor adherence to the Counties Manukau Diabetes in Pregnancy guidelines with only 35.8% (n=207) being tested for HbA1c with booking bloods before 20 weeks gestation (Target was 100%).
- 67.8% (n=392) of women had HbA1c tested before 20 weeks gestation, regardless of timing of booking bloods. This in itself is an encouraging sign as it is probably more important for a women to undergo HbA1c testing before 20 weeks of gestation, than with her booking bloods.
- A significant proportion of women had not met the standard due to having HbA1c tested after 20 weeks gestation, before pregnancy and not tested at all. The Fishbone Diagram (Figure 5) suggests some potential explanations for these results.
- European women were the least likely to be tested for HbA1c with booking bloods before 20 weeks gestation. European women were also more likely to not be tested for HbA1c at all.
- Maori women were the ethnic group with the lowest proportion of women tested for HbA1c before 20 weeks.
- Overall, no major differences in the LMC service provider when it came to timing of the HbA1c test.

Figure 5. Fishbone Diagram illustrating causes for inadequate screening of Diabetes in Pregnancy



Recommendations

- Inform and educate LMCs on the new guidelines and reason for HbA1c testing at 20 weeks (through workshops, emails, discussion forums)
- Include HbA1c as a tick box (with other booking bloods) on blood request forms

Further Investigation

- Conduct similar audit looking at different variables (eg: age, gravida status)
- Audit under the MoH guidelines

Future QI Topic Recommendations

- Audit assessing the follow-up of HbA1c ≤ 40 with polycose test at 24 – 28 weeks
- Audit assessing patient education on diabetes in pregnancy for women with HbA1c 41 – 49

References

1. Ethnic group profiles [Internet]. Stats.govt.nz. 2016 [cited 17 April 2016]. Available from: http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/ethnic-profiles.aspx

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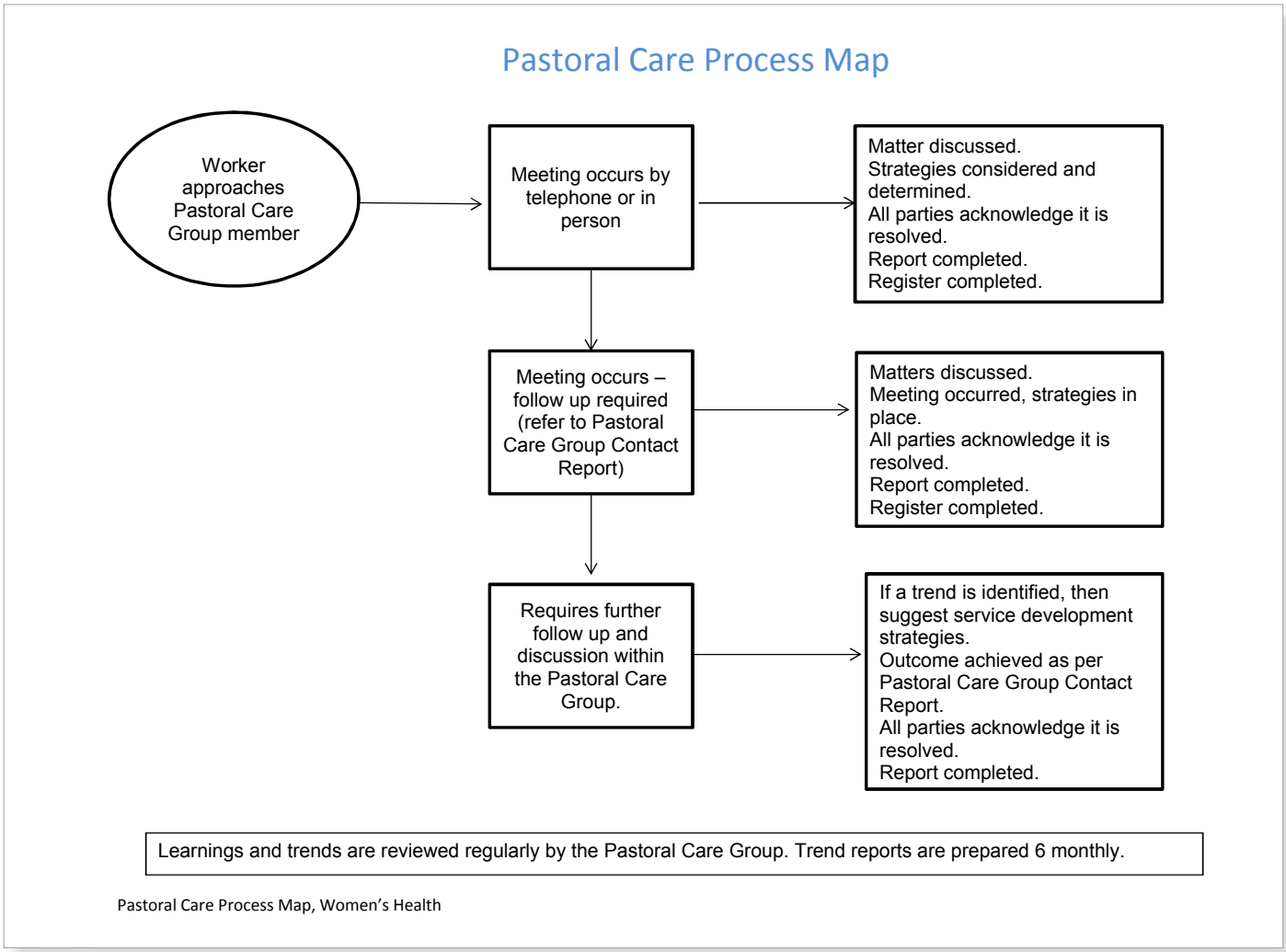
APPENDIX 8.

