MATERNITY QUALITY AND SAFETY PROGRAMME

Canterbury District Health Board

Annual Report

2018 - 19

Canterbury
District Health Board
Te Poari Hauora ō Waitaha

Acknowledgements

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Disclaimer

While every effort is made to ensure the accuracy of the information contained in this report, Canterbury District Health Board cannot guarantee this based on the variation and completeness of data supplied.

The Ministry of Health (MoH) Maternity Clinical Indicators are compiled using a range of sources such as the Lead Maternity Carer (LMC) claim forms, Department of Internal Affairs, Statistics New Zealand, and the National Minimum Data Set for hospital inpatient admissions. MoH information will also include homebirths and private birthing facilities (such as St. Georges Maternity Facility). Data may be 'cut' based on birth location, DHB of domicile of the mother, or DHB of domicile of the baby, which may differ to the mother depending on what was recorded at the time of birth. Depending on the measure reported MoH data may also include all stillbirths/terminations greater than 20 weeks or may only include standard primiparae. If a segment of data is missing from the Maternity Dataset (MAT), then the record may be excluded from the data set, denominator or numerator completely - this is particularly applicable to those women who may have birthed under the care of the hospital team and therefore did not have LMC registration data.

Where Neonatal Intensive Care Unit (NICU) information is reported this may not be all babies who have spent time in NICU but only those admitted in or depending on the measure may only be birth events here, transferred to and discharged from NICU. The caveats applied to the measure can change the data quite considerably.

CDHB information includes data for those women birthing, and babies born in CDHB facilities only. The organisation continues to strive for data accuracy and integrity at each step along the way - from LMC forms, Caresys, PICS and HCS data entry, clinical coding, system configuration, transfer into the Data Warehouse, maintenance and reporting.

Data should be used with caution, and in consultation with the CDHB Decision Support team as caveats are applied to each and every figure and table that may or not be transferrable to the context in which a user may wish to apply the data. We ask that you gain quality assurance that data is contextualised accurately when using this information to inform service improvement or funding decisions.

Foreword

"The Canterbury District Health Board is pleased to present the Maternity Quality and Safety Programme Annual Report for 2018/19.

Canterbury has had a busy year again with many highs and a number of devastating and tragic lows of which many of you are aware of.

Despite this and building on the work of the past years we have rallied together as a service with our primary units and LMC community greatly supporting the tertiary services where they have been able. We have also had a year of ongoing high demand upon our neonatal service and many instances where we have been at overcapacity.

Last year's report served to prompt us to look closely at our data and reminded us of the importance of reporting more widely as our percentage of "standard primiparae" was low and a wider data set needed for us to make recommendations about practice.

Since last year we have continued to work on our new Maternity Strategy which is gaining strength with each new iteration. Underpinning our strategy is a commitment to the principles of Te Tiriti o Waitangi and inclusivity for all who use our service. As part of this we have recognised that many of our consumers do not wish to come to us, rather we must go to them and make engagement accessible, culturally sensitive and values based.

This year considerable work has commenced with our realignment goals with a successful "trial" outpatient clinic now established at Rangiora health hub. This has been met with positive feedback from women, whānau as well as staff. It has also allowed for greater liaison between our clinicians and the primary birthing units. We plan for this pilot to inform of other similar possibilities throughout the greater Canterbury region. We have recently opened our Maternity Assessment Unit (MAU) here at Christchurch Women's Hospital to allow women with antenatal issues, that do not require tertiary level care to be assessed in a more timely and appropriate manner by their LMCs or our Midwifery staff in a supported setting. This in turn reduces the burden on the busy Birthing unit and allows those that most need this high-level care to receive it. We have already seen a reduction in time spent by women waiting for assessment and have received positive feedback from all staffing areas and groups. We plan to continue to work on strengthening this and expanding its remit over the coming months to years.

The Maternity Quality and Safety Programme continues to build on previous years with many initiatives to learn from our experiences and to add value to our maternity system here in Canterbury. We have recently received and provided comment on the most recent Perinatal and Maternal Mortality Review Committee report and are feeding this forward into our annual quality plan. This brings important ongoing learnings for us here in Canterbury and the maternity system as a whole. Work has also been done this year on our priorities to reduce post-partum haemorrhage, strengthen our safe sleep programme and increase our use of the primary birthing units.

Many of these priorities overlap with our strategy goals. Similarly, we look forward to working with the national induction of labour guidelines which is in its final stages and using this document to inform our future practice and consider whether we can adapt and change certain aspects of our care to improve the outcomes for women.

Our Maternity Consumer Council continues from strength to strength with a widening membership and representation. It "sees" us as we cannot "see" ourselves and is able therefore to provide us with both collaboration on projects as well advice and recommendations. In addition, our LMC liaison roles and community HealthPathways midwifery liaison roles continue to strengthen and broaden our relationships between the LMC community, primary birthing units and our primary care colleagues.

Thank you very much once again to our MQSP Coordinator Sam Burke and our excellent quality team in maternity who keep us all motivated and focused on improving our maternity services in Canterbury. We hope you enjoy reading our report".

Norma Campbell

Director of Midwifery,
Canterbury and West Coast DHB

Emma Jackson

Clinical Director, Obstetrics and Gynaecology,
Canterbury DHB

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Overview

Background

This is the sixth Canterbury DHB Maternity Quality and Safety Annual Report since the establishment of the Ministry of Health (MoH) Maternity Quality and Safety Programme (MQSP) in 2011.

The National Maternity Monitoring Group (NMMG) came into operation in 2012, as part of this programme, to oversee the maternity system in general and the implementation of the New Zealand Maternity Standards.

The high-level strategic statements of the New Zealand Maternity Standards (MoH, 2011) are:

- Provide safe, high-quality maternity services that are nationally consistent and achieve optimal health outcomes for mothers and babies;
- Ensure a women-centred approach that acknowledges pregnancy and childbirth as a normal life stage;
- All women have access to a nationally consistent, comprehensive range of maternity services that are funded and provided appropriately to ensure there are no financial barriers to access for eligible women.

Aims and Objectives

Canterbury DHB is committed to improving the quality and safety of maternity services for consumers.

The Canterbury DHB maternity services' aims and objectives are to:

- Provide woman-centred maternity care that meets the needs of the population
- Continue to implement, review and establish as required, systems and processes to support the provision of quality and safe care
- Take a whole of systems approach towards improving the health of women and children as guided by the Ministry of Health's goals and targets
- Align the maternity workforce to meet the needs of the population
- Align and strengthen regional links

The Maternity service aims and objectives align with the wider CDHB Mission, Vision, Values and Way of working as outlined on Page 12.

Purpose

The purpose of this report is to provide information about the DHB's:

- Improvements in relation to the overall aims and objectives
- Achievements against the quality improvement goals set for 2018/19
- Contribution towards addressing the priorities of the NMMG and recommendations from the Perinatal and Maternal Mortality Review Committee.
- Performance in relation to the Ministry of Health's New Zealand Maternity Clinical Indicators 2017 (MoH, 2019)
- Response to consumer feedback and ongoing consumer involvement
- Quality initiative goals for 2019/20

Glossary

Caesarean Section	An operative birth through an abdominal incision.
Episiotomy	An incision of the perineal tissue surrounding the vagina to facilitate or expedite birth.
Gravida	A pregnant woman.
Maternity Facilities	A maternity facility is a place that women attend, or are resident in, for the primary purpose of receiving maternity care, usually during labour and birth. It may be classed as primary, secondary or tertiary depending on the availability of specialist services (Ministry of Health 2012). This section describes women giving birth at a maternity facility.
Multiparous	Multiparous is a woman who has given birth two or more times.
Neonatal Death	Death of a baby within 28 days of life.
Parity	Number of previous births a woman has had.
Primiparous	A woman who is pregnant for the first time.
Primary Facility	Refers to a maternity unit that provides care for women expected to experience normal birth with care provision from midwives. It is usually community-based and specifically for women assessed as being at low risk of complications for labour and birth care. Access to specialist secondary maternity services and care will require transfer to a secondary/tertiary facility. Primary facilities do not provide epidural analgesia or operative birth services. Birthing units are considered to be primary facilities. Primary maternity facilities provide inpatient services for labour and birth and the immediate postnatal period.
Postpartum Haemorrhage	Excessive bleeding after birth that causes a woman to become unwell.
Primary Maternity Services	Primary maternity services are provided to women and their babies for an uncomplicated pregnancy, labour and birth, and postnatal period. They are based on continuity of care. The majority of these maternity services are provided by Lead Maternity Carers (LMCs).
Secondary Facility	Refers to a hospital that can provide care for normal births, complicated pregnancies and births including operative births and Caesarean Sections plus specialist adjunct services including anaesthetics and paediatrics. As a minimum, secondary facilities include an obstetrician rostered on site during working hours and on call after hours, with access to support from an anaesthetist, paediatrician, radiological, laboratory and neonatal services.
Standard Primiparae	A group of mothers considered to be clinically comparable and expected to require low levels of obstetric intervention. Standard primiparae are defined in this report as women recorded in the National Maternity Collection (MAT) who meet all of the following inclusions: • delivered at a maternity facility • are aged between 20 and 34 years (inclusive) at delivery • are pregnant with a single baby presenting in labour in cephalic position • have no known prior pregnancy of 20 weeks and over gestation • deliver a live or stillborn baby at term gestation: between 37 and 41 weeks inclusive • have no recorded obstetric complications in the present pregnancy that are indications for specific obstetric interventions. Intervention and complication rates for such women should be low and consistent across hospitals. Compiling data from only standard primiparae (rather than all women giving birth) controls for differences in case mix and increases the validity of inter-hospital comparisons of maternity care (adapted from Australian Council on Healthcare Standards 2008, p 29).
Stillbirth	The birth of an infant after 20 weeks gestation, which has died in the womb and weighed more than 400 grams.
Tertiary Facility	Refers to a hospital that can provide care for women with high-risk, complex pregnancies by specialised multidisciplinary teams. Tertiary maternity care includes an obstetric specialist or registrar immediately available on site 24 hours a day. Tertiary maternity care includes an on-site, level 3, neonatal service.
Weeks' Gestation	The term used to describe how far along the pregnancy is. It is measured from the first day of the woman's last menstrual cycle to the current date.

Abbreviations

ACC	Accident Compensation Corporation
BFHI	Baby Friendly Hospital Initiative
CDHB	Canterbury District Health Board
DHB	District Health Board
GP	General Practitioner
ICU	Intensive Care Unit
IOL	Induction of Labour
LMC	Lead Maternity Carer
MOG	Maternity Operations Group
MMWG	Maternal Morbidity Working Group
MQSP	Maternity Quality and Safety Programme
NE	Neonatal Encephalopathy
NEWS	Newborn Early Warning Score
NGO	Non-government Organisation
NICU	Neonatal Intensive Care Unit
NMMG	National Maternity Monitoring Group
NOC	Newborn Observation Chart
NZNO	New Zealand Nursing Organisation
NZCOM	New Zealand College of Midwives
PMMRC	Perinatal and Maternal Mortality Review Committee
PPH	Postpartum Haemorrhage
RMO	Resident Medical Officer
SMO	Senior Medical Officer
SP	Standard Primiparae
SUDI	Sudden Unexpected Death in Infancy
WCDHB	West Coast District Health Board
W&CH	Women's and Children's Health

Our Mission

To improve, promote and protect the health of the people in the community and foster the well-being and independence of people who experience disabilities and reduce disparities.

Our Vision - Tā Mātou Matakite

To improve, promote, and protect the health and well-being of the Canterbury community.
Ki te whakapakari, whakamanawa me te tiaki i te hauora mō te oranga pai o ngā tāngata o te rohe o Waitaha.

Our Values - Ā Mātou Uara

Care and respect for others.	Manaaki me te whakaute i te tangata.
Integrity in all we do.	Hāpai i ā mātou mahi katoa i runga i te pono.
Responsibility for outcomes.	Te Takohanga i ngā hua.

Our Way of Working - Kā Huari Mahi

Be people and community focused.	Arotahi atu ki te tangata me te hapori.
Demonstrate innovation.	Whakaatu te ihumanea hou.
Engage with stakeholders.	Kia tau ki ngā tāngata whai pānga.

Our Region

The Canterbury DHB is the second largest DHB in the country by both geographical area and population size - serving an estimated 612,000 people (12.8% of the New Zealand population) Stats NZ 2018 (NZ, 2019) in 2017, and covering 26,881 square kilometres.

There are three separate divisions within Canterbury DHB responsible for providing the maternity services; Women's and Children's Health (W&CH), Ashburton and Rural Health services, which includes the Chatham Islands. The DHB also has a contract with St George's Hospital, Maternity Centre to provide maternity care.

Canterbury and West Coast 'Transalpine' Relationship

Canterbury provides many services for the population of the West Coast DHB. This 'transalpine' approach to service provision has allowed better planning for the assistance and services Canterbury DHB provides to the West Coast DHB, so people can access services as close as possible to where they live.

The Canterbury DHB also provides an extensive range of specialist services on a regional basis to people referred from other DHBs where these services are not available. This includes neonatal services.

