Hawke's Bay DHB Maternity Services

ANNUAL CLINICAL REPORT 2017

Acknowledgements

The Midwifery Director would like to sincerely acknowledge and thank the following people for their contribution to the content of this report.

Gabby Allen – Maternity Consumer Representative
Drs Andrew Abbot & Aofáine Mullins – Obstetrics & Gynaecology House Officers
Liz Banks – Maternal Well Being and Child Protection Coordinator
Susan Barnes – Improvement Advisor
Louise Curtis – Maternity Consumer Representative
Rawina Edwards – Safe Sleep Coordinator
Beatrix Exeter – LMC Midwife
Donna Foote – Maternity Quality and Safety Programme Project Midwife
Annie Frogley – LMC Midwife
Dr Kirsten Gaerty – Obstetrician and Gynaecologist
Dr Oliver Grupp – Consultant Paediatrician
Kirsten Harrild – Maternity Quality and Safety Programme Administrator
Sarah Howard – DHB Midwife
Julie Kinloch & Ila Northe - LMC Midwife and DHB Midwife, respectively
Sue Marshall – Case Load Midwife
Kirsten McMinn-Collard – Maternal and Child Health Smokefree Coordinator
Cheryl Newman – Family Violence Intervention Programme Coordinator
Sara Paley – Midwifery Educator
Diana Taylor – Immunisation Promoter
Aaron Turpin – Business Intelligence Analyst
Glenda Wheeler-Chisnall – Maternal Well Being and Child Protection Administrator
Dr Ikhwan Yusof – Obstetrics and Gynaecology Registrar
Timothy Zhang – Business Intelligence Analyst
The Community Midwifery Team – Sue Davey, Louise Gelling, Sarah Joyce, Jayne Kittow, and Cushla McLaren
The Diabetes Specialist Service – Healther Charteris, Kirsten Crawford, Anna Horgan, Dr Rob Leikis, Emma Mumford, and Andrea Rooderkerk

The stories and most of the photographs published throughout this report have been provided by members of the Hawke's Bay community. The Maternity Quality and Safety Programme Team would like to express their appreciation to all the parents who have granted permission for us to share their experiences and these special images. The Team acknowledges the contribution of four photographs from Paula Shannon Photography.

Foreword

Whanake Te Kura
“A child raised in a sheltered, caring and loving environment will help develop a child to their fullest potential”

It is with pride and excitement that Hawke’s Bay Maternity Services wishes to present its sixth annual clinical report. 2017 has seen the embedding of our new primary model of care and facility alongside its secondary services, continued increase in homebirths, and empowering women to make informed choices in place of birth with positive outcomes.

Equity focused quality improvement continues to be a driver for our quality initiatives with targeted approaches for those where access, engagement, and health outcomes are significantly poorer. Evidence continues to affirm that Māori are more likely to receive lower quality health care than non-Māori; therefore our motivation must be to reduce, eliminate, and address the inequities. Our responsibilities must be to provide safe, high quality services, partnership centred with women and whānau, and an accessible range of maternity services that are tailored to the population we serve here in Hawke’s Bay.

It is of note that 60% of pregnant women and whānau cared for in 2017 by our services live in the most deprived areas (deciles 8-10), with an over representation from Pacifica and Māori wahine and whānau. Thirty-five percent of women birthing identify as Māori, with 41% of babies registered as Māori. Our equity lens clearly notes differences in outcome between ethnicities, with evidence of positive and negative birth outcomes varying. These differences can be seen throughout this report both in the clinical indicator data, the overall data, and the focused quality initiatives. We also identify changes to improve these inequities.

Continued collaboration across the Hawke’s Bay health sector, co-designing and working in partnership with women, whānau, consumer groups, our local iwi, and Te Wāhanga Hauora Māori has driven forward programmes commenced in 2016 through 2017, and supported investment and positive change.

This report celebrates the positive change in our clinical indicators, benchmarking nationally against the 2016 Ministry of Health data, our achievements, and ongoing opportunities. It is also important to acknowledge the challenges and impacts of the social determinants of health and a health system experiencing increasing complexity and demand that influence and shape both maternity services and the next generation.

Jules Arthur, Midwifery Director and Chair of the Maternity Clinical Governance Group

Contents

Contents continued over....

Message from Dr Kirsten Gaerty

Obstetrician and Gynaecologist and member of the Maternity Clinical Governance Group

It is my pleasure to have the opportunity to add an opening statement to this year's annual clinical report and I highly recommend you take the time to read the sixth Hawke's Bay DHB Maternity Services annual clinical report, which summarises our work as a community of health professionals caring for pregnant women and their babies in the 2017 calendar year.

The annual clinical report provides an opportunity to reflect on our own local data, statistics, and quality initiatives that represent the outcome for our local women and their babies. This allows us not only to reflect on the areas where we can improve, but also to take time to celebrate our successes and the positive impact of the work that we do. There are many areas within this report where we must be proud of the improvements in care that we have instituted and use this as an inspiration to take into our care of women going forward. The consumer birth stories, which have been a feature of our report, will continue to be an opportunity to consider our impact and influence for women at an individual level. We are grateful to these women and their whānau for sharing their stories, and to our consumer representatives for facilitating this unique insight.

While the perinatal morbidity and mortality national review committees (PMMRC) and maternal morbidity (MMWG) review panel set national recommendations for improvements in care based on national data, we need to review these in the context of our own environment. As such, our own local data as set out in this report is a powerful reflection of the work that we do. You will find enclosed within the report our local initiatives and responses to these national recommendations.

2017 has brought its own challenges with an ever-increasing complexity of a proportion of the mums and babies that we care for and the steadily increasing acuity across all our clinical areas. Improvements in best practice and our local commitment to ensure these are implemented have also increased the workload, particularly for our District Health Board midwifery staff. As a group of Obstetricians we continue to work with and support the midwifery management team in their efforts towards an increased midwifery staffing level within the hospital.

I would like to take the opportunity to acknowledge and appreciate the hard work of all the staff that continue to provide high quality maternity care in a frequently challenging environment and this is especially so in the care of our most vulnerable families. I am proud to be part of the team that does this amazing work.

While, due to the very nature of Obstetrics, things sometimes don't go the way we want them to, we can continue to learn important lessons to improve the care we provide and grow and develop as a team. There will be important lessons to learn from the data within this report and I also take this opportunity to encourage you all to attend the perinatal education meetings where these discussions occur in relation to specific cases.

Although the annual clinical report day in its previously in-depth format has proved to be not possible in the current working environment, I look forward to our half day format to show case and allow us to reflect on this report with input from external midwifery and obstetric critiques.

An enormous thank you not just to all those involved in the writing of the report, which is a significant undertaking, but also to those who have been involved in all the education and quality improvement activities that the report encompasses.

Maternity Quality and Safety Programme Governance and Operations

Operations of the Maternity Quality and Safety Programme

The continuation of the Maternity Quality and Safety Programme (MQSP) within HBDHB Maternity Services was shared in a different way due to the restructure that commenced two years ago. This resulted in the disestablishment of the Maternity Governance Coordinator (0.9FTE) and the programme added to the established Midwifery Director role within existing FTE. This has meant a significant change in the ability of the team as a whole to investigate, initiate, implement, and evaluate quality initiatives and changes closing the quality loop comprehensively.

The team includes the Midwifery Director, the MQSP Project Midwife (0.2FTE), the MQSP Administrator (0.9FTE) and the two Maternity Consumer Members (each contracted to approximately 12 hours per month). Oversight and overall accountability of the programme continues to be with the Midwifery Director. The Midwifery Director now chairs the Maternity Clinical Governance Group (MCGG).