Pastoral Care Process Map



Pastoral Care Process Map, Women's Health

APPENDIX 9.

Te Rito Ora – Community baby feeding service

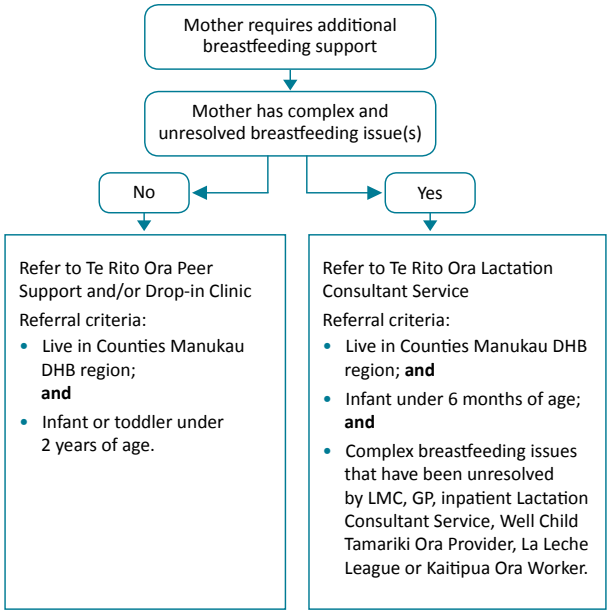
Te Rito Ora

Community baby feeding service

COUNTIES MANUKAU HEALTH

Te Rito Ora is a free community based service that provides breastfeeding and baby feeding support for mothers and whaanau who live in Counties Manukau. The following support is available:

- **Te Rito Ora Kaitipu Ora Volunteers (Mother-to-Mother Peer Supporters)** provide baby feeding support and encouragement to mothers and whaanau. The Kaitipu Ora volunteers are mothers with breastfeeding experience who are trained to support mothers and whaanau with breastfeeding and baby feeding support. Support is provided face-to-face, via text, over the phone and in group settings. Self-referral or health provider referral – see side bar for contact details.
- **Te Rito Ora Drop-in Clinic and Whanau Fono Space** provides free drop-in baby feeding support for mothers and whaanau. The clinics are run by trained peer supporters with a Lactation Consultant on site. All whaanau, children and support people welcomed. Self-referral or health provider referral – see side bar for clinic details.
- **Te Rito Ora Community-based Lactation Consultant Service** provides specialist support to mothers with complex breastfeeding issues via community-based clinics and electronic/telephone follow up as required. Referral from LMC, GP, WCTO or La Leche League is required via completed Te Rito Ora referral form (either faxed or emailed).