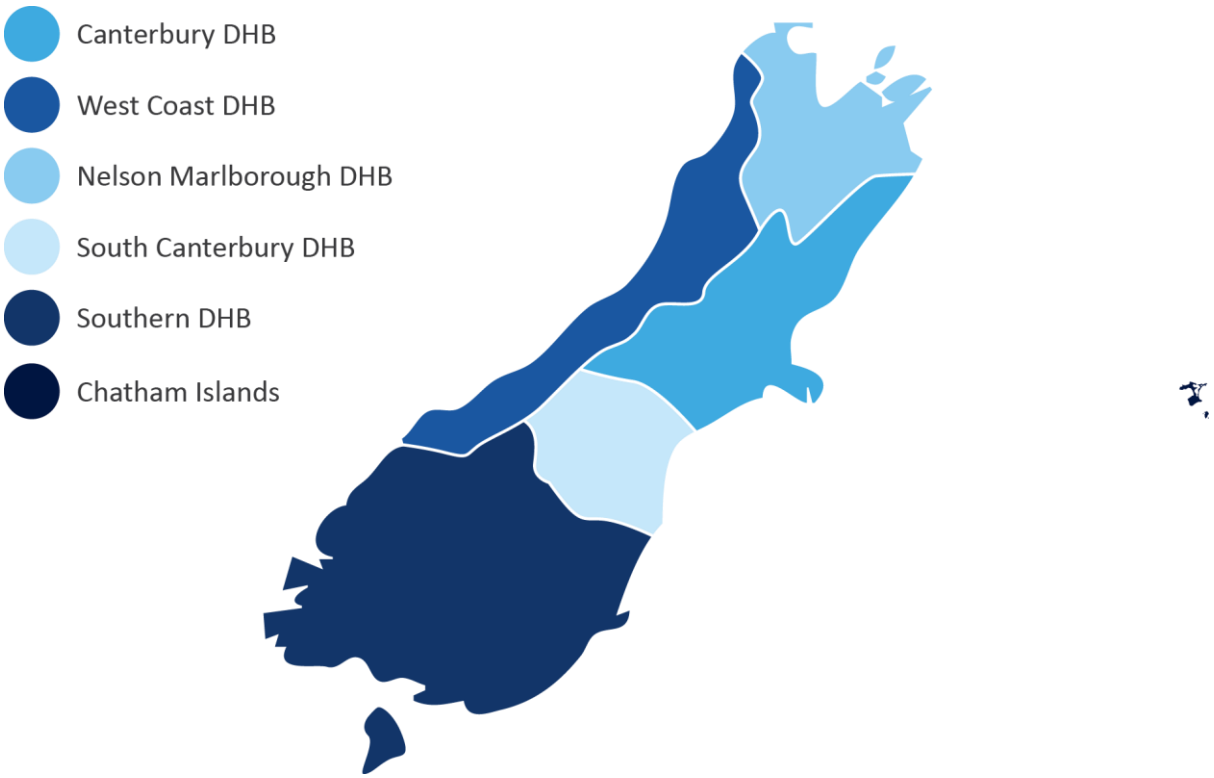


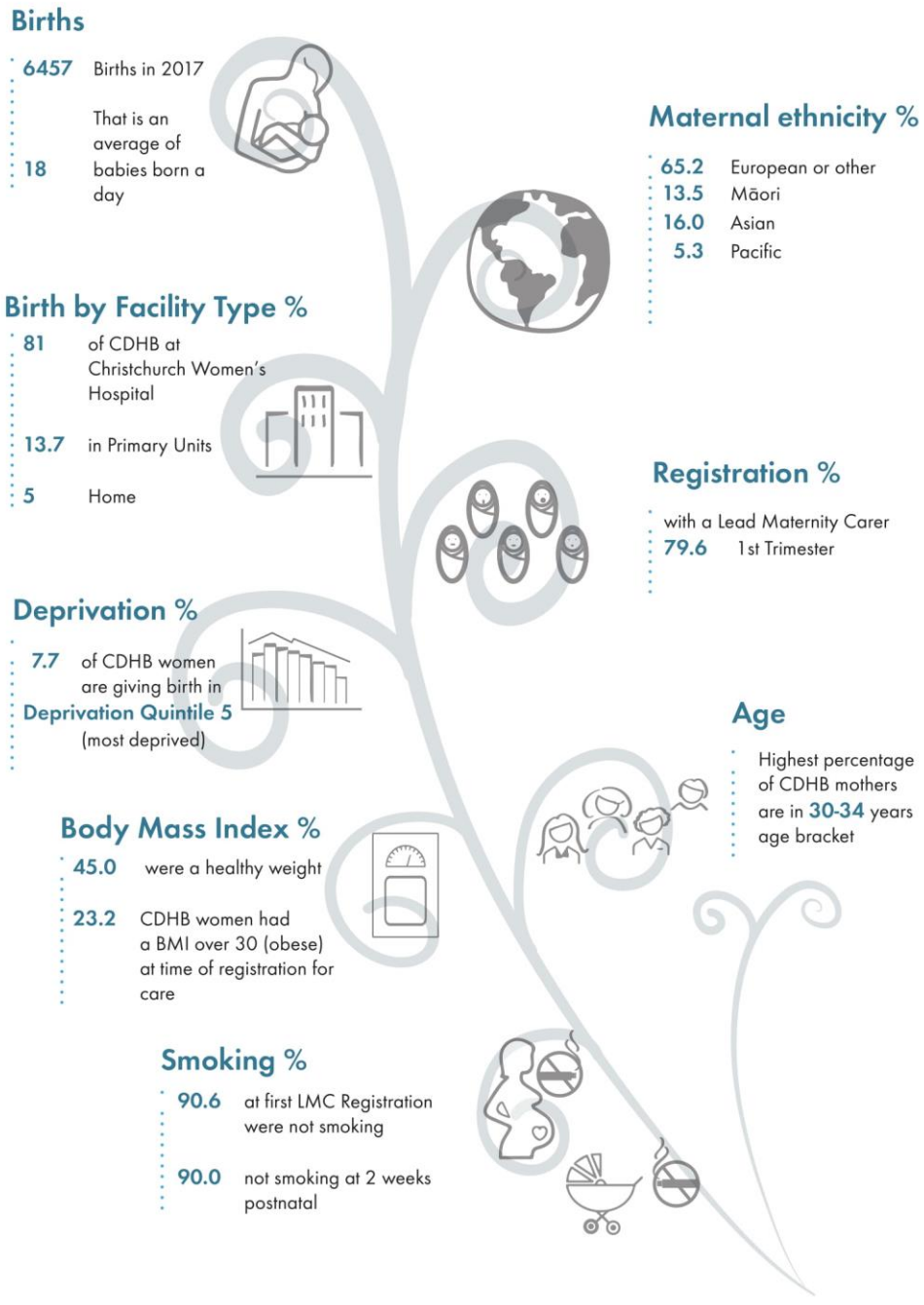
FIGURE 1. SOUTH ISLAND DHB BOUNDARIES

Our Community

Our community demographics are taken from the New Zealand Maternity Clinical Indicators 2017 (MoH, 2019), and the Report on Maternity 2017 (MoH, 2019).

Table 1 provides a visual picture of health statistics for women giving birth in Canterbury in 2017.

TABLE 1. CANTERBURY DHB SNAPSHOT FOR WOMEN GIVING BIRTH IN 2017



Our Maternity Services

There are a range of Maternity facilities available to women in Canterbury (Table 2). Christchurch Women's Hospital (CWH) is the only tertiary facility and accepts referrals from Canterbury and the West Coast regions as well as throughout the South Island for women who are presenting with complex pregnancies.

All referrals for tertiary care from West Coast DHB primary and secondary units, Canterbury DHB primary units and homebirths go to Christchurch Women's Hospital.

Women on the Chatham Islands have antenatal and postnatal care provided by a Lead Maternity Carer (LMC). This is a contracted service between the DHB and LMC. Chatham Islands have a backup emergency service through the health centre in Waitangi. Almost all women leave the Islands to birth.

TABLE 2. CANTERBURY MATERNITY FACILITIES

Primary	**Women's and Children's Health Division** ○ Lincoln Maternity Hospital ○ Rangiora Health Hub ○ St George's Maternity Centre (contract with CDHB)	**Ashburton** ○ Ashburton Maternity Centre	**Rural Health Services** ○ Chatham Islands (since 2015) ○ Darfield Hospital ○ Kaikoura Health Hub
Tertiary	Christchurch Women's Hospital		

TABLE 3. BIRTH NUMBERS AT OUR DHB MATERNITY FACILITIES AND HOME BIRTH RATE 2014, 2015, 2016 AND 2017

CDHB Maternity Facility	Number of Births			
	2014	2015	2016	2017
Ashburton Maternity	**117**	**134**	**144**	**134**
Burwood Birthing Unit Closed June (2016)	**147**	**185**	**54**	**0**
Christchurch Women's Hospital	**5165**	**5220**	**5259**	**5229**
Darfield Hospital	**6**	**5**	**4**	**2**
Kaikoura Health Hub	**11**	**9**	**13**	**16**
Lincoln Maternity Hospital	**107**	**129**	**140**	**170**
Rangiora Health Hub	**125**	**178**	**215**	**238**
St. George's Maternity	**141 (from February 2014)**	**214**	**255**	**323**
Home birth	**262**	**280**	**334**	**345**
Grand Total	**6055**	**6256**	**6418**	**6457**

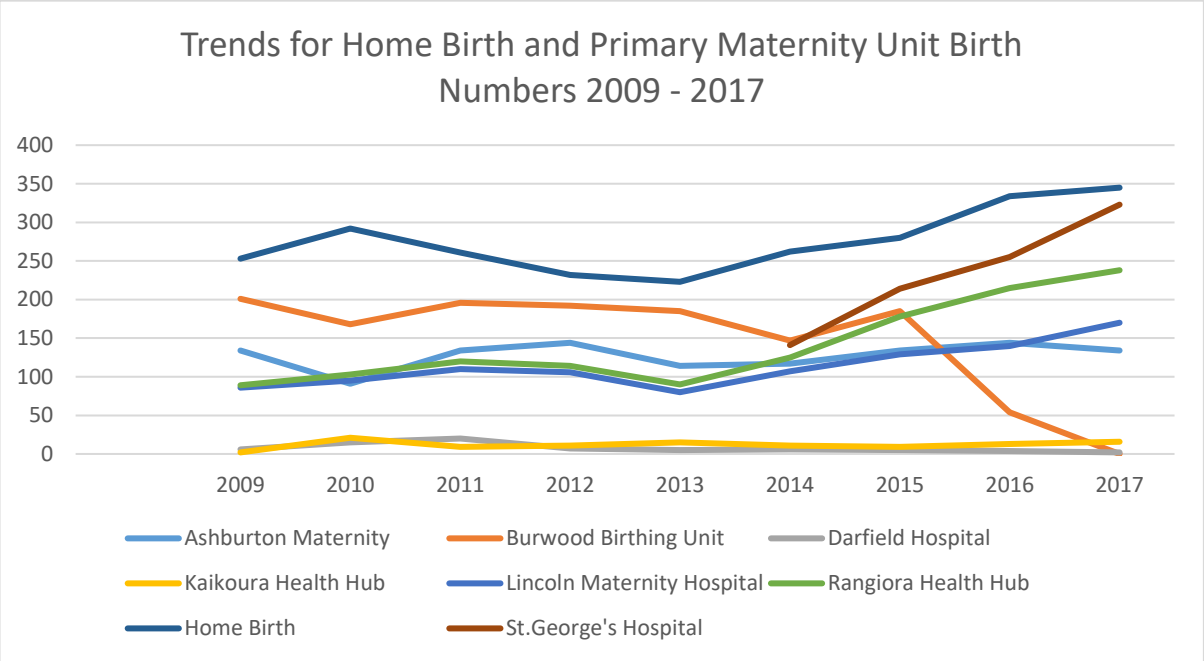


FIGURE 2. CDHB TRENDS FOR HOME BIRTH AND PRIMARY MATERNITY UNIT BIRTH NUMBERS 2009-2017

A high proportion of our birthing women choose Christchurch Women's Hospital as their place of birth, as Table 3 demonstrates 81% gave birth at the secondary/ tertiary maternity facility in 2017, with 13.7% birthing at a primary maternity unit. Work to increase birth numbers in our primary units has been active and ongoing since 2010, and it remains a priority as a part of our maternity strategy.

Due to the continued work in this area there has been a consistent and upward trend in primary unit birthing as demonstrated in Figure 2.

Canterbury's home birth rate numbers have historically been difficult to capture as the births are not recorded by the DHB. Figure 2 shows revised MOH data for the years 2010 through to 2017 and shows that home birthing numbers continue to increase in Canterbury.

Rangiora and Kaikoura Health Hubs were officially opened in 2015 and 2016 respectively. These units have provided purpose-built facilities for the community, and the continued provision of antenatal, intrapartum and postnatal care, meeting the CDHB commitment to have better access to services closer to home.

Further primary maternity units are also being considered as a part of the renewed maternity strategy.

"The care and kindness I received from doctors, midwives and other staff was fabulous. Thank you"

Maternity Ward, Christchurch Women's Hospital

CDHB Maternity Hospitals and Primary Maternity Units

Our Maternity facilities extend across Canterbury from Kaikoura to Ashburton. Despite the high birth rate at our main centre, Christchurch Women's Hospital, a high proportion of women will transfer for postnatal care to one of our primary maternity units. The following information provides an overview of these facilities and their activity during 2017.

Christchurch Women's Hospital

Overview:

Births = **5229**

Secondary/Tertiary Hospital - designed for women with complex maternity needs which require specialist multidisciplinary care.

- Day Assessment Unit
- Fetal Medicine Unit
- Maternity Assessment Unit co-located on the Ground Floor of Christchurch Hospital
- The 'Garden Room' is available for women experiencing fetal loss in the latter half of pregnancy
- **13** Rooms for labour and birth
- **2** Pools for water birth
- **2** Acute Observation beds
- **2** Multi-purpose rooms
- **5** Assessment rooms
- **2** Operating theatres
- **45** Antenatal / postnatal unit beds
- **16** Clinic rooms
- **11** Intensive care cots
- **30** Special care cots

Rangiora Health Hub

Distance **35km, 41mins from Christchurch**

Overview:

Births = **238**

Transfers in for postnatal care = **583**

Primary Maternity Unit - designed for well women who have no complications during pregnancy

- **2** Rooms for labour and birth
- **2** Pools for water birth
- **4** Assessment rooms
- **12** Postnatal rooms

Lincoln Maternity Hospital

Distance **19.7km, 30mins from Christchurch**

Overview:

Births = **170**

Transfers for postnatal care = **684**

Primary Maternity Unit

- **2** Room for labour and birth
- **2** Pools for water birth
- **1** Assessment room
- **6** Postnatal rooms

Ashburton Maternity

Distance **87km, 1 hour 8mins from Christchurch**

Overview:

Births = **134**

Transfers in for postnatal care = **184**

Primary Maternity Unit

- **2** Rooms for labour and birth
- **1** Pools for water birth
- **5** Postnatal rooms

Darfield Hospital

Distance **44km, 40mins from Christchurch**

Overview:

Births = **2**

Transfers in for postnatal care = **19**

Primary Maternity Unit with co located convalescent unit

- **1** Room for labour and birth
- **1** Pool for water birth
- **2** Postnatal rooms

"Everything was perfect. All the staff were great. Thank you so much."
Rangiora Health Hub

Kaikoura Health Hub

Distance **181km, 2 hours 10mins from Christchurch**


Kaikoura birthing room

Overview:

Births = **16**

Transfers in for postnatal care = **3**

Primary Maternity Unit with co located convalescent unit

- **1** Room for labour and birth
- **2** Postnatal rooms

St. George's Hospital

Distance **5.1km, 12min from Christchurch Women's Hospital**

Overview:

Births = **323**

Transfers in for postnatal care =**1032**

Primary Maternity Unit.

- **2** Rooms for labour and birth
- **1** swing room (often used as a third birthing room)
- **1** Pool for water birth
- **10** Postnatal rooms

Our Workforce

Canterbury's maternity service is provided by our multidisciplinary team of midwives (Lead Maternity Carers (LMC's) and DHB employed midwives), obstetric doctors, GP's, physicians, nurses, lactation consultants, allied health and support staff.

Christchurch Women's Hospital, which is Canterbury's secondary/tertiary unit, provides antenatal clinic care, which includes specialised clinics for high risk pregnancies, diabetes, methadone in pregnancy and fetal maternal medicine. The outpatient clinic at Christchurch Women's Hospital also provides antenatal care for a small number of women unable to initially secure an LMC.

In line with our maternity strategy we have reviewed what and where our antenatal clinic services are provided and some antenatal clinics have been moved out to Burwood Hospital and Rangiora Health Hub with the aim of improving access to our services and care closer to home, offering better car parking availability and a reduced need to travel to and from the city centre. A specialist obstetric clinic is provided at Rangiora and Ashburton Hospital every week to help women stay closer to home.

We are continuing to look at further opportunities to provide specialist consultation and care closer to home and exploring the use of technology further to enable this, and the continuing work is included in our 2019/20 priorities and action plan.

A day assessment unit provides observational care for women under the care of the obstetric team, reducing the need for inpatient care.

Christchurch Women's Hospital provides a 24-hour service for consultation and acute care. This includes anaesthetic cover for birthing suite. The medical team consists of:

- Clinical Director
- 16 (Full time equivalent) FTE Obstetricians/Senior Medical Officers (one university employee)
- Obstetric Physician (Part time)
- 1 Senior Medical Officer (Part time covering Ashburton Service)
- 8 Senior House Officers (SHO)
- 17 Registrars (RMO) (One job share)

In 2017, 318 midwives identified Canterbury DHB as the primary place of work as a midwife (MCNZ), and 229 as midwives who had an access agreement with maternity facilities across Canterbury, enabling them to practice as an LMC. This equated to 10.5% of the national workforce.

The head count of midwives and nurses employed by the Canterbury DHB to work in the maternity setting fluctuates but is approximately 150, with a majority working at Christchurch Women's Hospital.

In addition to these nurses and midwives we have a senior midwifery team, which consists of:

- Director of Midwifery
- Midwifery Manager
- 5 Charge Midwives
- 13 Associate Charge Midwives (who cover the unit 24/7)
- 2 Midwifery Educators
- 1 Baby Friendly Hospital Initiative (BFHI) Coordinator

We also have approx. 60 ward clerks and hospital aids who are invaluable members of the team.

In 2017 there were six primary maternity units which are midwifery only staffed, providing birthing and postnatal care in the community setting.

Kaikoura and Darfield are staffed by registered nurses and supported by the woman's LMC. The DHB contract with the LMC in Kaikoura to assist her to live in this remote part of our DHB to care for this population of women.

Six new graduate midwives were employed in the CDHB new graduate programme in 2017, seven in 2018 and six in 2019.

