

Women's Health and Newborn Annual Report

2018-2019

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Introduction

Acknowledgements

The following people are acknowledged for their contribution to this report:

Alanna Soupen – Planning and Reporting Advisor – Population Health, Strategy and Investment

Amanda Hinks – Service Development Manager, Child Youth and Maternity (CYM)

Andrea O'Brien – Data Analyst, Health Intelligence and Informatics

Anna Hawkins – Clinical Coordinator, Perinatal Services

Bev Pownall – Team Leader, Lactation Support Services

Carmel Ellis – General Manager, Integrated Child, Youth and Maternity

Caroline Crowther – Professor, Liggins Institute, University of Auckland

Celeste Stark – Photographer

Dr Charlotte Oyston – Obstetrician and Gynaecologist, Senior Lecturer Obstetrics and Gynaecology, University of Auckland

Dr Chris McKinlay – Neonatologist, Kidz First Neonatal Care, Senior Lecturer, Liggins Institute, University of Auckland

Claudelle Pillay – Immunisation Nurse Leader

Dr Christine McIntosh – General Practitioner Liaison

Debra Fenton – Maternity Service Manager

Dean Papaconstantinou – Data Analyst- Population Health Team

Diane Evans – Acting Charge Nurse Manager

Donna Ritchie – Community LMC Midwife Liaison

Elizabeth Pillay – Programme Coordinator – Healthy Homes Initiative Child Youth and Maternity

Dr Emma Parry – Obstetrician and Gynaecologist, subspecialist in Maternal Fetal Medicine

Estelle Mulligan – Safe Sleep Coordinator

Dr Esther Tutty – Obstetrics and Gynaecology Registrar

Gail Mciver – Birthing and Assessment Midwife Manager

Hayley Gill – Maternity Clinical Information System Clinical Midwife Specialist

Isabella Smart – Midwife Manager, Community Midwifery Service

Dr Joana De Sousa – Maternal Fetal Medicine Subspecialist

Joyce Cowan – NZ GAP Lead Educator, Midwife

Dr Kara Okesene-Gafa – Obstetrician and Gynaecologist, Senior Lecturer University of Auckland

Kathy Ogilvy – Professional Development Team Lead, Women's Health and Kidz First

Katie Ferguson – Team Manager, Springs Road District-wide Services

Dr Lindsay Mildenhall – Clinical Lead, Neonates

Lyn Stark – Maternity Quality and Safety Co-ordinator

Dr Maisie Wong – Neonatologist

Fepulea'i Margie Apa – Chief Executive Officer

Michelle Lee – Smokefree Advisor, Maternity

Ngatepaeru Marsters – Pasifika Midwifery Liaison and Student Support, AUT

Nettie Knetsch – General Manager, Kidz First and Women's Health

Dr Pip Anderson – Public Health Physician

Raewyn Makea – PA/Secretary Maternity Services

Saphron Cawley Matamua – Photographer

Sarah Taane – Senior Communications Advisor

Dr Sarah Tout – Clinical Director, Women's Health

Sharon Arrol – Data Analyst, Health Intelligence and Informatics

Dr Sue Tutty – General Practitioner Liaison

Dr Sarah Wadsworth – Clinical Lead Obstetrics, Women's Health

Teresa Krishnan – Auckland University of Technology Maaori Midwifery Student Liaison

Tina Higgins – Programme Manager

Thelma Thompson – Director of Midwifery

Wayne Dawn – Project Manager

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List of Abbreviations

AUT	Auckland University of Technology
BMI	Body Mass Index
DHB	district health board
FTE	full-time equivalent
GAP	Growth Assessment Protocol
LMC	lead maternity carer

MCIS	Maternity Clinical Information System
NGO	non-governmental organisation
POAC	Primary Options for Acute Care
PPH	post-partum haemorrhage
SGA	small for their gestational age
SUDI	sudden unexplained death in infancy

Chief Executive's Foreword

Counties Manukau Health (CM Health) is pleased to provide the Women's Health and Newborn Annual Report for the 2018/2019 financial year.

The Women's Health and Newborn Annual Report 2018/2019 describes practices, projects and achievements that reflect CM Health's commitment to equitable and quality care for the women and whaanau we serve. It also covers the recommendations of the National Maternity Monitoring Group and the Perinatal and Maternal Mortality Review Committee.

We are proud of our people who work in maternity services: hospital, community and lead maternity carer (LMC) based. We are proud of the work they do supporting the health of women living in the Counties Manukau district and their whaanau. Our teams work under challenging conditions – ageing facilities, workforce shortages and the increasing clinical complexity that arises from obesity and the many socioeconomic determinants that impact on our community.

The quality and level of care we provide under these circumstances is remarkable and a tribute to our professionals. We are, however, at (if not already past) the tipping point of needing significant investment in our people and the environments they work in. This is a strategic focus for the district health board (DHB) in the coming years.

We note that, as women are able to choose where they give birth, we also provide care for some women residing outside our area and some women living in Counties Manukau are cared for elsewhere.

The activities described in the report also align with the CM Health Maaori Action Health Plan and the New Zealand Maternity Standards. We continue to strengthen our efforts to improve the health of women living in Counties Manukau by identifying and acting on opportunities to achieve better outcomes that meet their needs.



We are particularly proud of service developments in the past year that relate, but are not exclusive to:

- establishing the Maternity Assessment Clinic
- establishing the Preterm Birth Clinic
- increasing timely registrations with a community midwife
- improving the elective caesarean section space
- achieving Baby Friendly Hospital Initiative accreditation
- sustaining access to smoking cessation for Maaori and Pacific pregnant women and their whaanau.

In addition, we have retained the user-friendly design of this report. Readers have told us they find it engaging and accessible, and it is relevant to key stakeholders, including DHB staff, community lead maternity carer (LMC) midwives*, general practitioners (GPs), and women and whaanau who work, live, and birth in Counties Manukau. The report was publicly launched in November 2019, and is available on Paanui (the CM Health intranet website) and the CM Health website.

I would like to thank the Maternity Quality and Safety Governance Group and our entire Women's Health team who work within Middlemore Hospital, the Manukau SuperClinic and our three birthing units, as well as our DHB and community LMC midwifery workforce based out in our communities. Your dedication and contributions are ensuring that Counties Manukau women and whaanau are given the best possible care.

CM Health remains committed to the needs of our community and strives to provide appropriate, accessible, quality clinical care to our women, babies and whaanau.

Fepulea'i Margie Apa
Chief Executive Officer

* Note that throughout this report, 'community LMC midwife' is the term used to describe midwives who claim funding from the Ministry of Health, through Section 88 of the New Zealand Public Health and Disability Act 2000, for their services. Other terms commonly used include 'lead maternity carer' or 'LMC', which is the equivalent to the term 'self-employed LMC' used in previous reports.

Purpose of this Annual Report

The purpose of the CM Health’s Women’s Health and Newborn Annual Report 2018/2019 is to:

- be transparent and accountable to the women and whāanau we serve and the workforce and stakeholders who contribute to their care
- describe the population we serve and the work we do
- provide information about the quality improvement work underway in the Counties Manukau area for women living and birthing in our district
- provide information about the maternity workforce, including quality improvement work relating to this workforce that is underway in Counties Manukau
- document CM Health’s progress towards achieving the Maternity Quality and Safety Programme Workplan deliverables in 2018/2019
- describe the work planned, as identified in the Maternity Quality Improvement Workplan, to improve the quality and safety of maternity services to be delivered in 2019/2020
- benchmark our performance against the New Zealand Maternity Clinical Indicators
- describe the work underway to address the priorities identified by the Perinatal and Maternal Mortality Review Committee and the National Maternity Monitoring Group
- provide the Ministry of Health with the contractually required information, as set out in Section 2 of the Maternity Quality and Safety Programme Crown Funding Agreement Variation.

Gynaecology Service

Although entitled our “Women’s Health and Newborn Annual Report” this year does not include data or narrative to describe the excellent day to day work provided to the women of South Auckland by the gynaecology service; including care to women with early pregnancy complications. This has been a tumultuous year for the service which has maintained a dedicated acute service and a focus on women with possible, and definitive, gynaecological cancer and other urgent gynaecological conditions. In the meantime considerable effort is being directed to focus on the unmet need of this service. Next year’s report, with more resources available, will include a full description of the care provided and exciting initiatives which are currently in their infancy.

Alignment with Key Strategic Documents

The New Zealand Maternity Standards

<https://www.health.govt.nz/publication/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.

CM Health Healthy Together Strategic Plan 2015-2020

<https://countiesmanukau.health.nz/assets/Uploads/CM-Health-Strategic-Plan-April-2016.pdf>

The plan sets out CM Health’s strategic goal to work with others to achieve equity in key health indicators for Māori, Pacific people and communities with health disparities by 2020.

CM Health Māori Health Plan

In 2018/2019, CM Health developed a Māori Health Roadmap. The roadmap:

- identifies the major health needs of our communities
- provides an overview of how CM Health will work to respond to these needs
- draws together actions from the CM Health Annual Plan, the Manawhenua Hauora Plan, the 2018/2019 Metro Auckland System Level Measures Improvement Plan*, and other service-level planning and workforce development documents and initiatives.

The roadmap includes actions to increase the percentage of women registered with a midwife, improve maternal smoking cessation, improve access to safe sleep advice and devices, improve immunisation coverage, improve sore throat management and improve child oral health. There is whole-of-system accountability for delivery of these actions.

* https://nsfl.health.govt.nz/system/files/documents/pages/2018-19_auckland_metro_slm_improvement_plan.pdf

National Maternity Monitoring Group Annual Report 2018

https://www.dropbox.com/s/zkx6h7ufuxvrww/NMMG_Report_Revised_Final_V3_%28Pages%29.pdf?dl=0

The National Maternity Monitoring Group oversees and reviews national maternity standards, analysis and reporting, and provides advice to the Ministry of Health and DHBs on priorities for improving maternity services.

Data Notes

Through the CM Health Women's Health and Newborn Annual Report data is used from a number of sources and is provided for different populations.

The report essentially provides two views; that of the domiciled population (those women that live in Counties Manukau Health area) and the provider arm view (the population to whom CM Health facilities provides service to regardless of where those people live). Different data sources provide information about these two populations. Some of those data sources can provide both views i.e. a domicile and provider arm view while some can only provide a provider arm view. The majority of data is presented for the 2018 calendar year.

Data sources used in the report

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

The **National Maternity Collection (MAT)** data is derived from the National Minimum Data Set (NMDS), LMC claims for services provided under the Primary Maternity Services

Perinatal and Maternal Mortality Review Committee Thirteenth Annual Report

<https://www.hqsc.govt.nz/our-programmes/mrc/pmmrc/publications-and-resources/publication/3823/>

The Perinatal and Maternal Mortality Review Committee is an independent committee that reviews the deaths of babies and mothers in New Zealand.

Maternity Morbidity Working Group Third Annual Report

<https://www.hqsc.govt.nz/our-programmes/mrc/pmmrc/publications-and-resources/publication/3837/>

Notice, as well as data from Births, Deaths and Marriages collected by the Department of Internal Affairs. This is able to provide both a facilities and domicile view although there are limitations of the variables available for women receiving care from CM Health services compared to community LMC midwives1.

The **Maternity Clinical Information System (MCIS)** data, in conjunction with CostPro and ICD10 diagnosis and procedure codes are provided from our Health Intelligence and Informatics team and this provides information for women accessing CM Health facilities (facility view).

Note: Some graphs are now shown from 2016 the first full year of data collection from MCIS.

The **Clinical Indicator** data are collated by the Ministry of Health. This information is presented as both Domicile, which relates to all women living in the CM Health district, or the Middlemore Hospital facility view.

The **Health Roundtable (HRT)** produces a suite of customised briefing reports to assist in finding improvement opportunities by benchmarking across Australasian hospitals. The report provides an overview of maternity activity and performance and is based on the Casemix data and supplemented by the parity and neonate data provided by the health services. The Health Intelligence and Informatics team provide data to the maternity submission on an annual basis.

Throughout the CM Health Women's Health and Newborn Annual Report full titles have been used rather than acronyms where ever possible for ease of reading.

Counties Manukau Health Maternity Strategy

Hauora o Tamaki ki Raro Manukau Rautaki Whanau

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”

Kaupapa

“Ko ta taatau kaupapa ki te Hauora o Counties Manukau ko te tautoko i te toha o te atawhai tuakiri kounga e tutuki ana te wahine, he haumaru, he tika hoki mo nga whaea me nga kohungahunga katoa.”

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 – Whakawhanaungatanga**
Make everyone feel welcome and valued

» **Kind – Manaakitanga**
Care for other people's wellbeing

» **Together – Kotahitanga**
Include everyone as part of the team

» **Excellent – Rangatiratanga**
Safe, professional, always improving



LYN STARK
Maternity Quality and Safety Coordinator



Quality and Safety

Women's Health has a number of committees, forums and roles that support quality.

The Maternity Quality and Safety Governance Group within the CM Health Women's Health division reports to the Maternity Strategic Group which in turns feeds into the Executive Leadership team.

The Maternity Quality and Safety Governance Group and the Maternity Quality Forum have a combined Maternity Quality Improvement Workplan (see page 106). The plan provides transparency and oversight for the many quality activities occurring across all areas of maternity services.

A Women's Health (Obstetric and Midwifery) Controlled Document Coordination Group provides a multidisciplinary perspective for updating of policies, procedures and guidelines, and helps develop new documents. At the end of 2018, two Auckland University of Technology (AUT) midwifery lecturers joined the group, sharing a position and enhancing its membership even further.

Forums and meetings are also held to discuss and share learnings from cases where the outcome has been poor or suboptimal. These include regular morbidity meetings, perinatal and maternal mortality meetings, and serious adverse event presentations.

See Appendix 2 for further information on Women's Health committees and groups that include quality as part of their functions.

Groups

Maternity Quality and Safety Governance Group

Formed initially to manage the requirements of the Maternity Quality and Safety Programme, this group meets monthly and is chaired by the Maternity Quality and Safety Coordinator. The membership consists of several senior obstetricians, public health and maternal mental health clinicians, midwives and

maternity service managers from across the Women's Health division, a Maaori health advisor, a GP liaison person, two community lead maternity carer (LMC) midwives, one urban and one rural, and two consumers.

See Figure 1 for a full list of group members.

Midwifery Workforce Group

The Workforce Group, which meets monthly, is made up of community LMCs from the various geographical areas of Counties Manukau, senior CM Health midwives and managers, and representatives from the New Zealand College of Midwives and the New Zealand Registered Nurses Organisation. In early 2019, the group recognised the need for a Maaori midwifery representative and also appointed a midwifery advisor (an elder). The terms of reference for this group are in Appendix 1.

For more information, see the Midwifery Workforce Group article on page 88.

Maternity Consumer Panel

This panel of 13 consumers was disbanded in February 2018, while its activities and membership were being evaluated. A subsequent report* highlighted the need for a clear purpose and roles for the group, plus the appointment of a chair, as three of its 19 recommendations.

Since February 2018, the format for consumer consultation has changed to focus groups. We will define what the future format for consultation will look like when a leadership restructure is completed by late August 2019 and the Maternity Strategy is updated.

Access Holders Monthly Meetings

These monthly meetings are chaired by the Community LMC Midwifery Liaison Midwife and held at the Manukau SuperClinic. The meetings aim to provide a forum for access holders of CM Health facilities to discuss strategic direction, for consultation with the LMC sector and for networking.

* <https://countiesmanukau.health.nz/assets/Uploads/Maternity-Consumer-Panel-Evaluation-Report-2015-2018.pdf>

During the first half of 2019, meetings have been held at the Papakura Birthing Unit and close to the Botany Downs Birthing Unit in order to reach members who would not normally travel to Manukau due to clinical responsibilities. A further meeting is planned for Pukekohe Birthing Unit later in the year.

The Women's Health Incident Meetings

These fortnightly multidisciplinary incident meetings include community LMC midwifery representation. There are two community LMC midwives who are also part of the serious adverse event review teams when there has been community LMC midwifery involvement in an incident.

The Prevention of Preterm Birth Group

This small, multidisciplinary group comprises of a maternal fetal medicine subspecialist, a neonatologist, a maternity Smokefree advisor, a general practitioner liaison person and a professor of obstetrics, as well as the Women's Health Clinical Director, Maternity Quality and Safety Coordinator, and the Maternity Service Development Manager. The group was set up early February 2019 to support work around preterm birth, by providing a network of knowledge and skills that can contribute towards reducing our preterm birth numbers and improving perinatal outcomes for those at risk of a preterm birth.

Primary Birthing Promotion Group

The Primary Birthing Promotion Group was established in May 2017 to promote and protect primary birthing in the Counties Manukau area. The aim was to highlight the options of birthing closer to home or at home, and to increase use of the district health board's (DHB) primary birthing units for labour and birth. The group is chaired by the CM Health Maternity Service Manager and includes the three birthing unit clinical charge midwives, Maternity Service Development Manager, Maternity Quality and Safety Coordinator and several community LMC midwives.

For more information, see the Primary Birthing Promotion article on page 28.

Roles

Maternity Quality and Safety Coordinator

This role supports the management and implementation of the Maternity Quality and Safety Programme across the CM Health district. The position involves leading or participating in projects that are part of a sector-wide maternity strategy and covers service development, clinical leadership and communication around initiatives that improve maternity quality and safety. It also involves monthly national teleconferences connecting to all the other DHB coordinators, and 3-monthly template reporting on projects and Perinatal and Maternal Mortality Review Committee and National Maternal Monitoring Group recommendations to the ministry.

Funding for the Maternity Quality and Safety Programme retains this role, as well financing a number of quality improvement initiatives across the maternity workforce.

Service Development Manager Maternity Services

This role was created in 2014 after an external Maternity Review in 2012 appointed a project manager to implement the review's recommendations. The role continues to focus on key areas from the work streams that came out of the recommendations, with a particular focus on maternity service development.

The recommendations from the Perinatal and Maternal Mortality Review Committee, Maternity Quality Improvement Workplan 2018–2020, and CM Health Maternity Strategy also inform this role. There is a strong emphasis on consumer involvement and stakeholder engagement, with the aim of integrating and strengthening services between secondary and primary care.

Clinical Quality and Risk Manager Women's Health

This role is responsible for overseeing, coordinating and implementing quality initiatives, risk and incident management (including serious adverse event investigations), and for sharing the learning from these activities. It also involves working with key stakeholders to support high-

quality patient care across the continuum of services, in accordance with CM Health's vision and values. In December 2018, this role was split from being shared between Kidz First and Women's Health to become a dedicated full-time role.

Perinatal Loss Midwife Specialist

This role coordinates the local monthly Perinatal Morbidity and Mortality meetings, which include hospital staff as well as community-based clinicians and consumers. It also provides continuity and support for women and their families who have had a perinatal loss, including facilitating access to counselling support.

LMC Midwife Liaison

This role was developed to progress early engagement and registration of Counties Manukau women with community LMC midwives, support new-to-the-area and graduate community LMC midwives, and enhance collegial relationships between primary and secondary care. The current post holder supports our maternity services' planned pregnancy focus by providing contraception counselling and enabling access to long-acting reversible contraception for women in the maternity wards.

Health Intelligence and Informatics team,

Population Health team and Public Health Physicians team

These teams provide data analysis and resource support for Women's Health and maternity quality and safety.



▲ **FIGURE 1.** Maternity Quality and Safety Governance Group (L to R): Back row: Debra Fenton, Women's Health Service Manager; Lyn Stark, Maternity Quality and Safety Coordinator; Dr Sarah Tout, Clinical Director, Women's Health; Sharon Burmeister, Clinical Quality and Risk Manager, Women's Health; Claire Eyes, Community LMC midwife; Amanda Hinks, Maternity Service Development Manager.

Front row; Helenmary Walker, Charge Midwife Manager, Botany Downs Birthing Unit; Professor Lesley McCowan, Head of Academic Department of Obstetrics and Gynaecology, University of Auckland; Jacinta Fa'alili-Fidow and Larissa Pereira, Consumer Representatives; Thelma Thompson, Director of Midwifery Practice.

Absent: Ann Konz, Associate Clinical Charge Midwife Birthing and Assessment; Anna Hawkins, Clinical Coordinator, Perinatal Services, Maternal Mental Health; Katarina Komene, Programme Manager, Maaori Child Health; Katie Ferguson Team Manager, Springs Rd District-wide Services; Nga Masters, Community LMC Midwife; Dr Pip Anderson, Public Health Physician; Dr Sarah Wadsworth, Clinical Lead Obstetrics; Dr Sue Tutty, GP Liaison.

CM Health Quality and Safety Programme Projects – Crown Funding Agreement 2018–2020

CM Health's Women's Health division is continually working to improve the quality, safety, and patient experience received by the women and babies in our care.

Since October 2018, as requested by the Ministry of health, we have provided quarterly templates covering the main phases of work, deliverables and indicative dates for the following three specific projects, which were chosen for this purpose:

- local – start a day assessment unit; page 74
- national – improve the outcomes for women with a previous preterm birth at <37; page 59
- national – support normal childbirth, by encouraging low-risk women to birth at home or in a primary birthing facility; page 28.

The following key themes ran through all projects:

- ensure the sector is working better together for women and babies
- allocating money where it is most urgently needed
- providing greater consistency in clinical practice and interventions
- allocating appropriate amounts of funding for women with higher needs and to support appropriate clinical interventions.

National Maternity Monitoring Group action items

- Maternal mental health – our maternal mental health referrals and pathways (implementation and challenges); page 77.
- Engagement and equity – our efforts to engage with and ensure equity of access for consumers, particularly Maaori, Pasifika, Middle Eastern, Latin American and African, women with disabilities and young women; pages 39, 41, 46, 69, 82, 83.



CM Health works well as one team, values high performance and aims for close to home wherever possible.

ALANNA SOUPEN

Planning and Reporting Advisor –
Population Health, Strategy and Investment

Our Population

CM Health is one of 20 DHBs established under the New Zealand Public Health and Disability Act 2000 to plan and fund the provision of personal health, public health and disability support services for the improvement of the health of the population.

In 2019, CM Health provides and funds health and disability services for an estimated 569,400* people who live in the Auckland, Waikato and Hauraki District areas. We have one of the fastest growing DHB populations in New Zealand, with a youthful and ageing population.

Our population is diverse and vibrant with strong cultural values. Counties Manukau is home to New Zealand's second largest Māori population, and largest population of Pacific people, as well as fast growing Asian communities.

Across our district, the health and circumstances of our communities are not the same. Thirty-six per cent of our population live in areas of high socioeconomic deprivation (NZDep2013 decile 9 & 10†). Over 123,000 children live in Counties Manukau, with almost one in two (approximately 45%) living in areas of high socioeconomic deprivation. By 2025, our district is forecast to be 16% Māori, 22% Pacific, 29% Asian and 34% NZ European/Other ethnicity.‡

There are persistent gaps in life expectancy between Māori and Pacific people and others living in Counties Manukau.§ On the basis of the NZDep2013 measure, Otara, Mangere and Manurewa, home to many of our Māori and Pacific communities, are the most socioeconomically deprived areas in our district.

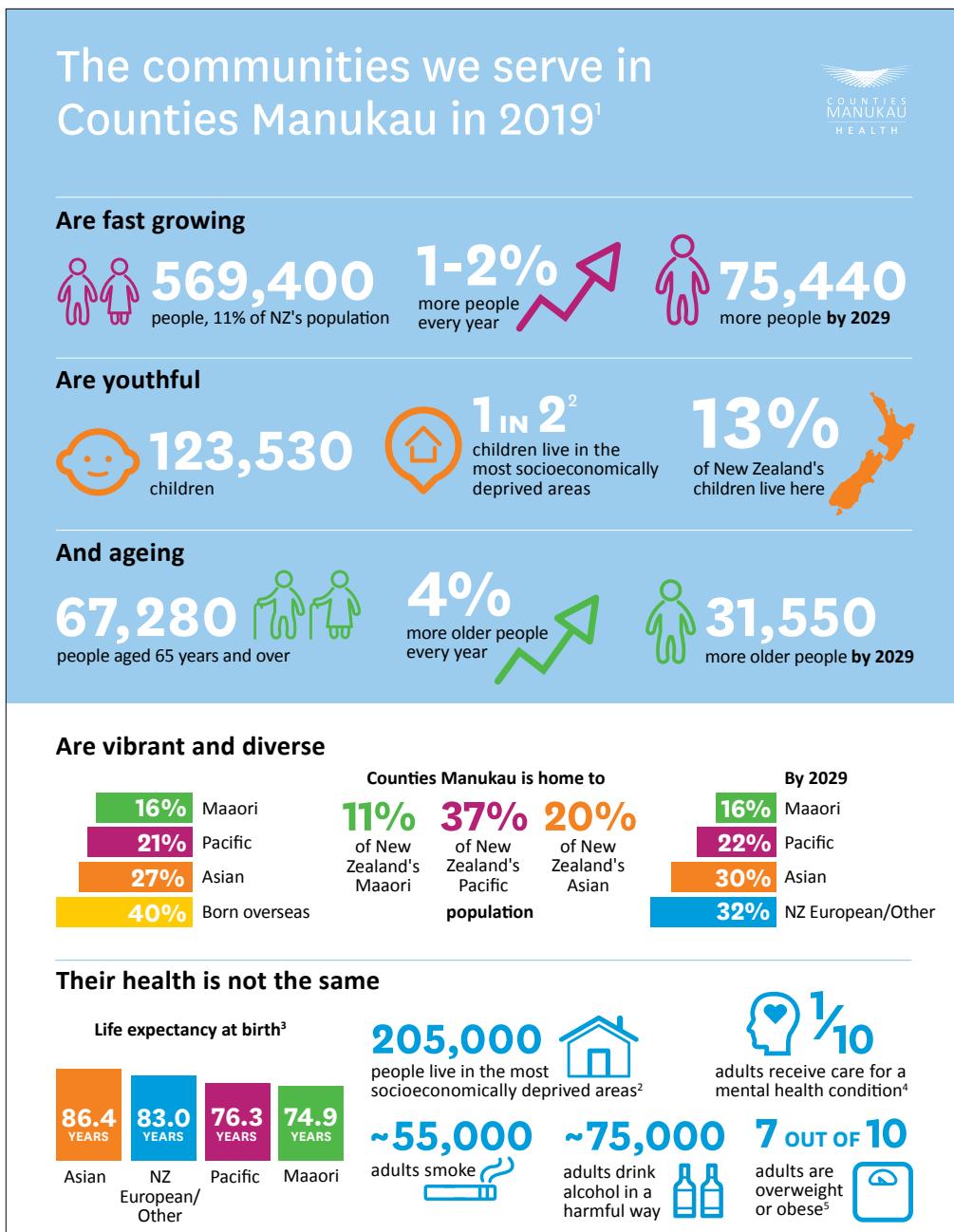


* Unless otherwise referenced, population data is sourced from the DHB Ethnic Group population projections (2013-Census Base) –2018 update.

† New Zealand Index of Deprivation (NZDep) is an area-based measure of socioeconomic deprivation. It measures the level of deprivation for people in each small area. It is based on nine Census variables. NZDep can be displayed as deciles or quintiles. Quintile 5, or deciles 9 and 10, represents people living in the most deprived 20% of these areas.

‡ Due to numeric rounding the total is greater than 100%.

§ Chan, W. C., Winnard, D., & Papa, D. (2016). Life expectancy, leading causes of death and amenable mortality in Counties Manukau: 2015 update. Auckland: CM Health.



Long-term mental[¶] and physical conditions also do not affect all groups in our community equally. Our population experiences relatively high rates of ill-health risk factors (such as smoking, obesity^{**} and hazardous alcohol use) that contribute to a 'package' of long-term physical conditions, which are responsible for the majority of potentially avoidable deaths. The rate of hospitalisation for circulatory diseases for our Maaori communities is estimated to be

88% higher than for non-Maaori.^{††} Diabetes prevalence is higher amongst our Pacific (13.9%), Asian (6.9%) and Maaori (6.5%) communities compared to NZ European/Other.^{‡‡}

Increasing the number of people who are living smoke-free and free from the harms of hazardous alcohol use, improving nutrition and physical activity, and reducing obesity are key to improving the health of our population.

¶ Winnard, D., Papa, D., Lee, M., Boladuadua, S., et al. (2013). *Populations who have received care for mental health disorders*. Auckland: CM Health.

** Based on unadjusted prevalence of overweight (BMI 25–29.9) and obese (BMI 30 or more) for CM Health adults aged over 15 years. Unadjusted prevalence for 2014–2017, New Zealand Health Survey, May 2018.

†† Counties Manukau DHB Maaori health profile 2015. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. Based on hospitalisation data 2011–2013. Retrieved from <http://www.countiesmanukau.health.nz/assets/About-CMH/Performance-and-planning/health-status/2015-counties-manukau-DHB-maori-health-profile.pdf>

‡‡ Health Quality and Safety Commission Atlas of Health Care Variation: Diabetes management (2016 data for CM Health).

2

Our Maternity Services



AUTHORS

DR PIP ANDERSON
Public Health Physician



The Women We Serve

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

A woman living in Counties Manukau may birth at another facility for a range of reasons. One reason is if a woman has a community LMC midwife who has an access agreement with another DHB. There are a small number of women who are referred to Auckland DHB 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 unexpectedly while away from home. See Table 1 for the locations where Counties Manukau women have birthed over the past 4 years.

Please note the total number of women in NMDS is lower than we would have expected and there is some discrepancy with our provider arm data. We will continue to work to understand and resolve this. Based on the NMDS there are 374 women domiciled in the Auckland DHB area who used CM Health maternity facilities and services in 2018.

The majority of Counties Manukau women who birthed at another DHB's facility in 2018, birthed at an Auckland DHB facility. In 2018, 55% of women living in Counties Manukau who birthed at an Auckland DHB facility lived in Howick, with 37.4% of these women being Chinese.

The characteristics of women who live in Counties Manukau and birthed in 2018 (regardless of where they birthed) are shown in Table 2.

Of the women who live in Counties Manukau and birthed in 2018, 29.3% were Pacific Island, 24% were NZ European/Other, 20.1% Maaori, 13.7% were Indian and 6.1% were Chinese: see (Table 2). It is important to note that ethnicity is prioritised.*

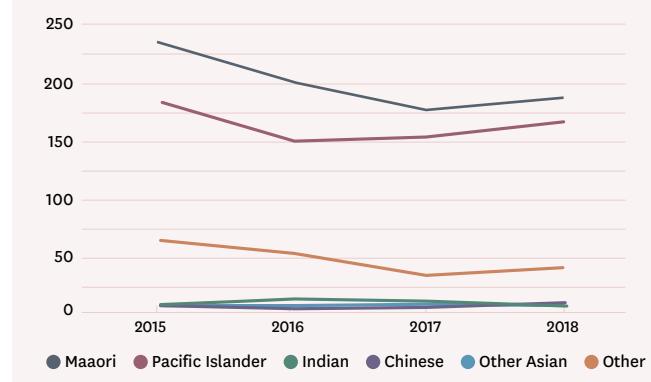
The number of births to women aged less than 20 years of age, who live in Counties Manukau, has decreased: from 477 women in 2015, to 385 women in 2018 (Figure 2).

Previously we have presented data from the National Maternity Collection. This collection has some limitations because it relies on LMC claim data about women's BMI and smoking status. In CM Health, we have always had a large percentage of women receiving their care from DHB services, and as a result their data for BMI and smoking status was not included in the National Maternity Collection.

The Ministry of Health has been working to improve the coverage of the National Maternity Collection. However, there remain issues with the interface between MCIS and the MAT dataset. We have not presented MAT data this year.

▼ FIGURE 2.

Birth numbers, by ethnicity, for women <20 years of age, living in Counties Manukau



Source: National Minimum Dataset. Extracted by Dean Papaconstantinou 2019.

* This is a process that 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 having 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 1.

Location of birthing for Counties Manukau Women, 2015–2018				
DHB LOCATION OF BIRTHING	2015	2016	2017	2018
Counties Manukau	6698	6721	6706	6414
Auckland facilities	1202	1262	1209	1091
Waitemata facilities	48	64	60	60
Elsewhere	49	50	34	43
TOTAL	7997	8097	8009	7608
Percentage birthing at CM Health	83.8%	83.0%	83.7%	84.3%

Source: National Minimum Dataset. Extracted by Dean Papaconstantinou 2019.

Notes: Women who birth reflect the number of women giving birth rather than the number of babies born.

There is variation in the data extracted from Health Intelligence and Informatics, and data extracted from the National Minimum Dataset; and because the National Minimum Dataset is updated, these numbers will differ slightly from those given in last year's report.

▼ TABLE 2.

Demography of women living in Counties Manukau who birthed in 2015–2018, regardless of DHB where birthed								
	2015	%	2016	%	2017	%	2018	%
ETHNICITY*								
Maaori	1628	20.4	1598	19.7	1569	19.6	1532	20.1
Pacific Island	2416	30.2	2272	28.1	2332	29.1	2231	29.3
Indian	810	10.1	891	11.0	1028	12.8	1041	13.7
Chinese	547	6.8	689	8.5	597	7.5	467	6.1
Other Asian	489	6.1	513	6.3	505	6.3	514	6.8
NZ European/Other	2107	26.3	2134	26.4	1978	24.7	1823	24.0
AGE (YEARS)								
13–19	477	6.0	402	5.0	365	4.6	385	5.1
20–24	1582	19.8	1559	19.3	1502	18.8	1385	18.2
25–29	2267	28.3	2398	29.6	2389	29.8	2281	30.0
30–34	2289	28.6	2292	28.3	2326	29.0	2228	29.3
35–39	1095	13.7	1139	14.1	1122	14.0	1069	14.1
40+	287	3.6	307	3.8	305	3.8	260	3.4
QUINTILE								
Unknown	86	1.1	117	1.4	132	1.6	193	2.5
1	889	11.1	901	11.1	856	10.7	776	10.2
2	961	12.0	1040	12.8	1023	12.8	899	11.8
3	1004	12.6	1024	12.6	1027	12.8	970	12.7
4	1459	18.2	1466	18.1	1385	17.3	1414	18.6
5	3598	45.0	3549	43.8	3586	44.8	3356	44.1
LOCALITY#								
Counties Manukau nfd**	61	0.8	3	0.0	6	0.1	10	0.1
Franklin	831	10.4	946	11.7	884	11.0	895	11.8
Eastern	1726	21.6	1763	21.8	1732	21.6	1537	20.2
Mangere/Otara	2045	25.6	1889	23.3	1934	24.1	1774	23.3
Manukau	3334	41.7	3496	43.2	3453	43.1	3392	44.6
GRAND TOTAL	7997		8097		8009		7608	

Source: National Minimum Dataset. Extracted by Dean Papaconstantinou 2019.

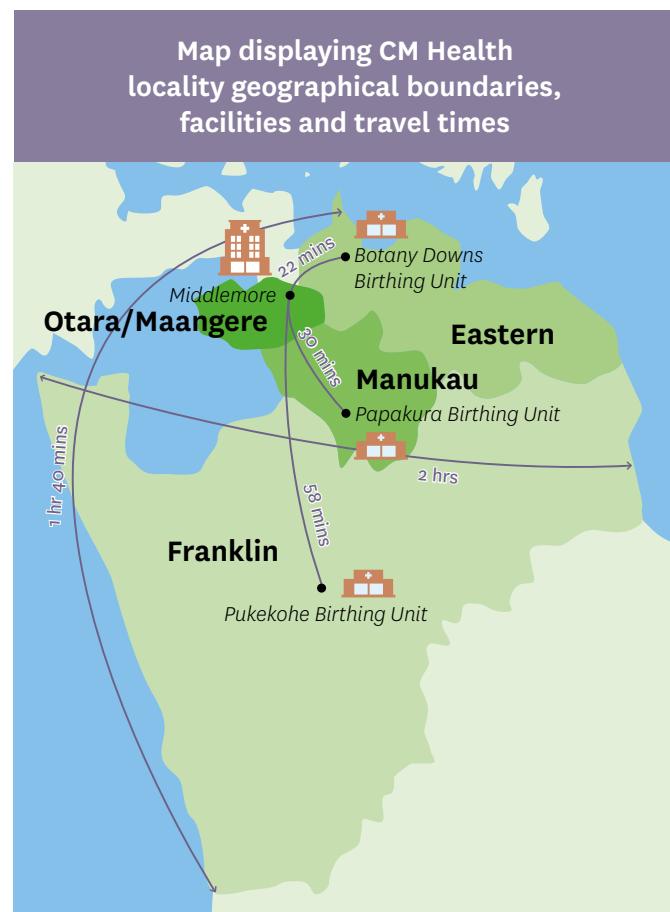
*Ethnicity is prioritised. NZ Deprivation Index is at Census Area Unit level. # Suburbs are Auckland City subdivisions. ** nfd = not further defined

Our Maternity Facilities

CM Health's birthing facilities comprise of a secondary/tertiary maternity service located at Middlemore Hospital (MMH), which also provides primary birthing services for women where their home is not near one of the three CM Health birthing units located in Botany Downs, Papakura and Pukekohe. Also outlined is the CM Health Community Midwifery service which operates from Lambie Drive, Manukau.