Referral and Contact Details

KAITIPU ORA SUPPORT (Mon – Fri)

FLORENCE IOSEFA 020 4067 9512

EMAIL

TeRito.OraReferrals@middlemore.co.nz

FAX 09 262 9507

DROP-IN CLINIC &WHAANAU FONO SPACE:

MANUREWA

RAUKURA HAUORA O TAINUI
7 HILL ROAD (OFF NEWHOOK LANE)
MANUREWA

- MONDAY 1.00PM – 3.00PM
- THURSDAY 9.00AM – 12.00PM

PAPAKURA

RED HILL COMMUNITY CENTRE
163 DOMINION ROAD, PAPAKURA

- MONDAY 9.00AM – 12.00PM
- THURSDAY 1.00PM – 3.00PM

LACTATION CONSULTANT

EMAIL

TeRito.OraReferrals@middlemore.co.nz

FAX 09 262 9507

PHONE 09 262 9510

Mobile 021 897 623

Glossary

Assisted vaginal birth A vaginal birth that needs assistance (e.g. forceps, vacuum extraction).

Body Mass Index is a measure of body fat based on height and weight that applies to adult men and women (mass (kg)/(height (m))2.

Caesarean section An operative birth through an abdominal incision. This includes emergency and elective, lower segment and classical and it is identified by the presence of any caesarean section clinical code.

CM Health community midwife Antenatal, labour, and postnatal care is provided by a CM Health employed midwife. Care during labour is provided by CM Health employed midwives at Middlemore Hospital or one of the three primary birthing units.

CM Health employed LMC Midwife A midwife who carries a full clinical primary workload including antenatal, intra-partum and postnatal care. Used to describe salaried position in DHB as opposed to LMC midwife who claims off the Section 88 Notice.

Cephalic Head down presentation.

Epidural An injection of analgesic agent outside the dura mater that covers the spinal canal. It includes lumbar, spinal (inside the dura mater) and epidural anaesthetics.

Episiotomy An incision of the perineal tissue surrounding the vagina at the time of birth to facilitate birthing, identified by the presence of an episiotomy clinical code.

Exclusive breastfeeding The infant has never, to the mother's knowledge, had any water, formula or other liquid or solid food. Only breast milk, from the breast or expressed, and prescribed medicines (as per the Medicines Act 1981) have been given from birth.

Fellow A doctor who is has usually completed their specialised exams and is completing final year of training requirements.

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

Gravida Number of pregnancies.

House officer A junior doctor, in their first 1-3 years of working, who is not yet on a specialist training scheme.

Hypoxic Ischemic Encephalopathy Brain trauma that occurs when there is an insufficient supply of blood and oxygen carried to the brain.

Induction of labour An intervention to stimulate the onset of labour by pharmacological or other means, identified by induction of labour clinical codes.

Intact lower genital tract Identified by an absence of clinical codes indicating an episiotomy or a tear of any degree (first to fourth, and including unspecified degree).

Large for gestational age Greater than the 90th percentile for their gestational age.

Lead maternity carer A person who a) is a general practitioner with a Diploma in Obstetrics (or equivalent), a midwife or an obstetrician and b) is either a maternity provider in his or her own right; or an employee or contractor of a maternity provider; and c) had been selected by the women to provide her lead maternity care.

Level II neonatal care Level 2 units within New Zealand generally care for babies 32/40 weeks and above and babies who have been transferred from Level 3 units after being clinically stabilised. They do not ventilate babies (except in emergencies) and generally use a less invasive form of ventilation continuous positive airways pressure (CPAP) for babies that are clinically stable. Some Level 2 units provide intermediate (Level 2+) care for babies over 28 weeks.

Level III neonatal care Level 3 unit provides neonatal intensive care and high dependency care. This means that they have the facilities to care for extremely premature infants (from 24 weeks gestation) and sick babies requiring ventilation, intravenous feeding and other types of intensive care monitoring and treatment.