Maintaining our workforce

Katherine Gee

Midwifery Manager, Christchurch Women's Hospital

Over the year 2018/2019 unfilled midwifery FTE vacancies in maternity services sat mainly across birthing suite and maternity ward. Our community units also experienced staffing issues during the year. Some of the Christchurch Women's Hospital vacancy was pre-existing with an additional 10 FTE being awarded to us to recruit to as part of the NZNO/DHB Nursing and Midwifery Multi-employer Collective Agreement (NZNO/DHB, 2018). This was in recognition of the need to increase staffing across the maternity services to start to meet the Staffing Standards and the increasing complexity of women and babies who access our maternity services.

We have been actively recruiting to these vacancies with permanent adverts on the CDHB careers website, within midwifery publications and attendance at employment and careers roadshows. This strategy has been successful with ongoing recruitment to midwifery positions and we are also excited to see that eight new graduate midwives will be joining us in January 2020, because of advertising early in June and securing them into our service.

We continue to review how we provided good clinical placements for our undergraduate midwifery students as well as our new graduates. Whilst the midwifery graduates are all part of the Midwifery First Year of Practice Programme, the transition from student midwife to registered midwife cannot be underestimated especially when that transition is happening within a secondary/ tertiary referral centre.

Whilst the Midwifery Council NZ notes an increase in midwives with annual practising certificates, it has been recognised at a national level that there still appears to be insufficient numbers of midwives available to fill current vacancies. In Canterbury we made the decision in early 2019 to employ registered nurses into some of these vacancies to provide relief from the effects of short staffing on our midwifery workforce. These recruitments have been targeted to nurses who have experience in obstetric, gynaecological, paediatric or surgical nursing so bring skills that are required within a large secondary/tertiary maternity setting. Maternity specific education has been provided to our nursing recruits to bridge the gap between the knowledge and experience they brought and that required to be able to work effectively as registered nurses within our maternity facility.

As we have historically done we continue to see movement from the DHB core midwifery staff to the community and lead maternity care midwives moving into the employed setting. We see this as a positive with both workforces complementing and working together and that growing skills, professional knowledge and appreciation of the challenges that sit in each area leads to increased collegial relationships.

We continue to have an LMC Liaison role - Helen Fraser, who enables that linkage between community and maternity facilities. Our community workforce is currently at healthy numbers and as our employed workforce starts to increase we then can start to really make some changes to how Christchurch Women's Hospital in particular works. We also continue to work with our People and Capability team to uncover different ways of recruiting and enticing and retaining midwives working here in Canterbury either in the community or in our facilities.

Our Maternity Operational Governance and Leadership

Governance Structure

The Canterbury DHB Maternity Operations Group (MOG) is comprised of members of the hospital multidisciplinary team as well as primary community facilities and consumer representation. This group develop, support and guide the operational quality of work within the maternity service from several sources as outlined in Figure 3.

The group meet once a month and videoconferencing bring together staff from Women's and Children's Health, Ashburton, Rural Health services and St. George's (CDHB).

CDHB Maternity Operations Group. From back left to right: Andrea Robison (VC), Norma Campbell, Helen Fraser, Daniel Mattingley, Sam Burke, Davina Geddes, Katherine Gee, Sonya Conner, Jen Coster, Christine Dwyer, Amanda Daniel, Emma Jackson, Sonya Matthews, Suzanne Esson, Jo Gullam, Katherine Manning, Ann Johnson

Not Pictured: Debbie O'Donoghue

Quality Planning and Reporting

Figure 3 below gives a pictorial representation of the numerous inputs that inform and drive the Maternity Operations Group in developing an annual quality plan. It also outlines the governance structure and reporting lines within the CDHB.

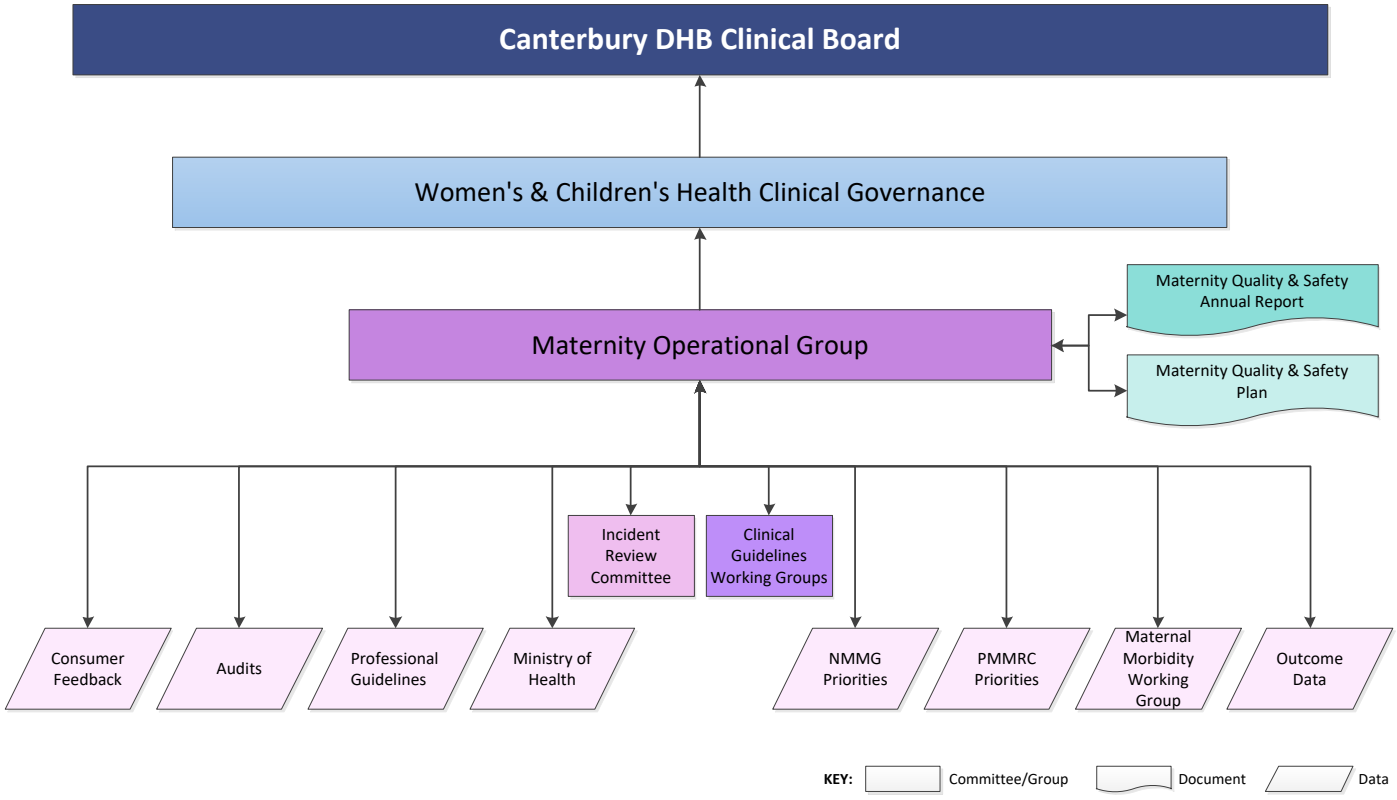


FIGURE 3. GOVERNANCE COMMITTEE STRUCTURE AND REPORTING LINES

Consumer Engagement

Engaging with our community through consumers of our maternity service continues to be one of the priorities of the CDHB Maternity Quality and Safety Programme (MQSP).
The forum has grown organically since the first meeting in 2017 and is attended by various community groups, which include:

- Representation from Manawhenua ki Waitaha who are a representative collective of the seven Ngāi Tahu Rūnanga that are in the CDHB's district of responsibility
- Canterbury Breastfeeding
- PND Group
- NZ Chinese Association
- La Leche League
- Home Birth Canterbury
- Canterbury Homebirth Associations
- Remote rural and rural hapū and wahine
- Nepalese community
- St. John of God, Waipuna
- Pregnancy Help

Some of Women's Health Advisory Forum members. From left to right: Dahlia Xander, Jen Coster (Chair), Sam Burke (CDHB), Sonya Coster, Shanti Paudel and Emily and Archer Roxburgh

Kaikoura Women's Health Advisory Forum members. From left to right: Amanda Brown and baby Madelyn, Lisa Kahu (Vice Chair) and Bronwyn Lamond and baby Charlotte

Consumer members represent the advisory council at different forums, for example, the Maternity Operations Group and do so as nominated by the council and are representative of all members and the groups they link into.

The group provides the opportunity for information sharing, presentations, updates on maternity projects and networking. The meetings are held every quarter at Burwood Hospital and as a DHB we actively seek feedback and consultation on quality work that we are reviewing or developing.

This Forum sits within the portfolio of the Maternity Quality and Safety Coordinator and is supported by the Director of Midwifery.

"The past few years has seen the role of consumers become integral and imbedded within the various groups and meetings at the CDHB. Consumer representatives bring with them a wider community perspective both from their individual experiences and from the community groups they are involved with.

It is my honour to sit in the role of chair of our consumer council. To lead this group of diverse and motivated women is a real privilege. Our members come from groups across the community and it is their feedback that is instrumental in helping improve services for women/wāhine and their pēpi across the CDHB services.

We now are also joined by representation from the Hurunui and Kaikoura. Equity of access to care is huge, so having representation from our rural women is fantastic. This year we welcome Lisa Kahu to the role of Vice Chair. Our group grows each year in diversity and strength, it is exciting to see. During the past year our consumer representatives have continued to be involved with various areas within Women's and Children's health, such as Maternity Operations Group, Baby Friendly Hospital Initiative meetings and Clinical Governance. I have also been a part of the National Maternal Fetal Medicine policy working group. Our consumers have been a large part of shaping the new Maternity Strategy and provide a great deal of feedback on information documents for Women's Health".

Jen, Chair, Women's Health Advisory Forum

Baby Kayla-Rose, 5 weeks and 1 day safe sleeping in her Pēpi-pod®

Strengthening and Supporting our Maternity Team

LMC Liaison role

Helen Fraser,

LMC Liaison Midwife

The LMC Liaison role was developed as a part of establishing our Maternity Quality and Safety Programme. This was in recognition that the maternity workforce extends across the community, with approximately half of the midwifery workforce working in the primary sector. This role is now considered business as usual with the purpose of the LMC liaison role to:

- improve two-way communication for the primary-secondary interface as a key stakeholder in the provision of maternity services;
- actively contribute to the maternity clinical governance framework as a representative of the primary midwifery workforce;
- be an advocate for primary care in planning services within limited resource

"My name is Helen Fraser and I am the LMC Liaison. I am also a Lead Maternity Carer running a full caseload and am an active member of the Canterbury West Coast Region of the New Zealand College of Midwives (NZCOM).

Within my role I attend many regular meetings including Maternity Operations Group, Incident Review, Child and Youth Workstream as well as Maternity Strategy Planning.

This year it has been my pleasure to be involved in the implementation and planning of the Maternity Assessment Unit which is showing itself to be invaluable. I have also been an active party in the set up and rollout of the new Maternity Early Warning System (MEWS). I am also involved in one on one meetings if there have been concerns raised regarding communication or practice issues.

Every quarter I encourage all LMC midwives to attend a forum with Norma Campbell, Director of Midwifery. This enables open discussion and a chance to air any issues. I continue to strive to improve communication at all levels and I welcome contact from anyone. I try to be visible and available to all midwives and I liaise daily with the midwifery community.

I meet regularly with Norma Campbell and Katherine Gee, Midwifery Manager and am in close contact with the Chair of the NZCOM Canterbury West Coast Region. I attend the monthly meetings of the NZCOM Region where I feedback to the members both as a group and individually".

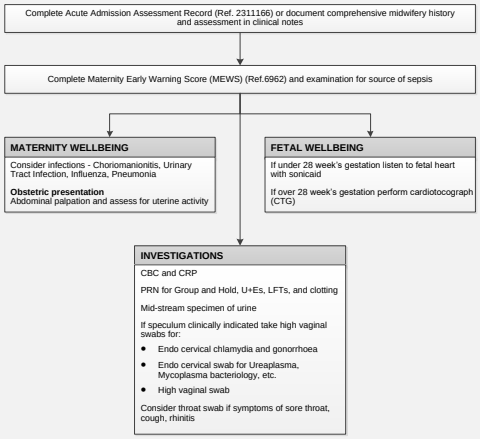
Overview of MQSP Priorities 2018/19

This table summarises the quality improvement work undertaken by our Maternity Services in the 2018/19 years. The work is the result of interdisciplinary collaboration and the involvement of consumer representatives.

- Indicates that the work has been completed and / or in business as usual phase
- Indicates that the work is in progress / underway and nearing completion
- Indicates that there is still a significant amount to achieve before completion

	Priority area	Progress Report	Status
1.	To ensure women have access to appropriate mental health services during pregnancy and postpartum NMMG Workplan 17/18 PMMRC (Maternal Mortality) Recommendations, 2018 CDHB Annual Plan 2018/19	A multidisciplinary group from all sectors involved in maternity and tamariki ora services was formed to evaluate the awareness, access, use and effectiveness of the CDHB maternal mental health pathways and services for inpatient and community maternal mental health. It was identified that a complete stocktake of what was available in Canterbury was required as it was very disjointed and not all services were known to the community and health providers. This stocktake included not only DHB funded services but also non-government organisations that provide a myriad of support services for māmā and whānau/family. It was recognised that different services would be accessed depending on the needs of the māmā and that they needed to encompass a holistic approach to supporting wellbeing, which included: - reducing isolation and linking into networks and support groups - providing clothes, equipment and cooked meals - referral to professional services, i.e. counselling, smoking cessation - a 'one stop shop' for advice and education opportunities - assistance navigating government agencies for financial support - phone and online support The next stage of the project is to draw all the services identified in the stocktake into an easy-to-use one or two pages that can be distributed widely and uploaded onto both Healthinfo and Canterbury community HealthPathways Maternal mental health is also incorporated into the CDHB Maternity Strategy as a priority area and we have included this as ongoing work in our MQSP priorities and action plan for 2019/20.	   
2.	To review best practice for late pregnancy ultrasound and induction of labour timing using the principles of the 'Choosing Wisely'	When we developed this priority, our local aim was to continue to build on the work developed under the umbrella of the 'Choosing Wisely' campaign and to develop evidence-based resources that could be used by health professionals to assist with informed decision making. At the same time work was undertaken nationally with several professional groups including the New Zealand College of Midwives and	

	Priority area	Progress Report	Status
	campaign, to reduce unnecessary investigation or intervention 2 of 2017/18 priorities and action plan NMMG Work plan 17/18	The Royal Australasian and New Zealand College of Obstetricians and Gynaecologists (NZ Committee). All the Choosing Wisely statements are available on the Choosing Wisely website. These were launched in August 2018, giving a vital national consistency around appropriate clinical practice. The work we have done is now also reinforced by the draft Ultrasound in Pregnancy Guidelines which we are now awaiting the release of. The implementation of these will undoubtedly be a part of the 2019/20 work programme as we await their final publication.	
3.	To continue to increase the CDHB spontaneous vaginal birth rate 4 of 2016/17 priorities and action plan NMMG Work plan 17/18	Our expected outcome for this priority was to complete and implement the CDHB 'Delay in labour' guideline to give consistent best practice points for management of delay in the second stage of labour. The Delay in Labour guideline was published and disseminated in February 2019.	
4.	To continue to implement and evaluate project work to reduce the CDHB episiotomy and 3rd and 4th degree tear rate 4 of 2016/17 priorities and action plan	Warming cabinets to provide perineal support in the second stage of labour are formally trialled and evaluated in a primary unit setting with 100% positive feedback from LMC's. We are now planning how to implement the warmers into the tertiary birthing suite for use by women without an epidural. The CDHB '3rd and 4th degree tear' guideline has been reviewed and updated based on best practice.	  
5.	To reduce CDHB postpartum haemorrhage rate (PPH) and sequelae, i.e. blood transfusion rates 4 of 2016/17 priorities and action plan PMMRC (Maternal Mortality) Recommendations, 2018	We worked with our information analysts to create a dashboard that covered the specific time frame to align with the NZ Maternity Clinical Indicator report (2016), where we had been identified as an outlier for PPH rates. We then further developed the dashboard to inform our local PPH rate from 2016 to current time. This allowed us as a multidisciplinary team to 1) identify our PPH rate over time and 2) investigate potential contributory factors for increased PPH rates, for example, induction of labour, caesarean section and instrumental birth. One action from this work has been to communicate to all staff regarding appropriate active third stage management for "at risk" women. The dashboard is now being developed further by our decision support team into a 'live' dashboard that will be able to be viewed in the ward areas. The dashboard will also continue to be monitored by the Maternity Operations Group. The data has also been shared with our maternity consumer group to see if we can utilise the dashboard for the benefit of increasing knowledge for women/wāhine.	   