The Maternity Governance Coordinator

The capacity of the Midwifery Director in this role does impact the number of initiatives rolled out, the timeliness and completion of projects, and the overall smooth running of the programme. The Midwifery Director is the professional leader, strategic advisor, and accountable for safety of maternity services and the midwifery profession at HBDHB. This role works strategically across Directorates, particularly Health Improvement and Equity, Maori Health, Population Health, and Intersectoral Governance. The Midwifery Director is a core member of the Clinical Council, participating in the clinical governance oversight of the Hawke's Bay Health Sector, became Chair of the National DHB Midwifery Leaders Group in June 2017, and is a member representative on the Maternity Strategic Advisory group to Health Workforce New Zealand. The Midwifery Director also works in partnership and liaison with the New Zealand College of Midwives (NZCOM) nationally and locally, and our LMC midwifery workforce seeking to co-design and improve maternity care that keeps the woman and baby at the centre, with safety as a paramount principle.

The Maternity Quality and Safety Programme Administrator

The MQSP Administrator role is a 0.9FTE position, with the primary focus of supporting the key activities of the programme, while working in partnership with the Midwifery Director, such as: case reviews, MCGG meetings, data cleansing and reporting, in relation to reporting requests and for the annual clinical report.

The MQSP Administrator contributed to case review facilitation, report compilation, and tracking of the resulting recommendations. Supporting the MCGG in relation to administration of the meeting documents to all members, tracking of initiatives, audits, and recommendations through to completion, as well as compiling the agenda and reporting of the minutes to the group and the wider stakeholders, were all executed by the administrator throughout the year.

Consumer focus is another strong component of the administrators time, holding the main administration responsibilities of our Maternity Services Facebook page, contributions to consumer related written information, and by supporting and guiding the two Maternity Services consumer members to fulfil their role to the maximum.

The Maternity Quality and Safety Programme Project Midwife

The establishment of the MQSP Project Midwife came about following the opening of Waioha, reflecting the importance of continuing the drive and cultural change required in our birth culture. Whilst the facility established a place of birth to support low risk women, our model of care and the opportunities to drive forward the message of 'right woman, right place, right outcome' required resourced focus and a continuing action plan.

This position leads the Your Birth, Your Power project with specific workstreams looking at our birth environments, professional development, and hearing our consumer voice to design and redesign our models of care.

Maternity Quality and Safety Programme Governance

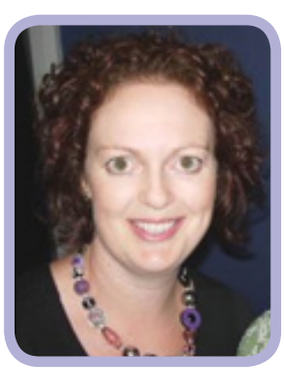
The Maternity Clinical Governance Group (MCGG) is a comprehensive multidisciplinary group of professional, consumer, administration, and management representations who oversaw the implementation of maternity quality and safety activities, ensuring consistency and quality across Hawke's Bay Maternity Service during 2017.

The MCGG met six times in 2017 to contribute to discussions and decisions about maternity care at DHB level, approve clinical guidelines, monitor the compliance of audit recommendations, oversee implementation of new clinical documentation, approve recommendations from clinical case reviews, take decisions about quality improvement activities, identify areas that need improvement, and monitor all MQSP reports. This group also played a more active role in the strategic activities related to maternity services with the Midwifery Director ensuring the action plan included strategy and vision of the services.

The MCGG reports bi-annually to the HBDHB Clinical Council, which in turn reports to the HBDHB Board. Our new members going forward into 2018 are:

Jules Arthur
Midwifery Director and Chair

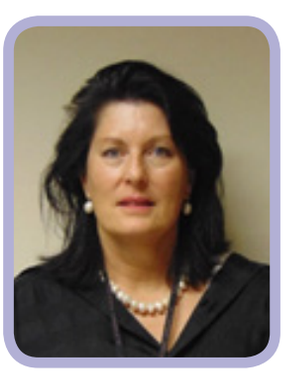
Anete Andzane
NCZCOM Representative
(on parental leave)



Louise Curtis
Consumer Member

Gabby Allen
Consumer Member

Dr Phillip Moore
Medical Director



Donna Foote
LMC Midwife Representative
and MQSP Project Midwife

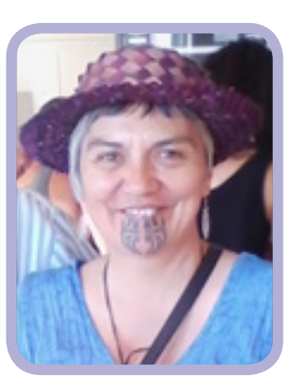
Sara Paley
Clinical Midwife Educator and
Deputy Chair

Shannon Bradshaw
Māori Midwife Consultant

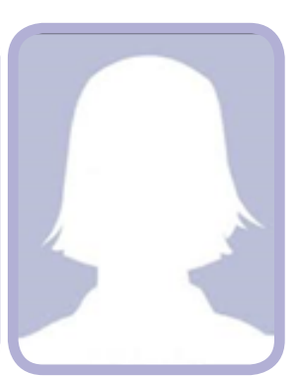
Sarah Howard
DHB Midwife Representative

Dr Kirsten Gaerty
Obstetrician and
Gynaecologist

Dr Jeremy Meates
Obstetrician and
Gynaecologist



Tungane Kani
Rural Midwife Representative



Dr Sarah Sew Hoy
Obstetric Anaesthesiologist

Susan Barnes
Qualtiy Improvement Advisor

Kirsten Harrild
MQSP Administrator

Hawke's Bay Consumer Representatives

Gabby Allen

Gabby is mum to two young boys, her 'little bears', who were both born under the guidance of Hawke's Bay Maternity Services. She says her boys, and the different experiences that were their births, inspire her to represent and connect with consumers, to listen, to share their stories, and make sure every woman's voice is heard.

Gabby looks forward to meeting women, partners, and whānau using Hawke's Bay Maternity Services and using their feedback to help shape the services and how care is delivered.

"Family and support during pregnancy, birth, and parenthood is a passion of mine, linking in with my other interests and community networks. I believe when a child is born so is a mother. This is a precious and special journey that requires learning and growing, as well as support networks. I hope that my support of you (the maternity consumer) can help to 'keep it real'. I wish to ensure all mums and dads have a voice, and can have a say in how the Maternity Service works and runs. I really feel passionately about each individual and take on board the good feedback as well as the ideas and suggestions on how we can improve. I will do my utmost to bring these suggestions and themes forward to be heard in my role as a consumer member."

Louise Curtis

Lou is mum to son Liam, born at Ata Rangi in 2014. She has a passion for high standard quality care, and as a result of Liam's birth, a new-found passion for pregnancy, the birth experience, babies, and families.

Hawke's Bay born and bred, she describes the transition to motherhood as 'awe inspiring' and now wants to use her experience and the understanding she has gained of Hawke's Bay Maternity Services to support others.

"I would love to support you (the Maternity consumer) to have your say, share your thoughts, and provide feedback of your experiences. I would love to hear what's important to you about maternity care for you, your baby, and your whānau, and how you would like the service to meet your needs in the future."

Our Message
Executive Summary

The sixth annual clinical report demonstrates Hawke's Bay DHB's delivery of the expected achievements of our established Maternity Quality and Safety programme and demonstrates progress and completion of the identified three year strategic plan developed for 2015-2018.

This report will be accessible to all maternity stakeholders, practitioners of maternity care, maternity consumers, and health service colleagues both online at www.ourhealthhb.nz and in hard copy format.