Middlemore Hospital provides 24-hour care for women requiring acute antenatal, labour and birth care, as well as high risk antenatal/postnatal inpatient care. A multidisciplinary team approach is taken due to the availability of other medical sub-specialties such as anaesthetics, neonatology, medical physicians, mental health, operating theatre facilities and procedural treatments.

The Birthing Units, as well as being located closer to where women and whaanau live, provide women and their families the option to use a purpose built pool for labour and/or water birth. Guidelines for admission to the three birthing units outline a woman's suitability. Many of the local community LMC midwives use the community 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.



CM Health Community Midwives

The Community Midwifery Service based in Manukau delivers primary and specialist midwifery care to women who elect to have care provided by CM Health, those who are ineligible for care within New Zealand, and those who are unable to secure the services of a community LMC midwife.

Acting as 'named midwives', the service operates from 7.30am to 4.30pm, 7 days a week, every day of the year. Both locality-based clinic services and home visiting services are offered to women in the antenatal and postnatal periods. The service is actively involved in supporting research and quality improvement projects.

Staff

TOTAL BUDGETED FTE 38.65

This includes the Antenatal & Obstetric Referrals Service which has 3 Clinical Midwife Specialists and processed 4000 antenatal and 6500 Obstetric referrals over the last year.

- 1 Midwife Manager
- 2 Administrative staff who work 365 days a year
- 2 Area Community Midwifery Teams
The majority of community midwifery team staff work part time
- 4 Associate Clinical Charge Midwives
- 15 CM Health Employed Locality Community Midwives
- 2-7 Graduate Midwives on placement

Speciality Needs Team

The majority of the Specialty Team staff work part-time apart from the ACCM

- 1 Associate clinical charge midwife

DIABETES IN PREGNANCY SERVICE

774 referrals in the year to 30/6/2019 and 722 received care from the DIP Midwives.

- 1 Clinical midwife specialist

- 3 Clinical specialty midwives

- 1 Graduate midwife on rotation

AUCKLAND REFUGEE RESETTLEMENT CENTRE, MANGERE

- 1 CM Health employed community midwife

AUCKLAND WOMAN'S REGIONAL CORRECTIONS FACILITY

- 1 CM Health employed community midwife

MATERNAL FETAL MEDICINE

- 2 Clinical midwife specialists

Community Health & Social Work Team

All full time

- 5 Community Health Workers

- 1 Social Worker

Total Caseload by area team

1 YEAR TO 30TH JUNE 2019

748 Mangere/Otara

523 Manurewa

Botany Downs Birthing Unit

Births total Transfers in
273 1534

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 built in 1992 located at 292 Botany Road, near the Botany Town Centre. In the unit, 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.



Staff TOTAL BUDGETED FTE 19.43

- 16** Community LMC midwives who actively birth at Botany Downs
- 21** Core midwives, including charge midwife manager
- 3** Community midwives
- 3** Registered nurses
- 2** Clerical administrators
- 2** Health care assistants
- 5** Team case loading midwives

Facilities

- 12** Resourced beds
- 15** Physical beds
- 3** Double-bed rooms
- 1** Three-bed room
- 6** Single postnatal rooms
- 5** Birthing rooms
- 2** Birthing pools
- 5** Clinic rooms

Papakura Birthing Unit

Births total Transfers in SMO clinic
224 1018 8hrs

Papakura Birthing Unit is the oldest of the three birthing units and celebrates its 75th birthday in 2018. It 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 whānau choose to birth here. It is centrally located, close to the local township and public transport routes. It is also supported by a weekly obstetric clinic for secondary consultations and referrals.



Staff TOTAL BUDGETED FTE 17.99

- 23** Community LMC midwives who actively birth at Papakura
- 16** Core midwives, including charge midwife manager
- 4** DHB community midwives
- 2** Clerical administrators
- 2** Health care assistants

Facilities

- 8** Resourced beds
- 10** Physical beds
- 1** Two-bed room
- 1** Three-bed room
- 5** Single postnatal rooms
- 3** Birthing rooms
- 1** Birthing pool
- 4** Clinic rooms

Pukekohe Birthing Unit

Births total Transfers in SMO clinic
270 532 8hrs

Pukekohe Birthing Unit has long-established roots within the community of the Franklin District and Northern Waikato, encompassing north to Awhitu Peninsula, east to Kaiaua, south to Mercer and Waikaretu, and west to Waiuku and Port Waikato. In the unit, women are able to be supported by their families, whānau and staff in a warm, friendly environment for their birthing and postnatal stay.

The Pukekohe Maternity Resource Centre, located within the birthing unit, provides women with

information on pregnancy-related issues, free pregnancy tests, pamphlets, and a library of books and DVDs to hire. This centre is a base for community midwives and their clinics, with an obstetric antenatal clinic running weekly to provide local care for women who require a consultation with a doctor.



Staff TOTAL BUDGETED FTE 13.74

- 14** Community LMC midwives who actively birth at Pukekohe
- 15** Core midwives, including charge midwife manager
- 2** Community midwives
- 1** Registered nurse
- 3** Clerical administrators

Facilities

- 8** Resourced beds
- 10** Physical beds
- 1** Double-bed room
- 8** Single postnatal rooms
- 2** Birthing room with pools
- 3** Clinic rooms
- 1** Maternity Resource Centre

Birthing and Assessment

Births total Assessments
6117 4880

Middlemore Birthing and Assessment (B&A), provides primary birthing services 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.

The Birthing and Assessment Unit integrates the care it provides with the community midwives and the three primary birthing units located within Counties Manukau.



Staff TOTAL BUDGETED FTE 58.85

- 1** Midwife Manager
- 1** PA Administrator
- 14** Associate clinical midwife managers
- 50** Employed midwives
- 7** Registered nurses
- 10** Health care assistants
- 13** Ward clerks
- Bureau midwives
- Over the 2018 year Women's Health has utilised an average of 17 FTE bureau midwifery staff per month.
- 68** Community LMCs who actively birth at the unit

Facilities

- 14** Birthing rooms
- 5** Flexi rooms – can be used as birthing rooms, and accommodate women
- 5** Assessment rooms – total of 7 beds (2 doubles)
- 1** Ultrasound room
- 1** Clinic room
- 1** Whaanau room

Maternity North

Maternity Ward North is a 23-bed postnatal ward providing care for women and babies requiring secondary obstetric or neonatal care, including babies transferred from the neonatal unit.

The midwifery and nursing team on Maternity Ward North are highly skilled in delivering specialised care to high-risk women and babies, and at providing primary care for women who live in the area around Middlemore Hospital.

Staff TOTAL BUDGETED FTE 34.05

- 15** Midwives
- 17** Registered nurses
- 4** Health care assistants

Facilities

- 23** Beds
- 7** Double rooms
- 9** Single rooms

Shared Resources

On both North and South Wards an excellent service is provided by the Lactation Support Service, made up of consultants and breastfeeding advocates, to ensure expert care and advice is provided to women initiating breastfeeding. A broad range of health professional teams including visiting physicians, pain team, physiotherapy, dietetics and maternal mental health services are available to provide input to the care on both wards, ensuring comprehensive and holistic care is provided to women, babies and whaanau.

- 6** Ward clerks
- 7** Lactation consultants, including a team leader
- 3** Breastfeeding advocates

Both maternity wards have a security officer present for 12 hours a day, to ensure the safety of women and babies.

In May 2019 Ward 21 opened (see page 76) and will be presented with the 2019 data in our next annual report.

Combined Inpatients

- 928** Antenatal episodes
- 4833** Post natal women birth and transfer episodes
- 5811** Total number of women
- 46.6%** % of all birth episodes discharged from Maternity wards who are post caesarean section

- 4531** Total baby episodes
- 485** Total post neonatal unit baby episodes

MATERNITY NORTH

- 347** Total post neonatal unit babies

- 6.2** Average length of stay

MATERNITY SOUTH

- 138** Total post neonatal unit babies
- 4.5** Average length of stay

Maternity South

Maternity Ward South is a 22-bed ward providing care for both antenatal (>20/40 weeks) and postnatal women who require secondary obstetric care or are in high-risk social situations. We also care for babies who require neonatal care or have been transferred from the neonatal unit.

The Maternity Ward South midwifery and nursing team are highly skilled in delivering specialised care to high-risk women and babies, and at providing primary care for women who live locally to Middlemore Hospital. While the ward care addresses high-risk cases, midwifery input ensures a balanced service.

Staff TOTAL BUDGETED FTE 27.64

- 25** Midwives
- 7** Registered nurses
- 5** Health care assistants and hospital aides

Facilities

- 22** Beds
- 8** Double rooms
- 6** Single rooms

Community (Primary) and Hospital/Specialist (Secondary) Services in Counties Manukau

The following community and hospital/specialist maternity services are available in the Counties Manukau area.

Community services available in Counties Manukau

Community LMC Midwife	Community LMC midwives provide antenatal, labour and postnatal care using, primarily, a continuity of care model by the same midwife. Community LMC midwives (also referred to as self-employed or independent midwives) are contracted to the Ministry of Health to provide care in Counties Manukau, and birth women in their homes, at a birthing unit or at Middlemore Hospital. Community LMC midwives can also choose to provide community maternity care for women who require a hospital 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 birthing units, but also provide continuity of care if the woman needs to birth at Middlemore Hospital.
CM Health Employed Midwife	DHB-employed midwives who provide midwifery care services.
CM Health (DHB) Community Midwife	DHB community midwives provide antenatal and postnatal continuity of care for women living anywhere in the Counties Manukau area. They have locally based clinics and provide home visits. Five community health workers and one social worker are part of the DHB Community Midwifery Service, offering further support and assistance for women using the service. Clinical specialty midwives and clinical midwife specialists provide a range of care for women experiencing complex pregnancies. Midwifery care is also provided for the Auckland Women's Correctional Facility and the Refugee Resettlement Centre from this service. DHB community midwives are based centrally and at each of the three birthing units.
Private Obstetrician	Women can engage with a private obstetrician who uses CM Health facilities for birthing.

Hospital/specialist services available in Counties Manukau

CM Health Employed Midwife	DHB employed midwives work within Middlemore Hospital, providing primary, secondary and tertiary* midwifery care as required, covering antenatal, intrapartum and postnatal care.
Diabetes in Pregnancy Service	For women with previous or newly diagnosed diabetes (Type I or II or gestational), hospital care is provided by a multidisciplinary team that includes an obstetrician, midwife, diabetes physician and dietitian. Community maternity care for these women may be provided by CM Health employed midwives or community LMC midwives.
Preterm Birth Clinic	CM Health launched its Preterm Birth Clinic in early 2019. Women with a past history of preterm birth, preterm premature rupture of membrane at or less than 26 weeks gestation, or major cervical surgery are seen in early pregnancy by an obstetrician and fetal medicine midwife at Middlemore Hospital.
Obstetric Medical Service/Maternal Fetal Medicine	Women with complex medical conditions during pregnancy are seen by the specialist obstetric medical team (obstetrician, medical physician and anaesthetist as required) at Manukau SuperClinic. These women are provided with midwifery care by either the women's LMC, DHB community midwife or a CM Health employed midwife specialist. Women with complex fetal conditions during pregnancy are seen by specialist obstetric and midwifery services at Middlemore Hospital.
Maternity Assessment Clinic	Opened in May 2019, the Maternity Assessment Clinic (MAC) is based at Manukau Surgical Centre. It offers a Monday to Friday day-time service and is staffed by a senior medical officer and a senior midwife. MAC provides antenatal out-patient monitoring and follow-up care for non-acute conditions and is by appointment only. The senior medical officer on site also provides advice and triaging for non-acute senior medical officer enquiries during clinic hours.
General Obstetric Antenatal Clinic	Obstetric antenatal clinics run from Manukau SuperClinic, Papakura and Pukekohe and provide obstetric consultations for women referred by CM Health community midwives and community 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, psychiatrists, clinical psychologists and occupational therapists with specialist knowledge and experience in this field.
Social Worker	This role navigates women and families who are under the care of a DHB community midwife towards social services in the community, depending on the family's needs. The social worker carries out assessments and facilitates liaison between various services, such as Oranga Tamariki, non-governmental organisations (NGOs), infant and maternal mental health, and the DHB community maternity services.
Lactation Support Services	DHB-employed lactation consultant specialists and breastfeeding advocates work alongside staff in Middlemore Hospital's maternity wards to support women to establish breastfeeding and meet Baby Friendly Hospital Initiative requirements.

* Highly specialised and complex midwifery care.

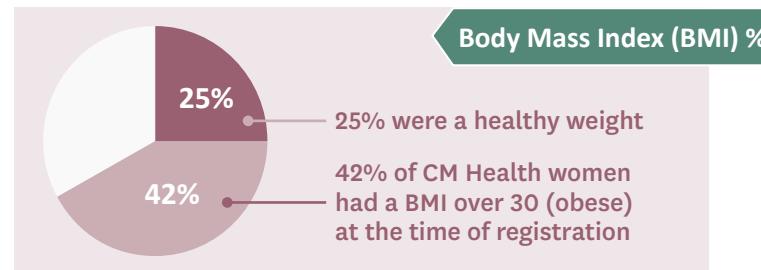
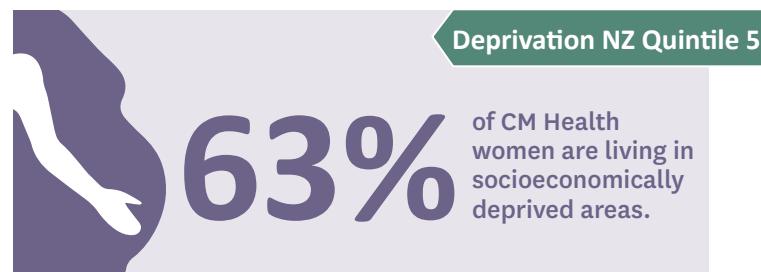
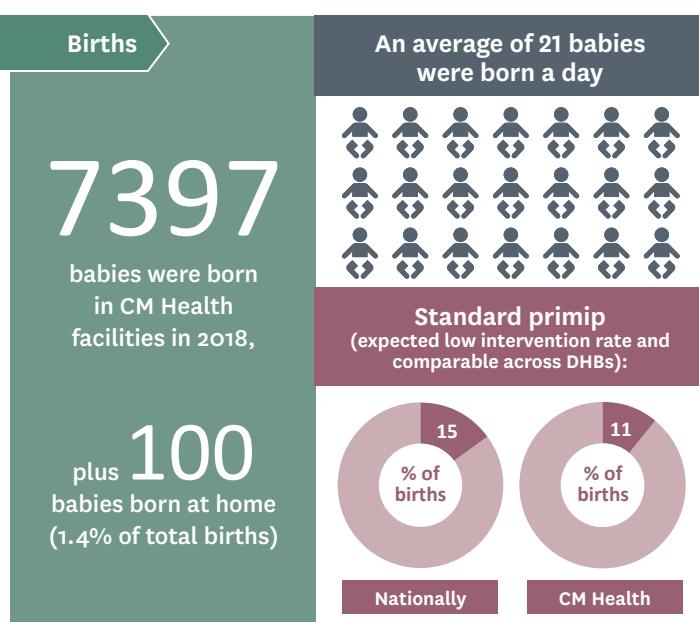
3

**Maternity care is provided in
a culturally appropriate way
that protects promotes and
supports normal childbirth
with evidence based medical
intervention when required**



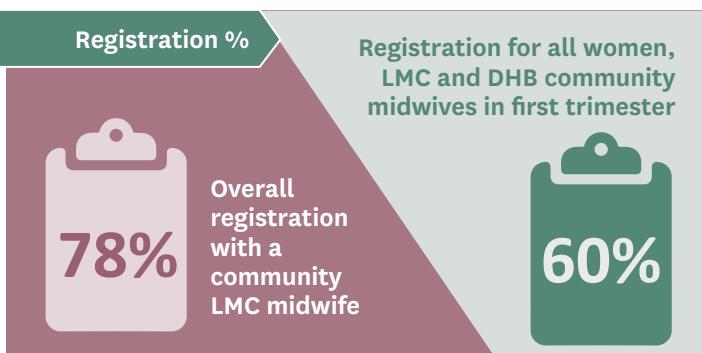
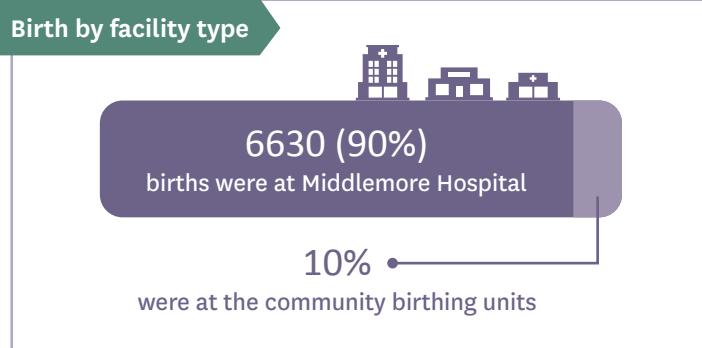
Counties Manukau Birthing Community: A Facilities View

Our community demographics are taken from CM Health's Maternity Clinical Information System (MCIS) and relate to births at CM Health facilities.



Maternal ethnicity %

	LMC	CMDHB	TOTAL	% OF TOTAL
PACIFIC	1890	613	2503	34%
NZ EUROPEAN /OTHER	1371	242	1613	22%
NZ MAORI	1054	410	1464	20%
INDIAN	903	227	1130	15%
OTHER ASIAN	364	123	487	7%
CHINESE	158	42	200	3%
TOTAL	5740	1657	7397	



DEBRA FENTON
Maternity Service Manager



Birthing Closer to Home in Counties Manukau

CM Health supports the national priority to strengthen primary maternity services in order to promote and protect normal birth, and the government strategy to deliver health services closer to home.*

Our primary maternity services are provided by community LMC midwives, CM Health community midwives and DHB-employed LMC midwives who work as a case-load team.

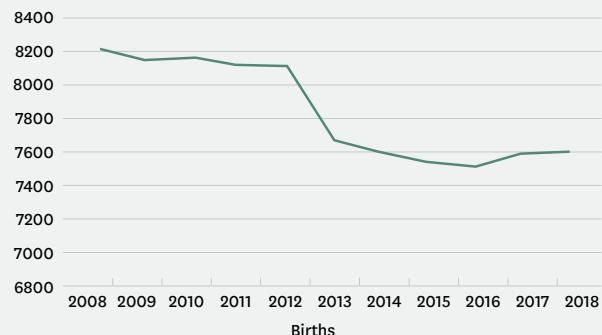
The data presented in this section represents those women who birth in a CM Health facility. This is different from the information given in the Our Maternity Services section of this report where we describe birth for women who live in Counties Manukau regardless of where they birth.

There was a downward trend in births numbers at CM Health facilities between 2008 and 2016, with a slight upswing in both 2017 and 2018 (see Figure 3). Of the 7,608 births to women who were domiciled in Counties Manukau, 6848 of these women birthed in CM Health facilities in 2018.

The ethnic mix of women birthing at CM Health facilities is slowly changing. While Pacific, Māaori and NZ/European women still make up the highest percentage of women birthing in CM Health facilities, Figure 4 shows that the percentage of Pacific, Māaori and NZ/European women birthing is decreasing over time, while the percentage of Indian women birthing has increased by 6% over the past 5 years.

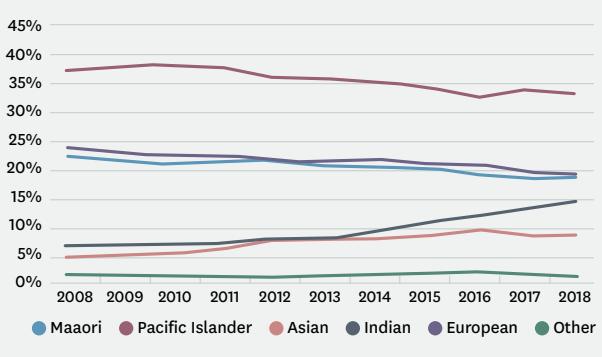
▼ FIGURE 3.

Numbers of births at CM Health facilities, 2008 to 2018



▼ FIGURE 4.

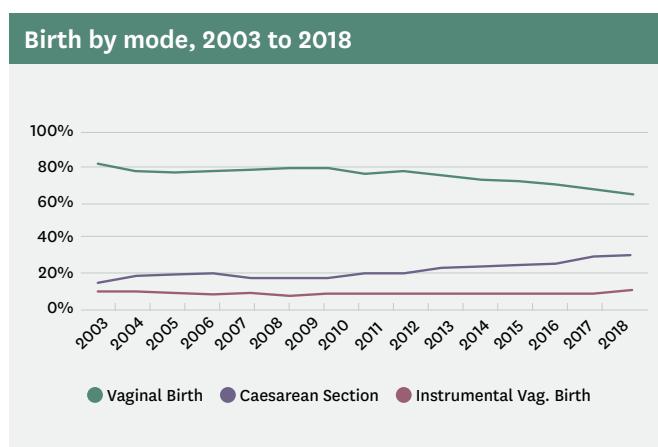
Ethnicity of women birthing at CM Health facilities, 2008 to 2018



* Ministry of Health. (2016). *New Zealand Health Strategy 2016*. Retrieved from www.health.govt.nz/new-zealand-health-system/new-zealand-health-strategy-roadmap-actions-2016

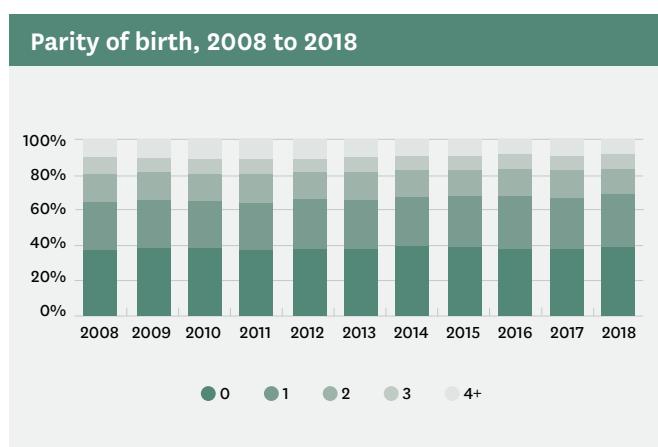
The percentage of women undergoing caesarean section has also been increasing over the past 10 years. As a percentage of births, CM Health has gone from having a 17% caesarean section rate in 2008 to a 28% caesarean section rate in 2018 (see Figure 5). This trend has been noted across the country and we have commented on this in previous reports.

▼ FIGURE 5.



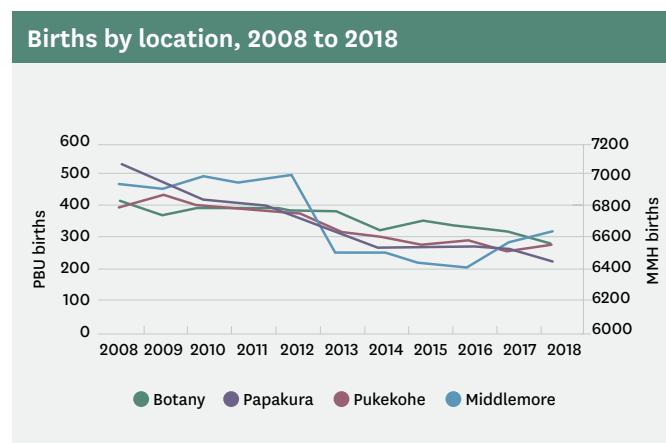
The parity of women birthing at CM Health facilities has altered slightly from 2017. Figure 6 shows that women having their first baby in 2018 increased from 37.6% to 38.9%, with the average over the past 10 years being 38%. Women having their second baby have increased by 0.7% since 2017, while women having more than three babies has dropped by 0.7%, making up only 9.1% of births in 2018.

▼ FIGURE 6.



Most births in CM Health facilities occur at Middlemore Hospital (see Figure 7). The number of births at community birthing units has been dropping over the past 10 years, with only 767 (10%) out of the 7397 births for 2018 birthing at Botany, Papakura or Pukekohe birthing units (see Figure 7). This is a decrease from 11% in last year's report and from 15% in 2009.

▼ FIGURE 7.



Who is birthing in our community birthing units?

The demographics of the birthing population at the community birthing units, show that the age group distribution is similar for women in the < 20 years through to the 30–34 years age groups, but slightly lower for women aged ≥ 35 years (see Table 3). This may be influenced by the older women having a higher chance of co-morbidities in pregnancy, requiring obstetric oversight or by higher parity.

The community birthing units are also well supported by women who identify as Maaori, Chinese and NZ European/Other ethnicities. However, women who identify as Pacific, Indian or Other Asian are less represented in community birthing unit births (see Table 4).

The use of the birthing units by women living in localities near each unit (Botany, Howick, Pakuranga, Franklin and Papakura) is reassuringly high (see Table 5). However, it would be beneficial to promote use of the birthing units with women who live in more peripheral localities, such as Takanini, Manukau and Manurewa.

A higher percentage of women who birth at a community birthing unit are under the care of a community LMC midwife, compared to the percentage of all women birthing in Counties Manukau, as shown in Table 6. This is as expected, as DHB community midwifery services focus on providing care as a last resort and for higher risk women requiring secondary care.

Promoting birth at the units

We will continue to evaluate and refine the data to ascertain the true number of women who could potentially birth at a primary birthing unit.

The data for the three months from October to December 2018 showed that only 5% more women who were domiciled in the Botany, Papakura or Franklin localities were likely to be eligible to birth in one of the three primary birthing units, than the number that actually birthed at the units. However, determinates for this group are still being refined. Once established, they will be used to set a realistic target for our Primary Birthing Promotion Project (see following article).

Local research undertaken by Dr David Bailey in 2012 demonstrated that for low-risk women, labour in one of our three community birth units was associated with significantly lower rates of instrumental birth, caesarean section and blood transfusion compared with labour in a hospital.[†]

Also Neonatal Unit admission rates were lower for infants of nulliparous women labouring in birth units. The challenge is supporting mothers to make informed decisions about place of birth, and for their LMC to be supported to birth in a primary setting.

More recently, in 2018, Moana Research was engaged to undertake research with local women on ‘[consumer perspectives on primary birthing](#)[‡]’ and about their choice of birth location. Recommendations from the research advised CM Health to:

- continue to provide information and communication around the benefits of using the primary birthing units
- ensure mothers are aware they are precluded from giving birth at home or at a primary birthing unit if they have a high-risk pregnancy or have previously had a C-section
- provide information about alternative birthing options, and an opportunity to discuss these options with family members who have a strong influence on the mothers’ decisions of where to give birth
- review models of care to enable a family support person (partner or other family member) to stay overnight to support the mother and baby.

▼ TABLE 3.

All births by location and age							
AGE	*MMH	BOTANY	PAPAKURA	PUKEKOHE	TOTAL	#PBU	% OF BIRTHS AT PBU
<20 years	371	9	20	15	415	44	11%
20–24 years	1329	52	59	57	1497	168	11%
25–29 years	2080	95	70	88	2333	253	11%
30–34 years	1822	72	61	71	2026	204	10%
35–39 years	823	41	13	31	908	85	9%
40+ years	205	4	1	8	218	13	6%
Total	6630	273	224	270	7397	767	10%

Notes: *MMH = Middlemore Hospital #PBU = Primary birthing unit

[†] Bailey, D.J. (2017). Birth outcomes for women using free-standing birth centres in South Auckland. *New Zealand Birth*, 44(3), 246–251.

[‡] https://www.dropbox.com/s/gyd2kycrw5gdt7a/Moana%20Research_Primary%20Birthing%20Report_FINAL.pdf

▼ TABLE 4.

All births by location and ethnicity							
ETHNICITY	*MMH	BOTANY	PAPAKURA	PUKEKOHE	TOTAL	#PBU	% OF BIRTHS AT PBU
NZ Maaori	1249	50	92	73	1464	215	15%
Pacific	2358	75	50	20	2503	145	6%
Chinese	171	22	4	3	200	29	15%
Indian	1089	20	9	12	1130	41	4%
Other Asian	445	28	5	9	487	42	9%
NZ European/Other	1318	78	64	153	1613	295	18%
Total	6630	273	224	270	7397	767	10%

Notes: *MMH = Middlemore Hospital #PBU = Primary birthing unit

▼ TABLE 5.

All births by location and domicile group							
SUBURB	*MMH	BOTANY	PAPAKURA	PUKEKOHE	TOTAL	#PBU	% OF BIRTHS AT PBU
Botany	181	28			209	28	13%
East rural	142	9	3	10	164	22	13%
Franklin	592		16	240	848	256	30%
Howick	169	45	2		216	47	22%
Mangere	1073	8			1081	8	1%
Manukau	337	18	2		357	20	6%
Manurewa	1391	26	48	2	1467	76	5%
Otara	668	55	1		724	56	8%
Pakuranga	190	48			238	48	20%
Papakura	492	6	117	9	624	132	21%
Papatoetoe	661	11			672	11	2%
Takanini	286	4	29	1	320	34	11%
Non-CM Health area	225	11	5	8	249	24	10%
Otahuhu	223	4	1		228	5	2%
Total	6630	273	224	270	7397	767	10%

Notes: *MMH = Middlemore Hospital #PBU = Primary birthing unit

▼ TABLE 6.

All births by location and provider			
MATERNITY PROVIDER	TOTAL	PERCENTAGE OF ALL BIRTHS	PERCENTAGE OF #PBU BIRTHS
DHB-employed midwife	1657	22%	14%
Community LMC midwife	5740	78%	85%
Total	7397		

Note: #PBU = Primary birthing unit

DEBRA FENTON
Maternity Service Manager



Primary Birthing Promotion

Over the past few years, the number of women birthing in one of CM Health's three primary birthing units has decreased by 5% (see Figure 8). Inversely, the birthing at Middlemore Hospital, which is a secondary care unit, has increased by 2% (see Figure 9).

There is concern that low-risk women are choosing to birth at a secondary maternity facility. Primary birthing (either at home or in a primary birthing facility) should be the preferred choice for low-risk women, as research both local^{*} and international[†], demonstrates that a low-risk woman has an increased likelihood of more favourable outcomes if they birth in a primary setting.

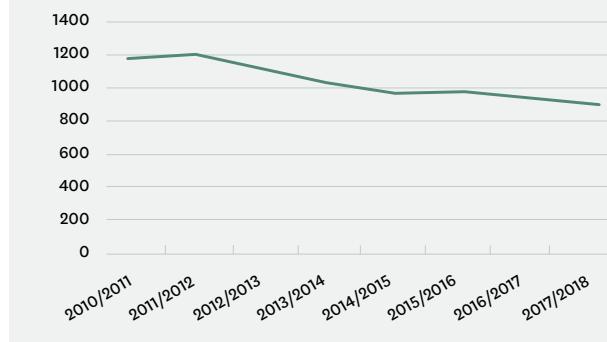
Along with improving outcomes for low-risk women, encouraging primary birthing will also reduce demands on the overburdened maternity services at Middlemore Hospital. In 2010, approximately 15% of all births at CM Health were in a primary birthing facility. In 2018, this is now only 11% of all CM Health facility births.

Analysis of women birthing at Middlemore Hospital in the 2017/2018 year shows that 1802 could meet the criteria for primary birthing (22% of all births). However, only 6% of these women are domiciled near one of the three CM Health's primary birthing units at Botany, Papakura or Pukekohe.

As a result, a target increase of 2% more women choosing to birth at one of the three primary birthing units was set in the CM Health Maternity Quality and Safety Work Plan for 2018/2019. Achieving this target is the aim of the Primary Birthing Promotion Project.

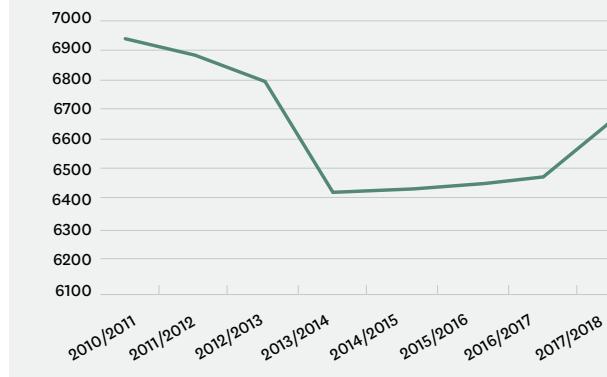
▼ FIGURE 8.

Total births at CM Health primary birthing units, 2010 to 2018



▼ FIGURE 9.

Total births at Middlemore Hospital, 2010 to 2018



* Farry, A. (2015). *Place of birth in Counties Manukau Health: Comparing outcomes of low risk births by model of care and place of birth from 2011-2012*. Unpublished; Bailey, D. (2017). Birth outcomes for women using free-standing birth centers in South Auckland, New Zealand. *Birth*. 2017;1–6.

† Birthplace in England Collaborative Group. (2011). 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.)*, 343, d4700. Doi:10.1136/bmj.d7400

The Primary Birthing Promotion Project

The primary objective for this project is to explore and implement strategies to promote and increase primary birthing for low-risk women.

Secondary objectives include to:

- increase birthing at the Botany, Papakura and Pukekohe primary birthing units by 2% by June 2019
- reduce intervention rates for low-risk women
- decrease the percentage of low-risk women birthing at Middlemore Hospital
- improve customer satisfaction with service delivery at primary birthing units
- engage LMCs and consumers in the project plan and implementation.

Our team

The project team is supported by the Maternity Strategic Group as the project steering group

PROJECT TEAM MEMBERS

Debra Fenton (Co-Chair)	Maternity Service Manager – Middlemore and Community
Amanda Hinks (Co-Chair)	Maternity Service Development Manager
Lyn Stark	Maternity Quality and Safety Coordinator
Helenmary Walker	Charge Midwife Manager, Botany Birthing Unit
Robynne Hubbard	Charge Midwife Manager, Papakura Birthing Unit
Lynn Austerberry	Charge Midwife Manager, Pukekohe Birthing Unit
Kat Komene	LMC Liaison
Sarah Bosgra	LMC
Claire Eyes	LMC
Waimaire Onekawa	LMC
Carmille Harris	LMC
Kathy Ogilvy	Midwife Educator
Dr Sue Tutty	GP Liaison



▲ FIGURE 9. CM Health Primary Birthing Promotion Group enjoying the roses outside the Papakura Birthing Unit where the monthly meetings are held

The method we are using

The Model for Improvement[‡] methodology was used to explore what changes could be made that would result in an improvement. Tools used included:

- defining a family of measures
- analysing stakeholders
- gathering consumer feedback
- process mapping to explore issues and ideas for change
- analysing root causes – asking ‘the five whys’[§] to understand the issues, and their causes and effects
- developing an impact effort matrix, outlining short, medium and long-term initiatives to explore.

Figure 10 outlines the concepts developed through this process.

The project team started developing and implementing communications and media about the change concepts from March 2019.

Where we are now?

To date, we have started or put in place the following initiatives.

- A three-monthly review of women birthing at Middlemore Hospital who meet the criteria for primary birthing, with the aim to improve data quality and accuracy of numbers.
- Consumer research on place of birth and finding a midwife in Counties Manukau. *Consumer Perspectives on Primary Birthing*[¶]
- Update consumer information (hard and soft formats) on options for care and how to find a midwife.

- Review of the process of sending GP referrals to maternity facilities and then how they are offered out to LMCs who birth in primary settings, which has led to an improved process currently being developed.
- Facilitation of a medical education session for GPs on primary birthing and first trimester care.
- Promotion at expos related to mother and baby health experiences.
- Improvement in primary birthing facilities, e.g. painting interiors.
- A film of primary birthing units and consumers, and primary birthing LMCs, for use on social media and websites.

A family of measures of success has also been defined, which includes not only the number of births at a primary birthing facility (outcome measure), but also a balance measures (transfers in labour from primary unit to Middlemore Hospital), alongside monitoring the number of low-risk women birthing at Middlemore Hospital. The number of bookings to birth in one of the three primary birthing units will also be used as a process measure.

Progress on the various initiatives will be measured and available in 2020.

What's next?