	Priority area	Progress Report	Status
		It has also been shared with our midwifery educators to include in any relevant staff education.	
6.	To review the incidence of sepsis in pregnancy and postpartum, and implement measures to better prevent, recognise and manage clinical presentations MMWG Practice points and recommendations, 2018 PMMRC (Maternal Mortality) Recommendations, 2018	A retrospective audit of all clinically coded cases of sepsis, specifically: Acute observation unit admissions, maternity inpatient cases and postpartum gynaecology admissions is underway, to ascertain incidence and possible contributory factors and then develop an action plan for quality improvement activities. Maternity operations group have considered the development of septic bundles for the primary units, this is a work in progress. A clinical management pathway has been developed for the management of suspected antenatal sepsis for the Maternity Assessment Unit.  Maternity antenatal sepsis pathway for Maternity Assessment Unit  The 'preventing maternal morbidity: Is it sepsis?' developed under the umbrella of the PMMRC has been incorporated into regular education sessions. The CDHB (Cohort 1) went live with phase 1 of the implementation of the NZ National Maternal Early Warning System (MEWS) in October 2019. This project has two further planned phases to rollout across the entire CDHB.  	

	Priority area	Progress Report	Status
7.	To continue to increase use of primary birthing units. 5 of 2017/18 priorities and action plan NMMG Work plan 17/18 CDHB Maternity Strategy, 2018	Increasing birthing numbers and occupancy of our primary maternity units has continued to be a focus for the CDHB. Further opportunities to focus on the promotion of primary birthing will continue with the renewed maternity strategy, and it will be included as ongoing work in our MQSP priorities and action plan for 2019/20. There has been a continued increase in primary and home birthing since 2013 as shown in Figure 2, page 16.	
8.	To continue to improve the screening and referral rates of women for family violence. 6 of 2017/18 priorities and action plan	The risk screening form is now under review and will be re audited, and this work has been rolled over into the MQSP priorities and action plan for 2019/20.	
9.	To ensure that by 2021, 90% of pregnant women are registered with a Lead Maternity Carer in the first trimester, with an interim target of 80% by 2019, with equitable rates for all population groups. Better Public Services: A Good Start to Life, 2017 Maternity Clinical Indicators (2016), 2018 9 of 2017/18 priorities and action plan	As a DHB we have continued to promote the importance of early contact and registration with a lead maternity carer through our Healthinfo page. We have also worked in liaison with the Regional NZCOM and midwifery resource centre to support women/wāhine who have been unable to initially secure LMC care during the festive season since 2017. This system is now well embedded and has been well received. Our feedback survey showed: - 93.5% of women stated it was clear who to contact when labour commenced - 82.6% of women were happy about the communication processes - 95.7% of women stated it was clear who would be answering their call - 87% of women were happy with who was allocated to provide antenatal care and knowing when to come to the hospital if required We have engaged with the Women's Health Advisory Forum, to bring further ideas from the communities they represent to identify opportunities to promote early registration with 'hard to reach' groups.	

	Priority area	Progress Report	Status
10.	To ensure every baby has a safe sleep space and that education, resources and referral processes, (e.g., smoking cessation and breastfeeding support) are readily available as a 'wrap around' service for women and their whānau. PMMRC Recommendations, 2018 13 of 2017/18 priorities and action plan CDHB SUDI Prevention Workplan 18/19 National SUDI Prevention Coordination Service Target, 2017	There has been some significant work in this area with the implementation of the Canterbury SUDI prevention plan with stakeholders from across the maternity, child health, NGO, Māori and Pacific health sectors. This plan takes into consideration the work proposed within the national SUDI programme, PMMRC recommendations and work already commenced in this space as a part of MQSP. A SUDI prevention Coordinator has been appointed working from Te Puawaitanga ki Ōtautahi Trust and an update of progress to implement processes for easy referral and access to safe sleep space equipment for vulnerable families is showcased on page 36. The SUDI Prevention Programme Coordinator for the South Island is actively involved in the CDHB SUDI governance group and in the review of the South Island policy for safe sleep. First days Pēpi Pod®s were introduced to all maternity wards and units across Canterbury to provide an alternative safe sleep space from the standard hospital cot for babies and is showcased on page 38. Quarterly safe sleep audits for all maternity and child health areas were recommenced after a hiatus to ensure we are monitoring safe sleep practice in the inpatient setting and providing quality parental education on safe sleep which extends to a safe sleep risk assessment for both home and away from home if needed. Online patient information on safe sleeping for babies and SUDI has been developed and is readily available via our Healthinfo webpage.	     
11.	Embedding of the CDHB Newborn Observation Chart (NOC) and Newborn Early Warning Score (NEWS) 14 of 2016/17 priorities and action plan NE Taskforce, 2017	Formal evaluation and validation of the CDHB Newborn Observation Chart (NOC) and Newborn Early Warning Score (NEWS) has been completed as per the quality PDCA cycle. A full update on the project is given on page 47.	
12.	To provide specialist obstetric and physician care closer to a woman's home. CDHB Maternity Strategy 2018	As a progression from the relocation of some of the diabetes clinics and the antenatal breastfeeding education classes to Burwood Hospital, we are looking at offering specialist clinics outside of Christchurch Women's Hospital and instead taking these closer to women through a hub and spoke model going forward. Maternity and gynaecology clinics are now held at the Rangiora Health Hub supporting the North Canterbury community by providing healthcare closer to home. A survey of women attending the Rangiora Health hub clinics will be carried out in the next month to gain feedback on the services being provided outside of Christchurch Women's Hospital.	 

	Priority area	Progress Report	Status
13.	To ensure cultural safety in our organisation. Health professionals in the maternity setting have received education on cultural safety; and understanding the cultural values of Māori and the Treaty of Waitangi relationship. PMMRC Recommendations, 2018	Education on cultural safety was included as a part of the compulsory DHB Core Competency day for all midwives and nurses and facilitated by the Executive Director of Māori & Pacific Health. A hui was held in September and attended by all Associate Charge Midwives, Midwifery Educators, Charge Midwives, Midwifery Manager and the Director of Midwifery. Content for the day included Meihana Model, Inequity of Service and the History of Ngāi Tuāhuriri Runanga and facilitated by both external and internal speakers. As a service we will also be looking for education days as elective education to continue developing our staff to work in a way that is acceptable to Tangata Whenua but also all the other cultures we meet each day. Staff feedback following the core competency day showed that the session was highly valuable, with 96% of staff agreeing and strongly agreeing that the course would make positive results/improvements to their practice as a result of the course. Our DHB "What Matters to You?" feedback forms demonstrate that we have 99% positive feedback from women that staff were respectful of their cultural and spiritual needs. 	
14.	To improve our workforce ratios to ensure ongoing recruitment and retention of midwives for a sustainable midwifery workforce. PMMRC Recommendations, 2018 CDHB Maternity Strategy, 2018 NNMG Work Plan 17/18	As a DHB we continue to work in collaboration with our DHB People and Capability team, union groups and our staff to recruit and retain midwifery staff, as outlined on Page 22. We have also worked with the wider DHB to review staffing levels and have commenced a project to put systems in place to roll out Trend care and Care capacity demand management programme (CCDM). As well as working within the service we are also liaising locally with our LMC community, tertiary institutes and regional NZCOM as well as the South Island Alliance (SIAPO). We are also actively engaged at a strategic national level.	

Maternity Quality Snapshot

Te Reo Maori signage developed in consultation with maternity consumer council

Comprehensive education and professional development programme provided for all staff and LMCs to support the continued development of the workforce

"What Matters to You?" feedback forms reported quarterly across the CDHB to identify areas for improvement

13 new graduate midwives were employed in 2018 and 2019

77 Midwives achieved Quality Leadership programme (QLP)

Maternal blood optimisation guidelines developed for antenatal, intrapartum and postnatal care

5 new maternity guidelines were developed and 7 updated and reviewed

Free education for all midwifery, nursing staff and LMCs

281 enrolments of pregnant women in Te Ha-Waitaha in the past 12 months for smoking cessation.

NZ National Maternity Early Warning Score introduced for use in Christchurch Women's Hospital

Our Quality Initiatives

Continued evaluation and improvement of our maternity services is vitally important to Canterbury DHB. It underpins our vision, values and goals for Women's and Children's Health and is encouraged to be a part of everyday business for the team. We are actively involved in the implementation of the wider organisations quality initiatives but also draw improvement projects from many sources, not limited to, but including:

- audit recommendations
- clinical case reviews
- incident investigation
- new evidence for clinical practice changes
- consumer feedback

Our quality activities always strive to ensure the women's experience is optimal by reducing variation and being evidence based.

During 2018/19 our team worked on many quality improvement projects, and for the purposes of our MQSP Annual Report we have chosen a handful to showcase our efforts.

Supporting our Community to Stay Well

SUDI Prevention

Kate Nicoll
SUDI Prevention Co-Ordinator, Te Puawaitanga ki Ōtautahi Trust

As of May 2019 a SUDI prevention coordinator has been employed through Te Puawaitanga ki Ōtautahi. This role is to put into action the CDHB SUDI prevention plan. The prime areas of focus over the last few months have been around education, health information and the distribution of safe sleep spaces.

Education sessions have been run by the SUDI prevention coordinator primarily around the national SUDI prevention messaging P.E.P.E. and the ways in which we engage with whānau. These sessions have been provided not only to health workers such as midwives but also workers within the NGO sector such as Early Start and also volunteer organisations that support whānau such as Pregnancy Help. There has also been the creation and updating of information on Health Pathways and Health Info for practitioners and whānau to access.

Wahakura and pēpi pods have been available throughout Waitaha for many years but have not previously been funded or distributed as widely as possible. Within Waitaha (Canterbury) there are now 18 distribution points where whānau, midwives and other professionals working directly with whānau can easily access these sleep spaces for pēpi. To the end of June 2019 80 wahakura have been placed in whare for new pēpi, 34 of these were made by whānau attending one of the Wahakura Wānanga held by Te Puwaitanga ki Ōtautahi. 77 Pēpi pods have been distributed.

Of all the safe sleep spaces given to whānau 35% went to māmā who were aged 20-24 years old, 61% went to whānau where pēpi was being exposed to cigarette smoking, 69% of the whānau indicated that they were intending to or were already bed sharing with pēpi. Of the pēpi who now have a safe sleep space through this new distribution process 52% identifed as Māori and 11% Pasifika. This is just the start of a scheme that has the aim to provide safe sleep spaces, ideally during pregnancy, to as many whānau who identify a need for their pēpi. It has also been a wonderful way to engage directly with whānau about the SUDI prevention messages and other services that support whānau in their new parenting journey such as Whānau Mai kaupapa Māori antenatal education.

Baby Sienna, 5 weeks and 2 days

Smoking cessation

Jon Amos
Service Development Manager
Planning & Funding, CDHB

Smoking cessation is a priority area for the CDHB. In all previous MQSP Annual Reports we have included our ongoing work on smoking cessation during pregnancy and reported on our results.

Stop Smoking Canterbury - Te Hā - Waitaha has had in place a pregnancy incentives programme since 2017, providing free medications (NRT products and Quickmist) and multi-sessional evidence based behavioural support to develop and maintain strategies and coping mechanisms to support a positive outcome. Sessions are provided to inidviduals and in groups. This has been widely adopted by community providers.

Facebook Stop Smoking Canterbury

There have been 281 enrolments of pregnant women in Te Hā - Waitaha in the past 12 months. With the help of the support listed above, of those 281, 132 enrolments became smokefree (carbon monoxide-validated at 4 weeks).

After an initial high number of enrolments that captured many women at any stage of pregnancy at commencement of the Pregnancy Incentive Programme, we now seem to have reached a steady rate of enrolments.

Maternity Annual Report 2017/18 presenters. From left to right: Suzanne Miller, Jen Coster, Andrea Robinson, Adrienne Lynn, Emma Jackson, Suzanne Salton, Amber Clarke, Bronwyn Torrance, Norma Campbell, Sam Burke

Promoting hospital safe sleep practices

Sam Burke

Maternity Quality Safety Programme (MQSP) Coordinator, CDHB

May 2019 marked the launch of a Canterbury DHB-wide quality initiative to provide an alternative safe sleep space from the standard hospital cot for babies.

First days Pēpi-Pod®s are now available for mothers to use with their newborn in *all* maternity wards and units across Canterbury.

The first days Pēpi-Pod®s reinforces safe sleep practice from the day a baby is born and provides a safe sleep space for a newborn and is closer to mum than the standard hospital cot.

Project work in this area relates directly to the CDHBs SUDI prevention plan and has developed following our extensive efforts to provide an alongside cot, particularly for our māmā following a caesarean section or difficult birth, where mobility is limited in the early postnatal days.

First days Pēpi-Pod®s are ideal for the single beds with the larger sized Pēpi-Pod®s available in our double-bedded rooms in the primary units.

Feedback on this initiative is ongoing from both staff and whānau in the form of a feedback form that comes with the 'package' that staff discuss at the time the pod is offered. To date feedback has been really positive with some of the comments as follows:

"I have used the pēpi-pod every day since my daughter was born. I have found it to be perfect to suit our needs. She can be close to me in the bed without the worry of me rolling on her which improved sleep quality. It was especially useful for the first couple of nights when I was unable to move much post C-section".

"The pēpi-pod allowed that I could sleep safely next to my baby. I love how easily I can put her in and out without getting out of the bed. Also the clear walls are great just to check on her".

"Found really useful, as I was tending to delay getting up and putting baby in cot, then I would fall asleep with her lying on me, so just being able to lean over and place her in the pēpi-pod worked really well".

Promoting and protecting breastfeeding

Sarita Gargiulo-Welch

Midwife, BFHI Co-ordinator, Women's and Children's Health

The Baby Friendly Hospital Initiative (BFHI) accreditation is a MoH mandated requirement for the provision of maternity and newborn services in New Zealand. BFHI motivates maternity and newborn services to implement the WHO/UNICEF Ten steps to successful breastfeeding. There is substantial evidence that implementing the Ten Steps significantly improves breastfeeding rates.

Canterbury DHB is audited every 3 years to maintain BFHI accreditation and we will be audited again in April 2020.

Regular self-auditing of the Ten steps to successful breastfeeding ensure quality improvements made are relevant and meaningful. The following are two such quality project examples.

Wait for the Weight

A skin-to-skin contact initiative

There has been significant mahi/work this year around raising awareness of the importance of immediate and uninterrupted skin to skin contact at the time of birth. The provision of 'Wait for the Weight' signs on scales in birthing suite serves as a visual reminder that we can, indeed, wait for the weight, while skin to skin contact is facilitated. With wide multi-professional input, a skin to skin in operating theatre maternity procedure was developed and published in May 2019. This helps to ensure that well babies born by caesarean section can also benefit from this important step towards breastfeeding success.