The report describes Hawke's Bay Maternity Services' activities undertaken in 2017 and those intended to be initiated to improve maternity quality, safety, and clinical outcomes for its consumers in 2018. The refreshed maternity strategic plan is undergoing finalisation through our Maternity Clinical Governance Group for the next three years, in line with the New Zealand Health strategy, the Ministry of Health priorities, and recommendations from the Perinatal Maternal Mortality Morbidity review committee, National Maternity Monitoring group, and Maternal Morbidity working group. Our main priority will continue to be to improve equitable health outcomes for the mothers, babies, and whānau of Hawke's Bay.

The programme uses national and local data to inform and assist in priority setting activities for the following year.

Our 2017 clinical indicator data demonstrates ongoing improvement, significantly for our standard primiparous population (15.3% of our total 2017 maternal population). Six out of eight of the specific standard primiparous indicators are a strength, with either a shift from negative to positive for the desired position, or an ongoing strength from last year. Most encouraging is the positive change in spontaneous vaginal birth (SVB) rate and emergency caesarean section (CS) rate for our standard primips. A 2.8% increase in SVB rate against the 2016 national benchmark and a 5.6% increase in SVB locally from 2016 to 2017 can be demonstrated. Emergency CS has nationally seen a small positive decrease of 0.3%, however Hawke's Bay data identifies a rate of 15.5%, a decrease of 1.2% for our region. This has significantly impacted our overall emergency (14.2%) and total CS rates (23.3%), demonstrating 1.7% and 2.2% decreases respectively.

Asian women were more likely to be primparous, compared to other ethnicities. In relation to birth outcomes, Asian women are over represented in the instrumental and caesarean sections births and have the lowest spontaneous vaginal birth rate. In particular, our Asian standard primips (10% of the standard primip population) are demonstrating the lowest spontaneous vaginal birth rate, low intact perineal rate, and high induction of labour, instrumental birth, and caesarean section rates in comparison. This cohort of women will be a focus of next year's report.

Other notable highlights from our overall data include a continuing rise in homebirth rate to 4.4%, a small but noteworthy increase in smoke free pregnancies at 2 weeks, a decrease in premature births, and a significant 11% decrease in postpartum haemorrhage rates to 14.1%. Place of birth outcomes are locally beginning to evidence the internationally acknowledged birth place research, with positive impacts and outcomes on our organizational culture, partnership models of care, health professional practice, and improving labour and birth outcomes for both the mother and the neonate.

Key areas of focus continue to be through our equity lens for Māori and Pacifica early engagement with an LMC, smoke exposed pregnancies, maternal mental health, and the social determinants of health with specific clinical areas of focus on induction of labour, use of epidural, and our decrease in overall exclusive breastfeeding.

There have been many highlights this year. Notably the establishment and commencement of our Māori Midwifery Consultant position with key goals to support a culturally responsive workforce and service and to improve our midwifery student pipeline. Another focus is to embed our Māori community voice in the co-design and conduct of initiatives to support equity, access, and quality. We have begun to grow confidence that women choosing a place of birth supports good outcomes, inclusive of homebirths and our primary birthing centres both in Wairoa and in Waioha. We have strengthened networks across our health sector and community to better support closer to home care provision for women, babies, and whānau.

This report reflects our community, our workforce, and our services; thank you to everyone who works in partnership, supports, empowers, and engages our women and whānau to enable and improve health and wellbeing.

Our Vision

Our Shared Vision / Te Matakite
Healthy Hawke's Bay Te Hauora o Te Matau ā Māui

Our Mission / Te Kaupapa
Excellent health services working in partnership to improve the health and wellbeing of our people to reduce health inequities within our community.

Our Values
How we work together with others / Nga Tikanga
Health with heart – Our values to achieve this:

OURHEALTH
HAWKE'S BAY
Whakawāteatia

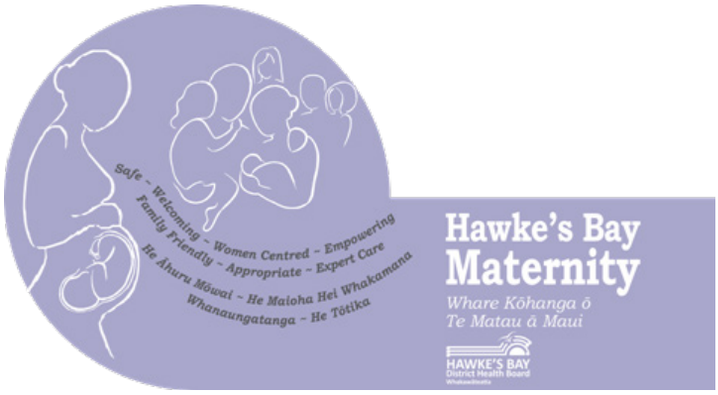
HE KAUANUANU RESPECT
ĀKINA IMPROVEMENT
RARANGATETIRA PARTNERSHIP
TAUWHIRO CARE

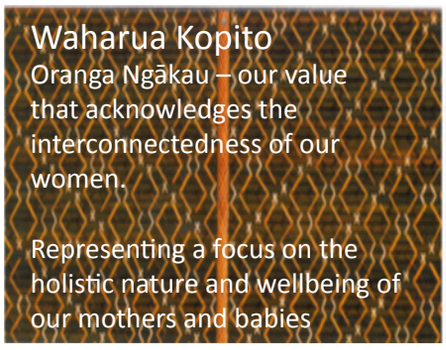
Maternity Services Vision

He Āhuru Mōwai – He Maioha Hei Whakamana Whanaungatanga – He Tōtika

Hawke's Bay Maternity: whare kōwhanga

A safe, welcoming, women centred, empowering whānau friendly place that provides appropriate and expert care supporting women, babies, and whānau on their journey to becoming parents and caring for the next generation.





Service Provision

Our Region and Services

The Hawke's Bay region sits on the east coast of the North Island of New Zealand. It encompasses a large semi-circular bay that extends over 100 kilometres from Mahia Peninsula in the northeast to Cape Kidnappers in the southwest, overall covering more than 14,000km² of beautiful landscape.

The region hosts an estimated population of 164,000, approxiamtely 80% of which reside in Napier or Hastings, the two most urban areas located within 20 kilometres of one another. Smaller communities, such as Waipukurau and Wairoa, have populations of around 4,000 each, with the remaining population residing in the more rural and remote locations.

Hawke's Bay Fallen Soldiers' Memorial Hospital is the main public health facility in the region and offers the full complement of health services for all ages, including the regional Intensive Care Unit, Emergency Department, Special Care Baby Unit, and Primary and Secondary Care Maternity Services.

The Maternity Services

Ata Rangi

Secondary Labour & Birthing Suite and Antenatal/Postnatal Ward

- 8 labour and birthing rooms
- 4 assessment rooms
- 12 antenatal/postnatal rooms
- Day Assessment Unit
- Fetal Medicine Clinic

Waioha

Primary Alongside Birthing Centre

- 7 birthing/postnatal rooms, all with birthing pools
- All women birth and stay postnatally in the same room

Wairoa

- 3 birthing/postnatal rooms
- 4 Case Loading DHB Midwives
- Monthly antenatal clinic, held by a Consultant Obstetrician from Hastings

Te Kākano

Antenatal Clinic

- 5 Consultant led clinics a week

Level 2A Neonatal Unit

- 12 neonatal cots
- Equipped to treat babies >28 weeks' gestation or with a birth weight >1000g

The Maternity Workforce

- 4 Clinical Midwife Coordinators
- 1 Midwifery Director
- 1 Head of Obstetrics
- 7 Consultant Obstetricians, 8 Registrars, and 7 Senior House Officers
- 1 Clinical Midwife Manager
- 1 Associate Clinical Midwife Manager
- 1 Midwifery Educator
- 1 Lactation Consultant and 5 Midwives holding the ILBLC qualification
- 62 DHB Midwives (including Wairoa)
- 33 LMC Midwives
- 6 Nurses
- 10 Care Associates
- 1 Antenatal Receptionist
- 2 Ward Administrators

Midwifery Workforce

Throughout 2017 increasing numbers of birthing women, complexity and acuity with our current base midwifery staffing levels has been challenging for our midwifery workforce both LMC and DHB.