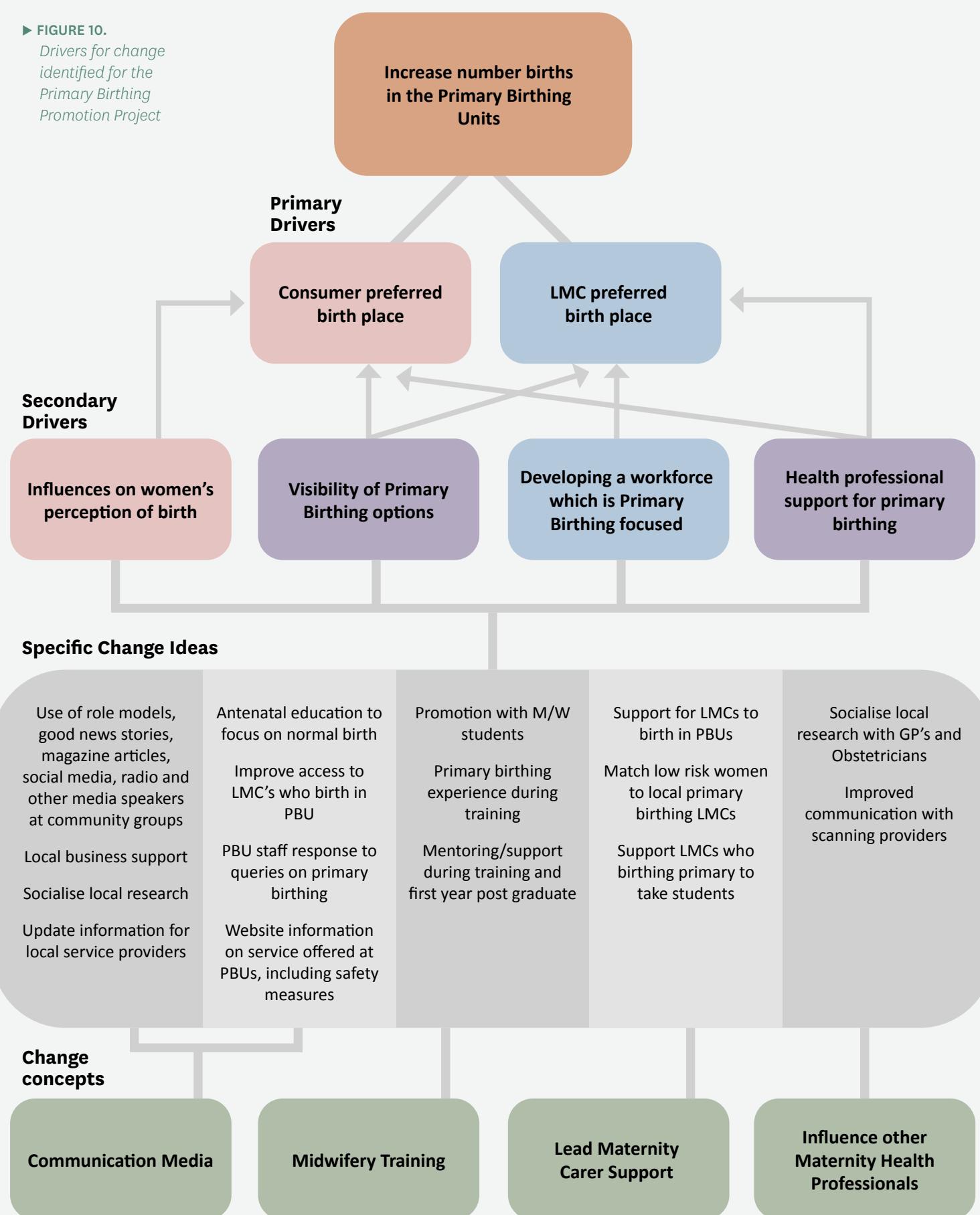
This is a large project and requires a lengthy timeframe to implement some of the key strategies identified. Thanks goes to the project team, as without their passion and dedication for primary birthing the progress to date could not have been achieved. We await the completion of the videos promoting the facilities, while exploring other means to educate women, their whaanau and communities on choosing primary birthing as an option.

[‡] Langley, G., Moen, R., Nolan, K., Nolan, T., Norman, C., & Provost L. (2009). The improvement guide: A practical approach to enhancing organizational performance. 2nd Edition. Jossey-Bass: San Francisco.

[§] The five whys is an analytical approach used to drill down to the root cause of an issue by asking the question ‘Why?’ five consecutive times; each time in response to the previous answer given.

[¶] https://www.dropbox.com/s/pxnfwbdlg5byig1/Maternity%20Consumer%20Panel%20Evaluation%20Report_FINAL22022019.pdf

► FIGURE 10.
Drivers for change identified for the Primary Birthing Promotion Project



LYN STARK
Maternity Quality and Safety Coordinator



ANDREA O'BRIEN
Data Analyst, Health Intelligence and Informatics



Women Birthing at CM Health: January to December 2018

This infographic has been produced to give us a clearer understanding of the women birthing in our Counties Manukau facilities, and their outcomes. Gathering this knowledge leads to a deeper consideration of the women we serve and their needs. Having an accurate picture is essential to monitoring outcomes and making meaningful changes to guide quality and improvement of services and practice.

Providing accurate, contemporaneous information into MCIS by the carer is invaluable. Using MCIS fields and narratives allows for more precise measurement by our Clinical Coders who are required to interpret clinical documentation e.g. when a baby's presentation is breech during pregnancy MCIS enables more accurate analysis of the type of presentation at birth. The accuracy of how information is entered reflects the quality of the reports we prepare.

With three complete years of clinical information from MCIS we are able to produce and display consistent, contemporaneous information, including the Maternity Clinical Indicators (CI) in infographic form. Clinical Indicators are a measure of the clinical management and outcome of health care received by an individual.

There are several advantages to being able to create an infographic using clinical information from MCIS.

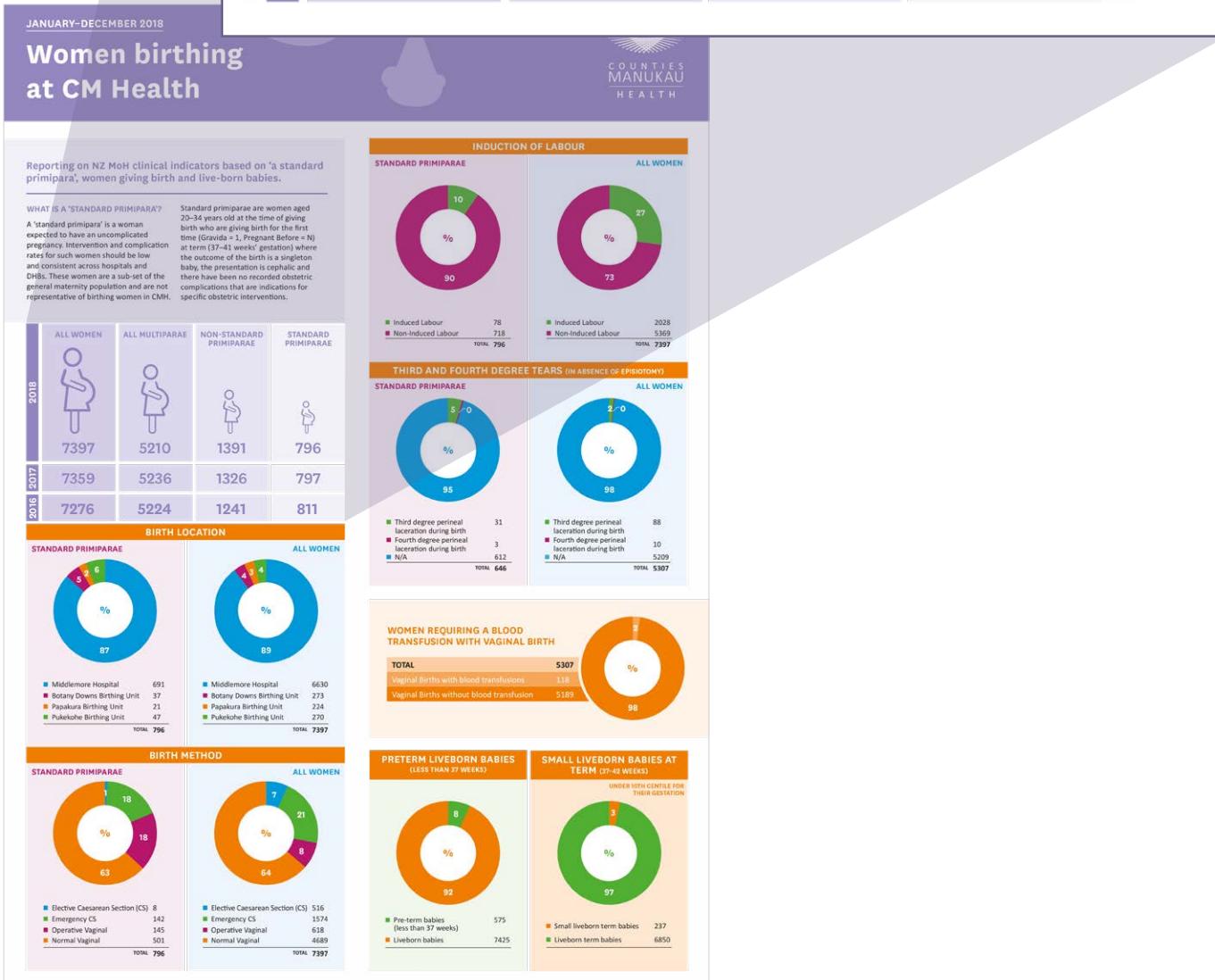
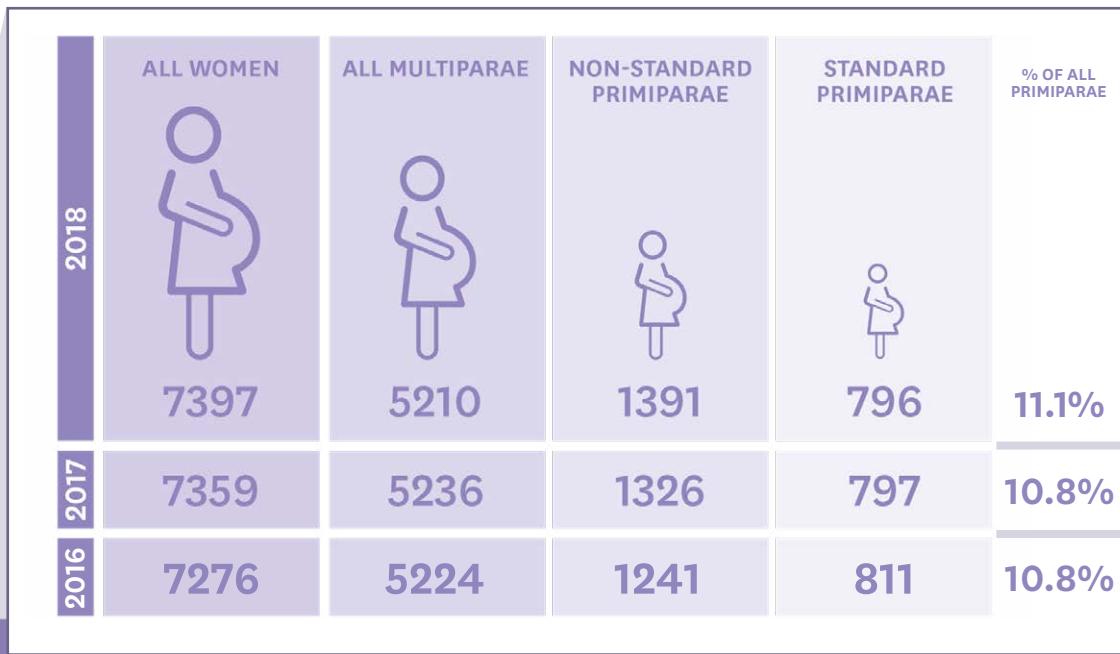
- We can produce the clinical indicators earlier than we can access the Ministry of Health indicators and therefore have early access to local trends.

- Ministry of Health indicators show either Middlemore Hospital births or CM Health domiciled women, which does not reflect all CM Health facility births. We can include births at the outlying birthing units to give a complete view of CM Health's facility birthing outcomes.
- Also relevant locally is the ability to compare the standard primipara's indicators with all women birthing at a CM Health facility.
- The Ministry of Health indicators don't distinguish between elective and emergency caesareans, but we can show these separately which is useful to monitor standard primiparae undergoing elective caesareans and examine the codes that may contribute to this intervention.
- We can also continue to monitor BMI although this indicator has been discontinued as a New Zealand Maternity Clinical Indicator.

A '**standard primipara**' is a woman expected to have an uncomplicated pregnancy.

Intervention and complication rates for such women should be low and consistent across hospitals and DHBs. These women are a sub-set of the general maternity population and are not representative of birthing women in CM Health. BMI is not included as a risk factor.

Standard primiparae are women aged 20–34 years old at the time of giving birth who are giving birth for the first time (Gravida =1, Pregnant Before = N) at term (37–41 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 interventions.



DR SARAH TOUT
Clinical Director Women's Health



DR SARAH WADSWORTH
Clinical Lead Obstetrics, Women's Health



DR LINDSAY MILDENHALL
Clinical Lead Neonates



NZ Maternity Clinical Indicators

<https://www.health.govt.nz/publication/new-zealand-maternity-clinical-indicators-2017>

NZ Maternity Clinical Indicators			
NZ MATERNITY CLINICAL INDICATORS	NZ 2017	MMH AS BIRTH FACILITY 2017	ALL SECONDARY AND TERTIARY 2017
1: Registration with a lead maternity carer in the first trimester of pregnancy <i>Favourable. Suggests work on early engagement, GPs education and assistance to link women with a midwife.</i>	72.3%	50.3% ↑	72.6%
2: Spontaneous vaginal birth among standard primiparae <i>Spontaneous vaginal birth has dropped, although remains in line with NZ in general (secondary). Considering this data excludes the primary units and home births we do not know if this is reflective of all our births in CM Health. BMI is not completely captured in the standard primiparae and this may be an influence. CM Health has a rising Indian population who have a higher intervention rate.</i>	65.1%	58.7% ↓	58.3%
3: Instrumental vaginal birth among standard primiparae <i>3&4 A falling instrumental birth rate goes hand in hand with a rising cesarean section rate and influenced by Indicator 2. Need to explore further the affects staff & bed shortages are having on the decreasing chances of vaginal birth.</i>	16.3%	16.9% ↓	19.5%
4: Caesarean section among standard primiparae	17.6%	23.6% ↑	21.0%
5: Induction of labour among standard primiparae <i>IOL is rising. This is occurring across Australasia with the introduction of guidelines aiming to decrease perinatal mortality; we have yet to see this desired affect. E.g.: SGA, reduced fetal movements.</i>	7.6%	11.4% ↑	8.8%
6: Intact lower genital tract among standard primiparae giving birth vaginally <i>Increased but well below NZ as a whole. We have provided significant education on perineal tears and believe partly our rate is lower due to identification which is good. A positive that our rate has increased which could be due to the "hands-on" approach at birth that is encouraged at Middlemore Hospital.</i>	27.7%	13.6% ↑	19.0%
7: Episiotomy and no third- or fourth-degree tear among standard primiparae giving birth vaginally <i>Episiotomy and no 3rd degree tear is going down. This is positive and suggests we are better selecting which women not to do an episiotomy on.</i>	24.5%	31.9% ↓	30.0%
8: Third- or fourth-degree tear and no episiotomy among standard primiparae giving birth vaginally <i>Unfortunately 3rd degree tear and no episiotomy is rising. Needs further exploring.</i>	4.4%	4.7% ↑	4.2%

DR PIP ANDERSON
Public Health Physician



ANDREA O'BRIEN
Data Analyst, Health Intelligence and Informatics



9: Episiotomy and third- or fourth-degree tear among standard primiparae giving birth vaginally <i>Episiotomy and 3rd degree tear going down, suggesting a relationship to education in place on how to do an episiotomy.</i>	1.7%	2.5% ↓	2.1%
10: General anaesthetic for women giving birth by caesarean section <i>This is not the standard primp and reflects our complex population.</i>	8.2%	10.2% ↑	8.2%
11: Blood transfusion during birth admission for caesarean section birth. <i>11&12 Increased. Likely to have reflected our complex population. With our 2018 data, in context we are able to show that our transfusion rate is stabilising if not lowering. We require more time to see the trend. We are better at identifying anaemia antenatally and in 2018 19% of women received an iron transfusion in pregnancy.</i>	3.1%	5.1% ↑	3.1%
12: Blood transfusion during birth admission for vaginal birth	2.2%	3.6% ↑	2.4%
13: Diagnosis of eclampsia during birth admission <i>No comment; numbers are so small</i>	0.03% (17 women)	0.05% (3 women) ↓	0.03% (17 women)
14: Peripartum hysterectomy <i>Numbers are small, but not surprising that this is rising. The complex population will sometimes need this as a life saving procedure and should not necessarily be seen as a negative.</i>	0.05% (29 women)	0.06% (4 women) ↑	0.06% (29 women)
15: Mechanical ventilation during pregnancy or postnatal period	0.02% (11 women)	0 women	0.02% (8 women)
16: Maternal tobacco use during postnatal period <i>Reflects the excellent work Counties (see pages 60- 61) is doing in this area and very encouraging that we are lower than NZ as a whole.</i>	10.5%	8.8% ↓	9.9%
17: Preterm birth <i>Heart breaking that this has risen. Good work is happening in this space (early engagement, link to Early Pregnancy Clinic, GP form etc), Reducing this number will be a major focus for the 2019-2020 year. Significant work indicates we need to focus on education on how to identify women at risk and socialise the appropriate pathways beginning with simple tests including vaginal swabs and MSU as part of all booking tests. We have TI audits on the rates of chlamydia in CM Health.</i>	7.5%	9.1% ↑	8.4%
18: Small babies at term (37-42 weeks gestation) <i>Rate not too dissimilar with previous rates. Reflects SGA babies being detected on antenatal assessment and sent to tertiary centre for birth</i>	2.9%	3.9% ↑	3.2%
<i>Reflects our high risk population – smoking, diabetes, PET and obesity (difficult to detect) and access to scanning, both financial and availability.</i>			
19: Small babies at term born at 40–42 weeks' gestation <i>Rate not too dissimilar with previous rates. Reflects SGA babies being detected on antenatal assessment and sent to tertiary centre for birth.</i>	31.9%	33.0% ↑	30.4%
<i>Should be reducing this number with the work that has gone into access to scanning in community but still shortage of slots and scans inaccurate with obesity.</i>			
20: Babies born at 37+ weeks' gestation requiring respiratory support <i>Comment: Reflects increased Obstetric interventions as women approach term (inductions and elective/emergency cesarean sections) and resulting conditions such as transient tachypnoea of the newborn requiring brief NICU admission.</i>	2.0%	2.6% ↓	2.2%

*arrow in 'MMH as birth facility 2017' cell indicates difference from 2016 (either up or down)

* Blue shading = MMH less favourable than 'All secondary and tertiary hospitals'. Green shading = MMH more favourable than 'All secondary and tertiary hospitals'

LYN STARK
Maternity Quality and Safety Coordinator



ANDREA O'BRIEN
Data Analyst, Health Intelligence and Informatics



Clinical Indicators 11 and 12: Women Requiring a Blood Transfusion after a Vaginal or Caesarean Birth

Clinical Indicators 11 and 12 look at the percentage of women who required a blood transfusion after birth.

Previous CM Health reports have documented in detail the work that has been done to improve pre-birth iron and haemoglobin levels, in an attempt to influence the number of women who need blood transfusions post birth. This includes the *Iron Deficiency Anaemia (IDA) In Pregnancy and Postpartum – Prevention and Management Guideline*. The main points of the guideline are:

- the inclusion of serum ferritin to booking blood requests, in order to identify iron deficiency as early as possible in pregnancy
- step-wise management of low ferritin levels earlier in pregnancy, with oral iron doses specified to differentiate between maintenance supplementation and treatment
- prescription of subsidised supplements to reduce the patient cost of oral iron supplements
- a streamlined referral system for IV iron infusion with Ferinject, to encourage its use after other routes of supplementation have been trialled.

In 2016, CM Health introduced visual resources for both practitioners and patients including a desk flip-chart for practitioners and a fridge magnet for women and their families. The resources reinforce the education that women receive at their antenatal appointment and encourage nutritionally beneficial dietary changes.

Post-partum haemorrhage data

Post-partum haemorrhage (PPH) is the excessive loss of blood during or following birth.

The introduction of the MCIS during 2015 enabled more accurate recording of total blood loss. In previous annual reports, we noted that using the MCIS makes recording a women's estimated blood loss easier and data about the accumulative volume lost in the first 24 hours more accurate. The PROMPT courses, which are well attended by maternity care clinicians throughout the year, also reinforce the importance of accurate assessment and actual measurement of blood loss.

As a result of these improvements, it is difficult to compare pre-MCIS and post-MCIS data, due to the significant increase in PPH cases now being recorded. We believe the increase in PPHs recorded since the introduction of MCIS reflects better ascertainment, rather than an increased prevalence of PPH in women birthing at CM Health facilities. We now have three complete years of MCIS PPH data available, from 2016 to 2018, from which to assess trends; see Figure 11.

Before 2015, the percentage of births with PPH was between 10% and 12%. From 2016 onwards, between 19% and 29% of births per month have PPH recorded, with 24% as the average for 2018.

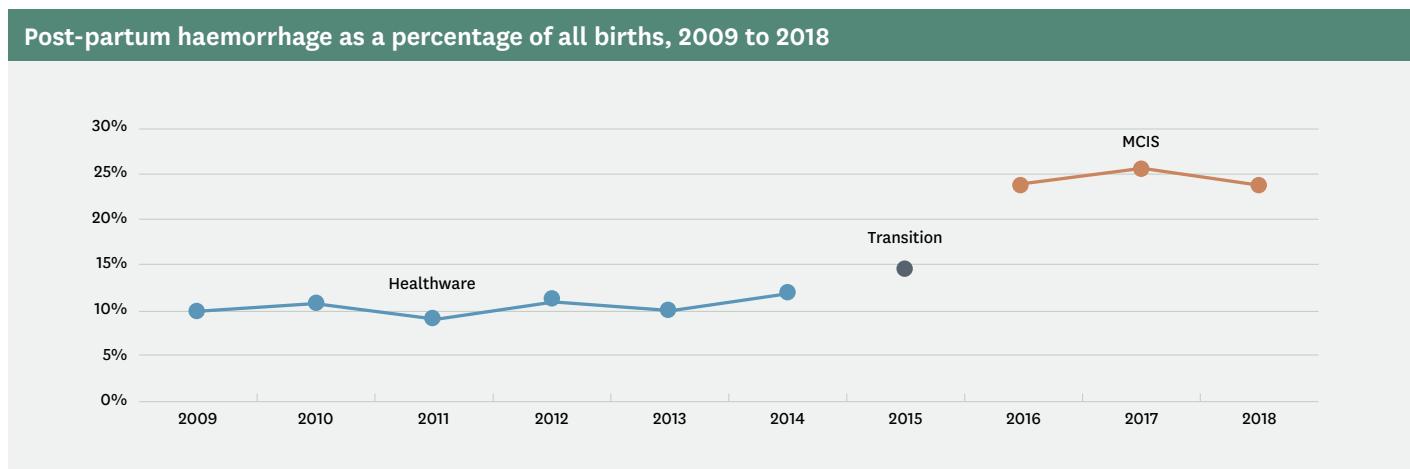
Women who experienced PPH and also required a blood transfusion, prior to 2015, constituted between 19% and 20% of all PPHs. From 2016, the percentage ranges from 4% to 15%, with 8% as the average for 2018; see Figure 12. This difference is consistent with the above hypothesis that women who were previously not being captured as having a PPH are now being captured, thus increasing the denominator and reducing the percentage of those women with a PPH who require a blood transfusion.

As 2016 and 2018 recorded consistent average PPH and transfusion cases, it appears that the increase in 2017 may have been an aberration.

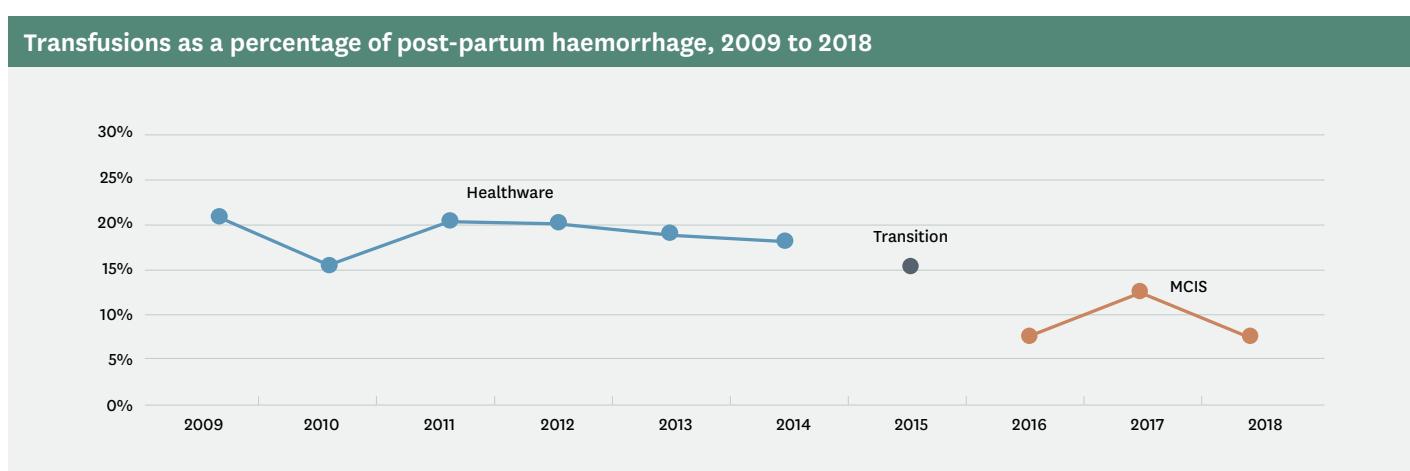
Factors that affect the decision to offer and administer a blood transfusion post-birthing include the degree of blood loss, post-birth haemoglobin levels, availability of intravenous iron and the presence of ongoing blood loss. At CM Health, we have long-standing issues with late pregnancy booking and low ferritin stores in our population, for a variety of reasons, and managing chronic anaemia can be quite a challenge. We believe these reasons contribute to our higher rates of blood transfusion in women giving birth at CM Health facilities, compared to the rest of New Zealand.

The rate of PPH and transfusions appears to have stabilised and we are hoping that this will continue, leading to a fall in our rates of both. We will continue to focus on management of iron deficiency and anaemia in an attempt to reduce the need for blood transfusion even in the event of a PPH.

▼ FIGURE 11.



▼ FIGURE 12.



4

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



AUTHOR

AMANDA HINKS

Maternity Service Development Manager

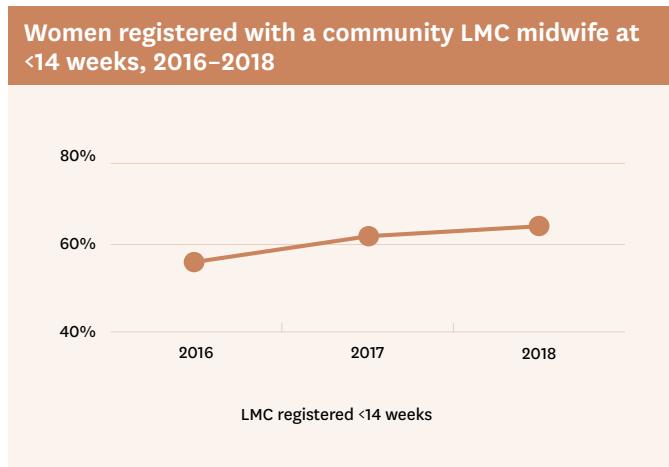


Timely Registration with a Community LMC Midwife

Engagement of the pregnant woman during the first trimester for antenatal care continues to be a focus of our activities and links with the activities of the Primary Birthing Promotion Group.

The numbers for 2018 indicate there has been a rise in the number of women engaging with a community LMC midwife during the first trimester from 52% in 2016 to 65% in 2018, as shown in Figure 13.

▼ FIGURE 13.



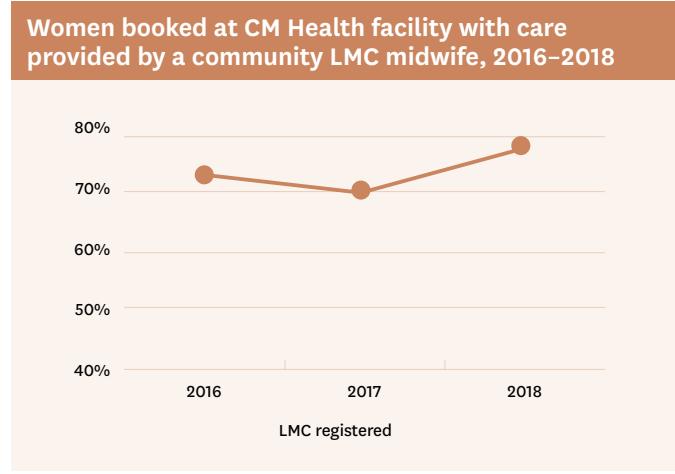
It is encouraging to see this 13% increase in women registering earlier with a community LMC.

A large percentage of women are referred directly to one of the four maternity facilities by their general practice. The DHB actively redirects these referrals to community LMCs through a text messaging service. If the woman is

not engaged with an LMC within 1 week, DHB community midwives will provide the first contact and actively help the woman find an LMC, where possible, within the first month of care.

In 2018, over 78% of women booked to birth at a CM Health facility had care provided by a community LMC midwife; see Figure 14.

▼ FIGURE 14.



Access to maternity care during the first trimester of pregnancy enables health promotion to be discussed with the pregnant women and their whaanau, and provides early access to other support services, such as smoking cessation. Access to maternity care early in pregnancy also enables pregnant woman to be screened for any medical complications or current conditions requiring medication, which could affect the developing fetus. Early engagement with a midwife or health professional helps the woman decide about screening for chromosomal abnormalities.

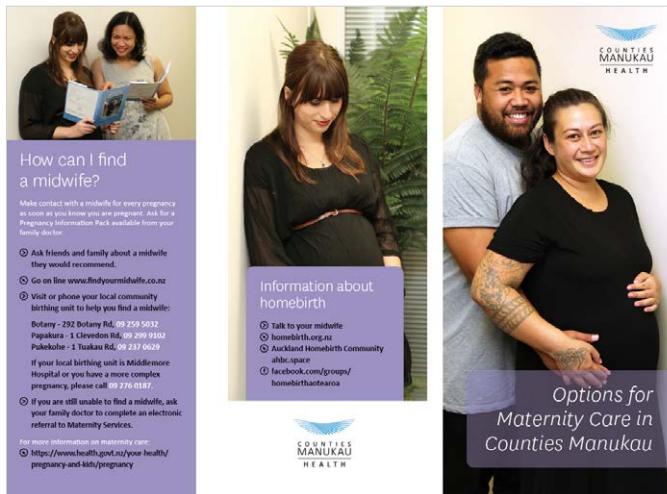
Options for maternity care

This year, CM Health, via the Primary Birthing Promotion Group, has developed the *Options for Maternity Care* brochure (2019), in consultation with stakeholders; see Figure 15.

The brochure provides information on how to find a midwife, and an overview of maternity care processes and services to help women and their whaanau make decisions about their maternity carer and place of birth.

The brochure is supplied for all pregnant women in Counties Manukau as part of their First Contact Pregnancy Information Pack, which women will be given by their doctor or midwife. The brochure's messaging aligns with the activities of the Primary Birth Promotion Group, as the choice of midwife can be a contributory factor in a woman's decision to birth in a primary setting.

We are taking the opportunity at community and hospital based events to promote the messages in the brochure about finding a midwife early and also what to expect from the midwifery partnership.



▲ FIGURE 15. Options for Maternity Care, CM Health 2019

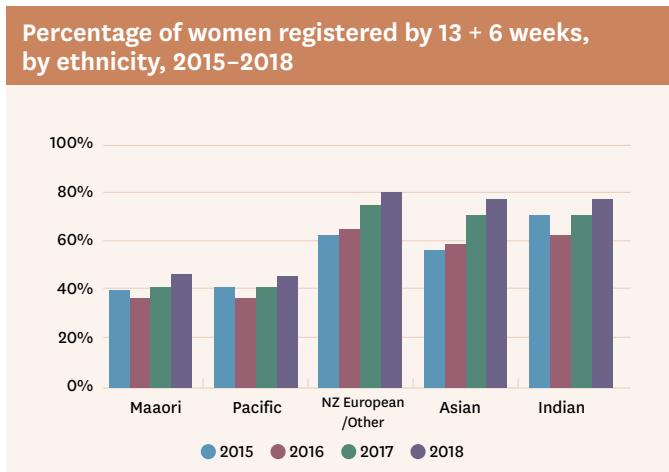
Equitable access

Equity has been recently defined by the New Zealand Ministry of Health* as:

In Aotearoa New Zealand, people have differences in health that are not only avoidable but unfair and unjust. Equity recognises different people with different levels of advantage require different approaches and resources to get equitable health outcomes.

It is encouraging to see there has been a 10% increase in the numbers of Maaori and Pacific mothers registering in their first trimester in the CM Health area during 2018. However, from an equity perspective, there is now a wider gap of 34% difference between NZ European and Maaori women registering in the first trimester for antenatal care; see Figure 16. This is because there has been a 7% increase for Maaori, but a 17% increase for NZ European since 2015. The rate for women who present for the first time (un-booked) for maternity care in labour is static for 2018 at 1.4%.

▼ FIGURE 16.



Source: MCIS

The increase in women registering in their first trimester across all ethnicities could be due to primary care services having an increased focus on this area; some providers now employ maternity navigators for pregnant women aged under 20, or for Maaori and Pacific women. The navigators discuss with women how to find a midwife, support them in contacting midwives and follow up with them to ensure they found a midwife. The increase could also be as a result of DHB community midwives and health workers actively engaging women with a community LMC, where appropriate, when they are referred to DHB services.

* This definition of equity was signed-off by the Director-General of Health, Dr Ashley Bloomfield, in March 2019.

AUTHOR

DR SUE TUTTY
GP Liaison



The First Antenatal Visit

About 70% of women in Counties Manukau attend their GP for their first antenatal visit. The quality of that visit can contribute considerably to the outcome of a pregnancy by identifying social needs, medical conditions and past obstetric experience, and through screening for sexually transmitted infections, urine infections, haemoglobinopathies and a myriad of other conditions.

We are continually seeking opportunities to improve the quality of the first contact we have with a woman in her pregnancy. Recent initiatives include pregnancy packs supplied at the first antenatal visit, a web-based Early Pregnancy Assessment Tool and an education evening for primary care practitioners.

First Contact Pregnancy Information Packs

We are continuing to supply a pregnancy pack resource to our primary health organisations, and our DHB and community LMC midwives, for distribution to women, ideally on their first antenatal visit. The information in the packs has evolved to reflect the priorities set by the National Maternity Monitoring Group and the Maternity Quality and Safety Governance Group.

To encourage primary birthing, the list of midwives previously included in the packs has been replaced by the 'Options for Maternity Care' brochure (2019); see Figure 17 and article on page 40.

The brochure encourages women to consider where they would like to give birth, before they choose the midwife who will be involved in their care. It recommends that women visit their local birthing unit to find a midwife who works in their area and who staff at the birthing unit know is accepting women. This was considered a better approach than giving women a list of midwives, which was often out of date by the time it was printed, and did not have any details as to whether the midwife was actually available.

Also in the pack is the 'Looking After You and Your Mental Health' pamphlet, developed by the Maternal Mental Health Team; see Figure 18. The pamphlet includes clear advice for health professionals, as well as women, on how to respond when a woman is struggling with the normal challenges of being a new mum, compared with when a woman becomes acutely unwell and requires in-patient care.

Another resource that will now be appearing in our pregnancy packs is information about AWHi, an NGO that seeks healthy housing for all new mums (see article on page 48).

In previous years, we have audited the acceptability of the pregnancy packs to midwives and general practice. This year, an audit on women's view of the pregnancy packs is currently in progress.

Ever since the packs were developed, there has been discussion on the relative merits of using paper-based information compared with digital. The Early Pregnancy Assessment Tool now provides a web-based resource that, like the pregnancy packs, ensures all essential topics are covered in the first antenatal visit.

FIGURE 17. ▶
Extract from the
*Options for Maternity
Care brochure*

1. Where would you like to birth your baby?

Home

Birthing Unit
Well women with uncomplicated pregnancies are recommended to birth here.

Hospital
Women requiring medical oversight for birth are recommended to birth here. An example is if you have diabetes or high blood pressure. If you birth at Middlemore and both you and baby are well, do expect to be transferred to a birthing unit after the birth.

FIGURE 18. ▶
Extracts from the
*'Looking After You
and Your Mental
Health'* pamphlet

Etahi mamae hinengaro me maia ki te whakamahi

Some Mental Health changes need urgent help.

- Feeling overly excited, elated or 'high'; or very irritable and changeable in mood; or very confused in your thinking.
- Feeling unable to sleep (even when your baby is sleeping), or not needing to sleep.
- Having a lot of energy, racing thoughts and being overly talkative.
- Experiencing unusual ideas (which may include baby) that other people don't share.
- Seeing, hearing or feeling things that others can't.
- Thoughts of wanting to hurt yourself, your baby or someone else.

These issues need urgent treatment and you or a support person should see your Doctor today, or contact the after-hours mental health team on 0800 775 222.

Noho ora
Staying well

A lot of women feel more anxious during pregnancy and with a new baby. It's not unusual to have some increase in worries and anxious thoughts. Many women feel 'flat' or down sometimes, and really tired, especially during the first few weeks. Most women have some unwanted anxious thoughts about their baby coming to harm or harming their baby, but few women talk about it. These thoughts and feelings often improve over time as you adjust.