Mama Aroha cards

Another significant change during 2019 has been the introduction of the Mama Aroha Reference Cards. This is a full-colour, pictorial breastfeeding information resource for māmā and whānau and has been well received by consumers and staff alike. In addition to information around the benefits of breastfeeding, milk supply, positioning techniques, hand expressing, storage of expressed breast milk and management of common problems the Mama Aroha Reference Cards also provide up-to-date information around breastfeeding and SUDI prevention, smoking and alcohol. Mama Aroha reference Cards *replace* our previous breastfeeding information booklet – the 'green' breastfeeding book.

Whānau Mai

Cara Meredith

Oranga Team Leader / Breastfeeding Advocacy Service, Te Puawaitanga ki Ōtautahi Trust

Whānau Mai is a kaupapa Māori pregnancy and parenting wānanga offered at Te Puawaitanga ki Ōtautahi Trust. It is a journey through pregnancy, childbirth and the early weeks of parenting that incorporates a Māori world view and traditional Māori birthing practices.

The programme was initially developed and piloted by a Māori midwife with support from Te Runanga o Ngāi Tahu. Since this initial period there has been further development and it is now facilitated by two midwives on a regular basis with CDHB support. Whānau Mai establishes a strong link to the Māori World; building strength for māmā, pēpi and whānau. Wāhine, tāne and whānau learn about traditional Māori birth, whakapapa, Te Whare Tangata, breathing & mindfulness, oriori, rongoā, mirimiri, karakia, waiata, muka cord ties, ipu whenua and the importance of whakawhanaungatanga.

Whānau Mai is held at two different venues in Ōtautahi - the Philipstown Community Hub and at Te Puawaitanga. The programme is run as two separate wānanga. The first wānanga is for early pregnancy and addresses whakapapa and connection in relation to pregnancy and pēpi. The second wānanga is recommended after 28 – 30 weeks of pregnancy and is in preparation for Labour & Birth, Breastfeeding and Parenting.

Included in the programme are:

- Health and wellbeing in pregnancy
- Breastfeeding
- Labour and birth
- After baby is born
- Creating ipu whenua and muka cord ties; making and using rongoa such as Kawakawa balm

Providing parenting education closer to home and reaching into the community

Tessa Barnes

Pregnancy & Parenting Manager

Plunket

In 2019 Plunket started to offer courses in Culverden (rural North Canterbury) following a request from a local LMC. It has received great feedback from clients, the pregnancy and parenting facilitator and local LMCs and Plunket are planning on adding a further four courses in the Hurunui area per year. Of the two courses run in 2019, 12 of the 14 women were remote rural from areas such as Hanmer Springs, Waiau and Cheviot. Providing a service that is close to home for the women in her community.

Plunket also work in partnership with St John of God Waipuna to provide Youth (under 24 years) pregnancy and parenting education courses per year.

There is also four Mandarin pregnancy and parenting courses per year. These courses are run by a Plunket pregnancy and parenting Facilitator who is Asian, speaks Mandarin and has great knowledge of both Asian and New Zealand birthing and parenting practices.

Equitable access to contraception

Rachel Thomas

Manager, Planning and Funding, CDHB

There is now a provision in general practice for Low Cost Access to Contraception and a free funded long acting reversible contraception (LARC) for eligible women. Outreach clinics for high risk groups who may not access the service through general practice are to be developed, this will hopefully include a maternity provision.

Women who are eligible:

- are enrolled in a Canterbury General Practice and
- live in quintile 5 areas; or
- hold a community services card; or
- are high risk of an unplanned pregnancy and poor health outcomes, such as;
    - users of Community Alcohol and Drug Services;
    - under 25-year-old Maternity Service users
    - high users of Maternity Services
    - are in mental health residential services or
    - Are a high user of Community Mental Health Services

'The Provider' will provide:

1) **Free Long Acting Reversible Contraception (LARCs).** Free insertion and removal of funded LARCs (including Mirena® from the 1st Nov 2019) for the target population. No additional charges for consumables or a co-payment may be charged.
2) **Very Low-Cost Consultations for Contraception.** A maximum $5.00 co-payment may be charged.

Improving clinical outcomes

Response to retained swab/vaginal pack incidents

Christine Dwyer

Midwife Coordinator – Quality, Women's and Children's Health

Incident reviews following a series of retained swab/sponges highlighted shortfalls in our processes and systems, resulting in recommendations made and implemented to prevent any future occurrences as follows:

- Laparotomy sponges **with no tape** as used in the Birthing Suite operating theatre were replaced with laparotomy sponges **with tapes** to meet the Birthing Suite criteria that all swabs/sponges used for birth and perineal repair must have this additional safety feature. This was communicated widely across the service at many forums and education sessions.
- A multidisciplinary group commenced a review of the Open Book: Retained vaginal swabs following childbirth (HQSC, 2015) to determine what additional measures needed to be implemented with the following outcomes:

- A review of other national and international birthing units' defences against retained swabs
- A review of local gynaecology and main hospital to operating theatre transfers and operating theatre count procedures
- Approved access to Middlemore DHB Maternity swab count guideline including the use of highly coloured 'Pack insitu' bracelets which were adopted for use
- A review of CDHB count policies as applied in operating theatre and birthing rooms – (CDHB Surgical Count Policy currently under review)
- New maternity guideline developed - 'Swab and Instrument Counting Outside Theatre in Maternity Setting' - published July 2019
- All clinical documentation and guidelines reviewed and amended to include swab/pack count/insertion sections and removal plan sections, and Bakri balloon insertion and removal as appropriate
- PV Pack Insitu Sticker available in birthing rooms to be added to Pre-operative check list when transferring to operating theatre and PV pack insitu
- Use of 'laceration trays' which included gauze squares ceased
- Swabs and sponges for use in birthing rooms and operating theatre are all x-ray detectable with tapes. Single vaginal packs remain in use – all others in a pack of five
- Quality update presentation was included in the 2019 PROMPT courses entitled 'Retained swabs/sponges/packs' which highlights harm caused for women who experience retained swabs and measures taken to reduce and ultimately eradicate risk
- A new form was developed to replace the blank operation report form. The new form contains fields including 'vaginal pack insertion' and 'plan for removal' to prompt staff to document details. This new form was made available in birthing suite theatre and all theatre nursing, medical and midwifery staff were orientated to its use
- Count whiteboards in both obstetric operating theatres were amended to include a section headed 'On Arrival' to document if swabs/packs insitu and fetal scalp electrode insitu and whether a physical count of swabs had been completed in the birthing room before transfer
- Installation of count whiteboards in all birthing rooms to aid performing swab counts in the rooms by maternity and obstetric staff.

Obstetric Research update

Di Leishman

Research Midwife – University of Otago

RSV Vaccine in Pregnancy Study

The research project is testing the immune response and safety of the Respiratory Syncytial Virus vaccine in the third trimester of pregnancy. Christchurch Women's has been involved in recruitment for the last two winter seasons. Follow up of the babies is overseen by the paediatric department. It is planned that a similar trial will be available next year.

My Baby's Movements (MBM) Multi-Centre Trial

Enrolments completed mid-year for the My Baby Movement trial. 27 hospitals in Australia and New Zealand participated in the trial where woman could register and download a phone app that had a daily text reminder about fetal movements. Currently we are awaiting results to be published.

Cleft Lip and Cleft Palate Research

Aims to identify genetic and environmental risk factors for Oral Facial Cleft (OFC) and test plausible gene - environment interactions. This is a case control study. Inclusion: All cases of antenatal and new born oro-facial cleft.

Control interviews from non-affected families and involves face to face interview with both parents to identify genetic and environmental risk factors. Saliva samples will also be obtained from parents and siblings to look at DNA.

Rural professional development

Tina Hewitt

Midwifery educator – Women's and Children's Health, CDHB

In September 2018 two days of education, specifically around maternity and newborn skills were held at Kaikoura Health Hub. Thirty participants from the multidisciplinary team attended over the two days, facilitated by the midwifery educators and two lead maternity carers from the community.

Topics were teamwork, birth, preparation for birth, newborn respiratory distress, pre-eclampsia and eclampsia, post-partum haemorrhage and sepsis.

Participants gave positive feedback from the days, comments included:

- Having more confidence with maternity emergencies
- Being more familiar with the equipment in the birthing room and where to find it
- Better able to assist the midwife and/or GP with maternity care
- Being able to cope with a birth situation if happened quickly before a midwife/GP arrived
- Being aware of maternity guidelines page on internet

PROMPT- Practical Obstetric Multi Professional Training

Dr Sharron Bolitho

Senior Medical Officer, Obstetrics and Gynaecology, CDHB

(Prepared on behalf of the PROMPT Team)

'All clinicians involved in the care of pregnant women should undertake regular multidisciplinary training in management of obstetric emergencies.'

(NZ Ministry of Health endorsed recommendation (PMMRC, 2016))

What is PROMPT?

PROMPT is a multi-professional training course in the management of obstetric emergencies. In Aotearoa-New Zealand it is the predominant 'obstetric emergency' training course of the type that the Minister of Health recommends above. It is a key quality and safety strategy to reduce maternal and perinatal mortality and serious morbidity in Aotearoa-New Zealand.

The PROMPT course is the 'baby' of the PROMPT team at Southmead Hospital, Bristol. The team is currently led by, Midwife Cathy Winter, Professor Dr Tim Draycott and Anaesthetist Dr Neil Muchatuta. The course was developed as an intervention to decrease the number of poor outcomes for mothers and babies in the UK and is endorsed by the UK equivalents of the PMMRC and the UK professional colleges.

PROMPT is now 20 years old and has matured from a local hospital course into the international PROMPT Foundation, a charitable trust, which is active in research and provides courses at lower cost to low resource countries, in addition to providing the vast majority of multi professional obstetric emergency training in the UK, Australia and Aotearoa-New Zealand. RANZCOG holds the licence for the running of PROMPT in Australia, Aotearoa-New Zealand and the Pacific.

NZ PMMRC and the UK equivalents have identified that 40-50% of poor outcomes are preventable. In depth analysis of de-identified cases has revealed that poor team work and communication leading to delay in receiving care was a major factor in many cases.

What are the key strengths of PROMPT?

✓ **Multi-professional**

PROMPT is a truly multi professional course, run and attended by obstetric doctors, midwives, and anaesthetists amongst others. Just as in aviation training, the real team that works together needs to train together. You cannot practice team work if half the team are missing.

✓ **Realistic**

Typically, PROMPT is run in a unit's real birthing/clinical space. Actors birth, fit, bleed and collapse. The real team manages the emergency using real equipment, guidelines and resources. The concept that the more realistic the training is the easier it is to translate into clinical practice is well supported by evidence.

✓ **Regular**

Although the PMMRC recommendation is for 'regular' training not otherwise defined, the best improvements in clinical outcomes are associated with PROMPT programmes that aim to train at least 90% of all professional groups annually. Evidence suggests that learning retention declines significantly after one year, and that repetition is key to changing culture. Regular training increases

the likelihood that all health professionals will be 'on the same page' and develop good teamwork and communication as their modus operandi, aka 'the way we do things around here'.

✓ **Adaptable**

PROMPT can be adapted to be run in any health facility. It is run in primary, secondary and tertiary settings throughout Aotearoa- New Zealand. There is also a 'prehospital package' which has been rolled out in the UK for rural and remote midwives and paramedics.

✓ **Run in-house**

Each Health Facility has its own team of Instructors that run courses locally. It is 'owned' by the unit. Each unit decides length of course and which topics it will run and how. It is not reliant on a 'fly in fly out' (expensive!) team visit to run every course.

Does PROMPT improve clinical outcomes?

PROMPT has a robust published evidence base for effectiveness. Key research findings are;

- 50% reduction in Neonatal Encephalopathy (hypoxic brain injury)
- 100% reduction in permanent brachial plexus injuries (associated with shoulder dystocia)
- 34% reduction in maternal deaths at Mpilo Hospital Zimbabwe, 26% in Philippines
- 40% quicker delivery of emergency caesarean section
- 91% reduction in litigation costs at North Bristol Trust, UK
  For more information please refer to the NZ PROMPT website www.promptnz.org

  or the PROMPT Maternity Foundation website www.promptmaternity.org

Why is PROMPT a key Quality and Safety Initiative?

Things are more likely to go wrong in an emergency for multiple reasons such as tunnel vision, cutting corners, not following usual safety checks etc. Using the 'Swiss Cheese Analogy' during an emergency the holes in the cheese (barriers to a really bad thing happening) get larger making a poor outcome more likely. Emergency teamwork training makes the holes smaller again. There are many reasons for this such as improved situational awareness, so team members watch out for each other and catch errors before they occur. Some other factors that make the holes smaller are training a team to use guidelines and checklists, have defined roles and used closed loop communication.

PROMPT as a stand- alone course is a key quality initiative because by itself it can improve clinical outcomes. However, it also contributes to the CDHB's quality programme in 3 other ways;

1. PROMPT instructors and participants regularly identify potential systems errors that have the potential to cause an incident. These can be fed back to the quality department for correction before any real-world harm occurs.
2. PROMPT is an effective vehicle to implement staff training recommendations from serious event reports.
3. PROMPT attended regularly by all cadres of staff can help improve safety culture.

How is PROMPT going in Christchurch?

The Christchurch PROMPT team is proud to be an 'early adopter' of PROMPT in Aotearoa-New Zealand and has recently celebrated its 11th birthday in Christchurch. Midwife Educator Tina Hewitt and Dr Sharron Bolitho with the support of General Manager Pauline Clark brought PROMPT to Christchurch.

The drivers were the realisation that training in silos was not an effective strategy for improving teamwork in the management of obstetric emergencies. Over the years the CDHB has assisted WCDHB and South Canterbury DHB to set up their own courses. Part of the PROMPT instructor team also runs PROMPT in Ashburton a primary Birthing Unit.

In 2019 we have totally revamped PROMPT as follows;

- We have increased the capacity on the courses. We can now accommodate up to 48 participants on each of our 4 full day courses per year, so staff can attend more often.
- We are working more closely with the quality team, by introducing hot topics based on recent incidents, feeding back potential quality improvements and implementing quality initiatives in a timely manner.
- We have reduced formal presentations from seven to one key teamwork and communication 'lecture'.
- We have greatly increased the opportunities for hands on experience in a range of interactive group exercises, drills and skills and emergency scenarios.
- We are thrilled to be using the multiple purpose-built teaching and simulation spaces at the newly opened Manawa building.
- We have introduced several new topics, in particular; maternal critical care, escalation, upright breech birth, episiotomy for fetal distress, newborn life support update and retained swabs and packs.
- We are running our emergency scenarios at Christchurch Women's Hospital in new locations such as Level 5 Maternity Ward, Day Assessment Unit, Maternity Assessment unit and Radiology, as well as still running them on Birthing Suite and in Caesarean Section Theatre. Emergencies can occur anywhere in our Health Facility.

PROMPT is a key quality activity because it can:

- Improve outcomes for our Canterbury mothers and babies.

- Act as a vehicle to identify any issues and implement recommendations from incident reports and improve overall quality of care by being a powerful agent for safety culture improvement.

Finally, the place of PROMPT in Maternal Quality and Safety can be summarised 'in a nutshell' by the PROMPT slogan;

'PROMPT. Making Childbirth Safer, Together.'

The Newborn Observation Chart (NOC) and Newborn Early Warning Score (NEWS)

Dr Nicola Austin, Associate Professor, Clinical Director, Neonatal

Graeme Webb, Quality Coordinator, Child Health, CDHB

The Newborn Observation Chart (NOC) and Newborn Early Warning Score (NEWS) is an early warning system developed by the Canterbury District Health Board (CDHB) for use in babies receiving postnatal ward care. The chart has been in use since mid-2015 and overall has been successful tool in identifying those babies who develop physiological changes and behavioural compromise that can signal deterioration.