Live birth The complete expulsion or extraction from its mother of a product of conception, irrespective of duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as breathing, beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered liveborn (WHO 1975).

Maternity facility A facility that provides labour and birth services and inpatient postnatal care.

Midwife A person who has successfully completed a midwifery education programme that is duly recognised in the country where it is located and that is based on the International Confederation of Midwives (ICM) Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education who has aquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery.

Non-governmental organisation An organisation that is neither part of government nor a conventional for profit business.

NZDep2013 is an updated version of the NZDep2006 index of socioeconomic deprivation. NZDep2013 combines census data relating to income, home ownership, employment, qualifications, family structure, housing, access to transport and communications. NZDep2013 provides a deprivation score for each meshblock in New Zealand. Meshblocks are the smallest geographical area defined by Statistics New Zealand, with a population of around 60–110 people. NZDep2013 groups deprivation scores into deciles, where 1 represents the areas with the least deprived scores and 10 the areas with the most deprived scores. A value of 10 therefore indicates that a meshblock is in the most deprived 10% of areas in New Zealand.

It is important to note that NZDep2013 estimates the relative socioeconomic deprivation of an area, and does not directly relate to individuals. NZDep2013 can not be used to look at changes in absolute deprivation over time as 10% of areas will always be the most deprived, relative to other areas in New Zealand. The indicators used to generate the index may also change over time, depending on their relation to deprivation.

The NZDep2013 Index of Deprivation is available on the Ministry of Health website.

Partial breastfeeding The infant has taken breast milk and bottle milk in the past 48 hours.

Parity The number of times a woman has given birth, including stillbirths.

Postnatal All pregnancy-related events following birth.

Post-term birth A birth at 42 or more completed week's gestation.

Preterm birth, preterm labour Birth or labour before 37 completed week's gestation.

Premature birth The birth of a baby born between 32 weeks 0 days and 36 weeks 6 days gestation.

Primary maternity facility A facility that does not have inpatient secondary maternity services or 24-hour onsite availability of specialist obstetricians, paediatricians and anaesthetists. This includes birthing units.

PROMPT A one day course managing obstetric emergencies and trauma as part of a multi-disciplinary team.

Referral guidelines Guidelines for Consultation with Obstetric and Related Medical Services.

Secondary maternity care facility A facility that provides additional care during the antenatal, labour and birth and postnatal periods for women and babies who experience complications and who have a clinical need for either consultation or transfer (Health Funding Authority 2000).

Self-employed LMC Midwife Midwives claiming from the MoH to provide antenatal, labour and post-natal care using, primarily, a continuity of care model by the same midwife.

Senior Medical Officer Fully trained specialist doctor/consultant.

Spontaneous vaginal birth The birth of a baby without obstetric intervention (i.e. without caesarean section, forceps or vacuum), identified by the presence of a spontaneous vaginal birth clinical code with no concurrent instrumental/caesarean section code. These may include births where labour has been induced or augmented.

STABLE Course A neonatal education programme focussed on the post-resuscitation/pre-transport stabilisation care of sick infants.

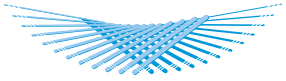
Standard primipara Defined by the MoH as a woman aged between 20 and 34 years at the time of birth, having her first baby (parity = 0) at term (37 to 41 weeks gestation) where the outcome of the birth is a singleton baby, the presentation is cephalic and there have been no recorded obstetric complications that are indications for specific obstetric intervention.

Tertiary maternity care facility A facility that provides a multidisciplinary specialist team for women and babies with complex or rare maternity needs; for example, babies with major fetal disorders requiring prenatal diagnostic and fetal therapy services, or women with obstetric histories that significantly increase the risks during pregnancy, labour and birthing (e.g. those who have already had two placental abruptions). Includes neonatal intensive care units.

Third and fourth degree tear A third or fourth degree perineal laceration during birth, identified by the presence of a third or fourth degree of tear clinical code.

Third and fourth degree tears are defined as;

- **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.



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