Anei he awhina mou, i tenei waa
Here are some things that can help during this time:

- Talk to others: Share both the good days and the difficult times with people close to you. Chances are others will be able to relate to what you're feeling.
- Accept any help offered and share the load with chores and baby care: let others know what you need including laundry, a meal, cleaning, and baby cares.

- Rest or sleep when baby sleeps (the chores can wait!).
- Try to get outside for sunshine and a breather regularly e.g. a short walk.
- Be kind to yourself! Having a baby can be both wonderful and hard and every mother will have difficult days.
- Slow down and make time for just cuddling, looking at, and talking to baby.

Early Pregnancy Assessment Tool

The Early Pregnancy Assessment Tool is a web-based tool that will be embedded into the practice management systems used in primary care for all clinical work.

The tool extends the work done by John McMenamin on the early pregnancy tool used in Whanganui and He Korowai Manaakai research tool used in Hawke's Bay^{*†}. The Auckland region version of the tool will include all the priorities of the National Maternity Monitoring Group and the requirements of section 88 of the New Zealand Public Health and Disability Act 2000.

The tool is web-based, providing clinical support and a referral capability for each general inquiry, thereby supporting comprehensive care. Being web-based also allows data to be collected on the work being done.

The primary health organisations, with support from the Health Promotion Agency, are funding the tool's development for primary care. GPs are funded for a women's first antenatal visit through section 88 of the New Zealand Public Health and Disability Act 2000.

The Early Pregnancy Assessment Tool is also being linked to the sudden unexplained death in infancy (SUDI) risk calculator. It is hoped that together these tools will identify those women most in need of care, as we would like to be able to offer a wrap-around level of care to these women.

The tool will be trialled in the first practices in August 2019. It is envisaged that the practice nurse will complete much of the tool, with the GP then reviewing the replies, extending the conversations and managing the referrals.

It is hoped that the tool will significantly improve practice around women's first antenatal visits. Once the trials are complete, it will need to be socialised within our general practices with educational support.

Educational evening for primary care

In February 2019, Maternity Services presented an educational evening for primary care. The evening covered chicken pox, the Boostrix vaccination and syphilis, as well as primary birthing.

Chicken pox exposure is a frequent reason for phone calls to secondary care. At the evening, the process for assessing maternal risk in pregnancy was discussed, along with the pathway to refer to.

There was robust discussion on the difference between vaccinating the mother with Boostrix to develop immunity in the baby, and vaccinating all those around baby to cocoon them from catching whooping cough. The vaccination rates for Boostrix in Counties Manukau remain low, so any opportunity to raise the vaccination's profile is taken.

There have been several cases of congenital syphilis in Counties Manukau. At the education evening, primary care practitioners were encouraged to be vigilant in testing for syphilis and following up on results.

The educational evening was an opportunity to discuss the advantages of primary birthing for low-risk women, and for recommending that GPs encourage low-risk women at their first antenatal visit to consider this birthing option.

* Alcohol.org.nz. (2019). *Early pregnancy assessment tool*. Retrieved from www.alcohol.org.nz/alcohol-its-effects/alcohol-pregnancy/alcohol-and-pregnancy-resources/early-pregnancy-assessment-tool

† Lawton, B., & Storey F. *He Korowai Manaaki Wairoa: A research project of pregnant women testing an augmented maternity care pathway to improve infant health outcomes*. Australian New Zealand Clinical Trials Registry. Retrieved from <https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=373063>

5

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



AUTHOR

AMANDA HINKS
Maternity Service Development Manager



Connecting and Supporting Our Maternity Consumer Groups

The Maternity Consumer Panel has not been reconvened since it was disbanded in February 2018. Two consumers continue to attend the Maternity Quality and Safety Governance Group meetings.

An evaluation of the maternity consumer panel's activities and outcomes was completed in March 2019. Nineteen recommendations were made in the Maternity Consumer Panel Evaluation report, and these are being worked through. However, work has stalled while an internal leadership restructure is in progress.

Consumers bring their own unique skills and values to the table. They need to be supported to develop the skills and attain the knowledge required for their roles. This will ensure consumers gain from their interactions with CM Health, and feel as though they have contributed positively to a service or change in process. Consumers' desire to feel that their contribution was valued and to hear how it was used was a key piece of feedback from the evaluation.

Once the new leadership structure is in place, it is expected that a wider maternity services strategy will feature consumer contribution and how this is to be implemented and managed.



ISABELLA SMART
Midwife Manager
Community Midwifery Services



Whakawhanaungatanga – A Process for Care Promoting Engagement in Maternity Care

CM Health 2017 data, cited in the Women's Health and Newborn Annual Report 2017–2018, showed higher levels of non-engagement with maternity services by women from our Maaori and Pacific communities. This is concerning, as women who are not engaged cannot benefit from maternity care.

Following this, we analysed the Community Midwifery iPMS data for the services provided by midwifery staff based at Lambie Drive. This showed that, although the overall rate of non-engagement was generally lower than the level agreed within Women's Health as an acceptable parameter (12% to 14%), between 80% and 100% of the women who were not engaging with our services were from the Maaori and Pacific communities (see Table 7).

▼ TABLE 7.

Lambie Drive community midwifery service non-engagement rates	
TARGET GROUPS	NON-ENGAGEMENT RATES
Maaori and Pasifika women	Constituted 80% of our 12–14% non-engaged service users
Home visits	9–10% not present at arranged home visits
Maaori women aged < 35 years	24–34% not attending antenatal clinics
All women aged < 20 years	20–22% not attending antenatal clinics
Pasifika women aged < 30 years	17% not attending antenatal clinics

Non-engagement rates for these women were higher regarding all types of engagement – including initial contact after referral, arranged home visits and attendance at agreed, scheduled clinic appointments.

We decided to address this health inequity by finding out why our Maaori and Pacific women were not engaging and what would enable them to engage in and benefit from maternity care.

We discussed the issue and the possible contributory factors with our five Community Health Workers within the Community Midwifery Service. These staff live in South Auckland and draw from some of our Maaori and Pacific communities, so were able to contribute their specific knowledge, experience and perspective.

Together, we looked at a wide range of factors, including non-engagement rates by location, by midwife and by time of day.

In the first instance, we realised we had a responsibility as a DHB to be proactive in removing modifiable, often financial, barriers to care. Secondly, we concluded that our initial approach to women who were referred to us was culturally incongruent and needed to change. If we established the initial relationship appropriately, then the follow-up care would work.

The removal of practical barriers to care has been fairly simple to institute. We provide taxi cards for free transport to maternity, specialist obstetric and medical appointments, and to attend ultrasound scan appointments. We have made the Community Health Workers available to help with transport and, where requested, to accompany women to appointments to offer advocacy and support.

Another barrier was that many women were afraid and shy in relation to appointments. We had previously introduced our



▲ FIGURE 19. Community health workers involved in the whakawhanaungatanga initiative:
(L-R) Eseta Nicholls, Mele Faka'osilea, Kristine Day, Roimata Simpson, Carmencita Sauni

Multi-Agency Group Support (MAGS) Programme in 2017*, and knew that most women who are not engaging with our service have additional life stressors. Women cannot focus on their maternity care when there are other unmet pressures on their lives. Conversely, women respond well to engaging in maternity care when they feel supported and valued, and are having their needs met. We have active relationships with a wide range of social community-based organisations, including food banks, equipment providers, housing trusts and statutory agencies, like Work and Income NZ and Housing NZ. Having the Community Health Workers in the role of key support people is working very well in terms of sustaining engagement in maternity services.

However, a key change we have made over the past year was to pilot the introduction of whakawhanaungatanga into our service. Through whakawhanaungatanga we introduced time for women to understand our service and for us to understand their needs and wishes. We made the Community Health Workers the first point of contact for women in the target groups identified in Table 7.

The workers phone or visit these women and introduce our services. In the pilot, our non-engagement rates of our target groups at initial appointments was reduced to between only 3% and 6%. As a result, we decided to widen the approach to

all women referred to our service, which we have done this year.

Key aspects of our approach are whakarongona (the process of being listened to), koorero (conversation) and manaakitanga (valuing the woman, respecting, caring and nurturing our new relationship with the woman). The value of first impressions is well known in terms of setting the tone of relationships. By listening to women and being flexible in changing our service as much as we can to reflect their needs and preferences, we have reduced our non-engagement rates and, more importantly, we have improved the incidence of women getting in touch with us when they are unable to attend arranged appointments. Women contact us asking to negotiate an alternative contact time. For us, that illustrates that they value our service and wish to benefit from maternity care. The approach also saves our service from wasting scarce resources. This has all been done in an environment led by the CM Health values lived through our actions.

Apart from the benefits that the pilot has already created of more functional, productive relationships, we hope at the end of 2019 to be able to illustrate, in statistical terms, how it has reduced our overall non-engagement rates. Interim numbers show a downwards trend in non-engagement rates from last year to this year to date.

* See the Women's Health and Newborn Annual Report 2017–2018.

ELIZABETH PILLAY

Programme Coordinator – Healthy Homes Initiative
Child Youth and Maternity

Healthy Home Initiative – AWHI

The Healthy Homes Initiative provides a range of interventions, through AWHI, to help families live in warm, dry, safe and healthy homes.

Homelessness has been defined as a living situation where people with no other options to acquire safe and secure housing are: without shelter, in temporary accommodation, sharing accommodation with a household, or living in uninhabitable housing*.

Data for pregnant women affected by poor housing or homelessness is not available. However, homelessness in Auckland is increasing for at-risk individuals and groups, such as sole parent households, young people and low-income households[†].

The initiative in Counties Manukau

In 2013, the Healthy Homes Initiative was launched in the Auckland region as part of the Rheumatic Fever Prevention Programme. In 2016, the eligibility criteria was expanded to include pregnant women, children aged 0 to 5 years, and families with social risk factors.

The National Hauora Coalition currently holds the Healthy Homes Initiative contract for CM Health, through AWHI. AWHI is the service that coordinates providers to assess and provide housing interventions for eligible families/whaanau. AWHI's overall aim is to ensure that children and families/whaanau that are at risk of developing rheumatic fever and other housing-related illnesses are offered interventions to promote a safe, warm, dry and healthy home.

The Ministry of Health commissioned an evaluation of the Healthy Homes Initiative in 2018, in order to inform and improve service delivery. Overall, the programme was meeting expectations. However, most Healthy Homes Initiative providers were found to have limited engagement with LMCs, primary practice and social workers. The evaluation recommended that 'HHI providers strengthen their reach to priority populations by establishing referral pathways with groups such as LMCs, social workers and primary care practices'[‡].

Challenges

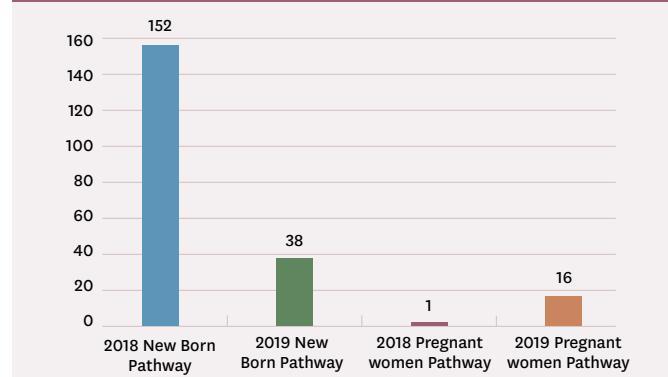
Many CM Health services do not include housing status information within their clinical documentation, and this creates a barrier for effective referrals to AWHI.

Kidz First has been proactive about AWHI referrals and has included a prompt in their admission and discharge checklist.

Figure 20 shows referrals under the pregnant/newborn pathway. All referrals from the newborn pathway have been referred from Kidz First.

▼ FIGURE 20.

AWHI referrals, 2018 and 2019



* Statistics New Zealand. (2015). New Zealand definition of homelessness: 2015 update. Retrieved from www.stats.govt.nz

[†] Auckland Council. (2019). Homelessness in Auckland. Retrieved from www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/auckland-plan/homes-places/Pages/homelessness-auckland.aspx

[‡] Allen and Clarke. (2018). *Healthy Homes Initiative evaluation: Final report*. Wellington: Allen and Clarke.

Referral rates from maternity services within CM Health have been extremely low since the start of the expanded Healthy Homes Initiative programme. The Programme Coordinator identified lack of awareness as a significant factor for women not being referred to the AWHI service.

More importantly, the lack of an efficient referral pathway poses a huge barrier to referrals. CM Health's MCIS was not initially set up to include an AWHI referral pathway. Added to this is the isolation of the health information systems used by the various LMC groups. As a result, referrals tend to depend on the referrer being aware of the Healthy Homes Initiative and actively referring patients to AWHI.

Another barrier was that, due to the nature of their work and employment arrangements, it was initially difficult to engage with LMCs. However, by developing relationships with key people within CM Health, such as the Midwife Liaison person, opportunities have since arisen to engage with both DHB-employed and community LMC midwives.

Building relationships

The Programme Coordinator has used various approaches to engage with maternity services staff.

The access holders meetings have proved a good platform for communicating with LMCs. Face-to-face education

sessions have been delivered to both DHB-employed and LMC community midwives groups. Ongoing contact with the groups has been established through the *Our Maternity Monthly* newsletter, which also provides a means of keeping people updated on the Healthy Homes Initiative.

The Pacific Expo and Matariki celebrations within the hospital also provided an opportunity to raise awareness on the initiative.

Improving referral rates

Referrers were initially expected to fax through referrals, and this was identified as a barrier for many. An electronic referral pathway has recently been set up within the MCIS. This will potentially help improve referral rates from within the DHB. However, it may not resolve the challenge of improving referral rates from community LMC midwives. There is also potential for referral rates to increase through the sudden unexpected death in infancy (SUDI) risk assessment tool (currently in the pilot stage), as the AWHI referral pathway has been embedded into this tool.

Barriers to effective referrals continue to be a challenge, and strategies to address this are still required. One solution would be the introduction of an integrated clinical information system within the midwifery workforce.



DEBRA FENTON
Maternity Service Manager



Elective Caesarean Section Request and Booking Pathway

A new pathway for requesting and booking elective caesarean sections was introduced in December 2017, after several months of work to set up the new systems and streamline the processes.

The aims behind the project were to convert the current, manual booking process to an electronic process, aligning it with other CM health elective procedures

- optimise theatre spaces for elective caesarean sections
- standardise the timing of obstetric clinic referrals and appointments
- standardise the educational material about elective caesareans given to woman at the time of their obstetric clinic appointment
- formalise the roles responsible for coordinating elective caesarean sections bookings
- improve communications between everyone involved in elective caesarean sections.

Project timeline



The new pathway

1. An LMC or CM Health community midwife refers a woman to the Obstetric Clinic where the mode of birth is discussed, if necessary.
2. If an elective caesarean section is agreed to, the surgery request process is started via the MCIS.
3. The woman is added to a waitlist by the maternity administration clerk.
4. Two to three weeks before the proposed caesarean section date, the clerk will negotiate a surgery date with the woman.
5. Clinical oversight and scheduling support is provided by a named senior midwife and obstetrician, as required.
6. The LMC is informed of the date and the woman's MCIS management plan will be updated with the confirmed date of surgery.
7. The theatre list will be confirmed approximately one week in advance.

Thanks go to the team involved in this project:

Dr Sarah Tout	Clinical Director of Women's Health
Dr Sarah Wadsworth	Obstetric Lead
Dr Karena De Souza	Obstetric Fellow
Tanya Wilson	Charge Midwife Manager - Maternity Ward North
Helen Goldstraw	Clerical Operations Manager
Ana Mihaere	Registered Midwife – Maternity Ward North
Wendy Davison	Clinical Inpatient Coordinator – Project Lead
Kay McLean	Maternity Administration Clerk
Fona Pule	Maternity Administration Clerk

AUTHORS

WAYNE DAWN
Project Manager



DR SARAH TOUT
Clinical Director Women's Health



Increasing Scheduling to Improve Women's Elective Caesarean Experience

Over the past 3 years, there has been minimal growth in the actual number of live births at Middlemore Hospital. However, there has been a notable growth in patient complexity and intervention required at birth, particularly around Caesarean sections. This steady growth of complex patients requiring greater intervention has necessitated a review of the amount of theatre time and resources required to deliver this service.

We reviewed 3 years of data concerning Caesarean sections at Middlemore Hospital, including an assessment of how complexity scoring related to actual time in theatre, and made recommendations for efficiencies in both areas.

The data showed a clear increase in emergency sections, as shown in Table 8 and Figure 21.

Over the past 3 years, live births at Middlemore Hospital have occurred in the following way.

▼ TABLE 8.

Live births at Middlemore Hospital, 2016–2018			
BIRTH YEAR	2016	2017	2018
Elective Caesarean	576	576	516
Emergency Caesarean	1200	1445	1574
Operative	510	477	618
Vaginal	4924	4828	4689
Total	7210	7326	7397

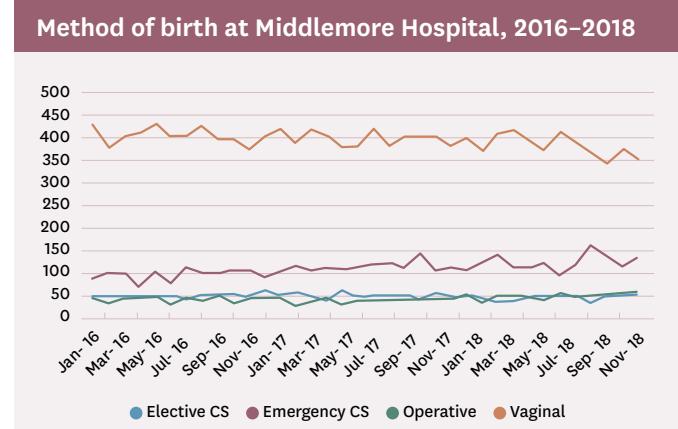
The analysis of the time taken for each procedure (from arrival into theatre, to return back to the ward) showed that each case took an average of 100 minutes. No statistically significant relationship was identified between low- and medium-complexity cases and the procedure length (excluding the high-complexity, limited cases). Historically, the time allocated for each procedure was 60 minutes. This discrepancy (between actual and allocated time) is not due to increased complexity or inefficiency, but to an actual analysis of the whole time of the procedure (including anaesthesia time, theatre turnaround and patient preparation)

By overlaying the actual theatre required time for each case, we were able to demonstrate a significant shortfall in theatre allocation for this service.

Discussions with the affected teams, including the anaesthetic department has now resulted in an additional two days of dedicated theatre resource per week for these cases, as well as a blanket time allocation for each case.

This additional theatre resource allocation, which now matches the actual requirement, will ensure that current and future resource planning can be more accurately matched to demand.

▼ FIGURE 21.



BEV POWNALL

Team Leader Lactation Support Services



Maternity Facilities Achieve Baby Friendly Hospital Re-accreditation

The Baby Friendly Hospital Initiative has been implemented in almost all countries in the world, with varying degrees of success.

Although the initiative has been running for over 25 years, only around 10% of infants in the world are currently born in a maternity facility designated as ‘baby friendly’, with some countries finding it difficult to sustain a Baby Friendly Hospital Initiative programme.

That’s why we’re so proud that New Zealand maternity facilities have worked hard to achieve and maintain their baby friendly status. We’re even more proud that this includes all four of our maternity facilities within CM Health – Botany Downs, Papakura and Pukekohe primary birthing units, and Middlemore Hospital.

The core purpose of the Baby Friendly Hospital Initiative is to ensure that mothers and newborn babies receive timely and appropriate care before and during their stay in a facility providing maternity and newborn services, to enable optimal feeding to be established for babies, which in turn promotes their health and development.

Given the proven importance of breastfeeding, the initiative protects, promotes and supports breastfeeding, while enabling timely and appropriate care and feeding of newborns who are not breastfed.

CM Health has eight lactation consultants and three breastfeeding advocates working across the Community Midwifery, Birthing and Assessment, Maternity Wards and Neonatal Care teams, and helping the primary birthing units to maintain their baby friendly accreditation.

Baby friendly facilities have their breastfeeding and artificial feeding policies and practices rigorously reviewed as part of a regular accreditation assessment process. The aim of the

review is to ensure that mothers and whaanau can make informed choices and gain the best information and staff experience available.

There are two key parts to the Baby Friendly Hospital Initiative. The first is our commitment to the World Health Organization Code of Marketing of Breastmilk Substitutes designed to protect against unethical marketing practices. The second is the Ten Steps, which allow mothers and whaanau to understand the standards of care they can expect. These standards include:

- evidenced-based policies and guidelines for staff to follow
- staff who are well educated about feeding babies and mother’s lactation
- provision of antenatal education
- promoting skin-to-skin contact immediately after the birth
- a variety of other practices, including 24-hour assistance during the mother’s postnatal stay, assistance in our Neonatal Care Unit, and information about support in the community.

Feedback has taught us how important consistent advice is. The Baby Friendly Hospital Initiative helps us ensure that, no matter whether the mother receives information and care antenatally, on the birthing or postnatal wards at Middlemore Hospital, in the Neonatal Care Unit, or a primary birthing unit, it is not conflicting and is based on informed choice and participation.

Around 95% of mothers initiate breastfeeding within Counties Manukau and all four of our facilities achieve greater than the 75% exclusive breastfeeding rate required to maintain our baby friendly accreditation. Our aim is to empower every breastfeeding mother to achieve her own individual goals.



▲ FIGURE 22. Botany Downs Primary Birthing Unit's Baby Friendly Hospital presentation celebration: Midwife Manager Helenmary Walker (holding statue) with Jane Cartwright (NZ Breastfeeding Alliance, fourth from left), Debra Fenton (Women's Health Service Manager, far right), and birthing unit staff and supporters



▲ FIGURE 23. Middlemore Hospital's Baby Friendly Hospital presentation celebration: Lactation Support Service Team with General Manager, Nettie Knetsch (fourth from left). Absent from photo: Bev Pownall, Lactation Support Services Team Leader, Johanna Hermans, Clinical Midwife Specialist – Lactation and Babra Hussain, Breastfeeding Advocate.



▲ FIGURE 24. Papakura Primary Birthing Unit's Baby Friendly Hospital presentation celebration: Midwife Manager Robynne Hubbard (holding statue) with Jane Cartwright (NZ Breastfeeding Alliance, far left), Debra Fenton (Women's Health Service Manager, second from right), and birthing unit staff and supporters



▲ FIGURE 25. Pukekohe Primary Birthing Unit's Baby Friendly Hospital presentation celebration: Midwife Manager Lynn Austerberry (second from left) with Jane Cartwright (NZ Breastfeeding Alliance, far left), Debra Fenton (Women's Health Service Manager, far right), and birthing unit staff and supporters

6

Childbearing women and families are supported to make choices which are underpinned by the maternity care providers sharing evidence-based information





Maternal Immunisation – Part of a Healthy Pregnancy

Pregnancy and the postpartum period present risks for both mothers and babies from infectious diseases. Vaccinating pregnant women (also called maternal immunisation) can potentially protect pregnant women and newborn infants from vaccine preventable diseases.

The Ministry of Health recommends two vaccines during pregnancy – influenza and whooping cough (Boostrix). Both vaccines induce high levels of maternal antibodies, which are transferred to the unborn infant and, after birth, help the newborn during the first few months of life (see Table 9).

Influenza

New Zealand research shows that healthy pregnant women are nearly five times more likely to be admitted to hospital when experiencing influenza complications than women who are not pregnant. Influenza immunisation is safe and can be given at any stage of pregnancy. As newborns and young infants are prone to influenza and often have higher admission rates than older children this protection from the womb could make all the difference to their wellbeing.

The influenza vaccine is available from 1 April to 31 December each year. However, for pregnant women vaccination is recommended before winter sets in or once they know they are pregnant.

This year, increased demand for influenza vaccines from the wider community resulted in a shortage. However, general practices and pharmacies prioritised availability of the vaccine for pregnant women.

▼ TABLE 9.

Births 12 months to December 2018 and enrolled in a PHO Q1 2019			
		PERTUSIS	INFLUENZA
TOTAL	Auckland	53.5%	39.6%
	Counties Manukau	37.4%	31.2%
	Waitemata	49.8%	33.6%
	Auckland Metro	45.8%	34.2%
MAAORI	Auckland	34.3%	26.2%
	Counties Manukau	19.4%	18.4%
	Waitemata	28.5%	19%
	Auckland Metro	24.2%	19.8%
PACIFIC	Auckland	29.7%	29.1%
	Counties Manukau	27.8%	28.6%
	Waitemata	29.7%	26.4%
	Auckland Metro	28.6%	28.3%

Whooping cough

Whooping cough (pertussis) can be a serious illness for many, but for a newborn it can be life threatening. When a pregnant woman is immunised, the immunity is shared with the unborn baby, offering protection at birth until the baby is old enough to be immunised. Pharmac has recently announced that, from the 1 July 2019, the whooping cough vaccine (Boostrix) will be funded for:

- pregnant women in the second or third trimester of each pregnancy
- parents or primary caregivers of infants admitted to the Neonatal Intensive Care Unit or Specialist Care Baby Unit for more than three days, provided the infant had not been exposed to maternal vaccination at least 14 days prior to birth.

Pregnant women will continue to access the whooping cough vaccination from their midwife or GP. Parents and primary caregivers will also see their GP while other avenues of access are explored.

▼ TABLE 10.

Pertussis coverage for pregnant women by DHB and ethnicity										
DHB DOMICILE	MAAORI (PREVIOUS)	MAAORI (CURRENT)	PACIFIC (PREVIOUS)	PACIFIC (CURRENT)	ASIAN (PREVIOUS)	ASIAN (CURRENT)	OTHER (PREVIOUS)	OTHER (CURRENT)	OVERALL (PREVIOUS)	OVERALL (CURRENT)
Auckland	29.8%	34.3%	30.3%	29.7%	56.3%	62.2%	57.9%	59.4%	50.5%	53.5%
CM Health	17.7%	19.4%	22.4%	27.9%	46.8%	54.5%	41.3%	46.0%	32.1%	37.4%
Waitemata	23.3%	28.5%	23.9%	29.7%	51.8%	59.7%	47.7%	52.7%	43.7%	49.8%
Auckland Metro DHBs	21.0%	24.2%	24.3%	28.6%	51.4%	58.6%	49.0%	52.9%	40.8%	45.8%

Notes: Includes births in the 12 months to 31 December 2018.

Ethnicity is prioritised and is that recorded on the PHO register.

Current performance includes only PHO enrolled individuals as at Q1 2019.

Source: Walsh, M., Personal communication.

▼ TABLE 11.

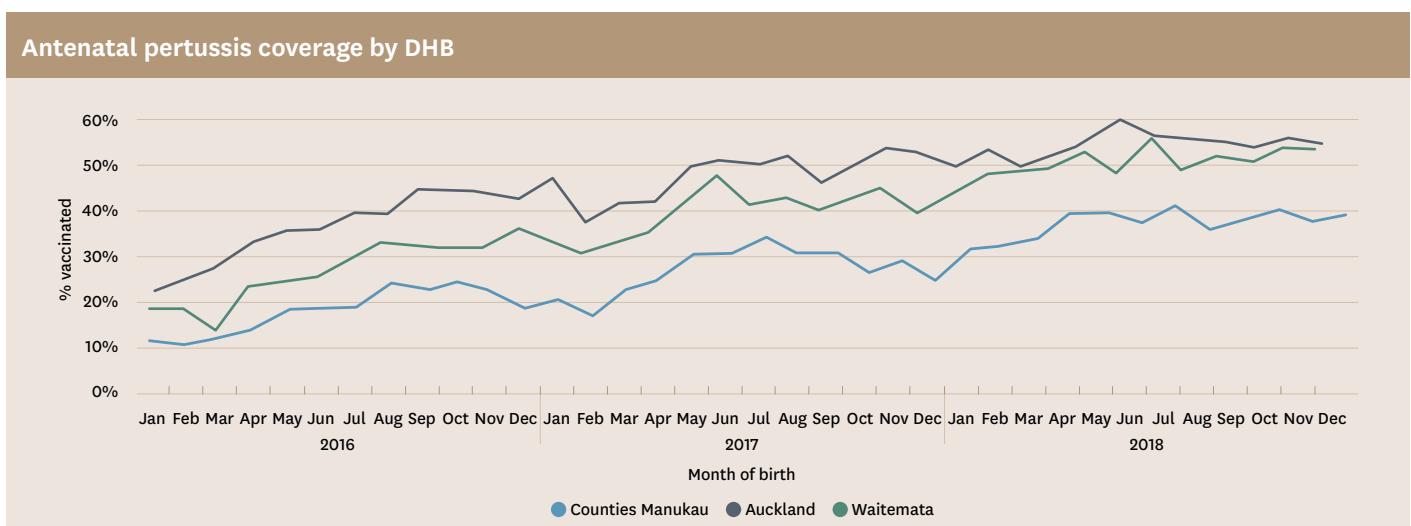
Pertussis coverage for pregnant women by DHB and deprivation										
DHB DOMICILE	1	2	3	4	5	6	7	8	9	10
Auckland DHB	68.4%	63.6%	57.5%	58.8%	54.4%	55.9%	53.8%	51.5%	46.6%	34.0%
CM Health	50.0%	50.2%	52.4%	46.3%	48.1%	44.6%	39.7%	38.9%	32.1%	25.8%
Waitemata DHB	55.5%	53.6%	56.8%	54.1%	53.2%	47.8%	47.9%	40.9%	37.7%	35.3%
Auckland Metro DHBs	57.8%	55.4%	55.7%	53.7%	52.2%	49.3%	46.8%	42.8%	36.1%	28.2%

Notes: Includes births in the 12 months to December 2018.

Performance includes only PHO enrolled individuals as at Q1 2019.

Source: Walsh, M., Personal communication.

▼ FIGURE 26.



Source: Walsh, M., Personal communication.

The following tables compare whooping cough vaccination coverage for the Auckland region DHBs and indicate that, while CM Health is making progress, we are still the lowest performing DHB, with only 37.4% of our birthing women receiving the vaccination.

Table 10 and Table 11 show coverage of whooping cough vaccination for pregnant woman, based on their ethnicity and the deprivation rating of the area they live in, respectively. Of particular note, is that the coverage rates for women living in decile 1 (least deprived) areas are, in most cases, over twice those of women living in decile 10 (most deprived) areas, for all DHBs.

Figure 26 illustrates how, overall, coverage rates are continuing to improve for all three DHBs.

New initiatives to promote immunisation

A recent joint venture between public health nurses and Maternity Services to promote maternal immunisation has proved very successful.

The venture was led by Maternity Services Development Manager Amanda Hinks as part of National Immunisation Week, from 22 to 30 April 2019.

Invitations were printed on the back of Ministry of Health immunisation cards, advising pregnant women of the dates and times available for maternal immunisations, and inviting them to come and get vaccinated; see Figure 29.



▲ FIGURE 27. Shanaz Khan and Public Health Nurse Maria Afakasi at an immunisation clinic



▲ FIGURE 28. Public Health Nurse Sunita Swamy at an immunisation clinic



◀ FIGURE 29. The maternal immunisation invitation used during National Immunisation Week

The cards were distributed to women by LMCs and placed in reception areas at maternity units and the maternity resource centre. Pregnant women attending the units for routine antenatal care with their LMC were also able to access the clinics.

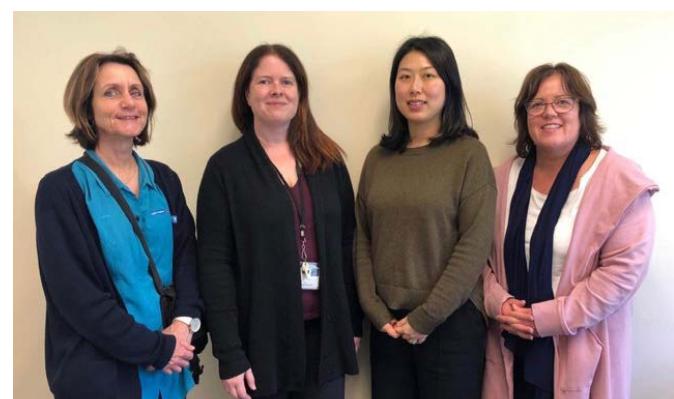
Overall, six clinics were held throughout the week, with a total of 32 pregnant women and 12 staff immunised.

Another exciting initiative initiated and run by DHB community midwives from the Maternal and Fetal Medicine Midwife team, is a new service enabling women attending the weekly Obstetric Medical Clinic at the Manukau SuperClinic to have their influenza and whooping cough vaccinations on site. The new Maternal and Fetal Medicine Midwife team has completed an immunisation update and arranged the necessary supplies and is now rearing to go; see Figure 30.

Team member Lisa McTavish says, “Our motivation was to make vaccines more accessible to pregnant women, especially those with higher risk medical conditions. Vaccines are free at their GP, however attending the GP is just an additional task in what is often a very busy lifestyle so, if we can offer the same service at obstetric appointments we can make it an easier ‘one stop shop’ for women. We hope to increase the uptake of both flu and Boostrix to protect our women and new babies from these preventable but life threatening conditions.”

For more information about maternal immunisation see:

- www.pharmac.govt.nz
- www.influenza.org.nz
- www.immune.org.nz/diseases/pertussis



▲ FIGURE 30. The new Maternal and Fetal Medicine Midwife team: (L-R) Dee Miles, Lisa McTavish, Anne Mariner, Hayley Angus

AUTHOR**DR JOANA DE SOUSA**

Maternal Fetal Medicine Subspecialist



Preterm Birth Clinic

Women with a history of preterm birth, preterm premature rupture of membrane at, or less than 26 weeks gestation, or major cervical surgery are now seen by an obstetrician and fetal medicine midwife at the Preterm Birth Clinic at Middlemore Hospital.

Preterm birth is the leading cause of under-5 mortality* and a major contributing factor to long-term morbidity. Addressing this issue is an urgent priority[†]. In many countries, dedicated preterm birth prevention clinics have been established as part of the key interventions. Evidence has shown that dedicated specialist clinics have led to a significant reduction in the preterm birth rate[‡].

CM Health launched its Preterm Birth Clinic in early 2019. The clinic is located at Middlemore Hospital, and is a dedicated clinic to review women who have a history of preterm birth or preterm premature rupture of membrane at, or less than 26 weeks; previous second trimester losses; or women who have major surgery to their cervix, such as a cone biopsy or multiple large loop excision of transformation zone (LLETZ). Women who have a history of preterm birth later than 26 weeks are reviewed at the General Obstetrician Antenatal Clinic.

The Preterm Birth Clinic is managed by a fetal medicine specialist and fetal medicine midwife. It provides a

streamlined service, which includes history taking, examination, transvaginal cervical length ultrasound monitoring and immediate preterm birth prevention treatment, such as cervical cerclage or progesterone, if required. Education on modifiable risk factors for preterm birth, such as smoking cessation, treatment of sexually transmitted disease and weight management are also addressed during the clinic.

Most women are seen fortnightly at the clinic, where a transvaginal scan is offered, with the final visit made at 23 to 24 weeks. At the exit visit, some women may receive a QUiPP test (a clinical decision-making aid based on previous outcomes for the woman, quantitative fetal fibronectin values and cervical length). Women who are at high risk for an early preterm birth (despite treatment) will receive prophylactic steroids to reduce the risk of perinatal complication.

Transvaginal scanning and frequent check-ups are generally acceptable for most women. One woman even said, “I actually look forward to this clinic.” We are hoping that through the Preterm Birth Clinic, General Obstetrician Antenatal Clinic, and community LMC and DHB midwives working together, we will make a real difference for the women in South Auckland and reduce our local preterm birth rate.

The Preterm Birth Clinic also provides plenty of training opportunities; currently the Obstetric Fellow attends the clinic fortnightly.

* Lee, et al. (2019). Small babies, big numbers: Global estimates of preterm birth. *The Lancet Global Health*, 7(1): PE2-E3.

† World Health Organization. (2012). *Born too soon: The global action report on preterm birth*. Geneva: World Health Organization.

‡ Hughes, et al. (2017). Outcomes and predictive tests from a dedicated specialist clinic for women at high risk of preterm labour: A ten year audit. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 57(4): 405-411

MICHELLE LEE
Team Leader, Living Smokefree Service



Smokefree

Promoting smoke-free pregnancies is a key initiative, which 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.* In addition, smoking during pregnancy has been associated with an increased risk of neonatal death, particularly as a result of SUDI.

Of all the women birthing in 2018, 15% (1094) were identified as smoking at their time of admission for birth. This is the same prevalence rate as last year, but a reduction of 46 women smoking from last year and 36 from the previous year. There were marked ethnic differences, with 40% of Maaori women (3% lower than the previous year) identified as currently smoking, compared to 14% of Pacific Island women (same as last year), 6% of European women/Other and 2% of Asian women (1% higher than last year); see Table 12.

▼ TABLE 12.