Early in 2019 a formal report of the audit into the use of the chart was released. The report encompassed two aspects; the results of both a survey of, and interview feedback from, end users, predominately midwives (61%) and an audit of use of the tool within a cohort of babies born within Canterbury in November 2017 (n=503). The latter was completed to validate the tools ability to identify babies requiring special or intensive care. Overall the feedback reflected a positive end user response to the use of the tool and the audit showed the tool was generally well used. Highlights from the report are as follows:

- Of those babies who scored a NEWS of 2+ triggering neonatal team involvement the NEWS tool yielded a sensitivity of 69 per cent and specificity of 92 per cent for identifying babies who require higher level care outside of a maternity unit.
- Māori and Pacific babies were nearly twice as likely to be identified as high risk (i.e. maximum NEWS of 2+), compared with the rest of the audit population. This suggests the tool has value for this population.
- Babies with fetal distress, had higher rates of having a maximum NEWS of 2+ (41 per cent vs 15 per cent, compared with the audit population). This greater rate of high NEWS scores led to greater sensitivity (85 per cent) but decreased specificity (73 per cent) for the outcome of neonatal team involvement.
- The audit was valuable in identifying adjustments required to the early warning scoring system that could improve the validity of the tool.

A National NOC / NEWS chart

Work is progressing with the development of a national chart and early warning score for use in maternity units across New Zealand. The national chart is one of four initiatives identified as having the potential to reduce the incidence and severity of neonatal encephalopathy along with other harm. The NOC/NEWS working group was commissioned by the Neonatal Encephalopathy (NE) Taskforce which was established through the Accident Compensation Corporation (ACC). The

working group includes representatives from the New Zealand College of Midwives, ACC and HQSC, along with paediatricians, midwives' neonatal nurses, a consumer and quality managers.

So far, the working group have:

- ✓ Drafted an observation chart – making changes based upon the CDHB audit results and the experiences of Counties Manukau DHB who use a similar chart to the one in Canterbury.
- ✓ Consulted with stakeholders nationally resulting in further changes.
- ✓ Identified other DHB's wanting to be involved in the 1st wave of implementation
- ✓ Appointed a project manager to oversee the rollout and support DHB's through the process

The group are aiming for the implementation of the chart to start in 2020.

Anna and baby Lucy

Our Outcomes

Clinical Indicator Analysis

The MoH data New Zealand Maternity Clinical Indicators 2017 (MoH, 2019) was published in February. The publication shows key maternity outcomes for each DHB for 2017 and is the most recent data available for compilation of this Annual Report.

The analysis below shows Canterbury DHB's performance and position in relation to both the indicators and national rate. Percentage figures are from either the DHB of domicile or the facility of birth, as indicated, and Clinical Indicators 2, 3, 4, 5, 6, 7, 8 and 9 are based on the standard primiparae only.

The "standard primiparae" (SP) make up approximately 15% of all births nationally.

The standard primiparae group are:

- Aged 20 – 34 years, with uncomplicated singleton pregnancies
- Birthing at full term with a cephalic presentation

This group represents the least complex situations for which intervention rates can be expected to be low and therefore give valid comparisons between institutions.

The purpose of these indicators is to increase the visibility of quality and safety of maternity services and to highlight areas where quality improvement can potentially be made.

As a maternity service we have, and continue, to use these clinical indicators in developing our quality planning. As a DHB we have deliberated that the SP is not reflective of the total wider birthing population due to the narrow criteria and consequently small numbers. This has the potential to 'disguise' areas of clinical outcome or intervention that could be investigated for improvement. In order to better analyse these clinical outcomes, we also review our total birthing population as seen from page 59 and findings from this work together with the clinical indicators have directed us in developing our MQSP priorities and action plan for 2019/20.

TABLE 4. CANTERBURY DHB CLINICAL INDICATOR ANALYSIS 2017

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower national rate	National Rate
Indicator 1 - Registration with a Lead Maternity Carer in the first trimester of pregnancy		77.0%	78.1%	80.0%	↑	72.3%

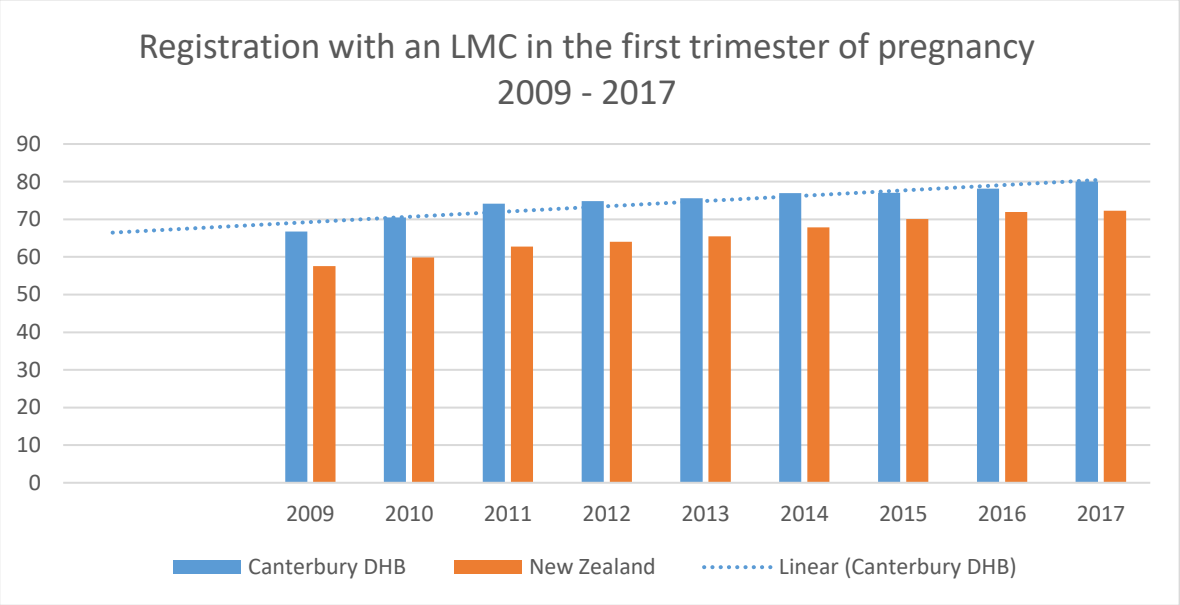


FIGURE 4. CDHB RATES FOR REGISTRATION WITH AN LMC IN THE FIRST TRIMESTER OF PREGNANCY 2009 – 2017

Comment: This indicator has continued with an upward trend and as a DHB we remain above the national average.

Action: There remains room for improvement and as a DHB we will continue to focus on opportunities for improvement; in particular equity of access to maternity services.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 2 - Spontaneous vaginal birth		SP 67.2%	SP 69.2%	SP 64.5%	↓	SP 65.1%

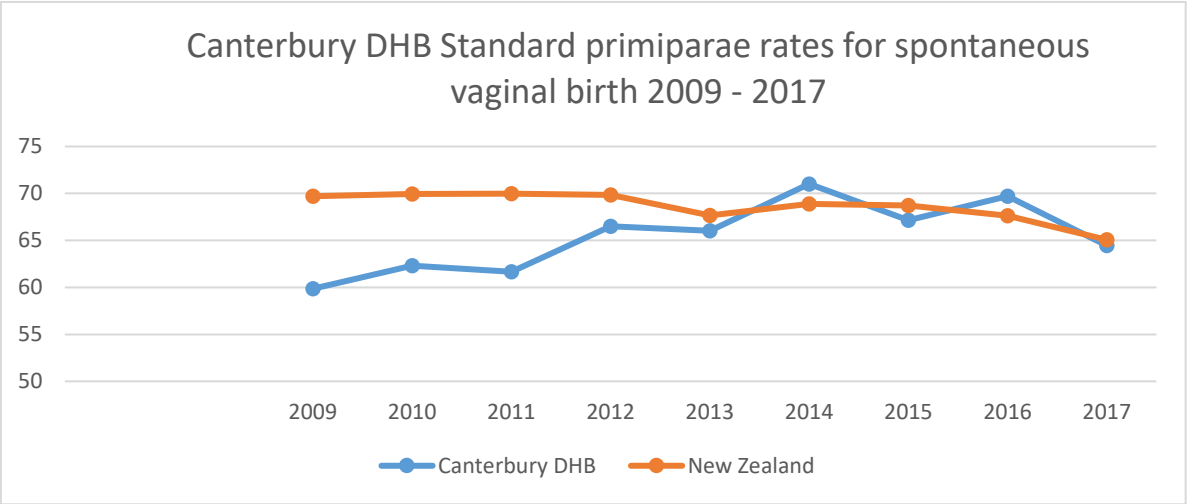


FIGURE 5. CDHB STANDARD PRIMIPARAE RATES FOR SPONTANEOUS VAGINAL BIRTH 2009 – 2017

Comment: 2017 Standard primiparae rates were level with the national average, there has been improvement since 2009, but a decrease in 2017 for both national and CDHB rates.

Action: This continues to be a focus for our service and remains a priority for our quality improvement action plan for 2019/20.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 3 - Instrumental vaginal birth		SP 20.3%	SP 16.5%	SP 19.0%	↑	SP 16.3%

Comment: 2009 to 2014 showed a consistent decrease in instrumental birth rate for the SP group, in 2015 the rate rose again but dropped again in 2016. In 2017 the rates have increased again warranting further analysis.

Action: Consideration of a multifaceted approach following analysis of local data, including professional education.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 4 - Caesarean Section		SP 12.5%	SP 13.6%	SP 15.1%	↓	SP 17.6%

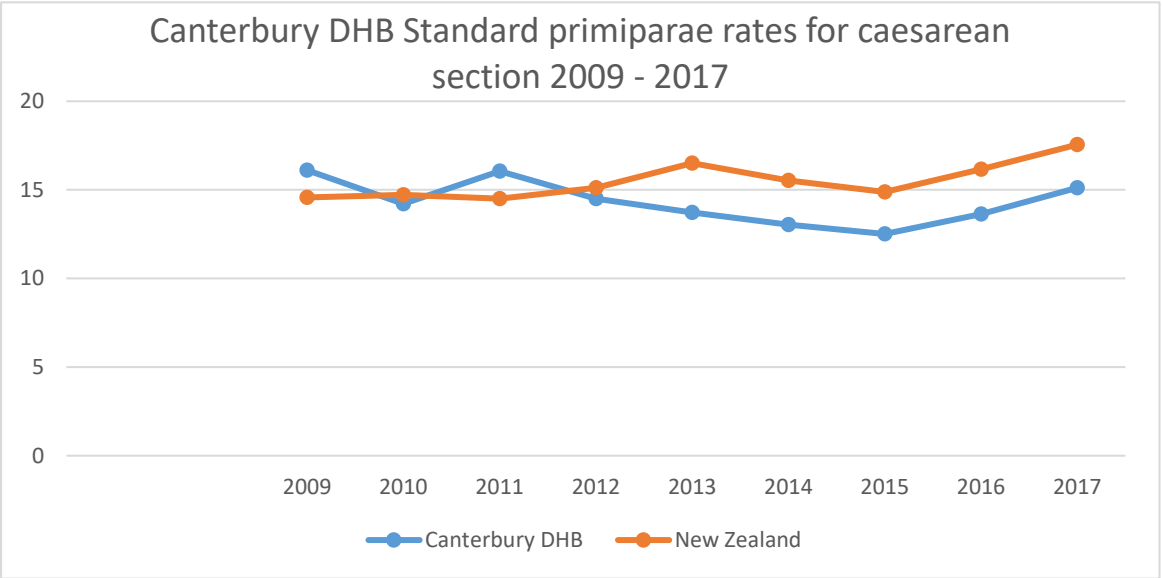


FIGURE 6. CDHB STANDARD PRIMIPARAE RATES FOR CAESAREAN SECTION 2009 – 2017

Comment: The SP rate had been consistently below the national average since 2012. While it remains below the national average in 2017 it has increased locally in the last two years.

Action: This indicator has been discussed with the multidisciplinary team and there are further measurements that could be collected and analysed in relation to this indicator to identify quality improvements. The transition from the Caresys source system to the South Island Patient Information Care System (SIPICS) and Health Connect South forms in June 2019 has provided the CDHB with the opportunity to bring a broader range of data into the South Island Shared Data Warehouse. As a CDHB we look will look forward to being able to include these measures in future reports and to continue to improve data quality moving forward.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 5 - Induction of labour		SP 4.3%	SP 6.4%	SP 6.2%	↓	SP 7.6%

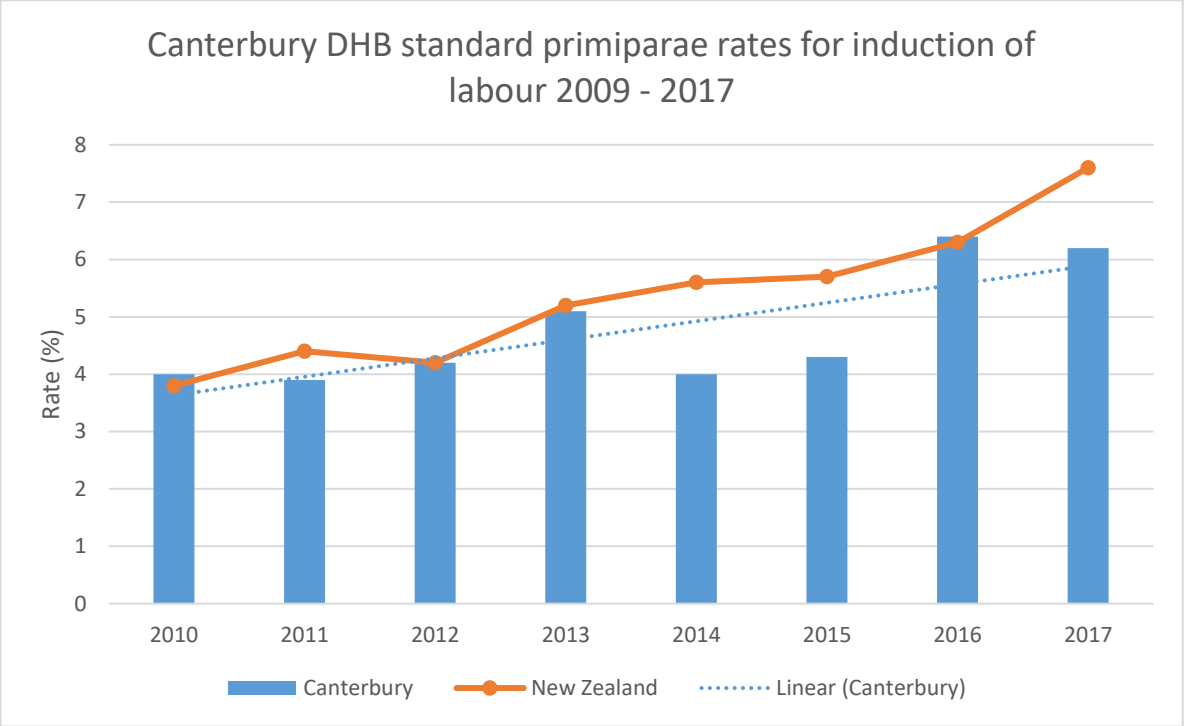


FIGURE 7. CDHB STANDARD PRIMIPARAE RATES FOR INDUCTION OF LABOUR 2009 - 2017

Comment: Nationally there is a consistent increase in induction of labour rates. The SP group for the CDHB remains relatively static after a sharp increase of 2.1% in 2016.

Action: Implementation of proposed Induction of Labour in New Zealand – A clinical practice guideline 2019.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 6 - Intact Lower Genital Tract		SP 30.0%	SP 34.4%	SP 32.9%	↑	SP 27.7%

Comment: The rate of intact lower genital tract for the SP group has remained static. 2017 data showed that we remain higher than the national average.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rates	Higher or lower than national rate	National Rate
Indicator 7 - Episiotomy without third and fourth degree tear		SP 22.5%	SP 17.2%	SP 23.2%	↓	SP 24.5%

Comment: The rate of episiotomy without 3rd and 4th degree tear for the SP group remains high and has been attributed to our instrumental rates.