The numbers of LMCs case-loading in the Hawke's Bay community has dropped from 43 to 33. This shortage does result in a flow on effect for both women finding midwives in a timely manner and the DHB maternity service needing to increase its community midwifery team to accommodate a rising number of both primary low risk women and our more socially and medically complex women.

Due to the number of LMCs currently practicing along with their capacity and need to focus on primary midwifery care; the DHB were informed in October by local NZCOM that LMCs would only be attending elective caesarean sections in a support capacity. This has led to the development of a fixed term DHB Caesarean section midwife position.

In conjunction with this our workforce has been challenged by retirements, inability to recruit due to national shortage and current limited pipeline of new graduate midwives. This is causing challenges with skill mix and creating genuine pressures in an already small, specialized workforce.

Evidence and data is identifying rising complexity in the caseweights, increase in number of births, increase in length of stay for high risk women and babies, 95% occupancy rates across the services and increasing event reports due to staffing and resource to match demand.

A workforce paper outlining the key drivers and issues across our maternity services is almost finalized for discussion with the Health Services Leadership team. Work is commencing on using the MERAS maternity facilities safe staffing standards to benchmark midwifery base staffing levels along with along with participation in Care Capacity Demand management to clearly ascertain and match staffing to acuity/complexity and demand for our twenty four/seven emergency response service.

Going into 2018 the intent is to ensure a sustainable, energized workforce to continue to provide high quality maternity care and is responsive to the demand of a population that is highly deprived, with significant social complexity and medical requirements.

Māori Midwifery Consultant

The concept, and subsequent establishment, of this role commenced in 2016 and came to fruition in November 2017. This role has been developed in partnership with Te Wāhanga Hauora Māori, the Chief Nursing and Midwifery Officer, the Midwifery Director, and Nga Maia in Hawke's Bay. The importance of Māori midwifery leadership opportunities, and the need to improve the cultural responsiveness of our workforce, has been identified through an ongoing limited Māori midwifery student pipeline, current staff satisfaction, and community/consumer feedback in relation to cultural experiences across our maternity services.

Five themes that emerged from a 2017 Māori staff satisfaction report are:

- Cultural value
- Value and respect
- Support during training to succeed
- Opportunities to grow
- Leadership

Consumer feedback revealed challenges in understanding the Kaupapa Māori way of working, engaging with whānau in a meaningful way, being aware and working with an equity lens in care provision, and understanding and empowering the Māori birthing practices.

The key goals identified during the development of this position are to:

- Build a sustainable, competent, capable, skilled, and experienced Māori health workforce over the next five years that reflect the values of He Kauanuanu, Ākina, Rāranga Te Tira, and Tauwhiro
- Improve the cultural capabilities of the workforce
- Embed effective Māori consumer engagement across the maternity services

Clear objective setting, actions, and measurable outcomes have been identified to achieve these key goals. These are reported in the table on the following page.

Shannon Bradshaw commenced in this position in November this year (2017). Both the service and the DHB are very much looking forward to the direction of travel and the actions that will result from having dedicated Māori leadership across our maternity services.

Goal	Objective	Measure
A culturally responsive workforce	• Implementation of Turanga Kaupapa model of care • Embed TK in DHB cultural competency framework	• Working in partnership with Nga Maia • Working in partnership with the cultural competency advisor • All maternity staff have completed training in new model of care • New model of care embedded in current practice • Consumer feedback shows evidence of cultural safety and responsiveness by staff and service design
Increase Māori midwifery workforce	• Strengthen partnerships with academic institutions • Establish a recruitment plan • Develop a Māori midwifery pathway • Develop a marketing/ communications strategy to improve visibility and knowledge of midwifery as a career choice	• Evidence of regular meetings with key stakeholders • Work in partnership with Turuki workforce development • Establish scholarship allocation for Māori midwifery students
Effective and embedded Māori consumer engagement	• Strengthen relationships with key consumer council members for Community, Women, and Children directorate • Analyse consumer survey findings and develop quality improvement framework programme • Actively identify key points of contact and engagement with Māori women and whānau	• Evident participation and relationship with consumer council • Identified quality improvement framework with feedback loop to consumers established • Evidence of strengthened relationships with Maternity Quality and Safety Programme consumer members and DHB consumer engagement team