Number of women, by smoking status and by ethnicity, who birthed at a CM Health facility, 2018					
SMOKING STATUS	NZ MAAORI	PACIFIC ISLAND	NZ EUROPEAN/OTHER	ASIAN	TOTAL
Currently smoking	584	340	159	11	1094
Non-smoker	790	2077	2532	661	6060
Unknown	90	86	52	15	243
Total	1464	2503	2743	687	7397

Source: MCIS

* US Department of Health and Human Services. (2014). *Surgeon General's report: The health consequences of smoking—50 years of progress*. Retrieved from <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>

Proactive referring

In the past, both community LMC and DHB-employed midwives have referred approximately 40% of their smoking mothers to the Smokefree programmes. A small proportion of referrals come from primary care, NGOs and self-referrals, leaving potentially 40% of women not supported to stop smoking during pregnancy.

In May 2018, the DHB-employed community midwives began implementing a proactive referral system. All women seen by these midwives who smoked were informed they would be referred to the Smokefree service for a conversation around

what might help them stop. This increased their referrals to the service of women who smoked at the time of booking to 70%. Although the conversion rates (from referral to assessment and smoke-free at 4 weeks) have remained the same, the higher number of women being referred means that the overall number of women stopping smoking during pregnancy has increased. More importantly, the increased numbers apply equally to waahine Maaori.

We recommend that all GPs and midwives adopt the proactive referral system in order to increase the overall proportion of women being referred to the Smokefree service during pregnancy.

Ehara taku toa i te toa takitahi Engari te toa kalatini ke

Maaori whakatauki
"My strength is not as an individual but as a collective"

Matariki - A time of new beginnings is also upon us with Matariki. Come along and join us with many Community & DHB services showcasing stalls and kapa haka to promote toiora at Middlemore Hospital from 9am-3pm Monday 1st July & Tues 2nd July.

Te Huiahunga Hou o Matariki kia noho tapera koru
Celebrating the new beginnings of Matariki as a time to stop smoking

REFERRALS FOR PREGNANCY, POSTNATAL AND WHAANAU

MAY	Referrals TOTAL	Pregnant women	Postnatal women	Whaarau
Manurewa	30	21	5	4
Otara/Mangere	38	28	5	5
Papakura & West	30	22	8	0
TOTAL	98	71	18	9

LIVING SmokefreeService
Email: smokefree@middlemore.co.nz Call: 0800 569 568 Text: 021 807 093 or via MCIS referrals

TOP REFERER OF THE MONTH:
Olivia Porter & Hope Marsh
Well done and thank you!

Like us on Facebook
Hang Tuff Smokefree 2025

◀ FIGURE 31. The Smokefree service produces a regular newsletter about developments and successes in its incentive programmes

DR PIP ANDERSON
Public Health Physician



Weight Management

Being overweight or obese at the start of or during pregnancy is a risk factor for a number of complications, including gestational diabetes, pre-term and post-term birth, induction of labour, caesarean section, macrosomia, stillbirth, and neonatal and maternal death.* In addition, it is increasingly being recognised that maternal obesity also increases the risk of childhood and adult obesity in the fetus.†

In this report, overweight is defined as having a BMI of 25–29 and obese as having a BMI >30. The Ministry of Health previously reported the number of women with a BMI>35 as part of the suite of clinical indicators (Clinical indicator 17). This BMI data is no longer included as an indicator. Obesity classes are now being used to describe obesity, in a move away from terms such as morbid obesity, which were felt to be stigmatising.‡

The rates of overweight and obese women birthing at CM Health facilities has a considerable impact on clinical services. Over the past 11 years, the percentage of women who are a healthy weight or overweight has been trending downward, while the percentage in obesity classes II and III have been trending slightly upwards (see Figure 32).

In 2018, data collected for women booking at a CM Health facility showed that 1.3% of women with a known BMI were underweight; 25.5% of women with a known BMI had

a normal BMI; 31.2% of women with a known BMI were overweight; and 42.0% of women with a known BMI were obese.§ For 0.9% of women, their BMI was not known at the time of booking (see Table 13). This figure has improved considerably from 7% not known in 2016.

The distribution of BMI varies by ethnicity, with 34.6% of Maaori women birthing at CM Health facilities, who had a known BMI, being overweight in 2018, while 48.3% were obese (see Figure 33). For Pacific Island women, when their BMI was known, 22.3% were overweight at booking, while 69.6% were obese. For NZ European/Other women, with a known BMI, 34.3% were overweight and 28.6% were obese.

Addressing obesity is a challenging issue, not least because 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 factors that are outside the health sector and often beyond an individual's control.¶

CM Health continues to provide and promote the Healthy Weight Change in Pregnancy cards. The cards are designed for maternity carers and pregnant women to use alongside the Ministry of Health's 'Guidance for Healthy Weight Gain in Pregnancy'. The importance of discussing weight gain in pregnancy continues to be promoted to our maternity workforce and integrated into antenatal care provision. In addition, the three metro-Auckland DHBs have a 'Healthy Weight Plan for Children', which takes a life-course approach and includes actions from the Maternity Quality and Safety Programme in its antenatal section.

* Jackson, C. (2011). *Perinatal mortality in Counties Manukau*. Retrieved from <https://cmhealth.hanz.health.nz/search/Pages/results.aspx?k=catherine%20jackson>

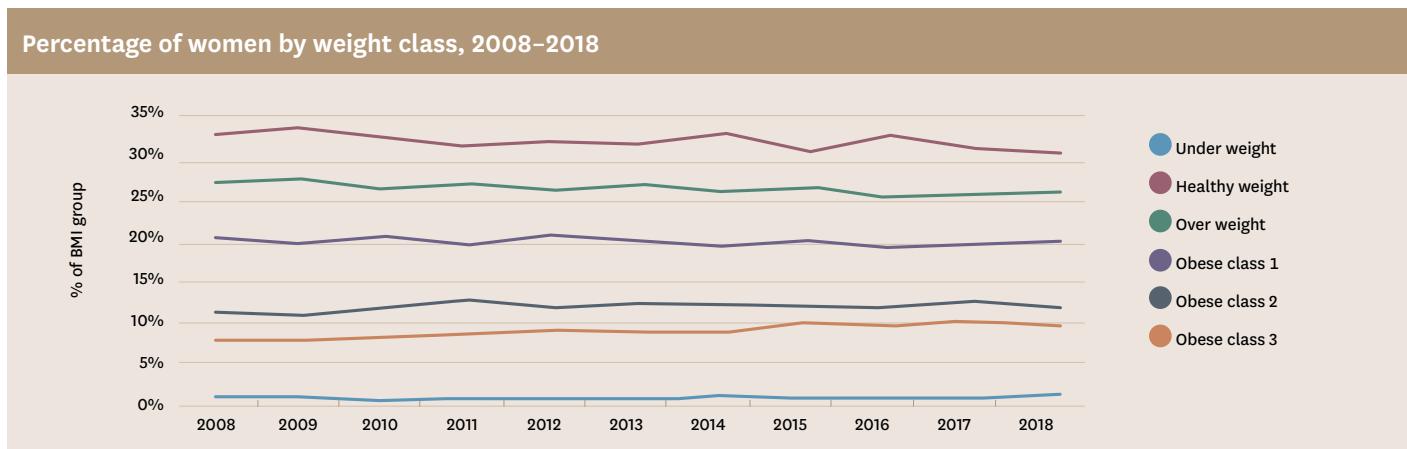
† Rooney, B. L., Mathison, M. A., & Schaubberger, C. W. (2011). Predictors of obesity in childhood, adolescence, and adulthood in a birth cohort. *Maternal Child Health Journal*, 15(8), 1166-75.

‡ Jackson, C. (2011). *Perinatal mortality in Counties Manukau*. Retrieved from <https://cmhealth.hanz.health.nz/search/Pages/results.aspx?k=catherine%20jackson>

§ Note that women with an unknown BMI were excluded from the denominator.

¶ Swinburn, B. A., Sacks, G., Hall, K. D., McPherson, K., Finegood, D. T., Moodie, M. L., & Gortmaker, S. L. (2011). The global obesity pandemic: Shaped by global drivers and local environments. *Lancet*, 378(9793), 804-14.

▼ FIGURE 32.



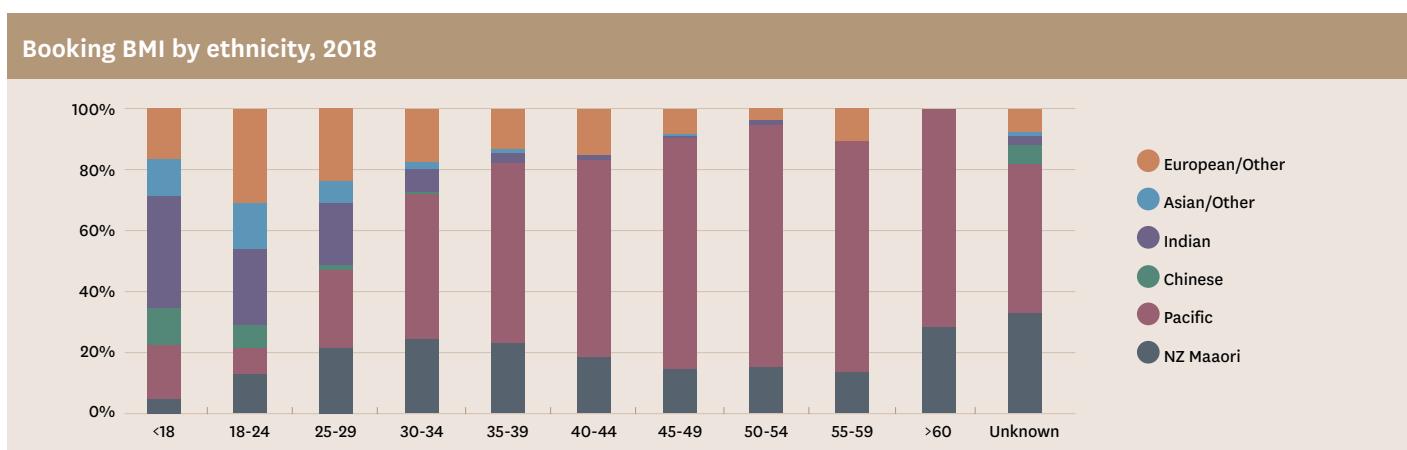
Source: MCIS. Extracted by Health Intelligence and Informatics 2019.

▼ TABLE 13.

Booking BMI by ethnicity for all births at CM Health facilities, 2018							
BOOKING BMI	NZ MAAORI	PACIFIC	CHINESE	INDIAN	ASIAN OTHER	NZ EUROPEAN /OTHER	TOTAL
<18	5	16	12	35	11	16	95
18-24	242	167	134	459	285	580	1867
25-29	499	568	47	469	154	552	2289
30-34	364	697	3	120	30	254	1468
35-39	205	521		36	5	118	885
40-44	85	291		7		68	451
45-49	27	137		1	1	15	181
50-54	9	46		1		2	58
55-59	4	22				3	29
>60	2	5					7
UNKNOWN	22	33	4	2	1	5	67
TOTAL	1464	2503	200	1130	487	1613	7397

Source: MCIS. Extracted by Health Intelligence and Informatics 2019.

▼ FIGURE 33.



Source: MCIS. Extracted by Health Intelligence and Informatics 2019.

DR EMMA PARRY

Obstetrician and Gynaecologist,
subspecialist in Maternal Fetal Medicine

Obesity in Women's Health: A Growing Issue

On 1 May 2019, the Department of Obstetrics and Gynaecology presented the inaugural Women's Health Update Day to a full house in the new tiered lecture theatre in Ko Awatea.

The department has many excellent health professionals who are arguably the most experienced in New Zealand at providing care to women with obesity. The Women's Health team recognised that the department could use this expertise to provide a multi-disciplinary update day in this area.

Speakers from a variety of health backgrounds were invited to talk about how obesity is impacting all facets of obstetrical and gynaecological practice and how to tackle some of the issues.

University of Auckland Population Nutrition and Global Health Professor Boyd Swinburn opened the day, presenting a sky-high view and potential solutions to this new global epidemic. He described how obesity is one of the biggest risk factors for diseases, and health professionals are key to determining how we tackle this. He outlined a number of evidence-based solutions to tackle the growing problem, such as taxes on sugary drinks, ban on junk food marketing and offering healthy food in schools. He also described the work of the Lancet group, which has developed a model inter-relating obesity (over nutrition), malnutrition and climate change.

Local data presented by Dr Pip Anderson, Public Health Physician at CM Health, confirmed the view that the women presenting to the Women's Health service are more likely to have obesity and that this is a growing issue.

CM Health Senior Medical Officer in Obstetrics and Gynaecology, Dr Lynsey Hayward, presented on the topic of

obesity and pelvic floor dysfunction. Over the 21 years she has been working at CM Health, she has seen a significant increase in obesity. She described how women have a sense of guilt and embarrassment about being obese, and to talk about pelvic floor dysfunction is a taboo for some patients. Dr Hayward is an active researcher and outlined important work she has done showing how intra-abdominal pressure is increased in women with obesity. This creates higher pressures on the pelvic floor and increases dysfunction. Often weight loss can reduce problems for these women.

How to tackle obesity and what to say were also discussed. Weight cycling and the merry-go-round of weight loss and gain were discussed by Kate Berridge, Obesity Nurse Specialist. CM Health's Bariatric Specialist Dietician also discussed the role of diet, and Dr Habib Rahman, Bariatric Surgeon outlined the surgical options for women.

A major theme, discussed by all speakers, was how to discuss weight with women in a way that is not emotionally harmful. Many members of the audience were surprised at the stories that women had told Susan Knox, Midwifery Researcher, as part of her presentation 'Complex contexts: Stories of being pregnant in a large body'. The solution is wider than suggesting a woman diet and in many cases weight loss is not an answer.

Other topics discussed during the day included: difficult gynaecological surgery and how to improve success, optimising imaging in obese women, issues with imaging the foetus, antenatal pitfalls, anaesthetic challenges, delivery dilemmas, and neonatal outcomes and new approaches.

The talks were filmed and are available on the Ko Awatea website for a limited time. There was great feedback from this inaugural Women's Health Update Day and it is planned to make it an annual event.

AUTHOR**DR KARA OKESENE-GAFA**Obstetrician and Gynaecologist Middlemore Hospital, Senior Lecturer
Department of Obstetrics and Gynaecology, University of Auckland

The Healthy Mums and Babies (HUMBA) Randomised Controlled Trial

Excessive weight gain in pregnancy increases risk of pregnancy (gestational) diabetes, high blood pressure, caesarean and giving birth to a large baby. The mother often struggles to lose her pregnancy weight gain after birth; and the baby has increased risks of child and adult obesity, which also increases the risks of long-term chronic diseases.

The Healthy Mums and Babies (HUMBA) randomised trial in mothers with obesity* was to see whether culturally tailored dietary education, delivered by community health workers, with or without probiotics, will reduce excessive weight gain in the mother and help optimise the weight of the baby.

For the trial, eligible pregnant women (total 230), with one baby (no twins), in early pregnancy (12 to 17 weeks + 6 days), who were happy to be in the study, were randomly put in two groups.

Group one (116 women) received dietary education through a community health worker. The worker saw the women four times offering dietary and physical activity advice, providing healthy recipes and setting them goals (including a before 28-weeks glucose test for diabetes in pregnancy) to help them stay within the recommended weight gain. This group also received text messages on their phones to reinforce the advice from the community health workers.

In the other group (114 women), the women received only the usual pamphlets about healthy eating for pregnant women and weight gain in pregnancy.

The total group of women was also divided to receive either probiotics (tablet with good bacteria) (115 women) or a placebo (tablet that looks like probiotics with no bacteria) (115 women).

In the study, Maori (23%), Pacific (50%), European (18%), Indian (6%), and Other (4%) women took part. The median BMI was high ($38.6\text{kg}/\text{m}^2$) and 64% of the women resided in the highest deprivation quintile for New Zealand.

Encouragingly, women who received dietary support from community health worker experienced approximately 2kg less weight gain throughout their pregnancies. Disappointingly, neither the routine dietary education support nor the probiotics made any difference to excessive weight gain in the mum or the weight of the baby.

A high number of women in all groups gained weight above what was recommended (dietary intervention versus routine advice: 107/116 [73.8%] vs 110/114 [81.8%], OR 0.67 95% CI 0.35 to 1.29; probiotics versus placebo: 108/115 [82.4%] and 109/115 [73.4%], OR 1.82 95% CI 0.94 to 3.54) or infant birthweight (dietary intervention versus routine advice: 3,575 vs 3,612 gm, MD -24 gm, 95% CI -146 to 97; probiotics versus placebo: 3,685 vs 3,504 gm, MD 107 gm, 95% CI -14 to 228).

There was no difference in pregnancy diabetes, pre-eclampsia, caesareans, preterm births, large or small babies.

In the routine dietary education group, feedback from the women was very positive, with over 80% completing the survey. The women reported that the overall-experience was positive (92%); it was easy to take the capsules (80%); and that if probiotics improved their health they would recommend them to a friend (97%).

* Okesene-Gafa, K.A.M., Li, M., McKinlay, C.J.D., Taylor, R.S., Rush, E.C., Wall, C.R., et al. (2019). Effect of antenatal dietary interventions in maternal obesity on pregnancy weight-gain and birthweight: Healthy Mums and Babies (HUMBA) randomized trial. *Am J Obstet Gynecol*, 13, 13.



Participants in the dietary intervention reported that the community health workers helped them: change their food intake (70%); eat healthy (73%); set goals to change their diet (62%); keep to the recommended weight-gain (63%); and that they would recommend the intervention to a friend (82%). They also reported that the text messages were read (93%) and helped them to eat healthy (65%); that the message from the baby was a good idea (79%); and they would recommend the messages to a friend (79%).

Overall, it was evident that women enjoyed participating in the HUMBA study and most women in the dietary education group felt that the assistance by the community health worker helped them to eat healthy and gain less weight. The dietary information and weight gain chart used in the trial are now being used as part of the Weigh While You Wait campaign.

The community health workers, with the new skills and knowledge gained during the HUMBA trial, are now being used in our diabetes in pregnancy clinic to help provide dietary advice for women during group sessions. They are also delivering dietary advice for these women in their own homes, if the women do not attend a group session.

The community health workers are now extending their skills by offering nutritional advice for all pregnant women, when they have the opportunity. Due to the success of their involvement in the trial, CM Health may look at using community health workers more in the future to bridge the gap between high-risk women and health care services, by using them to strengthen and improve what we are currently doing.

AUTHOR**CAROLINE CROWTHER**

Professor, Liggins Institute, University of Auckland



GEMS Study (Gestational Diabetes Mellitus Study of Detection Thresholds)

Gestational diabetes mellitus is a significant health problem in New Zealand and globally, especially given the rise in rates of obesity. Gestational diabetes has a major, negative impact on maternal and perinatal health with lifelong consequences.

The GEMS Study is a randomised controlled trial running in the CM Health and Auckland DHBs. The trial focuses on determining which threshold for the oral glucose tolerance test is best used to diagnose gestational diabetes or gestational diabetes mellitus. The trial is important to address the question: ‘Which threshold, the current New Zealand, or the slightly lower international (International Association of Diabetes in Pregnancy Study Groups) threshold, is best for the health and wellbeing of mothers and babies?’

Gestational diabetes mellitus is an important and increasing health problem for New Zealand and globally.*

The 2014 Ministry of Health Gestational Diabetes Guidelines recommend that pregnant women are offered participation in GEMS as one their options for pregnancy screening for diabetes. To date, over 3700 women from Counties Manukau and Auckland DHBs have joined the study.

In the trial, the CM Health Diabetes in Pregnancy team sees women who have been diagnosed with gestational diabetes by either threshold. The team is blinded to the women’s allocation group and their actual oral glucose tolerance test results (unless in the frank diabetic range).

The primary outcome being studied in the trial is large-for-gestational-age infants (birth weight > 90th centile). For the woman, secondary health outcomes include complications of labour. For the infant, a composite of serious health outcomes and other causes of infant morbidity are recorded. Resource use data obtained from the women’s clinical records will enable cost-consequence analysis.

Addressing the issue of diagnosing and treating gestational diabetes is of great significance, given the lifelong implications of diabetes for the health of the mother and the baby, and the hazardous intergenerational cycle that results. Effective strategies for optimal diagnosis and treatment of diabetes are required to break this cycle. The results of the GEMS Trial will be directly relevant to the health needs of pregnant women in New Zealand, and will be translated into local clinical practice and health policy for the best care of women with gestational diabetes and their infants.

Gestational diabetes has lifelong implications for the health of the mother and baby, with adverse health effects continuing into the next generation.†

The GEMS study team is keen to maximise the involvement of Counties Manukau women in this important research, and a further 450 women are currently being sought as participants to reach the cohort target of 4158. All women, prior to their glucose test with a singleton pregnancy and without a history of gestational diabetes mellitus or diabetes are eligible to join GEMS. Given the current enrolment rates to the trial, recruitment to GEMS should be complete by November 2019.

* Ma, R.C., Chan, J.C., Tam, W.H., Hanson, M.A., & Gluckman, P.D. (2013). Gestational diabetes, maternal obesity and the NCD burden. *Clin Obstet Gynecol*, 56(3), 633-41.

† Boney, C.M., Verma, A., Tucker, R., & Vohr, B.R. (2005). Metabolic syndrome in childhood: association with birth weight, maternal obesity, and gestational diabetes mellitus. *Pediatrics*, 115(3):e290-6.

7

Maternity care is coordinated across settings and disciplines to maximise safety, and uses resources wisely



AMANDA HINKS
Maternity Service Development Manager



Equitable Access to Ultrasound Scans During Pregnancy

CM Health has been supporting pregnant women through improved access to urgent scans and funded co-payment for scans since 2016.

The scheme was set up in recognition of the social and economic deprivation experienced by over half the birthing population in Counties Manukau, and the need to increase equitable outcomes against a backdrop of a high perinatal mortality rate.

There are two situations where funded co-payment for scans is available.

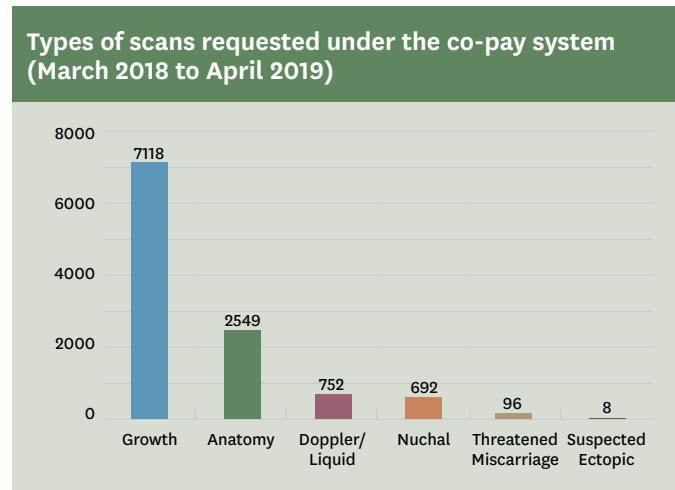
In the first, funded co-payment for screening scans of nuchal at 12+6 weeks and anatomy at 19-21 weeks are based on a woman's ability to fund the scan co-payment herself. The ability to fund is based on the referrer asking the woman about her ability to pay.

Figure 34 indicates the types of scans that have been requested through the Primary Options for Acute Care (POAC) system. Funded access to anatomy and nuchal scans was required by 3241 women (43% of the birthing population) in 2018/2019.

The second cohort of pregnant women supported through co-payment are women having an ultrasound scan where there is an obstetric management plan in place, e.g. a multiple pregnancy or clinical indication requiring a secondary consult, such as suspected growth restriction.

Figure 34 indicates that growth assessment is the most commonly requested scan to be funded. This is understandable, given the pre-conception and pregnancy health of women in Counties Manukau. Access to scan services that support clinical decision-making and subsequent management of the pregnancy are vital. Due to the high proportion of women residing in quintile 5, enabling women who are unable to fund the scan co-payment is also a vital component of their antenatal care.

▼ FIGURE 34.



Ensuring that the budget available for co-payment of scans meets the clinical and equitable need is difficult using the current eligibility criteria. This difficulty is not easily solved. The introduction of a GP referral indicating a woman's quintile or Community Services Card status has been suggested. This would cover only 70% of pregnant women who consult with a GP for pregnancy confirmation.

Between March 2018 and April 2019, there were 5333 referrals and 11,124 ultrasound scans undertaken that were either urgent or fully funded, as shown in Figure 35.

▼ FIGURE 35.

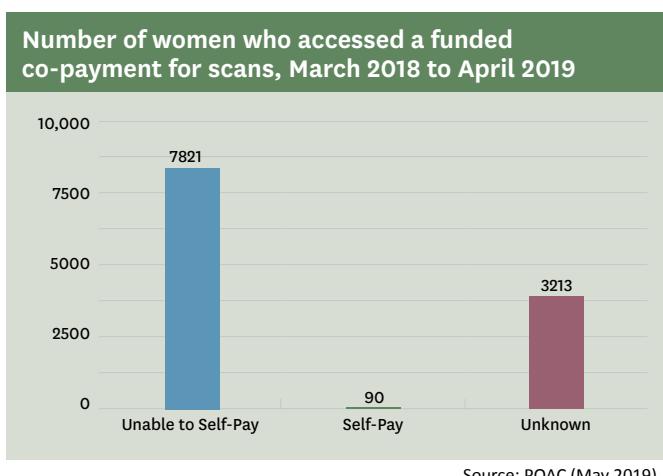
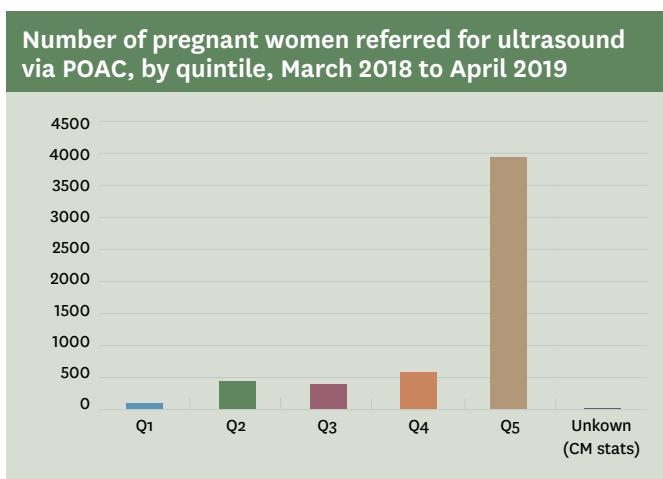
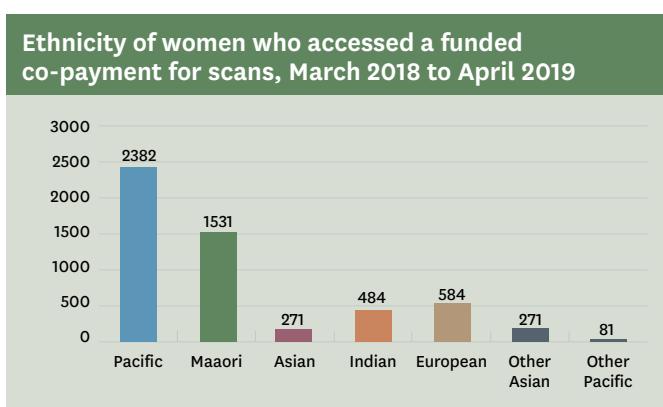


Figure 36 and Figure 37 indicate the quintile (deprivation score) and ethnicity of the women accessing the funded co-payments and access to urgent scans service. This confirms the service is reached by those who are most in need.

▼ FIGURE 36.



▼ FIGURE 37.

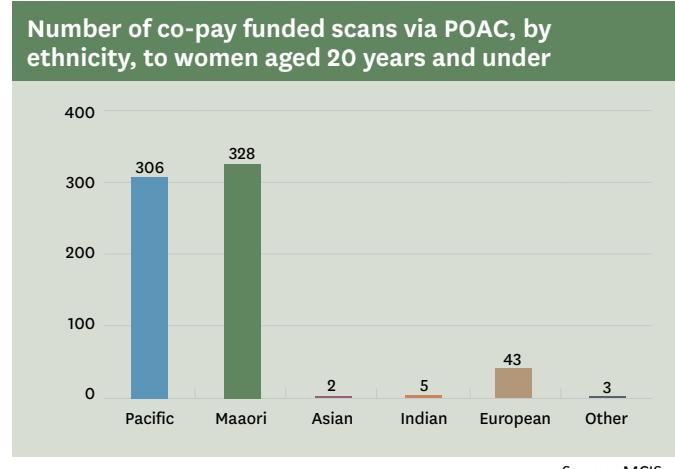


Support for younger women

The Perinatal and Maternal Mortality Review Committee's twelfth annual report* identified women aged 20 years and under as being at increased risk of a poor perinatal outcome. The report urged resources to be directed to support this cohort of women, including access to evidence-based services to support a reduction in modifiable risk factors, such as smoking, and access to screening that increases the detection of fetal growth restriction.

Figure 38 illustrates the ethnicity of women aged 20 and under at the time of birthing in Counties Manukau who accessed a funded co-payment for scans. Women in this age cohort can be reliant on others to provide transport, so it is positive that the potential barriers of transport to and the cost of this service have been removed.

▼ FIGURE 38.



Making the service sustainable

Providing support for pregnant women in Counties Manukau who do not have the resources to pay for their scans needs to be a sustainable service.

There is room for improvement with regards to access to and quality of the service, and this continues to be our challenge within the existing system and its associated budget. Including the anatomy pregnancy scan within the service, and funding the co-payment or increasing the co-payment to scan providers under the national screening programme, nuchal included, would provide a fully funded standardised quality screening programme. If this was unable to be fully funded, then criteria need to be developed so that Community Service Card holders and women living in quintile 5 areas have fully funded access to scans.

* Perinatal and Maternal Mortality Review Committee. (2018). *Eleventh annual report of the Perinatal and Maternal Mortality Review Committee: Reporting mortality 2016*. Wellington: Health Quality and Safety Commission, Perinatal and Maternal Mortality Review Committee. Retrieved from www.hqsc.govt.nz/assets/PMMRC/Publications/12th-PMMRC-report-final.pdf

AUTHOR**HAYLEY GILL**Maternity Clinical Information System
Clinical Midwife Specialist

National Maternity Clinical Information System

The National Maternity Clinical Information System (MCIS) was implemented service-wide in October 2015. The implementation followed recommendations from the CM Health External Maternity Care Review in 2012.

All women booked with CM Health maternity services have an electronic record created within the MCIS. The system is used across midwifery, obstetric and allied health services to share clinical information to practitioners involved in the women's care.

MCIS as a product continues to improve each year. Ongoing work with the Ministry of Health, Clevermed and other DHBs using the system has enabled improvements to be made to the system's features and functionality that are evident to the end users. CM Health has played a strong role in these improvements and we remain committed to continuing this.

A group of representatives from CM Health (midwifery and medical) and the Ministry of Health went to the UK, in June of this year, to look at the BadgerNet system that is widely used there. The UK system has undergone significant development over the past few years, and is process-based, making it more intuitive with improved workflow. This is a different approach than we use in New Zealand and the system has some features that we are very excited about and are keen to explore the benefits of for our users. We need to ensure we are using the best electronic programme available, which is simple to use and promotes safe and transparent care for our women and babies.

One of the maternity claiming providers, the Midwifery and Maternity Providers Organisation, is using a slight variation of MCIS, which interfaces with the DHB programme. The information available to the DHB is far greater for those women who are cared for by community LMCs who are using this provider's system.

We are about to launch a booking system that will enable LMCs who use Expect and Solutions Plus, two other LMC maternity systems, to have their bookings come to us electronically. This will reduce faxing and emailing, and help the DHB be aware of the number of women we can expect to see in any month. Under these systems, the LMCs have unlimited access to their women's records from their homes or clinics, using remote access. They can also view plans made by medical staff and monitor their progress while inpatients.

We have been fortunate in the past few months to have had fibre installed at Papakura Birthing Unit and an upgrade to the internet at Pukekohe Birthing Unit. This has made a significant difference to the staff and their ability to use a growing number of electronic programmes on site.

The MCIS team has some challenges ahead in the coming year with the introduction of the national Maternity Early Warning Score (MEWS) system, Trendcare and MedChart. These are all systems that will improve the care and outcomes for women and babies and we are excited to be part of the journey.

DR CHARLOTTE OYSTON
Obstetrician and Gynaecologist
Senior Lecturer Obstetrics and Gynaecology, University of Auckland



Birthing and Assessment North: Why, What For and How Long?

Birthing and Assessment North is a dedicated unit at Middlemore Hospital for the initial assessment of women who:

- are at least 20 weeks' gestation and present in labour
- require planned induction of labour
- require assessment for pregnancy related conditions.

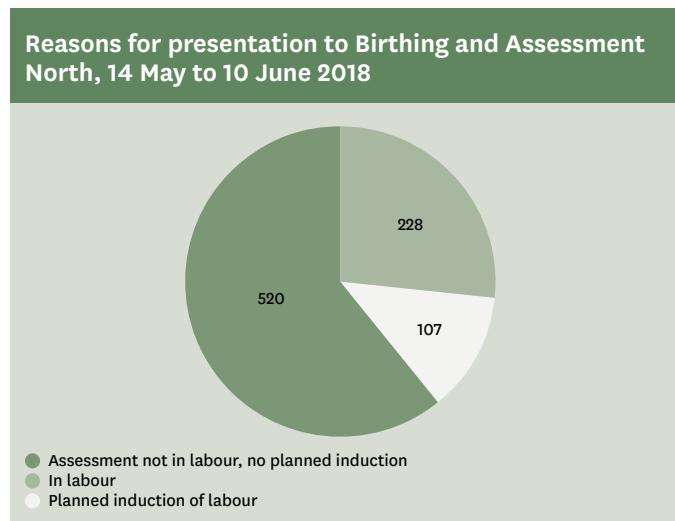
Knowing the reasons why women present at, or are referred to Birthing and Assessment can help with service planning and enable us to provide care for acute assessments in a timely fashion. With the support of the Maternity Quality and Safety Governance Group, in 2018 we reviewed the reasons why women attend the Birthing and Assessment, the time they spend there and the outcomes following their assessment.

The review looked retrospectively at one month's attendance data for Birthing and Assessment North. It was completed as part of a broader audit carried out for the My Baby's Movements trial. (My Baby's Movements is an international study aimed at determining whether a smartphone app can help improve women's awareness of fetal movements, and reduce stillbirths). The period analysed was before the app was made available to women in the Counties Manukau area.

The review found that, between 14 May and 10 June 2018, there were 855 documented admissions to Birthing and Assessment North, equating to an average of 31 women per day presenting for assessment. The majority of women presenting were antenatal (94%).

Women who presented for planned induction of labour (n=107; average of 3.8 women per day) or who presented acutely with pain and were found to be in labour (n=228; average of 8 women per day), represented almost 40% of all presentations at the unit (see Figure 39).

▼ FIGURE 39.



The main reasons that other (non-labour, non-induction) women presented for assessment are shown in Table 14. The most common reasons were reduced fetal movements, abdominal pain and suspected rupture of membranes.

The outcomes for women who presented to the unit when not in labour, and not presenting for planned induction, are shown in Table 15. Of these women, almost half were discharged home. Of note is that 65 of these women required delivery at the time of their assessment, either by induction of labour (n=50; average of an extra 1.8 emergency inductions per day) or caesarean (n = 15 women; average of 0.5 emergency caesarean deliveries per day).

The durations of stay in Birthing and Assessment are also shown in Table 15. Women who were assessed and discharged home following assessment had a median duration of stay that was close to 3 hours.

Conclusion

The data confirmed that Birthing and Assessment North is a busy unit.

Despite the large number of women who were discharged home following their assessment, there were many who required ongoing observation, further investigations or emergency delivery.

The time spent in the unit while assessment is completed may be long, even for women who do not require admission.

Since the time of the review, the Maternity Assessment Clinic has opened at Middlemore Hospital. It is anticipated that this clinic will reduce the number of women presenting through Birthing and Assessment, and that there will therefore be reduction in assessment times for women who present for a planned review. Developing pathways for common conditions may also help to further streamline women's care.

▼ TABLE 14.

Reasons for presentation to Birthing and Assessment North, excluding presentations in labour and planned inductions, 14 May to 10 June 2018		
REASON FOR PRESENTATION	NUMBER OF WOMEN	PERCENTAGE OF NON-LABOUR, NON-INDUCTION PRESENTATIONS
Reduced fetal movements	99	19%
Abdominal pain	90	17%
Suspected rupture of membranes	73	14%
Antepartum haemorrhage	52	10%
Blood pressure assessment	43	8%
Scan review	36	7%
Non-obstetric medical	9	2%
Urinary tract symptoms	2	<1%
Obstetric cholestasis follow-up	3	<1%
Abnormal result follow-up	4	<1%
Other*	109	21%

* Includes presentations for postnatal women, steroid administration, suspected fetal heart rate abnormality (not in labour), external cephalic version, blood sugar level stabilisation, falls, admission for semi-acute caesarean, cerclage removal and discussion visits.

▼ TABLE 15.