Action: This data is from 2017 and in the last two years there has been a significant amount of quality work undertaken to improve our perineal trauma rates. We will continue to implement and evaluate our quality work in this area.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 8 - Third or Fourth Degree Tear without episiotomy		SP 6.1%	SP 5.4%	SP 4.3%	=	SP 4.4%

Comment: Our rates for the SP group show a continued decrease since 2015 which is testament to the ongoing quality work over the last two years to improve our rates in this area as outlined on page 29.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 9 - Episiotomy with third or fourth degree tear		SP 1.5%	SP 0.8%	SP 1.6%	↓	SP 1.7%

Comment: This clinical indicator rate has doubled from 2016. While this rate is slightly below the national average for the SP group, an audit of our local data in 2017 showed that we have had a consistent and increasing rate of episiotomy with a third and fourth degree tear and is more reflective of the local audit results and previous years.

Action: We will continue to implement and evaluate our quality work in this area as discussed under clinical indicator 7.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 10 - General Anaesthetic for Caesarean Section		7.2%	5.3%	7.5%	↓	8.2%

Comment: Canterbury rates for women having a General Anaesthetic (GA) for caesarean section remains lower than the national average.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicators 11 and 12 - Blood transfusion after Caesarean Section and Vaginal Birth		3.5% Caesarean 2.3% Vaginal	3.0% Caesarean 2.7% Vaginal	3.0% Caesarean 2.7% Vaginal	= ↑	3.1% Caesarean 2.2% Vaginal

Comment: In 2017 the rate for women requiring blood transfusion following caesarean section was slightly above the national average but not statistically significant. The rate for women requiring a blood transfusion following a vaginal birth has remained static and above the national average.

Action: Work on our local postpartum haemorrhage (PPH) rate was set as one of the MQSP priorities for 2016/17 and work to date and ongoing is outlined on page 29.

Indicator	Title	2015 CDHB (n)	2016 CDHB (n)	2017 CDHB (n)	National (n)
Indicator 13 - Diagnosis of eclampsia		(n = 2)	(n = 0)	(n = 3)	(n = 17)

Comment: This data refers to diagnosis of eclampsia during birth admission. Eclampsia was diagnosed 17 times in 2017 nationally, which is reduction in the previous report, three were made in Canterbury.

Indicator	Title	2015 CDHB (n)	2016 CDHB (n)	2017 CDHB (n)	National (n)
Indicator 14 - Peripartum Hysterectomy		(n=4)	(n = 1)	(n = 2)	(n = 29)

Comment: In 2017 two cases of peripartum hysterectomy were reported. These cases has been reviewed and appropriate management of care was noted.

Indicator	Title	2015 CDHB (n)	2016CDHB (n)	2017 CDHB (n)	National (n)
Indicator 15 - Mechanical ventilation		(n=3)	(n = 1)	(n = 2)	(n = 11)

Comment: All Canterbury cases of pregnant or postnatal women requiring ICU admissions during 2017 were reported to the MMWG for multidisciplinary review at a regional level. These notifications continue to be made and all clinical cases with an unexpected or adverse outcome are reported and reviewed through our Safety 1st incident management system.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 16 - Tobacco use during the postnatal period		10.4%	10.0%	8.9%	↓	10.5%

Comment: This indicator monitors maternal tobacco use at two weeks postnatal. Our 2017 rate demonstrates that we are below the national average of 10.5%. The national rate has continued to decrease steadily as has Canterbury's rate.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than national rate	National Rate
Indicator 17 - Pre-term births (under 37 week's gestation)		8.2%	7.5%	7.8%	↑	7.5%

Comment: The rate of pre-term births for the CDHB had remained relatively static since and this is comparable with other tertiary facilities in NZ.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than the national rate	National Rate
Indicator 18 - Small babies at term (37 – 42 weeks gestation)		2.6%	2.0%	2.3%	↓	2.9%

Comment: CDHB rates remain below the national average of 2.9% and remains consistent with previous data.

Indicator	Title	2015 CDHB Rate	2016 CDHB Rate	2017 CDHB Rate	Higher or lower than the national rate	National Rate
Indicator 19 - Small babies at term (Born at 40 – 42 weeks gestation)		37.4%	35.7%	40.4%	↑	31.9%
Comment: The rate for small babies at term (40 – 42 weeks) for our DHB is higher than the national average. Action: Include review of Intrauterine growth restricted (IUGR) and induction of labour management as a part of the MQSP priorities for 2019/20.						

Indicator	Title	2014 CDHB Rate	2015 CDHB Rate	2016 CDHB Rate	Higher or lower than the national rate	National Rate
Indicator 20 - Babies requiring respiratory support born at 37+ weeks gestation		1.9%	1.1%	0.9%	↓	2.0%
Comment: As a service we have spent some time this year working with our analyst and liaising with the MoH to explore the discrepancy in data between local and MoH reported data. Reasons for the discrepancy are outlined in the disclaimer at the beginning of this report. We have focused on looking our locally collected data as reported to the Australian and New Zealand Neonatal Network (ANZNN) to identify any areas for improvement.						

Conclusion

The indicators show a high level of safety for both mothers and babies in Canterbury and that these continue to be above average for New Zealand. Data for almost all the indicators show continuing improvement compared to the previous 2016 figures.

A review of the maternity clinical indicators (both SP and total Canterbury population) and local data by the multidisciplinary team have identified areas for further review, and these are included in the 2019/20 priorities and action plan.

There is a need to carry on our work to reduce the number of caesarean sections, instrumental births, induction of labours and to continue with planned projects aimed at increasing our spontaneous vaginal birth rate.

Data Analysis

The data in this section is from local Canterbury DHB Maternity data sources and shows 2016 and 2017 in comparison, with percentage increase or decrease noted for the year. Data here is counted either in terms of all 'deliveries' which is a count of all mothers or in terms of 'births' which is a count of babies. The data relates to only births in CDHB facilities and so excludes data for homebirths or St. George's Hospital.

Key: *2016-2017 increase* ▲ *2016-2017 decrease* ▼ *No change* =

TABLE 5. GESTATION AT BIRTH 2016 AND 2017 CANTERBURY DHB

Gestation at Birth	Number of Births 2016		Number of Births 2017	
Extremely preterm (<28 weeks)	23	0.40%	30	0.52%
Very preterm (28-31 weeks)	62	1.07%	50	0.86%
Moderate preterm (32-34 weeks)	137	2.37%	129	2.23%
Late preterm (35-36 weeks)	268	4.63%	289	4.99%
Term (37-41 weeks)	5202	89.86%	5195	89.74%
Prolonged (>42 weeks)	97	1.62%	96	1.66%
Total	**5789**	**100%**	**5789**	**100%**

= The gestational categories have been changed this year to better reflect the moderate preterm admissions to the neonatal unit. The data remains almost unchanged for 2017.

TABLE 6. TYPE OF LABOUR 2016 AND 2017 CANTERBURY DHB

Type of labour	Number of deliveries 2016		Number of deliveries 2017	
Spontaneous	3189	55.50%	3154	54.73%
Induced	1055	18.36%	1086	18.84%
Artificial rupture of membranes	271	4.72%	325	5.64%
Augmented	374	6.51%	330	5.73%
Did not labour	857	14.91%	868	15.06%
Total	**5746**	**100%**	**5763**	**100%**

= Data remains static for 2017, with little change in spontaneous labour rates.

TABLE 7. INDUCTION OF LABOUR 2016 AND 2017 CANTERBURY DHB

Induction of labour	Number of deliveries 2016		Number of deliveries 2017	
No	4336	75.46%	4296	74.54%
Yes	1410	24.54%	1467	25.46%
Total	**5746**	**100%**	**5763**	**100%**

= A review of our local data shows the proportion of women who had their labours induced remains static. Our standard primiparae rates showed an increase of 2.0% in 2016, having remained below the national average since 2014, this rate has remained relatively static for 2017. This has been identified as ongoing quality work for 2019/20.

Table 8. Method of Birth 2016 and 2017 Canterbury DHB

Method of Birth	Number of Births 2016		Number of Births 2017	
Vaginal	3007	51.94%	2956	51.06%
Vaginal Water Birth	357	6.17%	313	5.41%
Vacuum Extraction	306	5.29%	351	6.06%
Forceps	375	6.48%	394	6.81%
Caesarean Section	1744	30.13%	1775	30.66%
Total	**5789**	**100%**	**5789**	**100%**

Data remains static for 2016.

Table 9. Breech Births 2016 and 2017 Canterbury DHB

Breech Birth	Number of Births 2016		Number of Births 2017	
No	5685	97.02%	5515	97.06%
Yes	175	2.98%	170	2.93%
Total	**5789**	**100%**	**5789**	**100%**

There was very little change in the percentage of breech births between 2016 and 2017. Of the total breech births only 23 (13.53%) were vaginal births and of these only 6 (3.53%) were term gestation (37 - 41 weeks). 147 (86.47%) of breech presentations were delivered by caesarean section.

Table 10. Anaesthetic 2016 and 2017 Canterbury DHB

Anaesthetic	Number of deliveries 2016		Number of deliveries 2017	
None	2280	39.68%	2296	39.84%
Local	752	13.09%	725	12.58%
Pudendal Block	77	1.34%	108	1.87%
Epidural	1018	17.72%	933	16.19%
Spinal/Epidural	71	1.24%	83	1.44%
Spinal	1447	25.18%	1472	25.54%
Sublimaze IV (fentanyl)	3	0.05%	2	0.03%
Caudal	0	-	1	0.02%
General	80	1.39%	124	2.15%
Mixed general/Epidural	4	0.07%	6	0.10%
Other	14	0.24%	13	0.23%
Total	**5746**	**100%**	**5763**	**100%**

A review of our 2017 data shows there was an increase in the general anaesthesia rate. However, our rate remains well below the national rate. Data on our anaesthetic rates are captured by our senior anaesthetist and reviewed regularly.

TABLE 11. PERINEAL TEARS 2016 AND 2017 CANTERBURY DHB

Perineal Tears	Number of deliveries 2016		Number of deliveries 2017	
Intact	2945	51.25%	2920	50.67%
First Degree Tear	816	14.20%	810	14.06%
Second Degree Tear	1107	19.27%	1110	19.26%
3a Degree Tear	101	1.76%	73	1.27%
3b Degree Tear	36	0.63%	48	0.83%
3c Degree Tear	25	0.44%	26	0.45%
4th Degree Tear	11	0.19%	3	0.05%
Episiotomy	705	12.27%	773	13.41%
Total	**5746**	**100%**	**5763**	**100%**

The 2017 data shows a slight increase in the episiotomy rate, which is consistent with standard primiparae group for episiotomy and instrumental birth rate (New Zealand Maternity Clinical Indicators 2017). This has been included in our MQSP priorities and action plan for 2019/20.

TABLE 12. BLOOD LOSS AT DELIVERY 2016 AND 2017 CANTERBURY DHB

Blood Loss at Delivery	Number of deliveries 2016		Number of deliveries 2017	
<1000mL	5280	91.89%	5270	91.45%
1000ml - 1500mL	136	2.37%	146	2.53%
>1500mL	330	5.74%	347	6.02%
Total	**5746**	**100%**	**5763**	**100%**

Overall there was no significant change in blood loss.

TABLE 13. BLOOD TRANSFUSION REQUIRED 2016 AND 2017 CANTERBURY DHB

Blood Transfusion Required	Number of deliveries 2016		Number of deliveries 2017	
No	5588	97.25%	5606	97.28%
Yes	158	2.75%	157	2.72%
Total	**5746**	**100%**	**5763**	100%

There has been no change in blood transfusions required, and this is consistent with the (New Zealand Maternity Clinical Indicators 2017) which as mentioned in the previous data set, show an increase in blood transfusions following vaginal birth. This was identified and included in our MQSP priorities and action plan for 2108/19.

TABLE 14. FEEDING METHOD 2016 AND 2017 CANTERBURY DHB

Feeding Method	Number of Babies 2016		Number of Babies 2017	
Artificial	136	2.35%	145	2.50%
Exclusive	4158	71.83%	4093	70.70%
Fully	79	1.36%	77	1.33%
Unknown status baby in NICU	455	7.86%	483	8.34%
Partial	941	16.25%	975	16.84%
Other	20	0.35%	16	0.27%
Total	**5789**	100%	**5789**	**100%**

Since 2012 there has been an increase in the number of babies partially breastfed. Both exclusive and artificial feeding rates have remained static since 2012. These rates are reflective of all of the maternity facilities, and it is expected that exclusive and fully breastfeeding rates will be higher in the primary maternity units.

Neonatal data

The CDHB Neonatal Unit collate a minimum data set which feeds into the Australian and New Zealand Neonatal Network (ANZNN). The ANZNN provides a collaborative network and a quality framework that can monitor care and outcomes using quality data. The following three data sets are taken from the CDHB data supplied to the ANZNN and provides a more accurate representation of neonatal activity than the MoH Maternity Clinical Indicators.

TABLE 15. BABIES REQUIRING RESPIRATORY SUPPORT AND ADMISSION TO NICU BY GESTATION 2016 – 2017 CANTERBURY DHB

	Number of Babies 2016		Number of Babies 2017	
<26 weeks gestation	11	3.87%	15	4.71%
26 – 27 weeks gestation	13	4.57%	15	4.71%
28 – 31 weeks gestation	61	21.47%	48	15.09%
32 – 36 weeks gestation	100	35.21%	112	35.2%
≥ 37 weeks gestation	99	34.85%	128	40.2%
Total	**284**	100%	**318**	**100%**

Figure 8 demonstrates the number of babies requiring neonatal unit admission and respiratory support. The data was collated using the same criteria used for clinical indicator 20 of the MoH data New Zealand Maternity Clinical Indicators 2017 (MoH, 2019) and shows a steady increase in the rates of babies requiring neonatal admission and respiratory support at ≥ 37 weeks gestation.