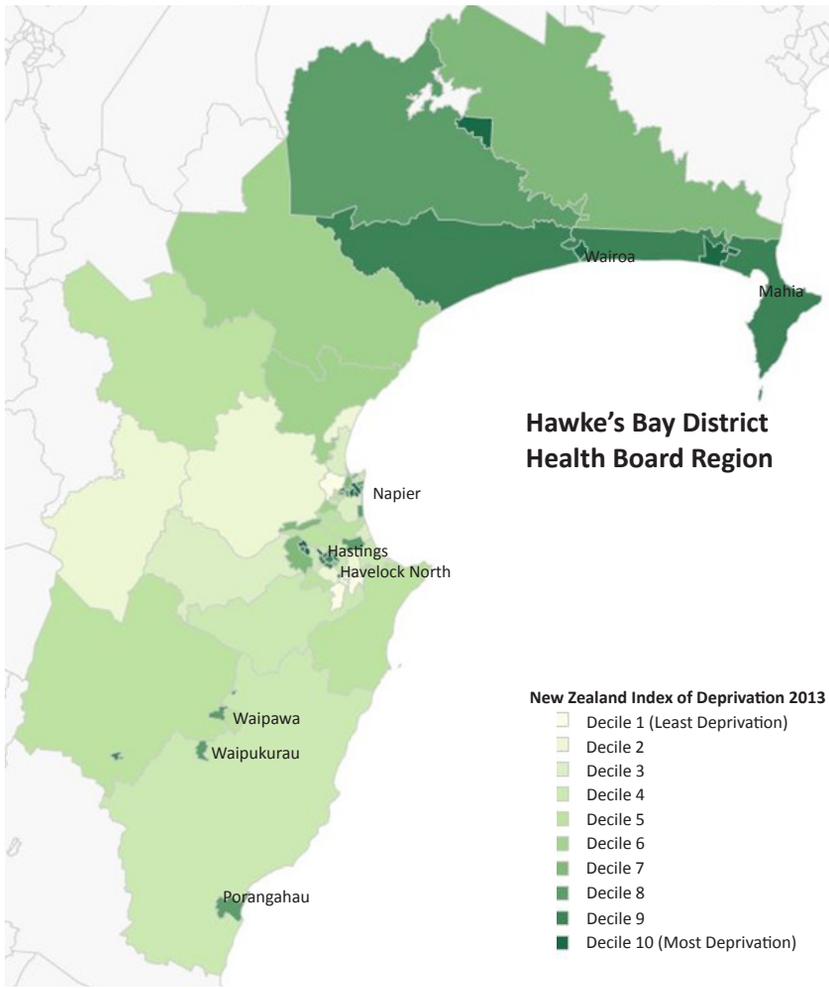
Population Demographics and Analysis

Background

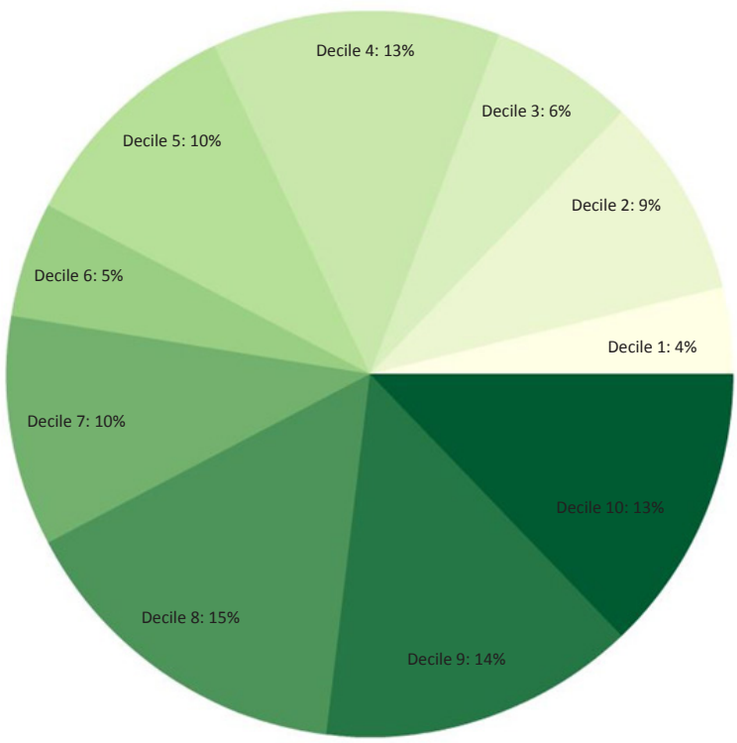
The Hawke's Bay is a region on the east coast of New Zealand's North Island, covering an area of 14,111km^2, and is home to about 161,780 people. Compared to the rest of New Zealand, Hawke's Bay's population tends to be older. A higher proportion of Māori, and a lower proportion of Pacific people, live in Hawke's Bay compared to the national average.

The map on the right shows the New Zealand Index of Deprivation 2013 for the Hawke's Bay District Health Board (DHB) region. Deprivation is reported in "deciles". Decile 1 represents the least deprived section of the population, while decile 10 the most deprived. More people in Hawke's Bay live in the more deprived areas than the national average.

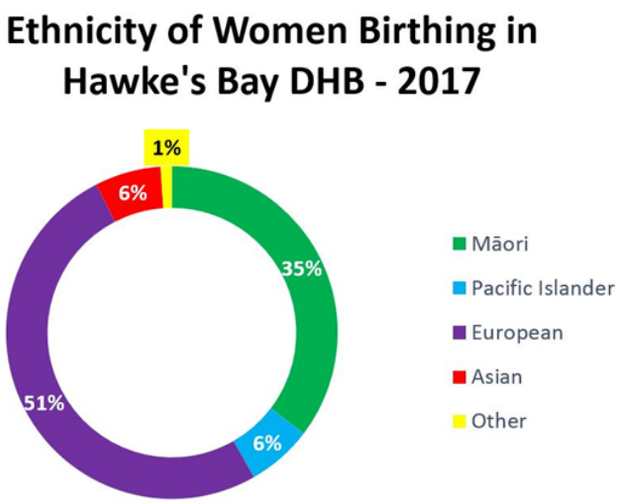
The figure below shows the proportion of our population living in each deprivation decile. The proportion of our population living in the most deprived areas (deciles 9 and 10) has remained constant over the last two years (28% in 2016, compared to 27% in 2017), as has those living in the least deprived areas (deciles 1 and 2, 15% in 2016 versus 13% in 2017).



Hawke's Bay District Health Board Region's Deprivation 2017



In 2017, 2098 women gave birth in Hawke's Bay to 2122 babies. The vast majority (n=2000, 95%) of these women gave birth within Hawke's Bay DHB's facilities. Of the remaining women, 74 (4%) birthed at home as planned, 19 (1%) gave birth at home unplanned, and five (0.2%) gave birth before arrival at a hospital (i.e. in transit). This chapter provides the demographic characteristics of the Hawke's Bay maternal population that birthed during 2017 in Hawke's Bay. Hawke's Bay domiciled women who birthed outside of Hawke's Bay are not included. Frequencies and percentages are reported. Missing data are included in the analysis, with a note that significant data cleansing has occurred, but will not have resolved a number of current in-house challenges.



Ethnicity

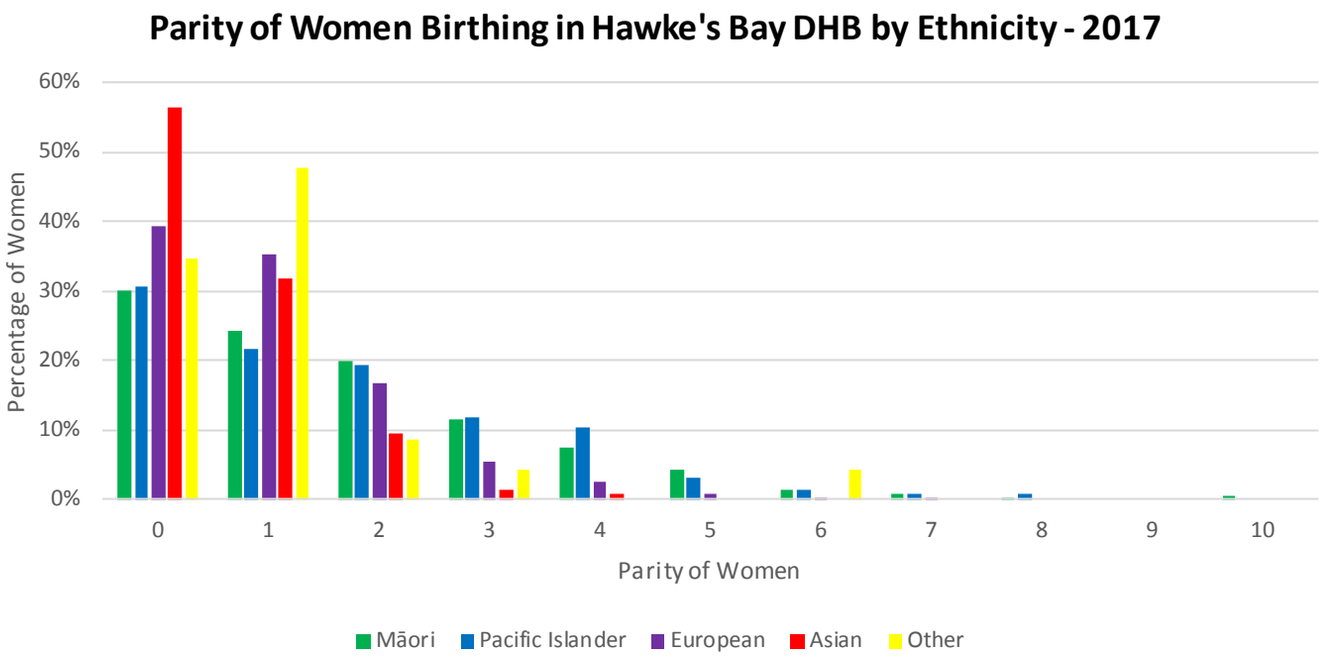
The majority of women birthing in Hawke's Bay in 2017 were European (n=1064, 51%); this was an increase of 5 percentage points from 2016. There was a corresponding decrease in the proportion of women giving birth who were Māori (n=742, 35% in 2017 versus 40% in 2016). The proportions of Pacific Islanders (n=134, 6% versus 7%), Asian (n=135, 6% versus 5%), and other ethnicities (n=23, 1% versus 2%) remained stable over the two years.

The 23 women grouped as "other" ethnicity are comprised of seven African, seven Middle Eastern, and three Latin American/Hispanic women, with a further four women who did not state their ethnicity, one woman who replied "Don't know" to the question regarding her ethnic identity, and one woman whose response was unidentifiable.