Outcomes and duration of stay for women presenting to Birthing and Assessment North (excluding presentations in labour, and planned inductions), 14 May to 10 June 2018			
OUTCOME	NUMBER OF WOMEN	PERCENTAGE OF NON-LABOUR, NON-INDUCTION PRESENTATIONS	MEDIAN DURATION OF ADMISSION (HOURS; INTERQUARTILE RANGE)
Discharged to LMC, routine care	100	19%	2.9 (1.5–4.4)
Discharged to LMC, change in care plan made	148	28%	2.9 (1.8–5.0)
Admitted for observation*	161	31%	49.0 (25.5–98.6)
Immediate induction of labour*	50	10%	44.0 (13.1–64.3)
Emergency caesarean delivery*	15	3%	52.7 (34.1–68.2)
Self-discharged (seen)	6	1%	5.6 (3.9–8.1)
Self-discharged (not seen)	11	2%	2.5 (1.9–3.6)
Other	29	6%	-

* Duration includes duration of admission to maternity ward

ISABELLA SMART
Midwife Manager
Community Midwifery Services



The Maternity Assessment Clinic

Problems with communication and care coordination are often cited as contributory factors in incident investigations in health care settings. The fragmentation of care can be a risk factor when women develop complications during their previously problem-free pregnancy. The need for input from a number of different health care professionals for the planning and delivery of care carries risk.

The Maternity Assessment Clinic (MAC) was set up to facilitate proactive, coordinated care planning, and functional, safe communication of maternity care plans, for women who remain under the care of community-based midwives despite having developed complexities during their pregnancy. In this way, safe care can be provided together with continuity of midwifery carer, leading to higher satisfaction for the woman.

This completely new clinic is coordinated by a Senior Midwife, with direct input from an Obstetric Senior Medical Officer, and is based in vacant clinic rooms at the Manukau Surgical Centre.

Setting up the clinic

The model used to form MAC is based on the firm desire to ensure that women remain under the care of community-based midwives, while at the same time receiving safe, high-quality, coordinated care planning and ongoing monitoring. Obstetric and quality assurance staff, CM Health midwives and community LMC midwifery were all represented in the clinic planning process. Defining who should be cared for in the acute service at Middlemore Birthing and Assessment, and who could be safely assessed and monitored at the MAC, located in the Manukau Surgical Centre, was a key quality and safety consideration when the clinic's criteria and operating procedures were agreed.

The clinic's operation

MAC uses CM Health's Maternity Clinical Information System (MCIS) to provide shared care planning. The clinic would not be able to function effectively or efficiently without shared electronic maternity records.

Using MCIS we are able to update and share management plans, obstetric specialist reviews and future appointment schedules easily with all maternity carers. This leads to safer care delivery and removes communication barriers from complex packages of care. Everyone is clear what is planned and who will be carrying out each aspect of the care plan. All those involved can see what has occurred and alter their care planning accordingly. Using handwritten notes and transferring patient files would make it difficult to keep everyone informed as changing care needs unfold. All documentation and processes in MAC are based on extensive use of MCIS.

The clinic runs from 8am until 4.30pm Monday to Friday, and offers 12 one-hour appointments between 9am and 3pm each day. The aim is to provide sufficient time for complex consultations and to avoid unnecessary waiting times for women. To date, this has been achieved.

"I now feel I can phone MAC and seek advice. Even if it's not a direct consult as per referral guidelines, my interactions while seeking guidance are positive as I feel the consultant has the time to answer me. The Senior Medical Officer is sitting right in front of the computer and can see the woman's record while I am talking on the phone."

Phoning the Maternity Assessment Clinic specialist is a calm and stress free experience. It is a fantastic service and I am really happy with it."

— Alisha Clayton, Community LMC midwife

Cardiotocography (CTG) monitoring can be carried out alongside other non-acute maternity care assessments. The clinic also has ultrasound appointments allocated for its use in the Manukau SuperClinic next door. This allows women to have their ultrasound scan before they attend their MAC appointment, and enables efficient and effective use of time for everyone.

MAC opened on 20 May 2019 (see Figure 40). Forty-six women were seen in the clinic during the remainder of May and a further 149 in June. This represents a significant number of women who would otherwise have presented to Middlemore Birthing and Assessment for non-acute reasons. These 195 patient assessments conducted within the first 6 weeks of MAC's opening illustrates the significant impact that this new initiative will have in reducing the pressure on our colleagues in the acute service, freeing them to concentrate on acute events and birthing care.



▲ FIGURE 40. Opening of the Maternity Assessment Clinic on 20 May 2019.

"MAC has made advising on non-urgent concerns much easier: you are now able to give your full attention to the caller with the benefit of being able to access all relevant clinical information through MCIS and document any updates to the care plan. This was rarely possible when simultaneously working on a busy birthing unit!"

"MAC helps us provide obstetric-led care in a more consistent, flexible and timely way for women with more complicated pregnancies; definitely more satisfactory for the obstetrician, but from experience, this is also appreciated by women and families who come through."

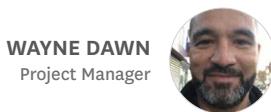
— Dr Charlotte Oyston,
Obstetrician and Gynaecologist

The Maternity Assessment Clinic (MAC) gives us the opportunity to give timely, patient centred care in a relaxed setting for our most complex and high risk patients.

— Kerrie Hides, Obstetric Consultant

I feel the clinic is enabling women to be seen in a calm, relaxed environment, allowing them time to ask questions of both the midwife and the SMO. Ensuring they are seen in a timely fashion seems to have also made a difference which is reflected in the attendance rate of women coming for follow-up appointments.

— Nicola Williams, Associate Clinical Charge Midwife Community Midwifery Service



WAYNE DAWN
Project Manager

DEBRA FENTON
Maternity Service Manager



Women's Health Ward 21 – Increasing Inpatient Capacity

Although the number of women giving birth in Counties Manukau has remained relatively stable over the past two years, there has been an exponential increase in both the obstetric complexity of these births and the number of women who require a longer length of stay for antenatal and postnatal inpatient care. This growing demand for access to gynaecological beds, and neonatal and neonatal-transitional care cots and beds, has placed increasing pressure on staff and facilities, in both the Women's Health and Neonatal Care areas.

As part of the medium-term strategy to alleviate this situation (the long-term strategy being a new Women's Health building), the Executive Leadership team was appraised of the situation in December 2018 and subsequently approval for Women's Health to use the existing Galbraith Ward 21 to deliver a combination of services.

The acquisition of Ward 21 provides an additional 30 beds. This additional capacity is planned to be used for antenatal women and postnatal women whose babies are in the Neonatal Care Unit, as well as for gynaecology overflow beds. The 45-bed maternity floor (on level 4) will then become primarily a postnatal floor and also incorporate some additional neonatal-transitional care cots.

The project group for this initiative included staff, as well as union representation and support from Human Resources staff. We also ensured input and feedback from maternity consumer groups and representatives.

On 13 May 2019, the phased opening of Ward 21 and gradual increase in capacity began. This will continue over the next 12 months, alongside the creation of the neonatal transitional cots area. This initiative will deliver the following service benefits.

- Increase postnatal capacity from 33 to more than 39 beds. This will meet the current shortfall, enable more women to have their postnatal stay at Middlemore Hospital and provide capacity to care for women who require longer stays in accordance with Ministry of Health specifications.
- Increase antenatal capacity from 12 to 24 beds. This will help meet rising demand and manage peaks in demand. We will also use the capacity for mothers who are still under maternity care while their babies are in the Neonatal Care Unit, as well as potentially for mothers who have experienced loss.
- Provide around six overflow beds for gynaecology inpatients. This will reduce these patients' dispersion across the hospital and reduce the demand on non-gynaecology wards to accommodate them.
- Provide immediate relief for demand in the Neonatal Care Unit by establishing 8 dedicated transitional care cots and beds on the Maternity Floor.



FIGURE 41. ▶

Photo from Ward 21 opening on 13 May 2019

AUTHORS

ANNA HAWKINS
Clinical Coordinator, Perinatal Services



KATIE FERGUSSON
Team Manager,
Springs Road District-wide Services



Alignment of Maternal and Infant Mental Health Services

CM Health's Maternal Mental Health and Infant Mental Health services are district-wide specialist services.

Maternal Mental Health provides assessment and treatment to women who have a moderate to severe mental illness, and who are pregnant or up to 12 months postnatal. A particular focus is on promoting healthy bonding and attachment in the perinatal period.

Infant Mental Health accepts referrals for children aged 0 to 4 years, where there are significant concerns regarding their emotional, behavioural or social development. The service works with infants and their parents or caregivers.

Single point of entry and triage

In recent years, the Mental Health service has redesigned its systems to form a single point of entry for all referrals into its services. This was in response to the community and stakeholders asking for a clear referral process for smoother and more responsive actions. All referrals now go to an Intake and Assessment Service for triage of acuity and appropriateness. They are then forwarded to the relevant team.

Maternal Mental Health staff also regularly liaise with the CM Health Intake team, and welcome direct contact to discuss possible referrals or provide general advice in relation to perinatal mental health.

Referral criteria

The referral criteria for Maternal Mental Health services have recently been adapted to focus on earlier intervention and be more accessible to the community. Referrals are now accepted for woman in their first trimester and for pre-conception planning for woman with serious mental illness. A broader range of referrers are also now accepted, including GPs, LMCs, NGOs and Plunket (where previously GP referrals were required).

For service users who are under a Community Mental Health team for pre-existing mental illness, Maternal Mental Health offers shared care with their existing team to allow for continuity of care and more intensive treatment during the perinatal period. The team's maternal psychiatrists are also available to consult with other psychiatrists and GPs regarding medication use for both Maternal Mental Health service users and those under primary care.

The referral criteria for the Infant Mental Health service was developed in 2009, and will soon be reviewed to ensure earliest possible intervention for infants with moderate to severe need.

Alignment of the two services

Over the past 2 years, service developments have focussed on aligning the Infant Mental Health and Maternal Mental Health teams. The two teams are now located at the same clinic and have a combined multidisciplinary team meeting and education sessions each week.

The rationale for the alignment was to:

- enable greater input from infant mental health specialists into the care of infants of mothers with moderate to severe mental illness
- provide more accessible mental health screening and intervention for parents and caregivers of infants being cared for under the Infant Mental Health services.

In addition, the alignment allows for shared education, consultation and upskilling of clinicians in both areas.

Whaanau-centred care is a core value of CM Health and has been a focus throughout these developments. Service users are encouraged to involve whaanau and partners in their treatment. Education sessions for partners and fathers are also offered. The teams have also worked to improve

the accessibility of mental health support for partners and fathers, by providing brief assessments of mental health concerns, and facilitating support, including short-term support with a clinician. Although at this stage, specific referrals for partners and fathers are considered on a case-by-case basis, a number of clinicians have now been trained in a model of brief family therapy.

In Franklin, the growth of the service has allowed a multidisciplinary team of clinicians to be developed, based predominantly in the local area, giving this community improved access to appointments, including with psychiatrists.

Suite of services

Maternal Mental Health provides a range of interventions, from just assessment to liaison with primary care through to brief episodes of care and intensive community treatment. Maternal Mental Health also works alongside the adult inpatient psychiatric units for women who are admitted during the perinatal period.

The intervention provided by the service will depend on the woman's clinical needs, which are identified through a comprehensive clinical assessment. Treatments are evidence-based and include:

- psychiatric assessment, review and psychopharmacological treatment
- group treatments of 5 to 6 weeks, including:
 - anxiety management – acceptance and commitment therapy based skills group for anxiety
 - mindful motherhood – psychological education and mindfulness skills for anxiety and depression
 - compassion group – a compassion-focussed therapy group, emphasising on self-compassion and self-care
 - dealing with distress – skills for managing distress and tolerating difficult emotions
 - wellness group – adjustment to motherhood, self-care and education regarding bonding
- individual therapies, including psychology and occupational therapy

- respite, where a variety of supports are provided by non-clinical staff with clinical oversight from Maternal Mental Health and Home Based Treatment, including:
 - promotion of sleep and support
 - close support for women who have reduced capacity to tending to their babies
 - education
- Start Well – a joint initiative between CM Health and the Social Investment Board for Mangere, which provides a pathway for direct access to Awhi Rito respite without referral to Mental Health services, has been developed and piloted with a few young women to date

The Infant Mental Health Service provides a number of interventions for infants, alongside their parents, whaanau and caregivers. These include psycho-education and support for caregivers, behavioural therapies, developmental guidance, parent or caregiver and child therapies, paediatrician advice and medication.

Inpatient care

For service users admitted to Tiaho Mai, CM Health's adult inpatient unit, referrals to Maternal Mental Health are made at the point of admission. This allows Maternal Mental Health to provide input into education, whaanau support and liaison, and expedite the service user's admission to the Mother and Baby Unit, when appropriate.

The Mother and Baby Unit is situated at Auckland's Starship Hospital, alongside the Child and Family Unit. This unit has three beds available to the Auckland region to support co-admission of mothers and their babies. During her stay, the mother receives inpatient mental health care, while maintaining and strengthening her relationship with her infant. Fathers and partners are welcome and encouraged to stay alongside the mother and infant.

Cultural responsiveness

CM Health is committed to addressing inequities in health care provision across the community. The Maternal and Infant Mental Health teams are taking active steps to increase their cultural capability. The wider Mental Health service is supporting this, by redesigning its cultural clinical liaison teams for both Maaori and Pasifika.



◀ FIGURE 42.
Image from the 'Looking After You' brochure, included in all CM Health pregnancy packs. The image represents many aspects of the how the Maternal and Infant Mental Health services are developing, including the focus on aligning the two services, including fathers, and promoting whaanau centred care

Education, consultation and liaison

Maternal and Infant Mental Health services are committed to providing educational and consultative support to primary care services. This includes educational forums for GPs, midwives, Plunket and NGOs. These forums are run by clinicians and tailored to the services' identified needs.

In addition, Maternal Mental Health staff regularly attend the access holders meetings and are part of the Maternity Quality and Safety Governance Group. The service has also been involved in developing educational resources for the community and professionals, including the updated mental health education pamphlet '*Looking After You*'*, which is included in all CM Health pregnancy education packs; see Figure 42.

Maternal Mental Health has also provided input into the Midwifery guidelines for Maternal Mental Health, including on when to refer to primary and secondary services. The service is currently part of a working group with the Northern Region Alliance that is developing a comprehensive perinatal and infant mental health workforce development tool. Once finished, the tool will provide a resource for training and upskilling workers in the continuum of care in this area.

The future

A number of service developments are planned to be implemented over the next 12 months.

A need has been identified for greater consumer perspective and participation within the Maternal Mental Health service, with plans to eventually have consumer input on each aspect of CM Health's perinatal services, including service planning, case discussion, engagement and education.

Good progress is being made on developing closer reciprocal working relationships with NGOs, such as Mahitahi and Family Success Matters, including providing training and increasing consultation and liaison.

Within Infant Mental Health, the implementation of group treatment models, with a specific focus on facilitating reflective and responsive parenting is currently being planned.

There are also plans to increase primary care access to the maternal respite facility Awhi Rito.

* <https://aucklandregion.healthpathways.org.nz/LoginFiles/Landing.aspx?from=256cfe0f9ef74dfb812739150c4d0247&page=Resources/MaternalMentalHealthDLhi-res-141384.pdf>

JOYCE COWAN

NZ Growth Assessment Protocol
Lead Educator, Midwife



DR ESTHER TUTTY

Obstetrics and
Gynaecology Registrar



Embedding the Growth Assessment Protocol

The Growth Assessment Protocol (GAP) is designed to improve antenatal detection of babies who are small for their gestational age (SGA) or have fetal growth restriction (FGR)*.

The protocol was developed in the UK by the Perinatal Institute[†] and adapted for New Zealand. It has been implemented in CM Health since 2016 with the objectives of improving:

- antenatal detection of SGA babies (who are at increased risk of stillbirth)
- neonatal outcomes for SGA babies, through evidence-based monitoring of fetal growth and timing of the birth.

CM Health was the first DHB in New Zealand to implement GAP. The protocol is currently being offered nationally, with most DHBs now using the programme.

Key elements of GAP

- Evidence-based SGA risk assessment at booking and throughout pregnancy.
- Education and accreditation for all maternity care providers.
- Use of customised antenatal growth (GROW) charts.
- Regular reporting on SGA detection rates and periodic auditing of missed cases.

GAP includes standardised clinical assessment of fetal growth by measurement of the pregnant woman's abdomen, and plotting the measurement on the GROW chart, every 2 to 3 weeks from 26 to 28 weeks of pregnancy, for women at low risk of SGA babies. A schedule of growth scans is recommended for women who are at increased risk of SGA, or women for whom fundal height measurements are unlikely to be accurate, for instance women with a high BMI.

An algorithm is used to guide identification of risk factors for SGA, and ongoing monitoring and management of the pregnancy once SGA is detected, based on the New Zealand Maternal Fetal Medicine Network SGA guideline[‡]. An overview of the algorithm is shown in Figure 43.

Effect of GAP at CM Health

Joyce Cowan has recently presented the findings from her doctoral thesis, which analysed the effect that the implementation of GAP at CM Health has had on the detection of SGA, as well as maternal and neonatal outcomes.

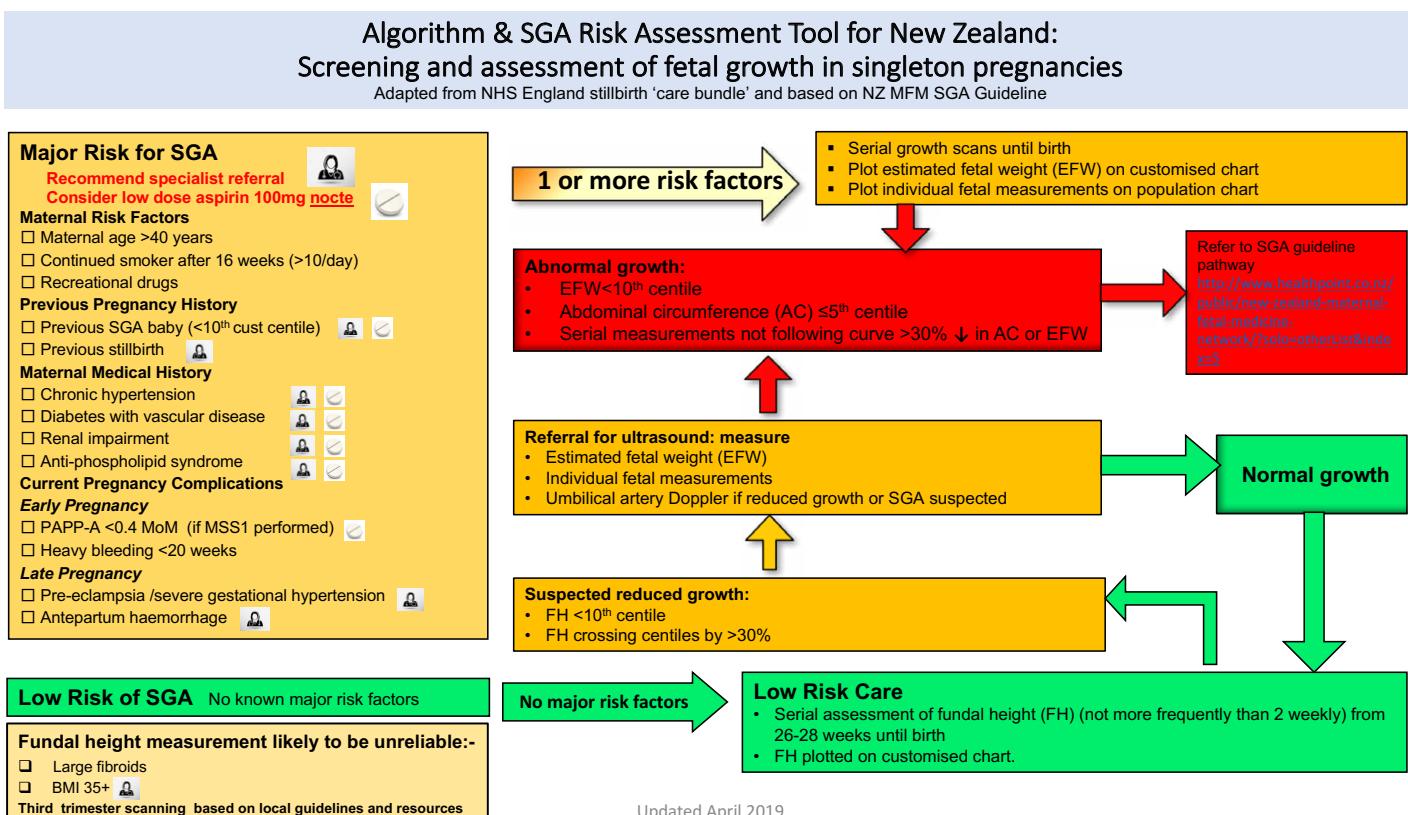
Maternal outcomes included induction of labour and caesarean birth. The neonatal composite outcome included an Apgar score of less than 7 at 5 minutes, admission to the Neonatal Care Unit for more than 48 hours, or any ventilation.

In a cohort of 1105 pregnancies prior to the introduction of GAP (2012), and 1082 pregnancies post GAP (2017), the detection of SGA increased from 22.9% to 57.9%, after

* SGA refers to a fetus with an estimated weight < 10th customised centile for gestation, or a newborn with birthweight < 10th customised centile for gestation. FGR refers to a fetus or newborn who has not reached growth potential. Some SGA babies do not have FGR, but the aim of GAP is to identify SGA and determine which babies do have FGR.

† Clifford, S., Giddings, S., Southam, M., Williams, M., & Gardosi, J. (2013). The Growth Assessment Protocol: a national programme to improve patient safety in maternity care. *Midirs*, 23(4), 516-523.

‡ McCowan, L. M., & Bloomfield, F. (2014). Guideline for the management of suspected small for gestational age pregnancies and infants after 34 weeks' gestation. *New Zealand Maternal Fetal Medicine Network*. Retrieved from <https://www.dropbox.com/s/xbyutc01gfubec7/NZMFM%20SGA%20guideline%20Final.pdf>



Updated April 2019

▲ FIGURE 43. The New Zealand SGA algorithm used at CM Health

adjusting for maternal age, ethnicity, deprivation, BMI and smoking. Detection of SGA improved at similar rates in women with and without obesity, but the increase was greater in women with $BMI \geq 35 \text{ kg/m}^2$, (20.5% pre-GAP vs 66.7% post-GAP), and for Maaori and Pacific Island women (18.9% pre-GAP vs 63.8% post-GAP) compared with women of other ethnicities (28.6% pre-GAP vs 52.1% post-GAP).

Induction of labour and caesarean birth increased between the pre-GAP and post-GAP time periods, but was not associated with identification of SGA. For those SGA babies who were identified in pregnancy post-GAP, there appeared to be a lower composite adverse neonatal outcome, in particular reduced Neonatal Care Unit admission (identified SGA: 29.4% pre-GAP vs 16.3% post-GAP; non-identified SGA: 9.6% pre-GAP vs 15.8% post-GAP).

Auditing

A missed case audit is performed every 12 months to identify the factors that may limit the detection of SGA. Access to antenatal care is a strong theme when growth restriction has been missed and improving our service to meet the needs of our women is an ongoing focus. Availability and accuracy of

ultrasound scanning is also a challenge. The improved ease of POAC referrals and the inclusion of dedicated ultrasound slots in antenatal clinics have improved access, and ongoing audits will help monitor accuracy.

Future plans

A clinical GAP champion position has recently been established at CM Health, and an appointment will be made during 2019. The champion will be a CM Health-based midwife who will lead ongoing GAP education and accreditation for doctors and midwives. This role will also have a quality improvement focus, by continuing to audit outcomes so we can improve how we deliver our service.

We now have evidence that the implementation of GAP has improved the detection of SGA, without increasing obstetric intervention, and has been associated with a reduced rate of prolonged neonatal admission amongst infants identified as SGA. However, ongoing consistent application of the protocol is vital so that we can continue to improve outcomes for mothers, babies and their whaanau. The clinical champion role will help ensure the continuing success of GAP at CM Health.



Health Equity Review

The Health Equity Campaign ended in July 2018. However, in June 2019 a meeting was held to review the aims of the projects that were part of the campaign, and how well they had achieved their outcomes.

The two projects discussed here are Planned Pregnancy and Weigh While We Wait. Both these projects have proved useful for the ongoing work of CM Health.

Planned Pregnancy

The Planned Pregnancy Project aimed to:

- improve women's access to contraception of their choice and particularly to long-acting reversible contraception (LARC)
- raise awareness of LARC in the Otara community
- remove the cost barrier for LARC insertions
- investigate other barriers to the use of LARC
- trial a contraception clinic.

The learning from the project has informed the services being provided under the contract between the Ministry of Health and CM Health on LARC. The project particularly helped build understanding on the importance for our women of an inpatient postnatal service, and of having a LARC service that could respond opportunistically. It also informed some of the numbers and costings around providing a contraception clinic.

FIGURE 44.►
Healthy Weight Gain in Pregnancy card, developed as part of the Weigh While We Wait Project

Weigh While We Wait

The Weigh While We Wait Project worked to:

- empower women to influence their weight change in pregnancy by giving them simple consistent messaging and a visual chart to aid them
- encourage health professionals to have simple direct conversations about this important issue
- raise awareness of the importance of obesity to pregnancy and birth outcomes and of its lifelong effects on the child.

The Healthy Weight Gain in Pregnancy cards, developed as part of the project, have since been presented at multiple conferences, including the GP, obstetrician and gynaecologist conferences, the launch of the CM Health Women's Health and Newborn Annual Report 2017–2018, and the obesity awareness day run by CM Health and the Health Roundtable.

The cards have also been circulated to the National Maternity Quality and Safety Coordinators Group and been requested by the Perinatal and Maternal Mortality Review Committee. The template for the card has been sent to, and discussed with, the Ministry of Health, with the intention that it could replace the existing funded card. It is hoped the card may be adopted as a national resource.



DR SUE TUTTY
GP Liaison



Contraception

The vision of our contraception service is for all women to be able to have access to appropriate and timely contraception provided by a skilled professional. Women's choice is paramount, but choice implies being fully informed about options for contraception and having the information and the service available.

Ministry of Health contract

In November 2018, primary care received a Ministry of Health contract and funding to improve access to contraceptive services, particularly long-acting reversible contraception (LARC) for priority populations.

At CM Health, we are aware of the difficulty our women have accessing contraception. Accordingly, the decision was made to use some of this funding to support an inpatient service for postnatal women.

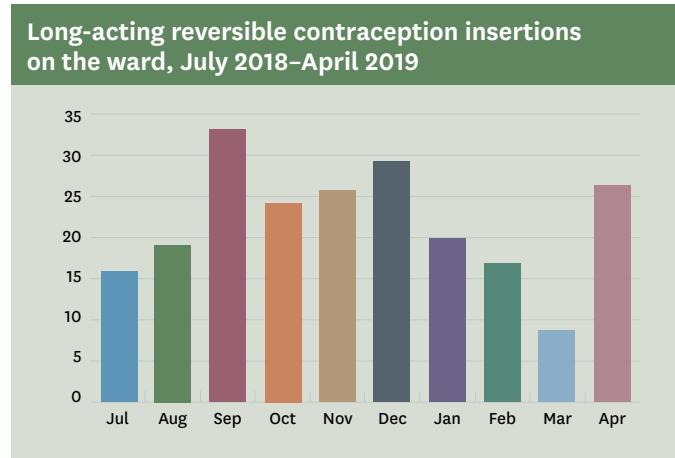
We have advertised positions for nurses to deliver this service. The role is to provide a 7-day-a-week service supporting contraception, having conversations with the women on the postnatal wards and doing Jadelle insertions (a form of LARC) when requested. The role will include championing contraception, and offering contraception education and support to maternity providers. The nurses will also provide a service to the Early Pregnancy Assessment Clinic and other wards in the hospital.

Other workstreams under the Ministry of Health contract include a primary care service, youth service, a community contraception clinic, training and credentialing, and LARC promotion.

Postnatal insertions on the ward

From July 2018 to April 2019, 218 Jadelles were inserted on the postnatal ward. At present, this service is not well structured and provided by a variety of staff, including the midwife liaison staff member, the contraception nurse and one registrar who receives additional funding to provide the service. Sometimes trained house surgeons or registrars also insert LARCS when their other commitments allow. The number of insertions each month varies, as shown in Figure 45, possibly reflecting this limited access.

▼ FIGURE 45.



Source: Maternity services logbook

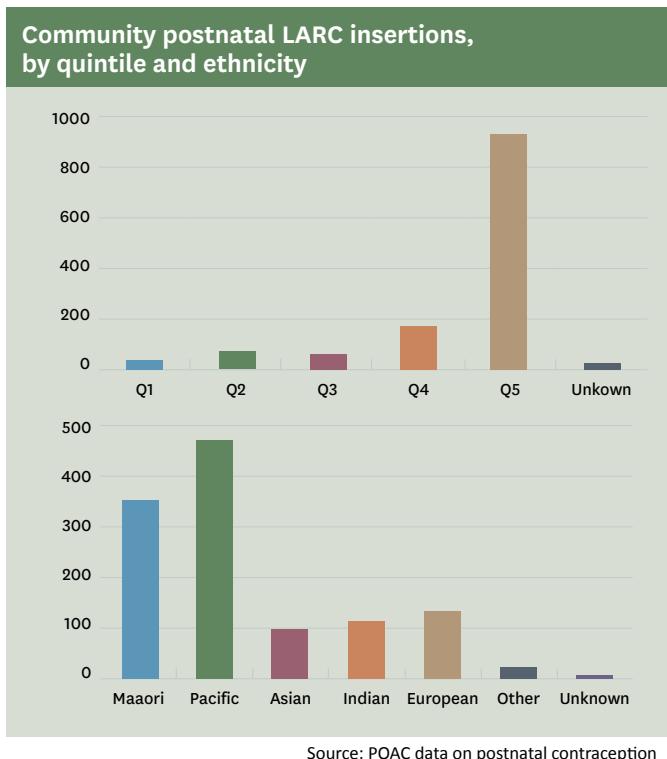
Community postnatal long-acting reversible contraception service

Those women who requested an intrauterine contraceptive device (IUCD) or Jadelle in the postnatal period, but did not have this inserted before they were discharged, were referred to POAC, which has a contract to facilitate appointments for women and fund the insertions.

From 1 July 2018 to 30 June 2019, 1184 insertions were performed, comprising 667 Jadelles and 509 IUCDs.

Most of the women receiving LARCs are in the priority populations, as shown in Figure 46.

▼ FIGURE 46.



In the past financial year, 145 vasectomies have been performed, or approximately 10 to 12 per month. Due to financial constraints on the service and ongoing demand, a review was undertaken in April 2019 to ascertain whether this service was reaching our target population.

The main criteria for access to the service was being the partner of a woman who has had a baby in CM Health in the previous 6 months. However, the target population is Maaori and Pacific people from Quintile 5. Figure 47 demonstrates that the target population is not being met.

Consequently, the criteria for entry into this service has been changed to men who reside in the CM Health area and:

- are of Maaori or Pacific ethnicity, or reside in a Quintile 5 area, or are a Community Services Card holder, and have a partner who has birthed a baby in CM Health facilities in the previous 6 months; or
- who have a partner who is seeking a termination of pregnancy; or
- who have a partner who is seeking a tubal ligation.

Contraception survey

Following full ethics approval, the CM Health contraception survey began on the ward on 29 July 2019. The survey aims to provide baseline data around postnatal contraception use, to assess if women are well-informed and if they are able to access contraception.

The survey will be repeated yearly to identify rates of unintended pregnancies and whether the initiatives that we have underway to increase the uptake of LARCs are working for our women.

Contraception was identified as an area for improvement in the 2012 Maternity Review. Considerable work has been done, and is continuing to be done, to improve access to appropriate and timely contraception for postnatal women.

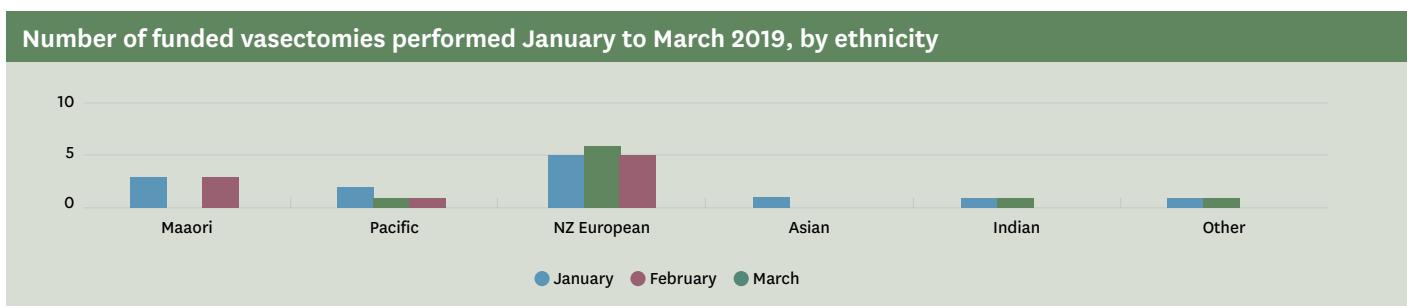
This service will continue alongside the Ministry of Health contract. However, the funding for Maaori and Pacific women, and those from Quintile 5 or with community services cards will come out of the Ministry of Health funding rather than the maternity services budget that contracts with POAC.

The number of women referred through POAC is expected to decline as the inpatient and primary care LARC service expands. Maternity services will continue to ensure all postnatal women have access to funded contraception.

Vasectomy

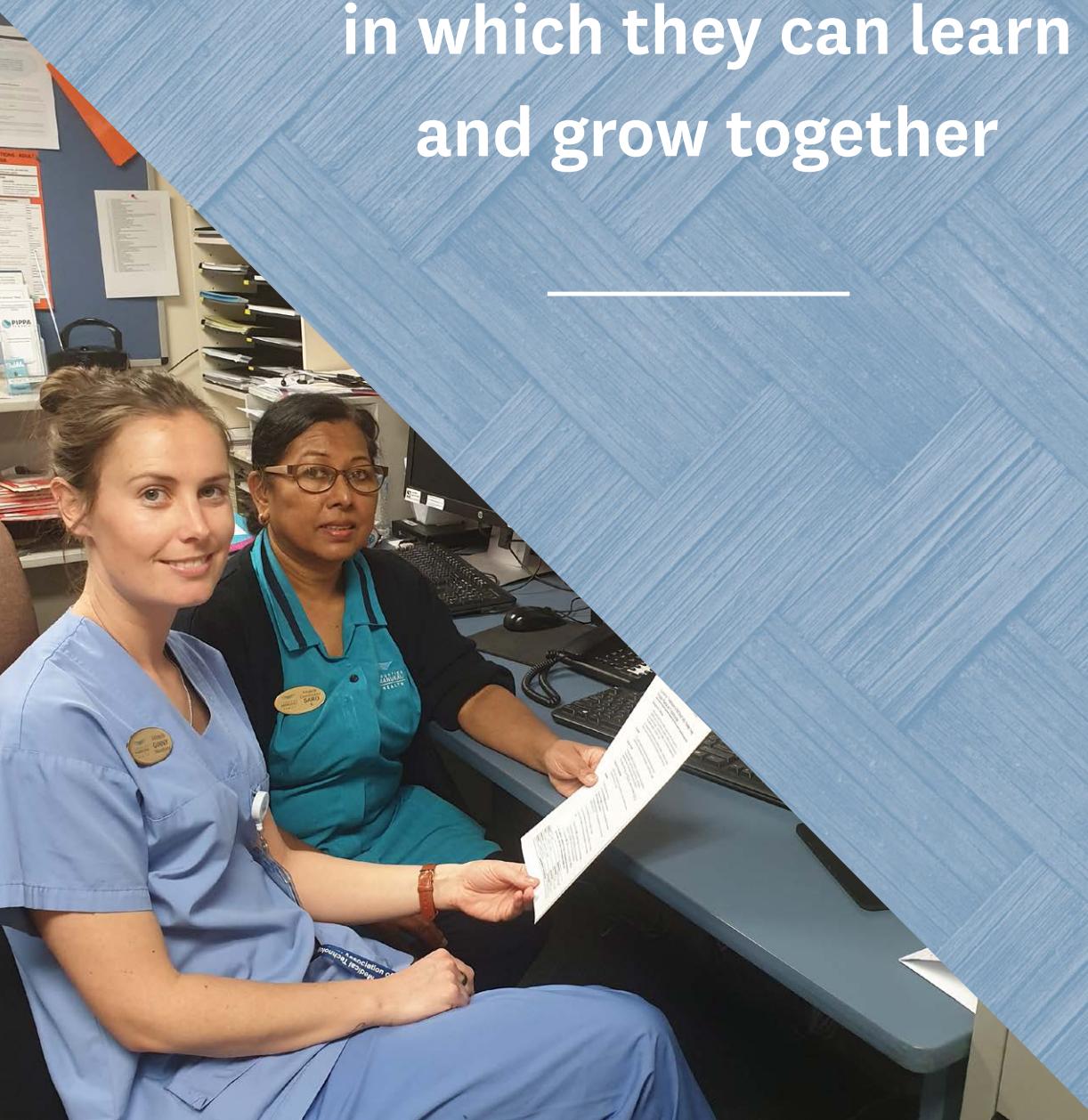
The contract to support access to funded vasectomy was commenced in 2014, after the Maternity Review identified a need to increase funded options for contraception for women using CM Health maternity services to reduce the unplanned pregnancy rate.