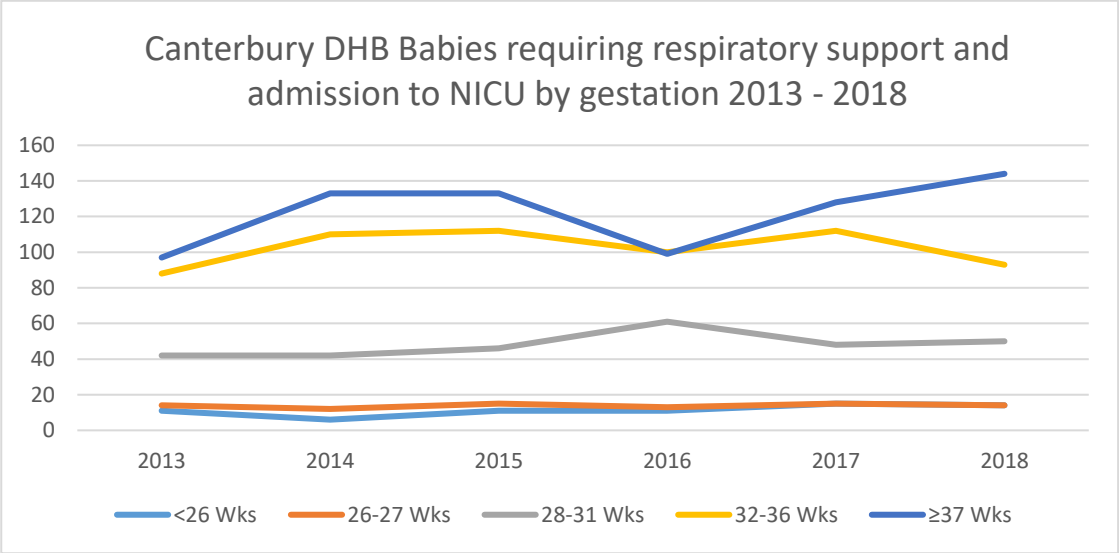


FIGURE 8. CDHB BABIES REQUIRING SUPPORT AND ADMISSION TO NICU BY GESTATION 2013 - 2018

Figure 9 shows the percentage of steroid administration for babies <32 weeks gestation. The data is taken from the clinical record and verified on MedChart. The coding for this data set is:

Code 0 – ***Unknown*** – Information not available

Code 1 – ***None*** – Corticosteroids not ever given during this pregnancy at a time likely to enhance lung maturation

Code 2 – ***Incomplete, less than 24 hours*** – First dose given less than 24 hours prior to the baby's birth

Code 3 – ***Complete*** – More than one dose of corticosteroids given, and first dose was given more than 24 hours and the last dose less than 8 days before baby's birth

Code 4 – More than 7 days – Steroids given more than 7 days before the baby's birth. If two courses given and 'one' is complete, use complete

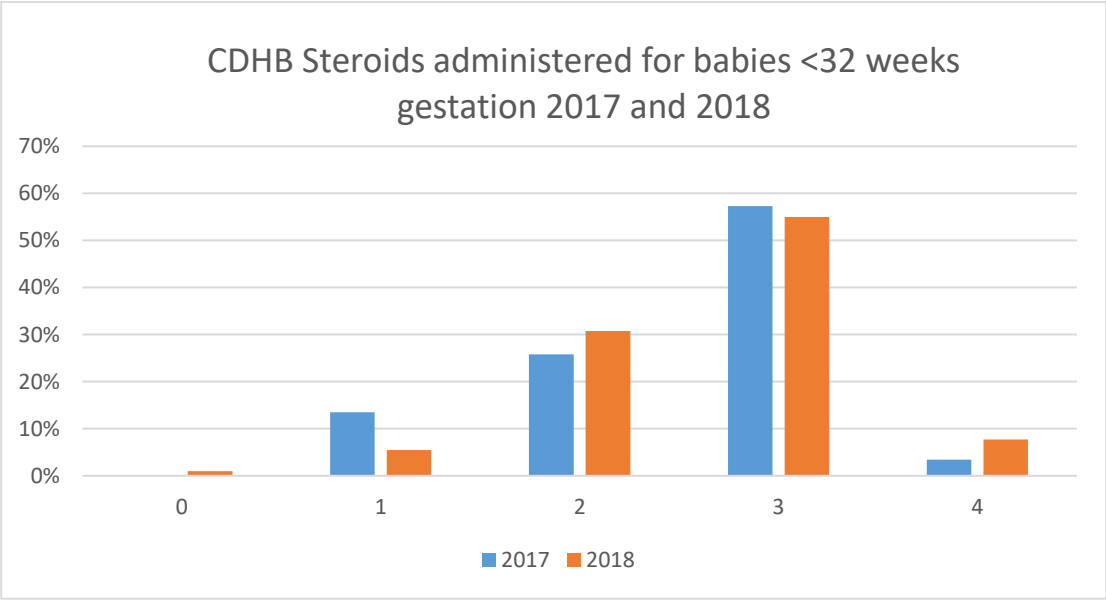


FIGURE 9. CDHB STEROIDS ADMINISTERED FOR BABIES <32 WEEKS GESTATION 2017 AND 2018

Figure 10 shows the percentage of Magnesium Sulphate given for baby's neuroprotection in preterm births <30 weeks in 2017 and 2018. As with the previous data set this is collected form the clinical record and verified on MedChart. The coding for this data set is:

Code 0 – ***Unknown*** – Information not available

Code 1 – ***Magnesium Sulphate not given at all***

Code 2 – ***Magnesium Sulphate stopped >24 hours before birth***

Code 3 – ***Magnesium Sulphate commenced > 24 hours before birth and stopped <24 hours before birth***

Code 4 – ***Magnesium Sulphate commenced between 4 to 24 hours before birth***

Code 5 – ***Magnesium Sulphate commenced within 4 hours of birth***

Code 6 – ***Magnesium Sulphate given but details not known***

Code 7 – ***Magnesium Sulphate/Placebo given for randomised trial***

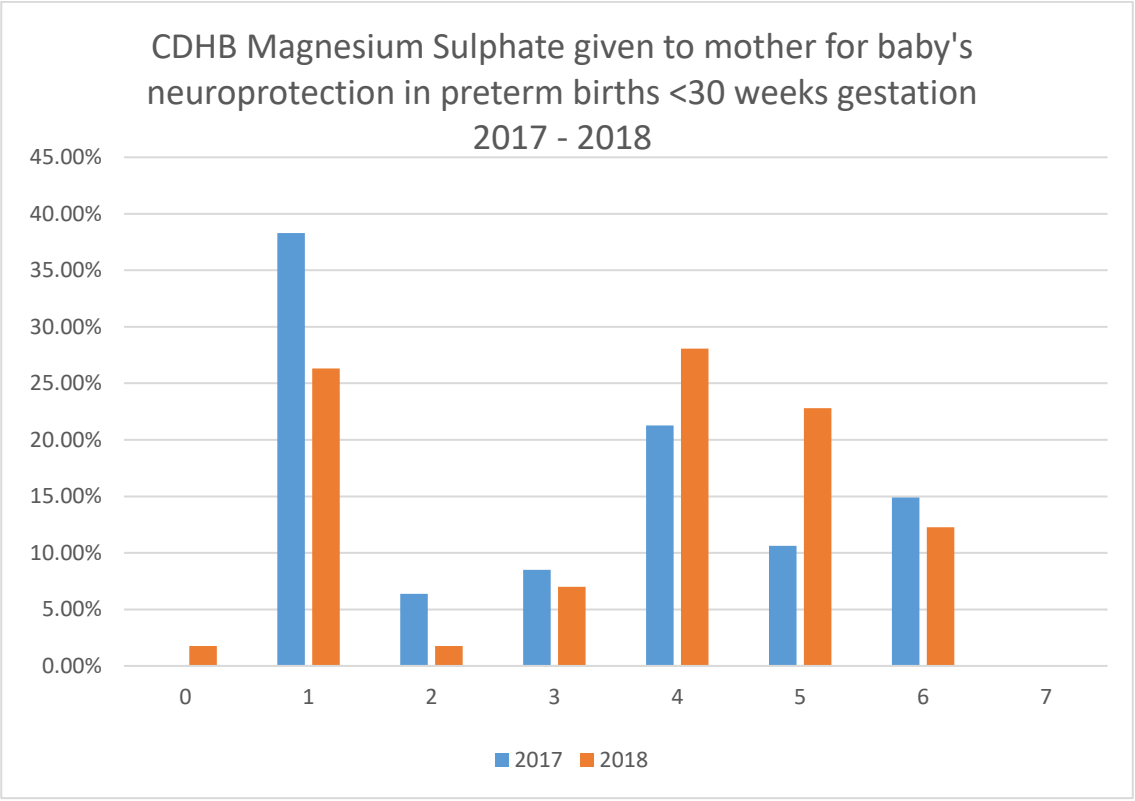


FIGURE 10. CDHB MAGNESIUM SULPHATE GIVEN TO MOTHER FOR BABY'S NEUROPROTECTION IN PRETERM BIRTHS <30 WEEKS GESTATION 2017 - 2018

MQSP Priorities and Action Plan 2019/20

As a DHB we have identified MQSP priorities for 2019/2020. We have taken into consideration the National Maternity Monitoring Group (NMMG) priorities for monitoring and investigation, as per the National Maternity Monitoring Group Annual Report (NMMG, 2019). We have also reviewed and included any priorities and recommendations from the Thirteenth Annual Report of the Perinatal and Maternal Morbidity Review Committee (PMMRC, 2019) and Maternal Morbidity Working Group Annual report (HQSC, 2019).

As a DHB we have also committed to an updated strategy for the Canterbury Maternity Health System and some key themes and work arising from the strategy are also incorporated into our MQSP priorities and action plan for 2019/20.

In addition, we have considered our local data and clinical outcomes, current and ongoing maternity projects, work by collegial work streams such as the Service Level Alliances and work supported by Planning and Funding.

These priorities were formed and supported by the Canterbury Maternity Operational Group and approved by the Executive Director Planning, Funding and Decision Support.

	Initiative/Priority	Action	Expected Outcome	Measure
1.	To ensure women have access to appropriate mental health services during pregnancy and postpartum NMMG Workplan, 2019 PMMRC (Maternal Mortality) Recommendations, 2018 CDHB Annual Plan 2018/19 MQSP 1 of 2018/19 priorities and action plan Canterbury Maternity System Strategic Framework, 2019	• Continue with quality work commenced in this area following a review of the current pathway and stocktake of the services available across Canterbury. Develop an easy to use one-or-two page document that can be distributed widely and uploaded onto both Healthinfo and Canterbury Community HealthPathways • Link in with primary health, Child and Youth Health work stream to ensure collaboration on infant and maternal mental health developments	• Up-to-date and easy to use information is available for health professionals and women to be able to contact support services if required during pregnancy and after birth	• A survey to health professionals working in maternity to demonstrate: a) Awareness of services available a) Correct use of pathways to access services b) Ability of services to respond to referrals
2.	District Health Boards (DHBs) should demonstrate that they have co-developed and implemented models of care that meet the needs of mothers of Indian ethnicity PMMRC Recommendations, 2019	• Engage with the Indian community through the Women's Health Advisory Forum and begin dialogue to explore opportunities to enhance pregnancy and birth care through for example early registration • Develop an action plan based on the ideas from the Maternity Consumer Forum	• Representation from the Indian community are actively involved in the Women's Health Advisory Forum • Input from the community group inform a new set of actions for implementation	• Data demonstrates an increase in the number of Indian women registering with a Lead Maternity Carer in the first trimester

	Initiative/Priority	Action	Expected Outcome	Measure
		• Develop an action plan based on the ideas from the Women's Health Advisory Forum		
3.	DHBs should monitor key maternity indicators by ethnic group to identify variations in outcomes. They should then improve areas where there are differences in outcome PMMRC Recommendations, 2019 Canterbury Maternity System Strategic Framework, 2019	• Continue to review the NZ Maternity clinical outcomes and local data to identify variation in outcomes • Continue to engage with consumer groups and seek input on clinical outcomes	• Quality initiatives are developed to address variation in clinical outcome	• Evidence of audit shows reduced variation in clinical outcome
4.	DHBs to monitor any data which is has variance outside national averages. Maternity clinical indicators - data expectations: • Review the data; • Investigate variances; • Implement initiatives; and • Report on outcomes. NMMG workplan, 2019 Canterbury Maternity System Strategic Framework, 2019	• Note where CDHB is an outlier in the clinical indicator data and in a multidisciplinary forum determine the priority areas to focus on for 2019/20 • Evaluate whether clinical audits provide information to assist with quality improvement data • Formulate action plans to address areas for improvement, particularly with outlier clinical indicators, specifically; Induction of labour/ Instrumental birth rate and episiotomy	• Data is used to evaluate the effectiveness of previous actions and plan future actions • Capture quality improvement activity resulting from comparing DHB outcomes to national trends	There is evidence of a direct correlation between clinical indicator data and relevant quality improvement initiatives and/or changes in practice

	Initiative/Priority	Action	Expected Outcome	Measure
5.	Support for women to access midwifery led birthing units that are desirable and meet the needs of our population and in turn increase use of these birthing units. Support for women around homebirth. MQSP 7 of 2018/19 priorities and action plan NMMG Work plan, 2019 Canterbury Maternity System Strategic Framework, 2019	• Further investigation of what determines women's preferences regarding place of birth • Build on quality initiatives already developed to promote primary birthing units • Develop strategies to further support LMCs to utilise primary birthing units and support homebirth	• Increase in number of women choosing to birth or have postnatal care in DHB primary birthing units • More women commence their labours at midwifery led units, or at home.	• Bed occupation and birth location indicates increasing usage of primary birthing units
6.	To continue to improve the screening and referral rates of women for family violence MQSP 8 of 2018/19 priorities and action plan Canterbury Maternity System Strategic Framework, 2019	• A plan for regular, mandatory training is made annually and all CDHB employed staff working in maternity services are attending these sessions once per year • Survey staff to ascertain the barriers to staff carrying out this screening	• Health professionals working in the maternity setting have all received training and are confident to screen for family violence • Women in violent and/or psychologically harmful relationships increasingly feel able to disclose this and work towards safety • The training sessions address the barriers that staff have identified	• Evidence of regular audits shows improved family violence screening results for pregnant women accessing DHB maternity services

	Initiative/Priority	Action	Expected Outcome	Measure
			• Health professionals are familiar with the screening tool and referrals process	
7.	All neonatal encephalopathy (NE) cases need to be considered for a Severity Assessment Code (SAC) rating. Neonatal hypoxic brain injury resulting in permanent brain damage (or permanent and severe loss of function) should be rated as SAC 1. Those who received cooling with as yet undetermined outcome should be rated as SAC 3 PMMRC Recommendations, 2019	• Review current processes in place for reporting through to the CDHB incident management system Safety 1st	• A clear pathway and notification system are in place for CDHB staff to capture all neonatal encephalopathy (NE) cases	• Regular reporting through the CDHB incident management system Safety 1st shows all neonatal encephalopathy (NE) cases are notified and have been considered for SAC rating
8.	All babies with NE, regardless of severity, should have a multidisciplinary discussion about whether to refer to the Accident Compensation Corporation (ACC) for consideration for cover as a treatment injury, using ACC's Treatment Injury Claim Lodgement Guide. Parents should be advised that not all treatment claims are accepted PMMRC Recommendations, 2019	• Review current processes in place for reviewing neonatal cases at a multidisciplinary level and processes in places for referral to ACC	• A clear pathway and notification system are in place for CDHB staff to review and notify ACC as required of all neonatal encephalopathy (NE) cases	• Regular reporting shows all neonatal encephalopathy (NE) cases are notified and have been considered for notification to ACC

	Initiative/Priority	Action	Expected Outcome	Measure
9.	Implementation of the Maternity Early Warning System (MEWS) CDHB wide MMWG recommendations, 2019	• Phase 2 (primary birthing units) and 3 (ED, gynaecology, medical and surgical) of the CDHB implementation of the MEWS continues as per the CDHB MEWS project charter	• MEWS is implemented into to all inpatient facilities areas across the CDHB for use by all woman with a positive pregnancy test through to six weeks postnatal	• Regular weekly and monthly audits demonstrate that we are reviewing outcome, process and balance measures (as per the MEWS project charter) and that the MEWS has been implemented successfully.
10.	Women who are admitted to an HDU or ICU should be offered the opportunity to debrief and discuss their experience between three and six months following the maternal morbidity event MMWG recommendations, 2019	• Review current processes in place for follow up of all women admitted to ICU for care following a maternal morbidity event	• A clear pathway for ICU and Birthing Suite/Maternity Ward staff is available to ensure a robust follow up process for all women admitted to ICU for care following a maternal morbidity event	• A review of monthly ICU admissions (currently reported) demonstrates that all women have a follow up at three and six months
11.	Realign maternity services to provide care closer to home when clinically indicated Canterbury Maternity System Strategic Framework, 2019	• Increase the number of regular education and specialist antenatal and postnatal clinics in locations other than Christchurch Woman's Hospital • Continue to link with rural and remote rural communities to understand real issues for women accessing maternity care and support services • Investigate the feasibility of telehealth to provide specialist	• Improve attendance at appointments • Improve access to services due to reduced pressure with car parking, travel to and from the city centre • Reduce perception of Christchurch Women's Hospital as the only place to birth • Appointments are optimised to value the woman's time	• Women report satisfaction about the service • More women attend their scheduled appointment • Less women have to spend time as inpatients as their assessment is more timely

	Initiative/Priority	Action	Expected Outcome	Measure
		consultation and care to rural and remote rural communities		
12.	Implement Trendcare and Care capacity demand management programme (CCDM) NMMG recommendations, 2019 Canterbury Maternity System Strategic Framework, 2019	• Work in collaboration with Capital and Coast DHB to put systems in place to roll out Trend care and Care capacity demand management programme (CCDM)	• To have an effective IT programme utilised by all members of the maternity team, that will assist the maternity service to better match the capacity to care with patient demand • There is a clear pathway for escalation during times of high acuity or reduced staffing	• Trendcare and CCDM enable analysis of staffing requirements in relation to acuity on a shift by shift basis • Monthly reporting through Safety 1st demonstrates escalation for safe staffing is robust and initiated in a timely manner

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