Parity

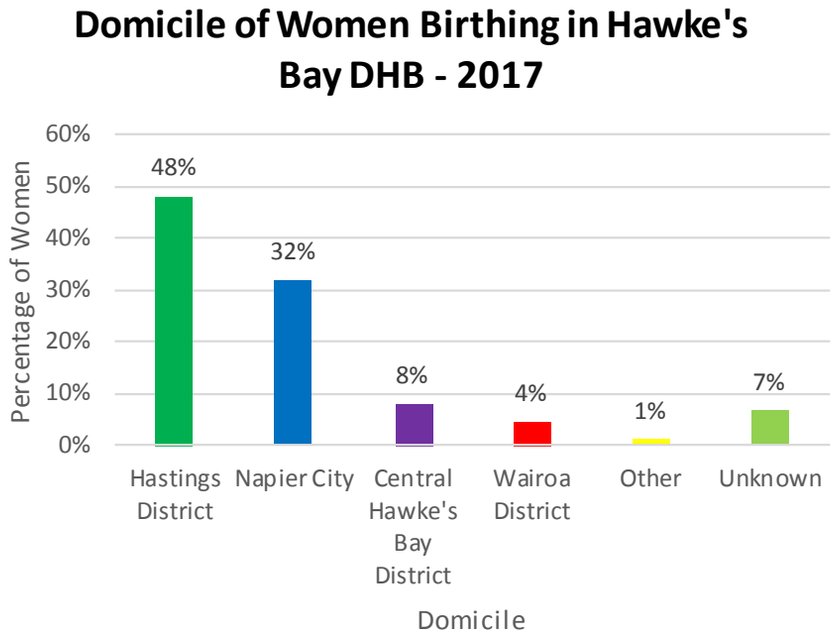
Of the women who gave birth in Hawke's Bay in 2017, 731 (35%) were primiparous (first-time mothers), a similar proportion to that found in 2016 (37%).

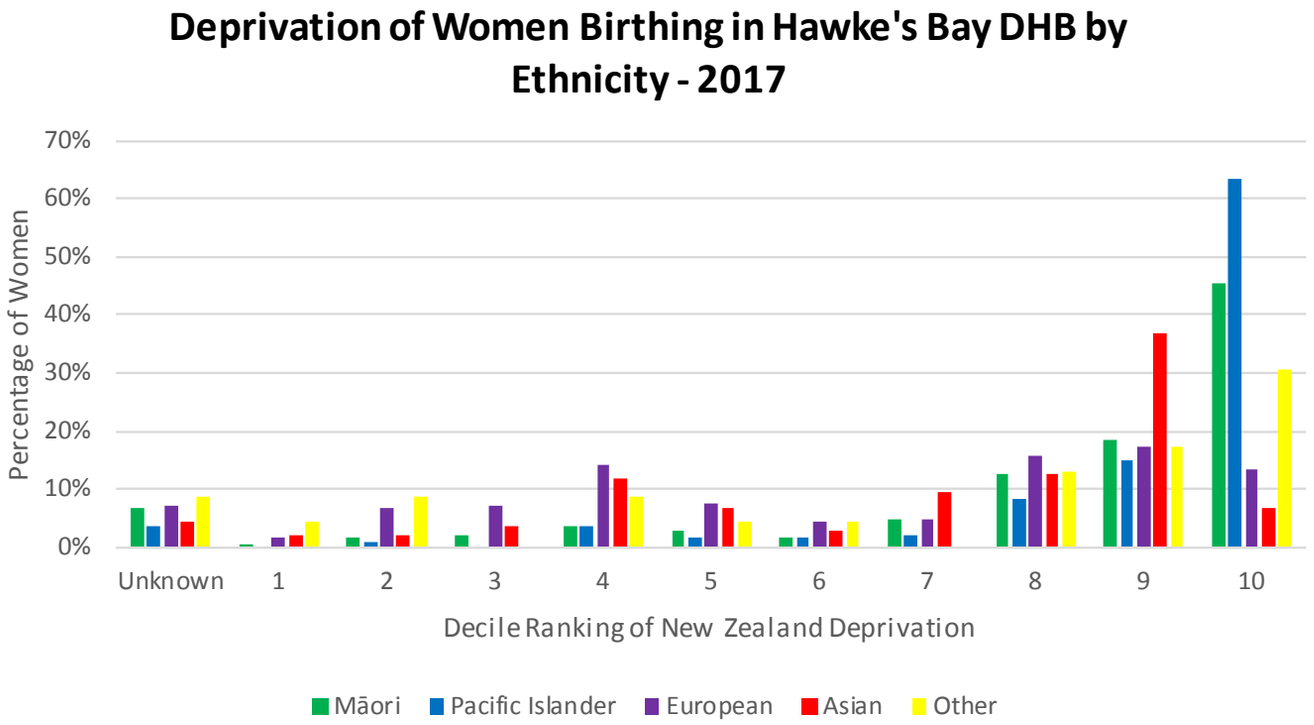
The parity (the number of babies a woman has delivered at >20 weeks' gestation) within each ethnic group is portrayed in the graph below. Asians had the highest proportion of primiparous women amongst themselves (n=74, 56%), compared to 39% (n=397) for Europeans, 35% (n=8) for other ethnicities, 31% (n=38) for Pacific Islanders, and 30% (n=214) for Māori. These proportions of primiparae were comparable to those of 2016, except for a decrease among women of other ethnicities (54% in 2016), which is most likely due to the small number of women classified as having other ethnicity.



Domicile

The graph to the right depicts the domicile of the women who birthed in Hawke's Bay in 2017. It is heartening to see that only 23 women (1%) resided in various locations outside of Hawke's Bay. Hastings District was the place of residence for 1008 (48%) of the women, Napier City for 669 (32%), Central Hawke's Bay District for 165 (8%), and Wairoa District for 94 (4%). The domicle of 139 (7%) of women was unknown.



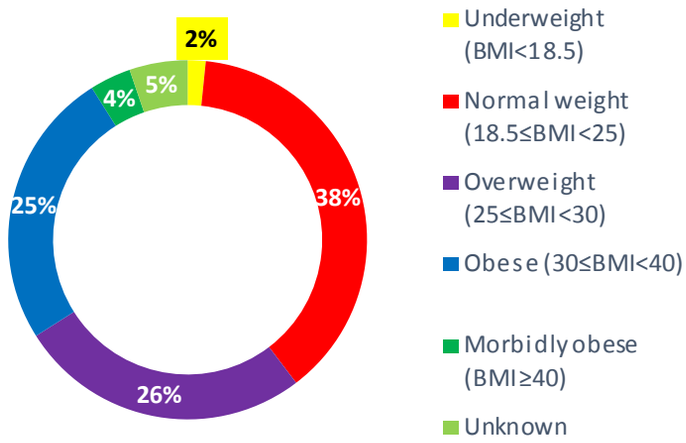


Deprivation

The deprivation decile ranking for the women who gave birth in 2017, in Hawke's Bay, is shown above. The majority (n=1268, 60.4%) of these women lived in the areas of high deprivation (deciles 8-10). This is similar to the proportion found in 2016 (61%). As the domicle of 139 (7%) women was unknown, how deprived their place of residence was also remains unknown.

A higher proportion of Pacific Islanders (n=116, 87%) and Māori (n=570, 77%) live in the most deprived locations, than those of other ethnicity (n=14, 61%), Asians (n=76, 56%), or Europeans (n=492, 46%). A significantly higher proportion of Asian women are living in the most deprived areas compared to in 2016 (56% versus 41%), as are more women of other ethnicity (61% versus 17%), while the proportions for the remaining ethnicities remain stable.