▼ FIGURE 47.



8

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



GAIL MCIVER

Birthing and Assessment Midwife Manager



Birthing and Assessment Project

The Birthing and Assessment Project is one of the maternity quality and safety initiatives identified in the Maternity Quality Improvement Workplan. The project focuses on improving integrated care for women, by improving communication and the patient experience, and ensuring equitable access to the services that support obstetric management of pregnancy.

As part of the project, the first Birthing and Assessment model of care review was carried out in November 2017. Now, 18 months later, we can look back and track our progress.

The model of care review was supported by Debra Fenton, Service Manager and Nick Price, Improvement Advisor, Ko Awatea. Initial meetings reviewed the care pathways for women and identified five improvement areas to focus on:

- workloads
- communication
- people and roles
- the model of care
- environment and equipment.

The project group met fortnightly throughout 2018, gathering and analysing data on staff workloads, patient admissions, discharges and incoming phone calls. The data was then used to develop new models of care and new processes for the five areas of work.

Women's Health management and the Executive Leadership team supported the proposed changes to our care pathways by:

- increasing the budgeted numbers of midwives by 10 FTE, enabling an increase in staff midwives and nurses per shift from seven to nine
- increasing the midwifery clinical leadership of Birthing and Assessment by 4.6 full-time-equivalent associate clinical midwife managers – this ensures that Birthing and Assessment has a clinical charge midwife on duty in both the north and south areas for each shift
- developing a formal triage process to assess women in a timely manner as they arrive at the unit – this has been challenging to implement, as it depends on both leadership and staff availability
- reducing the time that women have to wait for an inpatient bed, and the over-demand for service, in Birthing and Assessment, by opening additional antenatal beds on Ward 21
- opening the Maternity Assessment Clinic at the Manukau Surgery Centre, providing an area for ongoing surveillance for women with high-risk pregnancies and non-acute conditions, reducing the number of women returning to Birthing and Assessment, and ultimately providing timely care for women
- developing an electronic induction of labour booking process that will be going live in July 2019.

These initiatives represent remarkable successes for both the Birthing and Assessment Project and Women's Health. The aim for 2019/2020 is to consolidate and embed these new areas and practices, before moving onto further project work.

AUTHOR

THELMA THOMPSON
Director of Midwifery Practice



Our Midwifery Workforce

At times, one hears people say: “If you can work at Counties, you can work anywhere”; while experienced midwives who have come to Counties Manukau from other areas in New Zealand, have been heard to state: “I thought I was experienced before I came to Counties, the midwives here work at the next level up”.

What these comments encapsulate is that the experience of working with a team of committed, skilled and passionate people is precious, and that we have this at CM Health.

Over 2018/2019, CM Health Women’s Health has increased its workforce with the following positions:

- an additional Associate Clinical Midwife Manager(ACMM) in Birthing and Assessment, so there are now two ACMMs in the unit 24/7
- two staff midwives in Birthing and Assessment 24/7, increasing numbers from eight staff midwives plus one ACMM per shift, to 10 staff midwives plus two ACMMs per shift
- an additional night staff member on the antenatal and postnatal ward at Middlemore Hospital; and increase from four to five night staff
- an additional night staff member at Botany Downs Birthing Unit, an increase from two to three night staff.

In addition, we have opened a Maternity Assessment Clinic, requiring a senior midwife five days a week; and opened another Women’s Health ward (Ward 21), for which we are in process of increasing the maternity beds by 14 postnatal and 8 transactional neonate beds, as the required staff are employed. Overall, Ward 21 will require an extra 33.7 full-time equivalent (FTE) nursing and midwifery staff, 6.07 FTE health care assistants, 3.3 FTE ward clerks, one FTE charge midwife manager, one FTE lactation consultant and one extra FTE house officer in order to open the ward completely.

Recruitment

CM Health has advertised for staff via websites, social media, visits to the schools of midwifery and a recruitment stall at the New Zealand College of Midwives Conference. In addition, alongside two other professional groups at CM Health, we have advertised virtually at a UK expo for UK residents who are interested in moving to Australia or New Zealand. Unfortunately, we only received two expressions of interest for this expo (another DHB that attended the expo received none).

At present, our recruitment strategy is moving towards ‘strengths-based recruitment’. This is about finding employees who are the right type of people for CM Health, through understanding our strengths, and the values and motivations behind how we do things here. Some of these strengths, values and motivations include being women and whaanau-centred, being highly skilled with excellent teamwork and being passionate about serving our community.

Our strengths, values and motivations will be included in future advertising promoting the CM Health points of difference. This will take the form of written advertisements, social media posts and videos profiling three different midwives who work in CM Health, including two employed midwives and one community LMC midwife. The videos will focus on why the midwives chose to live in Auckland and work within CM Health, with one video targeting the international market, one the domestic and one graduates.

International recruits

For our international recruits, once the midwife has passed the International English Language Testing System at the required level (if required), CM Health provides a relocation package and supports the candidate through the New Zealand professional registration process.

Graduate midwives

The 15-month rotation package that CM Health offers midwifery graduates has a good reputation, and enables us to attract and retain quality staff.

CM Health recruited 24 midwives into the Midwifery Graduate Programme for 2018/2019, with an additional six joining the programme as community LMCs.

From our 2017/2018 intake, 24 of the 25 graduate midwives we employed remain working as employed midwives at CM Health, while 13 of the 14 community LMC midwives who joined the programme remain working as LMCs within the Counties Manukau area. The remaining two midwives have moved to work within another DHB's area.

Retention

CM Health provides opportunities for midwives to rotate or change midwifery roles within the midwifery services at Middlemore Hospital, the primary birthing units and community midwifery services. This flexibility has a positive influence on retention.

CM Health also supports midwives in their career progression. The growing complexities of health needs within our community mean we are continually expanding the skills of our workforce to meet the needs of women and their whaanau.

CM Health offers its midwifery staff a wide variety of education days. We have also developed a maternal fetal medicine postgraduate programme in partnership with AUT and supported the Maternal Fetal Medicine Clinical Midwife Specialist through the programme during 2018/2019.

We are currently planning another postgraduate pathway to support midwives to grow into senior positions, in order to meet the needs of the junior workforce, and further their own professional growth and expertise. In addition, having access to leadership and management programmes through Ko Awatea supports midwives to develop and 'grow our own' career pathways. A Guide for Midwifery Career pathway booklet is near completion.

Across the Auckland region, CM Health is working towards consistency of salary scale for 'like roles'. We are also looking forward to working with Midwifery Employee Representation and Advisory Services (MERAS) to develop consistency of scale across New Zealand for senior midwifery roles.

We are currently investigating providing accommodation support for staff who have to travel large distances to work at CM Health. Housing costs in the Auckland region are having an impact on retention, with some midwives moving to provincial areas of New Zealand so they can buy their own homes.

Our next planned steps for improving retention include conducting an in-depth comparison of our midwifery workforce's working conditions against the MERAS staffing standards, refreshing our projections for the required midwifery workforce, both employed and community, and implementing Care Capacity Demand Management measures to meet the requirements of the community we serve.

Culture

The Midwifery Workforce Group meets monthly and includes a standing item of 'Professional culture, behaviour and organisational values' on its agenda for discussion (see Figure 48).

At the December 2018 meeting, it was highlighted that some of the demands and expectations that members of the midwifery workforce place on each other need working through and that we need to refresh some aspects of our workplace culture.

Following this meeting, we sourced an independent facilitator to support the workforce through these challenges, and this work is now underway. All members of the Midwifery Workforce Group consider that addressing the challenges is the responsibility of both LMC and employed midwives. CM Health views the midwifery workforce as a collective workforce, and when organisational strategies such as a values refresh are rolled out, also offers and extends these to the LMC workforce.

At CM Health, we take the approach that culture is a reflection of each person's thoughts, beliefs and actions, and that each person can influence the workplace culture either positively or negatively. CM Health's values of 'kindness' and 'working together' resonate well with the midwifery workforce particularly at times when the services are under stress. Midwifery is a profession in its own right, providing incredible care and expertise at a very precious time in people's lives, which other professionals are not equipped to provide. The midwifery workforce is not an isolated one, we are thankful for the team we work with here at CM Health.

AUTHOR**DONNA RITCHIE**

Community LMC Midwife Liaison



Monthly Access Holder Meetings

Access holder meetings provide a forum for DHB managers and community LMC midwives to come together, discuss issues and topics of interest, listen to speakers, share new approaches, and connect with colleagues. Meetings are held monthly.

We have made changes to the meetings in the past year in an effort to improve attendance. These include a new chairperson, providing a stronger LMC lens for the meetings, and new location to make the meeting more accessible for LMCs in Papakura, Pukekohe and East Auckland.

However, the meetings are still not as well-attended as they could be, for several possible reasons:

- they are not the only forum where community LMC midwives can engage with each other
- the Workforce Group also provides communication for LMCs
- the Community Midwife Liaison role provides a pathway for communicating new initiatives within CM Health and a contact for LMCs to express concerns
- midwives are under huge pressure due to the current midwife shortages, so have to prioritise their time.

To boost numbers, we plan to trial a change of time in 2020, and will continue to communicate with access holders about how best to meet their needs.



▲ FIGURE 48. The Workforce Group comprising of Access Holders and DHB employed staff acknowledging Community LMC midwife group member Claire Eye's Regional Local Hero award.

TERESA KRISHNAN

Auckland University of Technology
Maaori Midwifery Student Liaison

Pu Ora Matatini – Maaori Midwifery Undergraduate Support

In 2008, a wraparound student support initiative began, aimed at recruiting and retaining Maaori students in the Midwifery Programme at AUT. Jackie Gunn, Head of Midwifery at AUT, and Thelma Thompson, Director of Midwifery at CM Health co-created the initiative with the purpose of addressing equity, service provision and workforce development issues.

The initiative, known as Pu Ora Matatini, provided academic and wrap-around care. In 2010, a Pu Ora Matatini coordinator was appointed, and a scholarship programme introduced to provide financial support to Maaori midwifery students. In the following years, further funding enabled a Maaori midwifery liaison position to be created. In 2017, this position was combined with the Pu Ora Matatini coordinator role and the hours increased. In 2018, two Maaori liaison midwives were employed, who continue to provide wrap-around support. Funding was also provided for peer mentors and to establish a Maaori midwives alumni.

Midwifery retention rates

The number of Maaori students enrolling into midwifery at AUT each year has continued to increase; see Table 16. Significantly, the attrition rate for Maaori has markedly reduced since 2014: the average attrition rate was 58% between 2008 and 2013, but from 2014 to 2018 reduced to 22%. This equates to a 37% improvement in Maaori student retention. The number of graduates continues to rise.

Recruitment to the scholarship programme

The Maaori Liaison team help market the programme; see, for example, a recent video featuring one of the graduates of the Pu Ora Matatini scholarship programme, Camille Harris, who works as an LMC in the Counties Manukau area. (The video can be viewed [here*](#).)

We also work with the Future Students' team at AUT, attend secondary and tertiary career days, contact applicants to the programme and tautoko those who may be eligible for an alternative admissions pathway, and contact unsuccessful applicants and recommend a pathway for future admission.

Te Marama Aarahi o Matariki

In the second semester of 2019, all first-year midwifery students were welcomed to the programme with a powhiri. The powhiri was held at Papakura Marae for the second year running, and represented the start of our Te Marama Aarahi o Matariki week.

All midwifery students and staff were invited, and many attended, including satellite students and staff from Whangarei and Taranaki; see Figure 49.

Te Marama Aarahi o Matariki week is when all students participate in learning and discussions focused on the values of tuuranga kaupapa.

* <https://www.dropbox.com/s/qojzpir23x9xi9o/Camille%2020180925LQ.mp4?dl=0>

The future

The introduction of the 4-year midwifery programme will allow greater flexibility for tauira who have whaanau and community obligations, as well as those who work part-time for financial reasons.

We are committed to establishing a strong alumni for AUT Maaori midwifery graduates, as this will be of great value to the midwives, students and profession. We have invited all previous graduates to join the alumni, and will hold regular hui and continue to build Maaori midwifery networks that are essential for students' and graduates' success.

The Maaori Midwifery Liaison team continues to be committed to increasing recruitment and retention of Maaori midwifery students, and continuing to reduce the attrition rate of Maaori midwifery students.

One of the biggest challenges that Maaori students face, are the methods used for teaching and learning in the midwifery

programme. There is a real need for a kaupapa Maaori teaching and learning space. We want to start by creating some space within the programme for kaupapa Maaori teaching and learning, with the aim of continuing to improve the success of Maaori midwifery students and grow the Maaori midwifery workforce in the Counties Manukau and surrounding region.



▲ FIGURE 49. AUT midwifery students and staff at Te Marama Aarahi o Matariki 2019, Papakura Marae

▼ TABLE 16.

Maaori midwifery students – AUT enrolment statistics (2008 to 2019)					
COHORT YEAR	NUMBER ENROLLED	NUMBER GRADUATED	NUMBER WITHDRAWN, DISCONTINUED OR LEFT	NUMBER STILL STUDYING	ATTRITION %
2008	12	8	4		33%
2009	21	8	13		62%
2010	24	10	14		58%
2011	24	7	17		71%
2012	14	4	10		71%
2013	22	9	12	1	55%
2014	14	9	4	1	29%
2015	18	6	6	6	33%
2016	18		7	11	39%
2017	26	11	1	25	4%
2018	26	9	1	25	4%
2019	28	11			

Sources: Students statistics – AUT enrolments and midwifery school; Annual Practicing Certificate Midwifery Council of NZ statistics

NGATEPAERU MARSTERS
AUT Pasifika Midwifery Student Liaison



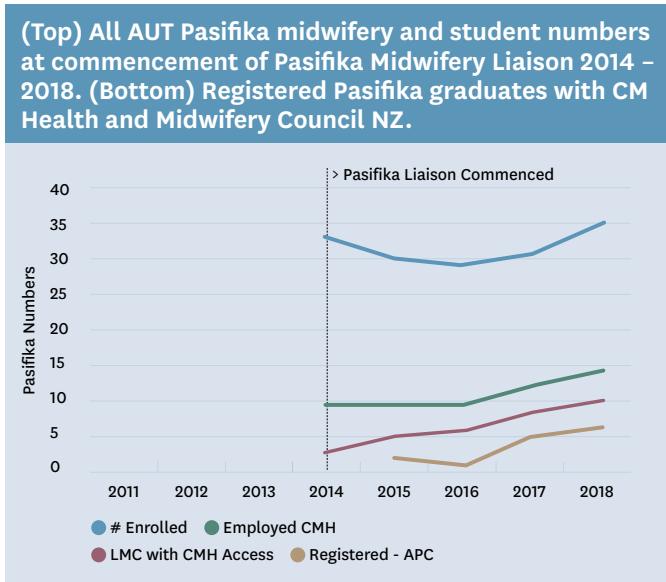
Pasifika Midwifery Graduates

In 2014, a workforce initiative to address equity, retention and service provision issues was set up as a joint venture between CM Health and AUT.

The focus of the initiative is on supporting undergraduate Pasifika midwifery students, with the wrap-around Pasifika midwifery student liaison role modelled on the successful Maaori midwifery initiative – Pu Ora Matatini. The role takes an anticipatory helicopter approach and, depending on the need, will facilitate student access to appropriate people and services.

Over the past 5 years, there has been a steady number of Pasifika midwifery graduates, with the majority choosing to work in the Counties Manukau area: see Figure 50. This can be attributed to the fact that most live in this area and are committed to working with Pasifika people, and to our robust 15-month new graduate programme.

▼ FIGURE 50.



What's new?

4-year programme

At the end of last year, the first-year student cohort was given the opportunity to transfer to the newly established 4-year midwifery programme, which commenced in March 2019. Just over 20 students took up the offer for a variety of reasons, including that the 4-year programme would give them:

- a well-deserved rest of approximately 12 weeks to recover from study and have family time
- an opportunity to gain employment and save for living and tuition costs
- a less intensive academic workload to increase the likelihood of successful completion.

New clinical placement

The opening of Ngaa Hau Maangere Birthing Centre has provided another clinical placement experience for students. In the heart of Mangere's Pasifika rich community and staffed by a predominantly Pasifika workforce, the centre provides a powerful role model for students.

Recruitment and retention

Recruitment and retention are partners for growing the future Pasifika midwifery workforce. See Table 17 for current and past Pasifika midwifery student numbers.

We pursue the traditional recruitment routes, such as secondary school career expos, with varying success. The upcoming AUT LIVE campaign at the university's city campus in Wellesley Street tends to draw a lot of interest and is held on the same day as Auckland University's Open Campus Day. A similar campaign for AUT's southern campus would be more accessible and also likely to draw local interest.

Planning is currently underway with local churches to have a women's health fono on maternity-related issues. This is a revival of a similar CM Health initiative that we have run in the past, and has the dual purpose of educating people about, and possibly recruiting midwifery and other health disciplines.



▲ PHOTO: Pasifika midwives Taamaki Maakaurau June meeting
 BACK ROW L-R: Jolene Morel, Matua Fine Matoto,
 Talei Cummins, Tish Taihia, Nora Bukateci, Linda Burke,
 Tanya Rangi*, Nape Taftiti*, Tokarahi Tobeck
 MIDDLE: Vasa Neria*, Helen Tameifuna, Nga Marsters,
 Lisa Nathan*
 FRONT: Valentina Tuitavuki, Elani Mafi

The future

Annual student fono

The fono provides a dedicated forum for Pasifika students and midwives each year. The fono combines learning and socialising, and represents an age-old strategy for growing students' sense of belonging and reciprocity, and growing future leaders in a safe space. Drawing on previous experience, the fono has strengthened the Pasifika cohort, with networking opportunities for clinical placements and resource sharing.

▼ TABLE 17.

Pasifika midwifery students, 2016 to 2019				
	2016	2017	2018	2019
YEAR 1	14 (Feb)	9 (July)	16	14 (TBC July)
YEAR 2	6*	6* (one on leave)	9 (July)	16#
YEAR 3	8	9	4	4
GRADUATES	1	8	6	3

Note: Some students leave, take leave and return:

* Includes one student who is on leave.

Includes students on both the 3 and 4-year degree programmes, and four students who are returning in semester 2.

Pasifika Liaison team

Plans to increase the team in the future will enable more work to get done, and increase recruitment, retention, and support with clinical or academic work.

2019 Budget

The government's 2019 Wellbeing Budget promises to contribute to Pasifika midwifery student development, and an expectation that student numbers will increase is eagerly awaited.

The budget's focus on the Pasifika workforce is a strategic move, supported by research, that a workforce that reflects its community provides improved health outcomes due to more meaningful engagement.

Conclusion

CM Health remains committed to Pasifika midwifery workforce development that meets the original aspirations of addressing equity, improving retention and supporting students to successfully complete the Bachelor of Health Science (Midwifery), with improved service provision as the end goal.

The new 4-year programme is a positive move and should result in increased graduates. When combined with CM Health's and AUT's workforce joint venture, and the government's study initiatives (including first-year free tertiary fees and funding earmarked for Pasifika midwifery students), these measures should collectively encourage our Pasifika community to explore midwifery as a profession.

A stronger workforce, which reflects its community and provides continuity of care, will positively effect waahine and whaanau's experience of CM Health maternity services.

* Midwifery students

9

Newborn Care at CM Health



Embedding the Neonatal Early Warning Score System

Following a serious adverse event review, it was recommended that CM Health introduce a graphic recordings chart for at-risk neonates.

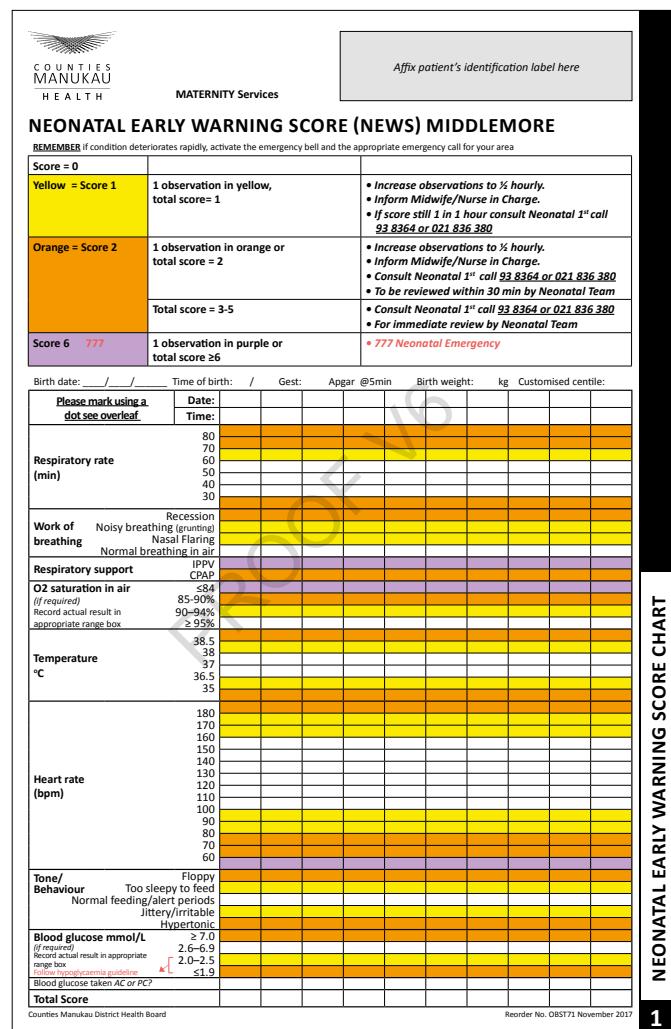
In February 2017, a multidisciplinary steering group was established to design and develop the Neonatal Early Warning Score (NEWS) chart and its accompanying guideline; see Figure 51. The CM Health NEWS chart.

The chart's development drew on extensive consultation with stakeholders and two pilots, with additional equipment procured to support its implementation.

Intensive education was made available for all maternity staff and LMCs, with around 70% of employed midwives receiving face-to-face training in the week before the chart's rollout on 30 July 2018.

Since the chart's implementation, there have not been any further serious events reported at CM Health. Staff report that care for at-risk neonates is being escalated in a more appropriate and timely manner since the implementation of the chart.

At present, CM Health has two representatives on the Neonatal Observation Chart Working Group, which is a sub-group of the ACC Neonatal Encephalopathy Taskforce Group. Members of the group are helping determine the format of the proposed national NEWS chart. CM Health's NEWS chart, alongside the chart used by Canterbury DHB, has been used to inform the format and content of the draft national chart.



▲ FIGURE 51. The CM Health NEWS chart

DR CHRISTINE MCINTOSH

General Practitioner Liaison CM Health and Senior Lecturer, Department of Paediatrics, Child and Youth Health, The University of Auckland

**ESTELLE MULLIGAN**

Safe Sleep Coordinator

**TINA HIGGINS**

Programme Manager



Sudden Unexpected Death in Infancy

Each year, around 45 babies die from SUDI in New Zealand. Of these babies, around eight of them will be from the CM Health area and, almost all will be Maaori or Pacifica.

SUDI can be prevented for most babies if parents and caregivers are able to provide protective care, especially safe sleeping their baby for every sleep, breastfeeding and immunisation. This is particularly important for babies who are more vulnerable to SUDI, for example, because their mother has smoked during pregnancy, or the baby is born small or premature, or in situations where there are drug and alcohol use or maternal mental health concerns.

The SUDI prevention programme in CM Health has evolved into a two-pronged approach.

Firstly, we support access to safe sleep baby beds, including Pepi-pods and Wahakura, alongside education, for whaanau who have a baby at higher risk. We also support the development of the wahakura waananga programmes.

The number of safe sleep beds we provide has increased over several years. Access to the programme and beds for the midwifery workforce and consistent safe sleep messaging has played a crucial role in developing this programme.

Over the year from 1 June 2018 to 31 May 2019, 1419 safe sleep beds (1270 Pepi-pods and 149 Wahakura) were distributed to the community. Of these, 36% went to Maaori infants and 40% to Pacific infants, with 18% going to mothers who had either very late or un-booked pregnancies. Two-thirds of the safe sleep beds were provided to whaanau living in decile 9 and 10 areas (the lower and more challenging socioeconomic households) and one-third to women under the age of 25 years.

Among these whaanau, bed sharing remained high, with two-thirds indicating this was their intent.

The second prong of our approach has been the co-design (with midwives, community providers and consumers) and subsequent implementation of a SUDI electronic assessment tool called the Safe Sleep Calculator, alongside the development of an integrated wrap-around SUDI protection model of care, specifically for babies at higher risk.



▲ FIGURE 52. Feedback from the co-design SUDI maternity workshop in response to the question: What is important in SUDI prevention care?



▲ FIGURE 53. Papakura Marae, May 2019: Presentation from Pete Thorburn to the SUDI pilot group on using motivational interviewing to create behavioural change

While the purpose of the wrap-around care is to reduce SUDI risk, it is understood that this is not simple, as many complex factors underlie this risk. The model of care recognises how important it is to enable parents, caregivers and whaanau to adopt risk-modifying behaviours, as well as the need to address the cultural, financial, social and health factors that influence these behaviours (see Figure 52. Feedback from the co-design SUDI maternity workshop in response to the question: What is important in SUDI prevention care?).

Moana Research has run focus groups with Pacifica and Maaori whaanau to explore the SUDI risk-assessment approach form their perspective. While most participants wanted to know if their baby was at higher risk of SUDI, and get support, they were also concerned about being judged by healthcare providers.

Developing a relationship of trust between parents and providers will be essential to the effectiveness of the SUDI care. Providing training to providers in motivational interviewing will strengthen their ability to engage effectively with parents around SUDI protection; see Figure 51. Papakura Marae, May 2019: Presentation from Pete Thorburn to the SUDI pilot group on using motivational interviewing to create behavioural change.

Phase 1 of the SUDI assessment tool was implemented in October 2019, with a small number of midwives and providers of wrap-around services ready to receive requests for support for whaanau. The implementation will continue, with the aim of ensuring the tool is in universal use across in CM Health within 6 months.

DR CHRIS MCKINLAY

Neonatologist, Kidz First Neonatal Care
Senior Lecturer, Liggins Institute, University of Auckland



Transforming Support and Information for Parents of Critically Unwell Neonates

On 13 September 2018, Kidz First Neonatal Care launched the BABBLE NZ Neonatal Family App, which is available for free download from the Apple and Google Play stores.

BABBLE is a phone and tablet app for parents and whaanau of babies admitted to Kidz First Neonatal Care. It provides essential information about care of babies in neonatal intensive care, including conditions and treatments, tests and medications, as well as general advice for mums and dads with a preterm or unwell baby. It also has sections on preparing for discharge and care of babies at home.

Parents can personalise the app, linking to information that is most relevant to them and their baby. They can also use BABBLE to create a photo diary of their baby's hospital journey and share their story with other parents.

The app can be downloaded on free hospital WIFI, with no ongoing data requirement. Parents can access information whenever and wherever they need it, including after discharge.

BABBLE was designed by MidCentral DHB and further developed by CM Health for use across multiple DHBs and in a tertiary neonatal care setting. This project was supported by a Counties Vodafone Innovation Award. To read more: www.countiesmanukau.health.nz/blogs/free-app-helps-parents-of-preterm-babies/

Babble
New Zealand Neonatal Family App

COUNTIES MANUKAU HEALTH

Babble is an app for parents who have a baby admitted to Kidz First Neonatal Care.

- Essential information for families
- Create a photo journal of your baby
- Share your baby's story

Search: "Babble NZ"
Free to download from the App Store and Google Play.

Download on the App Store Get it on Google Play

AUTHORS

DR LINDSAY MILDENHALL
Clinical Lead Neonates



DIANE EVANS
Acting Charge Nurse Manager



DR MAISIE WONG
Neonatologist



Neonatal Outcomes

Kidz First Neonatal Care is part of CM Health's Kidz First Child Health Service and works closely with CM Health Maternity Services.

Situated adjacent to the Kidz First wards, theatres and critical care complex at Middlemore Hospital, Kidz First Neonatal Care has 32 resourced cots. There are 38 physical cots, comprised of 16 level 3, two isolation, and 20 level 2 cots, which together provide intensive and special care cots for premature or unwell neonates.

From July 2019, the resourced cot capacity in the Neonatal Care Unit will increase to 34, to cater for the growing requirement for neonatal beds within CM Health, and regionally and nationally. There will be a focus on transitional care, with a goal of ensuring optimal support for neonates and their families, as they progress from the neonatal unit to transitional care, where mothers and babies can be together.

A large and growing multidisciplinary workforce of dedicated staff within the unit, provide services for over 900 neonatal admissions each year. The nursing team comprises new graduates through to senior registered nurses. A large complement of senior nurse roles includes associate charge nurse managers, clinical nurse specialists, a nurse educator, clinical coaches, lactation consultants and a nurse manager. There are also now nurse practitioner roles within the neonatal unit, with further clinical nurse specialists gaining this qualification in 2020.

The medical team comprises senior medical officers, a medical officer and rotating registrars, with various levels of experience.

The immediate clinical team is supported through dedicated resourcing for a social worker, dietitian, speech language therapist, physiotherapist, child protection services, play specialists, mental health worker and Kidz First Home Care Nursing. The Allied Health Team is integral to the care provided and plays a dynamic role within the multidisciplinary team.

Relationships with Women's Health are strong in both the primary and secondary maternity settings. The primary birthing units play a pivotal role in transitioning neonates to the community birthing unit closest to their homes, under the care of their LMC or CM Health midwifery services.

Tertiary sub-specialty support and paediatric surgery is provided by Starship Children's Hospital (Auckland DHB), which we enjoy strong bonds and communication with. A strong research culture pervades our practice, with one senior medical officer holding a joint appointment with the University of Auckland and the Liggins Institute.

The principles of the Treaty of Waitangi underpin the model of care in Kidz First Neonatal Care. Through promoting whaanau participation to nurture a solid foundation from which parents can independently care for their children, our neonatal team expects to optimise the life potential of every neonate in our care.

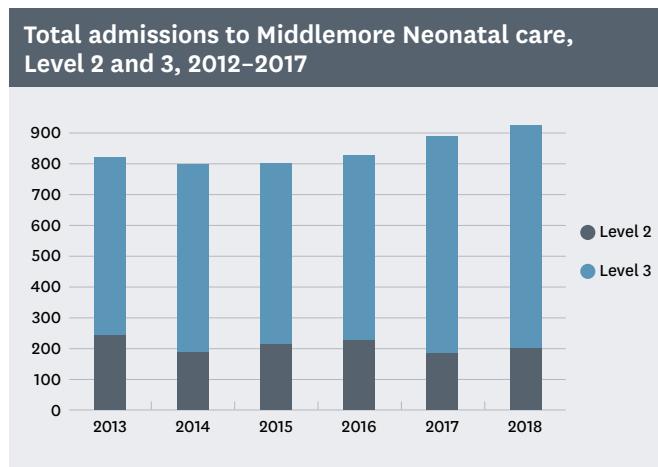
SHARON ARROL
Data Analyst, Health Intelligence and Informatics



Admissions to Neonatal Care

There has been an increase in admissions to the Neonatal Care Unit in 2018, as well as an increase in weighted inlier equivalent separations (WIES)*. See Figure 54. Total admissions to Middlemore Neonatal Care Unit, Level 2 and 3 2013–2018, Table 18. Total admissions to Middlemore Neonatal Care Unit, Level 2 and 3 2013–2018 and Table 19 for a summary of these changes. This is consistent with the increased workload felt by the staff in the unit.

▼ FIGURE 54.



Source: Data provided by Health Intelligence and Informatics 2017. Each baby is only counted once ie if they are transferred from level 3 to level 2 they are not counted twice. This is a different data source to the data provided for the 23–31 week infants.

▼ TABLE 18.

Total admissions to Middlemore Neonatal Care Unit, Level 2 and 3, 2018	
2018 CALENDAR YEAR	
Level 2 neonates	208
Level 3 neonates	721
Total	929

Source: Inpatient transaction (Enterprise Data Warehouse)

▼ TABLE 19.

Summary of WIES by calendar year 2013–2018	
CALENDAR YEAR	SUM OF WIES
2013	2914
2014	2574
2015	2500
2016	2760
2017	2861
2018	3545

Source: Costpro

* Weighted inlier equivalent separations (WIES) is a method of weighting individual discharges based on complexity.

DR MAISIE WONG
Neonatologist



Australian and New Zealand Neonatal Network Data

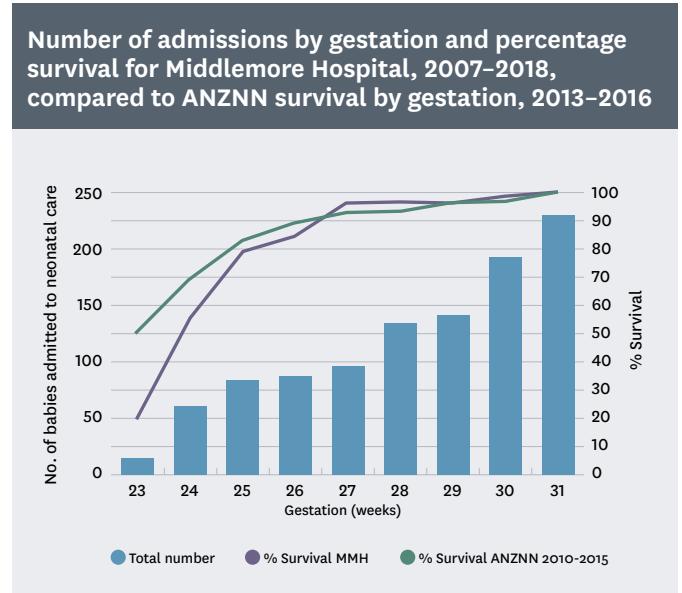
The Australian and New Zealand Neonatal Network (ANZNN) is a collaborative network that monitors the care of high-risk newborn infants by pooling data to provide quality assurance for neonatal care. All level 3 neonatal units in Australia and New Zealand and all level 2 neonatal units in New Zealand contribute data to the neonatal network.

CM Health is able to compare its survival and morbidity data with ANZNN data, which is provided annually. This data is for babies who were admitted to the neonatal unit and survive until their discharge home.

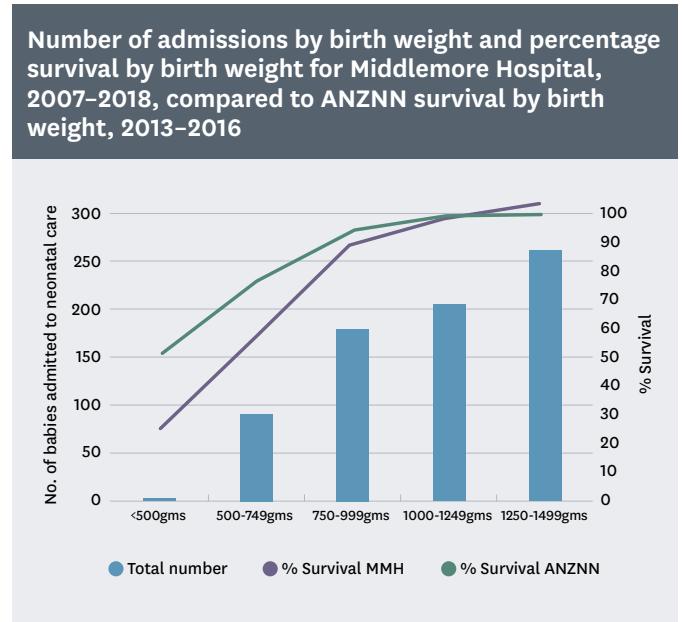
Our incidence of survival at 23 and 24 weeks gestation remains low, compared to ANZNN survival rates. However, there are very few babies at 23 weeks gestation admitted to Middlemore Neonatal Care Unit. The survival rate at 25 weeks and above improves, and is similar to rates reported in ANZNN, as shown in Figure 55.

The incidence of survival in babies with a birth weight of <750gm is low, compared to ANZNN survival rates, but improves to be comparable at birth weights of above 750gm, as shown in Figure 56.

▼ FIGURE 55.

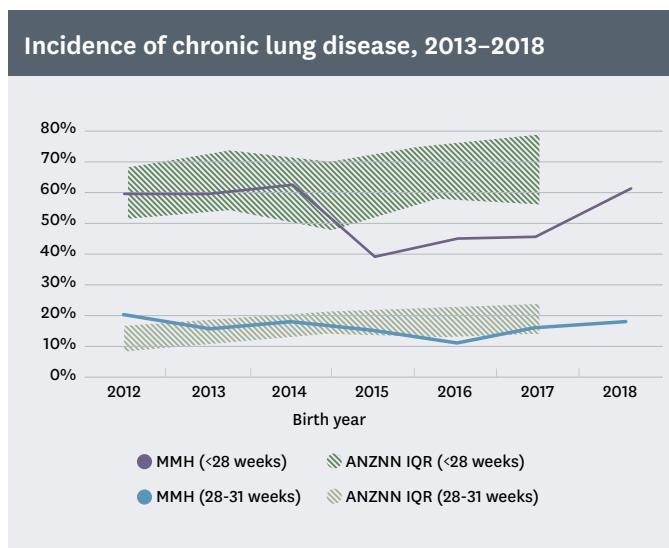


▼ FIGURE 56.



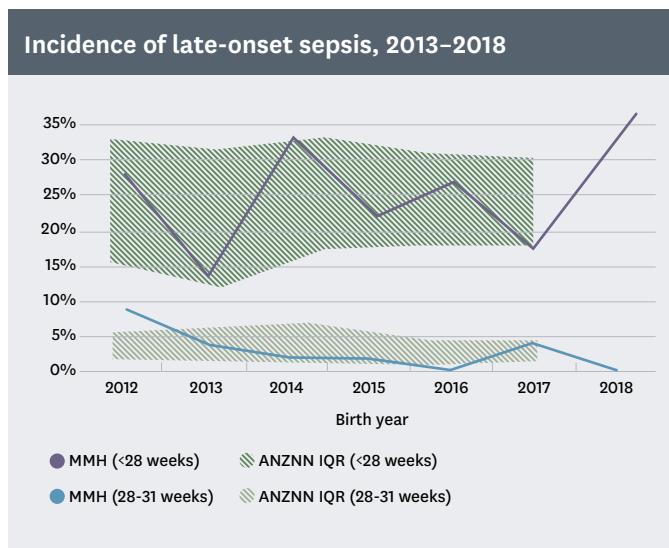
The incidence of chronic lung disease in high-risk newborn babies has reduced in recent years, although it has increased, in 2018, for babies with <28 weeks gestational. This figure is still within the interquartile range for ANZNN, as shown in Figure 57.

▼ FIGURE 57.



The incidence of late-onset sepsis has greatly increased in 2018, compared to previous years in babies <28 weeks gestational age. This will need to be monitored closely. There were no cases in babies between 28 and 31 weeks gestation in 2018, as shown in Figure 58.

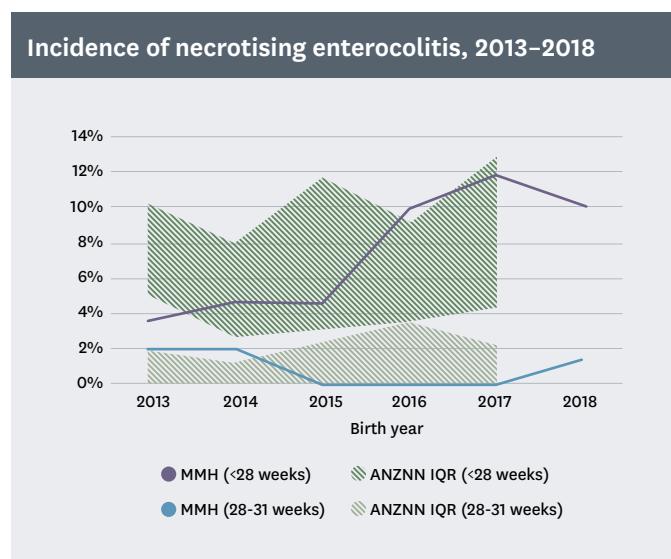
▼ FIGURE 58.



The incidence of necrotising enterocolitis has remained stable in recent years and is comparable to the ANZNN rates reported; see Figure 59.

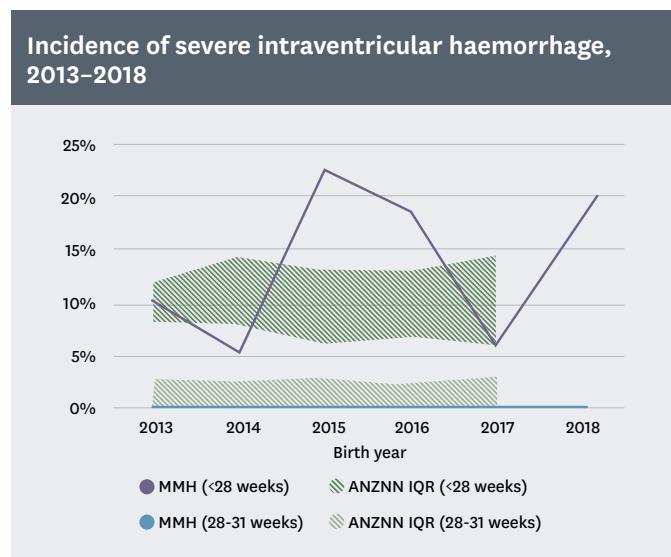
To date, we have reduced our rates by introducing a standardised feeding protocol and probiotics in 2011. The next step will be to introduce the use of donor breast milk. To do this, a regional donor breast milk bank will need to be set up.

▼ FIGURE 59.



The incidence of severe intraventricular haemorrhage has increased in 2018, in babies born at under 28 weeks gestation. However, the numbers are small for each year, so there are fluctuations in rates from year to year, as shown in Figure 60.

▼ FIGURE 60.



The incidence of severe retinopathy of prematurity \geq stage 3 has increased in 2018 and is high compared to ANZNN rates. However, we think that this is related to better technology, with use of retinal cameras, and hence higher ascertainment of retinopathy of prematurity. The rates for babies needing treatment for retinopathy of prematurity have been stable in recent years; see Figure 61.

▼ FIGURE 61.

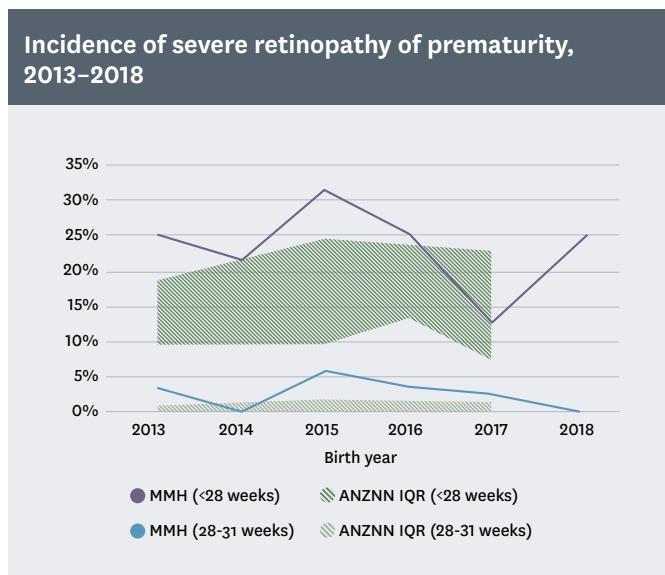
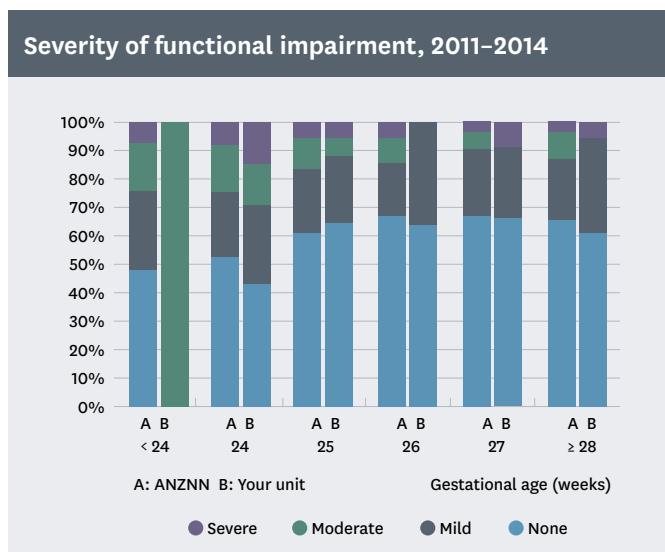


Figure 62 shows the follow-up data for preterm babies, compared to ANZNN data. We have achieved a follow-up rate of 80% in the very low birth-weight clinic.

Compared to the ANZNN data, there are a lower percentage of babies at 24 weeks admitted to Middlemore Hospital Neonatal Care Unit, who have no functional impairment. Results for other gestational groups are similar.

▼ FIGURE 62.

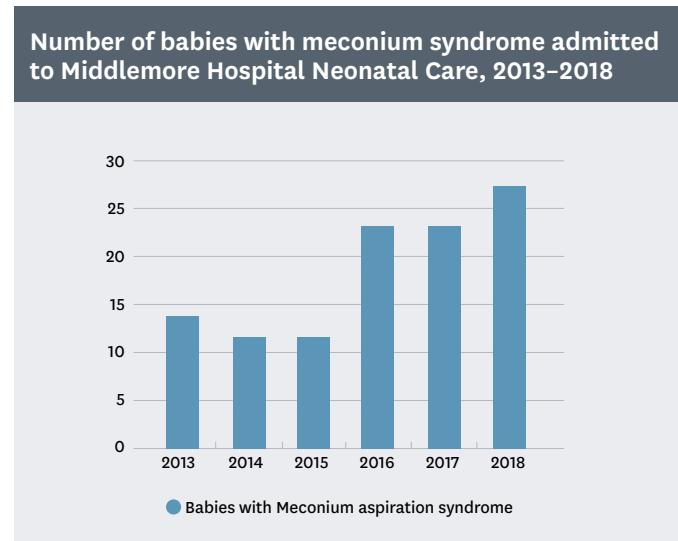


Notes to figure:

- Mild – Gross Motor Function Classification Score (GMFCS) level 1 cerebral palsy, or mild cognitive, language or motor delay.
- Moderate: GMFCS level 2 to 3 cerebral palsy, deafness requiring amplification or moderate cognitive, language or motor delay.
- Severe: GMFCS level 4 to 5 cerebral palsy, blindness, severe cognitive, language or motor delay, or unable to be assessed due to severe developmental delay.
- The denominator is babies who survived to have a Bayley III assessment at 24 months corrected age.

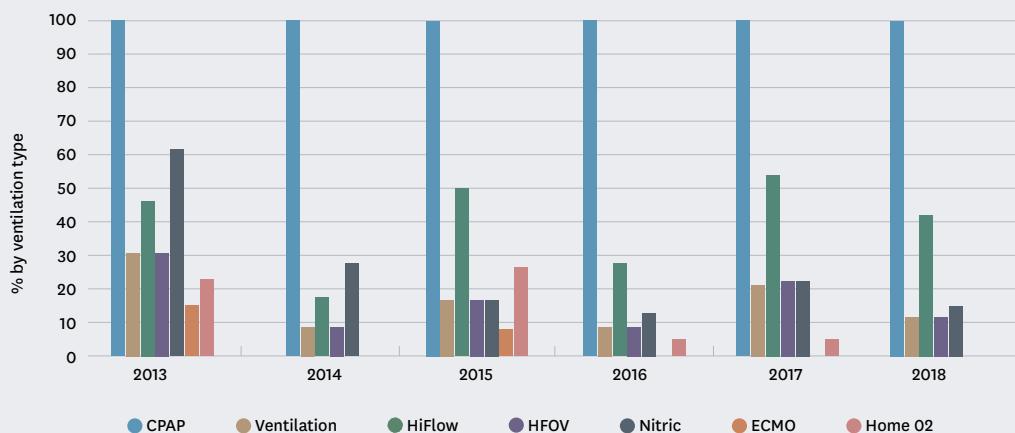
The number of babies with meconium aspiration syndrome has continued to be higher since 2016. However, the diagnosis of meconium syndrome is based on the radiological features of meconium aspiration syndrome, which can sometimes be difficult to distinguish from infection and other causes of respiratory distress. The numbers have remained similar in the past 3 years; see Figure 63.

▼ FIGURE 63.



Source: Middlemore Hospital Neonatal Care, 2018

Mode of ventilation for meconium aspiration syndrome, 2013–2018



Notes to figure:

CPAP = continuous positive airway pressure
 HFOV = high-frequency oscillatory ventilation
 ECMO = extracorporeal membrane oxygenation
 Home O₂ = home oxygen.

▲ FIGURE 64. Source: Middlemore Hospital Neonatal Care, 2018

Most of these babies were treated with continuous positive airway pressure (CPAP), with only 10% to 20% requiring ventilation. No babies have required extracorporeal membrane oxygenation (ECMO) in the past 3 years; see Figure 64.

There has been a sustained decrease in the incidence of hypoxic ischaemic encephalopathy since 2013. In 2017, there were several cases of out-born babies admitted with hypoxic ischaemic encephalopathy, but there were no out-born cases in 2018; see Table 20.

▼ TABLE 20.

Incidence of hypoxic ischaemic encephalopathy, 2012–2018

	NUMBER	DIED	COOLED	GRADE 3	OUT-BORN	INCIDENCE PER 1000 LIVE BIRTHS
2012	16	2	15	3		1.99
2013	9	2	7	3		1.21
2014	4	0	4	0		0.55
2015	7	3	6	3		0.96
2016	7	2	7	2		0.96
2017	8	2	8	4	4	1.08
2018	6	2	6	2	0	0.81

Source: Middlemore Hospital Neonatal Care, 2018

The Cressey Family

Autumn was born in September 2018. She stayed at Middlemore Hospital's Neonatal Care Unit for 20 days.

"When Autumn was rushed to the neonatal unit and had to spend many days there unexpectedly, it was the most emotional stressful time of our lives. We could not have got through it all without the amazing doctors and nurses. We did not have a normal start with our baby, but the nurses always tried to keep us involved in all of Autumn's care and gave us updates frequently. We always felt informed and supported by all the staff."

"It was an overwhelming time for our family because we didn't know what each day would bring for Autumn, but we knew she was in the best place with the best care for her at that time. We were privileged enough to stay at the Ronald McDonald House which meant we could be closer to our little girl. Autumn is now a happy healthy eight month old baby. We will always be grateful for all the love and support that as first time parents we received from the Kidz First Neonatal team. Without them, our life could have been very different."

Calico and Chris Cressey



Maternity Quality Improvement Workplan 2018-2020

Under the principles of the Te Tiriti o Waitangi it is the intention of Counties Manukau Health to focus on achieving equity for tangata whenua in this 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 evidence based medical intervention when required.		
		ACTIVITY	MEASURE	STATUS
1.1	Culturally Appropriate	A. Consumers and service users are included in service and research design.	a. Maternity Consumer Focus Groups are made up of consumers that reflect the DHB Maternity population (including age, ethnicity and domicile).	On track
		B. Build and support Consumer representation on Maternity working groups.	a. Working groups, such as BFHI, SUDI prevention and Smokefree have consumer representation.	On track
1.1	Culturally Appropriate	A. Increase the rate of inpatient experience survey feedback from women to 15% across Women's Health. <ul style="list-style-type: none"> • Spread the inpatient experience survey across Women's Health to Gynaecology and postnatal wards and community birthing units. • Present and discuss the quantitative and qualitative data from the inpatient experience portal at staff meetings. Develop quality improvement initiatives from the findings. 	a. Women's feedback inpatient experience survey response rates have increased from 8% to 15% across Women's Health.	On track
1.2	Supporting Normal Childbirth	A. Continuation of the primary birth steering group working to operationalise a DHB strategy to increase birthing in primary settings.	a. The total number of women birthing in primary birthing settings (home births and primary birthing units) has increased similarly across all ethnicities.	On track
		B. Reduction of unnecessary interventions of physiological births by auditing and reviewing IOL and LSCS guidelines and clinical practice.	a. Outcomes of the IOL and LSCS audit demonstrate equitable outcomes.	On track
		C. Pregnant women who have had a previous caesarean section are given national evidence based information to be supported to make an informed choice.	a. There is a 2% increase rate in women attempting VBAC.	On track

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	STATUS
2.1	PROMOTE EARLY REGISTRATION WITH A LMC	A. Develop and implement an early registration action plan.	a. Improve the percentage of women across all ethnicities, registered with a Community LMC or DHB midwife by 12 weeks + 6 days by 10%. b. Reduction in gaps in care reported in Incidents and SAEs. c. Reduction in time from GP referral to LMC allocation to < 1 week.	Achieved & on going On track On track
2.2	ENHANCING THE FIRST ANTEPARTUM VISIT	A. Women are prescribed iodine. B. Undertake a retrospective audit on women registering after 28 weeks to assess gap between GP engagement and LMC registration visits. C. Undertake consumer feedback survey about the First Contact Pregnancy Information Pack.	a. 80% of pregnant women have Iodine during their pregnancy a. Reduction in length of time between 1st GP visit and LMC registration visit. a. 80% satisfaction with the pack via consumer feedback.	On track On track On track
2.3	PROVIDE INTEGRATED CARE	A. Improve communication and collaboration between primary care and midwifery providers A. Promote an integrated approach to care with the LMC, GP and Well Child Providers (WCP): <ul style="list-style-type: none">• Lobby for IT connections to support integrated communication.• Include LMC/DHB midwives as recipients of communication between women in their care and GPs and WCP.• Support collaborative working across all projects.	a. Reduction in gaps where communication breakdown has been reported in incidents and SAEs. a. Improvement in the following: <ul style="list-style-type: none">• Reduction in incidents involving breakdown in communication.• Women receive a copy of their GP referral to share with their LMC.• Primary care membership on maternity related projects.	On track On track

3 PRINCIPLE Having a baby and the transition to parenthood is recognised as a socially significant event for families/whaanau.			
	ACTIVITY	MEASURE	STATUS
	A. Provide stakeholder education to develop confidence in screening for: <ul style="list-style-type: none"> • Maternal alcohol consumption • Maternal drug use • Maternal mental health concerns • Family violence • Smokefree. B. Socialise referral and shared care pathways for pregnant/new mothers requiring support for: <ul style="list-style-type: none"> • Maternal alcohol consumption • Maternal drug use • Maternal mental health concerns • Family violence • Safe warm homes under AWHI Programme. 	a. 80% of pregnant women/whaanau are screened and appropriately referred. b. Record stakeholder's attendance at educational opportunities.	On track
3.1 IDENTIFYING "AT RISK" PREGNANCIES & NEONATES	A. Improve screening for SUDI risk factors during pregnancy and postnatal period: <ul style="list-style-type: none"> • Smokefree • Safe sleep bed • Safe sleep education • Maternal alcohol consumption • Maternal drug use • Family violence. B. Explore the implementation of the baby alert system across all maternity services to include Papakura and Pukekohe Birthing Units.	a. 80% of maternal mental health referrals of all pregnant women will be linked back to the LMC for shared care planning discussion within 4 weeks of referral. b. Produce a three monthly audit of maternal mental health referrals and check evidence within service user clinical file of care plan discussion.	On track
	A. Implement Safety Huddles across Women's Health. <ul style="list-style-type: none"> • Implement structured safety huddles in Gynaecology and Primary Birthing Units to foster collective situational awareness. • Conduct observations audits and staff surveys post implementation. 	a. 95% of pregnant and postnatal women and whaanau who smoke are referred to a cessation service. b. Safe sleep environments area assessed for all babies and will be referred to safe sleep team for safe sleep baby bed where required. c. Record attendance of stakeholder participation in SUDI education with an aim of 100%. d. Reduction in SUDI rates.	On track
	A. Explore the implementation of the baby alert system across all maternity services to include Papakura and Pukekohe Birthing Units.	a. 100% of babies with alert bracelets will be monitored whilst in the maternity facilities.	On track
	B. Implement Safety Huddles across Women's Health. <ul style="list-style-type: none"> • Implement structured safety huddles in Gynaecology and Primary Birthing Units to foster collective situational awareness. • Conduct observations audits and staff surveys post implementation. 	a. Safety huddles are performed across all wards and units within Women's Health.	On track

3.2	PATIENT JOURNEY INFORMATION	<p>A. Research types of information women would like on the CM Health internet site.</p> <ul style="list-style-type: none"> • Develop site content with consumer input. • Develop virtual tours of the community Birthing Units. • Develop a Welcome to New Babies webpage on CM Health website. <p>B. Develop an inpatient orientation resource for women and their whānau/ support people to explain the services available to them while using CM Health facilities.</p> <ul style="list-style-type: none"> • Compile information to assist inpatient women in orientating to the environment. • Determine the method to best present the information for women e.g. 'table 	<p>a. Resources developed and socialised.</p>	On track
			<p>a. Resources developed and socialised.</p>	Not yet started
3.3	BREAST-FEEDING	<p>A. Support women/babies to be exclusively breastfeeding on discharge from a maternity facility and to 6 weeks postpartum.</p>	<p>a. Exclusive breastfeeding discharge rates from Middlemore Hospital will be > 75% on average.</p>	On track
			<p>b. 84% fully/exclusive BF rate at 6 weeks postpartum for babies under Te Rito Ora and B4Baby breastfeeding services.</p>	On track
			<p>c. Implementation of the neonatal hypoglycaemic guideline</p>	Achieved
			<p>d. Improve the method of testing glucose on newborn infants.</p>	On track
			<p>e. Achieve BFHI re-accreditation for all 4 maternity facilities.</p>	Achieved
3.4	INCREASING PLANNED PREGNANCIES	<p>A. All women in Counties Manukau area are able to have access to appropriate and timely contraception by a skilled professional.</p>	<p>a. All women completing the postnatal survey were provided with contraception advice during pregnancy and after birth.</p> <p>b. The number of reported planned pregnancies increases as measured by an audit of preconceptual folic acid from 5% to 10%.</p>	On track
		<p>B. Education and skills training is made available for providers of contraception including LARCs.</p>	<p>a. Number of credentialed clinicians increases in line with demand.</p>	On track

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	STATUS
4.1	OBESITY	A. Improve the outcomes of women and their babies affected by obesity by: <ul style="list-style-type: none"> • Communicating the expectation of recording an accurate measured height and weight on first pregnancy care visit • Ensure all women receive personalized information about optimal weight change in pregnancy. 	a. The Healthy Weight Change in Pregnancy Card is utilised by all carers and women.	On track
		B. Hold education sessions on ‘Healthy Conversations’	a. Attendance to ‘Healthy Conversations’ sessions	On track
4.2	DIABETES IN PREGNANCY	A. Ko Awatea lead review of Diabetes in Pregnancy Service	a. Implementation of the recommendations of the Diabetes in Pregnancy	On track
4.3	PRETERM BIRTH	A. Improve the outcomes for women with a previous preterm birth at <37 weeks by: <ul style="list-style-type: none"> • Ensuring counselling at time of preterm birth to outline strategies recommended for next pregnancy • Ensuring early registration in subsequent pregnancies to identify modifiable risks factors e.g. smoking, STIs, UTIs • Ensuring referral for specialist consultation in first trimester • Promoting and supporting counselling around signs and symptoms of preterm birth and response to these to optimize outcomes. 	a. All women with a preterm birth receive counselling within 6 weeks. a. Aim for increasing the number of women with a history of preterm birth; register their next pregnancy by 12+6 wks. a. All registered women are being referred appropriately with a focus on the first trimester. a. A practical resource for carers, women and whaanau is developed.	On track
4.4	IMMUNISATION	A. Support health professionals in primary care and consumers to increase awareness about the importance of influenza and pertussis vaccination during pregnancy.	a. Increased rates of Fluvax and Boostrix coverage in pregnant women by 20% in CM Health.	On track
		B. Circulate information/resources/ educational opportunities about the importance of Fluvax and Boostrix vaccination during pregnancy to Primary Care health professionals and consumers.	a. Increased rates of Fluvax and Boostrix coverage in pregnant women by 20% in CM Health.	On track
		C. Women who are non-immune to rubella are offered vaccination prior to discharge from their birthing facility.	a. Increased rates of MMR vaccination post birth.	On track

5 PRINCIPLE Maternity care is co-ordinated across setting and disciplines to maximise safety and use resources wisely.				
		ACTIVITY	MEASURE	STATUS
5.1	MQSP ANNUAL WORK PLAN	A. An annual work plan and budget prioritisation process is maintained by the MQSGG.	a. Funding is allocated by consensus according to the MQSGG Terms of Reference.	Achieved
5.2	CLINICAL INDICATORS	A. Continue to communicate Clinical Indicators and progress for maternity quality and safety to DHB provider services, primary carers and consumers.	a. Infographic format of maternity clinical indicators is produced and circulated.	Achieved
		B. Continue to respond to clinical indicators to inform our work plan including by ethnicity.	a. Work plan reflects quality improvement initiatives to address ethnicity based clinical indicators that are outliers.*	On track
		C. Introduce a modified Robson Criteria to review LSCS trends.	a. Accurate monitoring and reporting of LSCS trends.	On track
5.3	SCREENING AND SURVEILLANCE OF "AT RISK" PREGNANCIES	A. Ensure equitable access for women to services to support obstetric management of their pregnancy.	a. Audit implementation of the Early Pregnancy Assessment Tool (EPAT) in Primary care.	On track
		B. Scope additional resource required for implementing the 'Reduced Fetal Movements' guideline.	a. The guideline is implemented and fully resourced	On track
		C. Review the need for and resource requirements to expand the Multi-Agency Group Support (MAGS) to women under LMC care and include women and whaanau who have experienced a perinatal death in the postnatal period and subsequent pregnancies.	a. Equitable access to all women across CM Health.	On track
5.4	BIRTHING AND ASSESSMENT PROJECT	A. Implement effective triaging process in Birthing & Assessment.	a. Triaging process in Birthing & Assessment developed and implemented.	On track
		B. Scope the provision of day stay assessment with a community location for women with higher risk pregnancies.	a. Reduction in number of assessments on B&A through the development of a day stay model of care. b. Use data to assess equitable access and outcomes	Achieved On track
			c. Review of non-attendance reasons	On track
5.5	SMD MODEL OF CARE	A. Review the current model of care for women under obstetric management; increase in obstetric care continuity.	a. Audit of cases under obstetric care measuring the number of clinicians' involved.	Achieved
5.6	VTE RISK ASSESSMENT AND MANAGEMENT	A. Develop a system so that all women receive a venous thromboembolism (VTE) risk assessment and appropriate management. <ul style="list-style-type: none"> • Perform a retrospective audit on women who have VTE events to determine what specific risk factors were present. • Update the thromboprophylaxis guideline to include risk factors for VTE and appropriate prophylaxis with multiple risk factors. • Develop a system so that all antenatal and postnatal women have a formal VTE risk assessment. • Determine a process to ensure there is education and follow-up of administration of Clexane in the community. 	a. 100% of women at risk of VTE are provided with thromboprophylaxis.	On track

* Definition of outlier: A value that "lies outside" (is much smaller or larger than) most of the other values in a set of data.

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.		
6.1	VALUING WORKFORCE	ACTIVITY	MEASURE	STATUS
		A. Stakeholders are engaged in resolution of communication issues.	a. Recruitment and retention data b. Trends identified from exit interviews	On track
B. Maaori Midwifery Workforce Forum				On track
7	PRINCIPLE	The Quality of Maternity Care and services is measured and valued.		
7.1	NATIONAL REPORTING	A. Reporting to PMMRC, NMMG and MoH is undertaken.	a. Submission of Women's Health and Newborn Annual Report. b. Achievement of DHB and national quality improvement targets.	Achieved On track
		A. Reporting to stakeholders and consumers.	c. Annual launch and socialisation of Women's Health & Newborn Annual Report, inclusive of MQSP work.	Achieved
7.2	CM HEALTH REPORTING	B. An annual work plan is devised reflecting the priorities of; <ul style="list-style-type: none">• Equity• CM Health• MoH• NMMG• PMMRC• Other organisations as appropriate i.e. Child Youth Mortality Review Committee (CMRYC).	a. Progress updates provided at regular intervals	Achieved

10 Appendices & Glossary

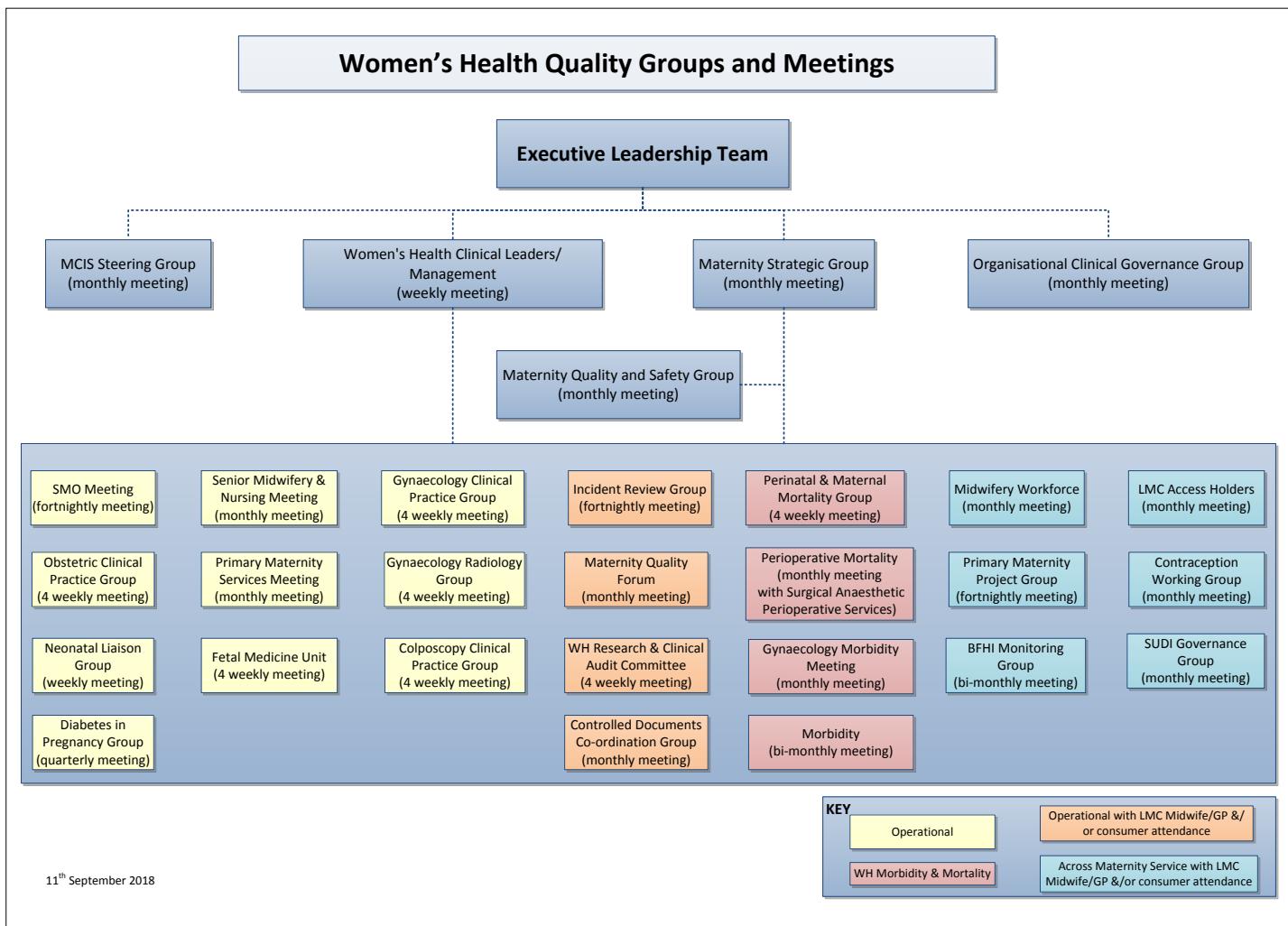
▼ APPENDIX 1:

Terms of Reference Midwifery Workforce Group

Group:	Midwifery Workforce Group																																
Meeting schedule:	The Midwifery Workforce Group will meet for 2 hours on a monthly basis. Extra time or meeting will be negotiated if necessary.																																
Chair:	Director of Midwifery																																
Mission Statement:	Appropriate workforce capacity and communication across the maternity care continuum to provide quality care that is women and whaanau centred and reflects the New Zealand Maternity Model of Care.																																
Membership:	<p>Includes:</p> <p>Maaori</p> <ul style="list-style-type: none">• Heather Muriwai <p>Lead Maternity Carer (LMC) Midwife representing each of the 7 geographical areas in CM Health:</p> <table><tr><td>• Papakura/Manurewa</td><td>Sandra Jevons</td></tr><tr><td>• Otara/Mangere</td><td>Camille Harris</td></tr><tr><td>• Manukau/Papatoetoe</td><td>Linda Burke</td></tr><tr><td>• Franklin</td><td>Claire Eyes</td></tr><tr><td>• Eastern Suburbs</td><td>Margie Ireland</td></tr></table> <p>CM Health Employee representing:</p> <table><tr><td>• Community Midwives</td><td>Isabella Smart</td></tr><tr><td>• Primary Birthing Units, <i>Midwife</i></td><td>Helenmary Walker</td></tr><tr><td>• Birthing & Assessment, <i>Midwife</i></td><td>Ann Konz</td></tr><tr><td>• Midwife/Nurse Educator, <i>Midwife</i></td><td>Kathy Ogilvy</td></tr><tr><td>• Maternity Ward, <i>Midwife</i></td><td>Tanya Wilson</td></tr></table> <p>Primary & Community Directorate representing:</p> <table><tr><td>• Maternity Quality & Safety Coordinator</td><td>Lyn Stark</td></tr><tr><td>• DHB/LMC Liaison, <i>Midwife</i></td><td>Donna Ritchie</td></tr></table> <p>Professional Groups representing:</p> <table><tr><td>• NZCOM Rep</td><td>Sarah Nicholson</td></tr><tr><td>• MERAs</td><td>Caroline Conroy</td></tr><tr><td>• NZNO</td><td>Judith Couch</td></tr><tr><td>• Midwifery Advisor(Elder), <i>Midwife</i></td><td>Lesley Hinson</td></tr></table>	• Papakura/Manurewa	Sandra Jevons	• Otara/Mangere	Camille Harris	• Manukau/Papatoetoe	Linda Burke	• Franklin	Claire Eyes	• Eastern Suburbs	Margie Ireland	• Community Midwives	Isabella Smart	• Primary Birthing Units, <i>Midwife</i>	Helenmary Walker	• Birthing & Assessment, <i>Midwife</i>	Ann Konz	• Midwife/Nurse Educator, <i>Midwife</i>	Kathy Ogilvy	• Maternity Ward, <i>Midwife</i>	Tanya Wilson	• Maternity Quality & Safety Coordinator	Lyn Stark	• DHB/LMC Liaison, <i>Midwife</i>	Donna Ritchie	• NZCOM Rep	Sarah Nicholson	• MERAs	Caroline Conroy	• NZNO	Judith Couch	• Midwifery Advisor(Elder), <i>Midwife</i>	Lesley Hinson
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Quorum:	The meeting will be conducted with a quorum of an attendance of at least half the members which should include at least 3 LMC representatives, 3 CM Health Representatives, 1 Primary & Community Directorate representative and 1 Professional representative.																																

Purpose:	The purpose of this Workforce Group is to develop and implement a Workforce Action Plan in partnership with Women's Health based on strategic Maternity Workforce direction, recruitment and retention to increase the availability of midwives.
	The Midwifery Workforce Group will work towards delivering the following:
	<ul style="list-style-type: none"> • Identify midwifery workforce numbers required to meet forecast demands and models of care • Foster positive relationships between midwives and other relative health professionals • Develop practical quality process improvements that advance maternity care by midwives • Ongoing review of evaluation and planning of improvements • Offering an open forum for discussion to bring current issues relevant to the Workforce Group
Function:	The function of the Midwifery Workforce Group is to: <ul style="list-style-type: none"> • Have open communication between all parties to enhance the care of women and babies • Ensure the objectives for the Workforce Action Plan are delivered.
	The following is considered out of scope of this programme: <ul style="list-style-type: none"> • Any activity within the scope of other programmes or projects, which is being managed in its totality by a project.
Responsibility:	The Midwifery Workforce Group is chaired by the Director of Midwifery or her appointed deputy and will run on consensual lines and reports to the Maternity Strategic Group
Accountability:	Members agree to: <ul style="list-style-type: none"> • Represent ideas of your group at the meetings • Progress actions decided through the ongoing meetings • Feedback to the group you represent • Lead and evaluate proposed modifications/changes to current practices • Attend monthly meetings and review
Reporting Mechanism:	The Midwifery Workforce Group will: <ul style="list-style-type: none"> • be responsible to the Maternity Strategic Group • prepare a highlight report for every Maternity Strategic Group meeting • receive all meeting documentation via email as agreed • have access to meeting minutes, highlight reports and any collateral on Paanui via the Women's Health page – Reports & Publications -Midwifery Workforce Meeting Minutes.
Annual Review Date	April 2020

▼ APPENDIX 2: Women's Health Quality Groups and Meetings



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.

Cephalic Head down presentation.

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.

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 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 medicine, 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 acquired 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 some breastmilk and some infant formula or other solid food 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.

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).

Community 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.

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.

Weighted Inlier Equivalent Separations (WIES) is a method of weighting individual discharges based on complexity.



countiesmanukau.health.nz