BMI of Women Birthing in Hawke's Bay DHB - 2017



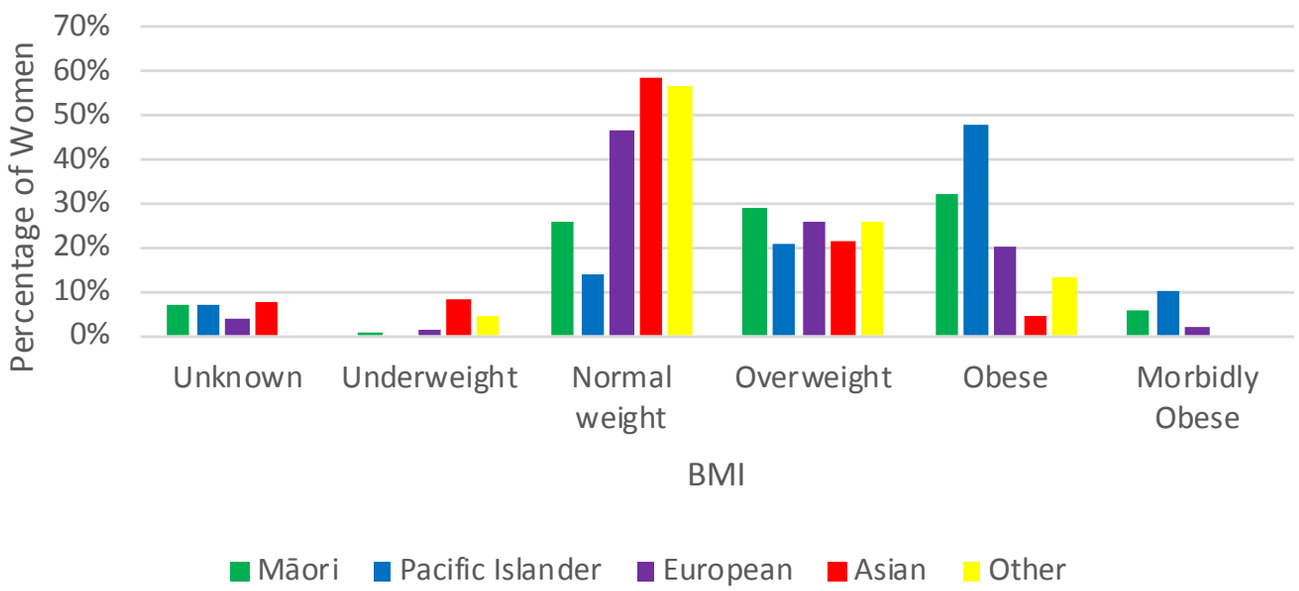
Body Mass Index

As can be seen on the left, only 798 (38%) of the women who birthed in 2017 were of recommended weight at booking with their Lead Maternity Carer (LMC). Thirty-four (2%) women were underweight, 553 (26%) were overweight, 525 (25%) were obese, and 78 (4%) were morbidly obese. The body mass index (BMI) was not recorded for 110 (5%) women, which encouragingly is fewer than the 174 (9%) women with unknown BMI in 2016.

Communicating the importance of accurate weight and height measurement remains a challenge, as women may opt out.

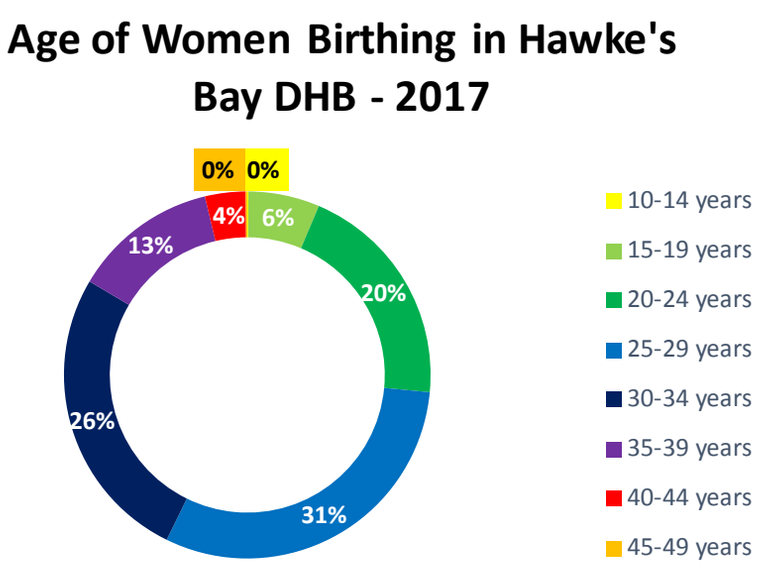
The below graph depicts the body mass index, by ethnicity, of the women who gave birth in Hawke's Bay in 2017. More Asians (67% versus 60%) and women of other ethnicity (61% versus 51%) were underweight or of normal weight in 2017 than in 2016; however the reverse was true for Pacific Islanders (14% in 2017 versus 19% in 2016). The proportions of Māori (26% in 2017 versus 26% in 2016) and Europeans (48% versus 49%) who were underweight or of normal weight remained constant.

BMI of Women Birthing in Hawke's Bay DHB by Ethnicity - 2017



Age

The age of women who gave birth in 2017 is shown on the right. There were 134 teenage women who gave birth, comprising 6% of our maternal population. Twenty percent (n=422) of our birthing women were aged 20-24 years, 31% (n=645) aged 25-29 years, and 26% (n=551) aged 30-34 years old. Women aged 35 years and older (n=3 46) made up 16% of the women who gave birth.

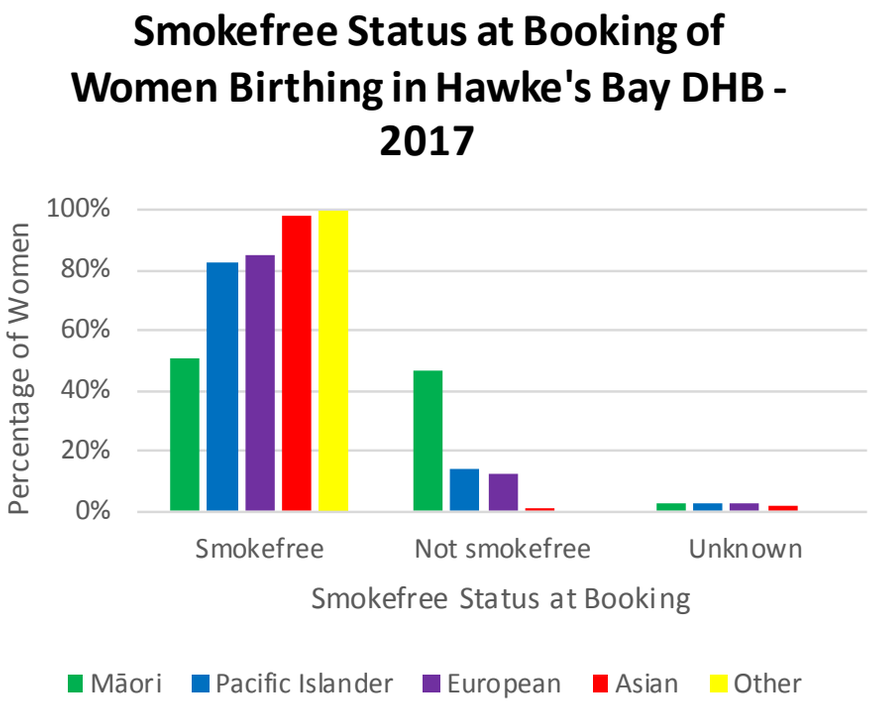


Smoke Free Status

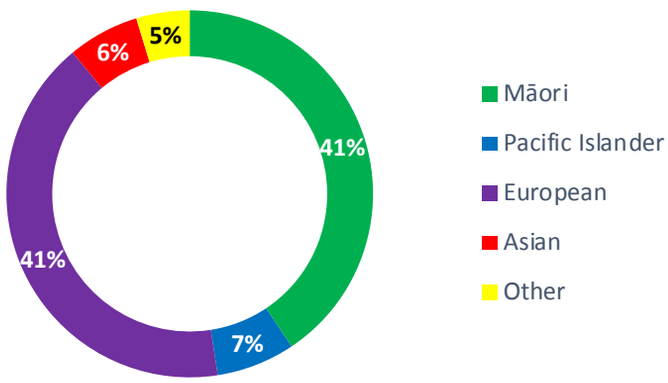
The graph below reports the smoke free status, at the time of booking with their Lead Maternity Carer, of the women who birthed in 2017. Five-hundred-and-one (24%) women were not smoke free at booking, 1546 (74%) women were smoke free, and the smoke free status of 51 (2%) women was unknown in 2017, all of these rates are similar to the 2016 rates.

A higher proportion of Māori (n=347, 47%) were not smoke free compared to Pacific Islanders (n=19, 14%), Europeans (n=134, 13%), Asians (n=1, 1%), and women of other ethnicity (n=0, 0%). These proportions are comparable to those found in 2016.

Initiatives to support women and whānau to become and remain smoke free, and the outcomes of these initiatives, are discussed later in this report.



Ethnicity of Babies Born in Hawke's Bay DHB - 2017



Ethnicity of Babies

Of the 2122 babies born in Hawke's Bay during 2017, 879 (41%) were European, 862 (41%) Māori, 147 (7%) Pacific Islander, 134 (6%) Asian, and 100 (5%) of other ethnicity (see above graph). A higher proportion of women birthing identified as European (51%) and fewer as Māori (35%), but otherwise the ethnicity of the mothers were similar to the babies. There has been no change in the ethnicity of babies born in Hawke's Bay over the last two years, with 41% Europeans in 2017 versus 42% in 2016, Māori (41% versus 43%), Pacifica (7% versus 6%), Asian (6% versus 5%), and other ethnicity (5% versus 4%).

Performance Against the Clinical Indicators

New Zealand Maternity Clinical Indicators

The New Zealand Maternity Clinical Indicators measure the clinical management and outcomes of health care received by mothers and their babies. Developed by the Ministry of Health, they can be used to report and compare key maternity outcomes for district health boards (DHBs) and maternity facilities.

The following tables compare the Clinical Indicator rates between Hawke's Bay DHB in 2017 and the national rate in 2016, and the Hawke's Bay DHB rates in 2016. The desired position of the 2017 Hawke's Bay DHB rate versus the comparative is stated, while the actual postion is indicated by colours. The 2016 national rates are the most recently reported rates available.

Standard primiparae are women who are expected to have an uncomplicated pregnancy and are therefore considered to be clinically comparable. In 2017, there were 321 standard primiparous women, comprising 15.3% of all the 2098 women who birthed in the Hawke's Bay DHB area. This report defines standard primiparae as women who meet all of the following criterea:

- are aged between 20 and 34 years (inclusive) at birth
- are pregnant with a single baby in cephalic position when presenting in labour
- have no known prior pregnancy of 20 weeks' and over gestation
- give birth to a live or stillborn baby at between 37 and 41 weeks' (inclusive) gestation
- have no recorded obstetric complications in the present pregnancy that are indications for specific obstetric interventions

Clinical Indicator Overview Based on 2017 Internal Reporting and 2016 Ministry of Health Data		National 2016	Hawke's Bay 2017	Desired Position
2.	Spontaneous vaginal birth among standard primiparae	67.0%	69.8%	Above National
3.	Instrumental vaginal birth among standard primiparae	15.9%	14.6%	Below National
4.	Caesarean section among standard primiparae	15.9%	15.6%	Below National
7.	Episiotomy and no third- or fourth-degree perineal tear among standard primiparae giving birth vaginally	22.7%	15.1%	Below National
8.	Third- or fourth-degree perineal tear and no episiotomy among standard primiparae giving birth vaginally	4.2%	4.1%	Below National
9.	Episiotomy and third- or fourth-degree perineal tear among standard primiparae giving birth vaginally	1.8%	0.4%	Below National
10.	General anaesthetic for all women giving birth by caesarean section	8.5%	6.6%	Below National
11.	Blood transfusion for all women giving birth by caesarean section	2.9%	2.3%	Below National
13.	Diagnosis of eclampsia at birth admission for all women	0.05%	0.0%	Below National
15.	Mechanical ventilation during pregnancy or postnatal period for all women	0.02%	0.0%	Below National
14.	Peripartum hysterectomy for all women	0.04%	0.1%	Below National
17.	Preterm births (under 37 weeks' gestation) for all women	7.5%	7.5%	Below National
20.	Babies born at 37+ weeks' gestation requiring respiratory support	2.0%	2.4%	Below National
1.	Registration with a Lead Maternity Carer in the first trimester of pregnancy for all women	71.9%	63.0%	Above National
5.	Induction of labour among standard primiparae giving birth vaginally	6.3%	8.4%	Below National
6.	Intact lower genital tract among standard primiparae giving birth vaginally	28.6%	27.3%	Above National
12.	Blood transfusion for all women giving birth vaginally	1.9%	2.5%	Below National
16.	Maternal tobacco use during postnatal period for all women	11.7%	21.4%	Below National
18.	Small babies at term (37-42 weeks' gestation)	2.9%	4.0%	Below National
19.	Small babies at term born at 40-42 weeks' gestation	35.8%	38.0%	Below National

Key to actual position: **Favourable** **Equivalent** **Unfavourable**

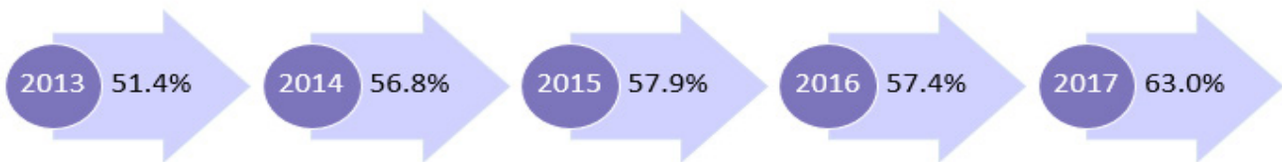
Clinical Indicator Overview Based on Current Internal Reporting		2016	2017	Desired Position
1.	Registration with a Lead Maternity Carer in the first trimester of pregnancy for all women	57.4%	63.0%	Increasing
2.	Spontaneous vaginal birth among standard primiparae	67.3%	69.8%	Increasing
3.	Instrumental vaginal birth among standard primiparae	16.0%	14.6%	Decreasing
4.	Caesarean section among standard primiparae	16.7%	15.6%	Decreasing
5.	Induction of labour among standard primiparae giving birth vaginally	9.2%	8.4%	Decreasing
8.	Third- or fourth-degree perineal tear among standard primiparae giving birth vaginally	4.6%	4.1%	Decreasing
9.	Episiotomy and third- or fourth-degree perineal tear among standard primiparae giving birth vaginally	1.6%	0.4%	Decreasing
10.	General anaesthetic for all women giving birth by caesarean section	8.5%	6.6%	Decreasing
11.	Blood transfusion for all women giving birth by caesarean section	2.5%	2.3%	Decreasing
13.	Diagnosis of eclampsia at birth admission for all women	0.0%	0.0%	Static
15.	Mechanical ventilation during pregnancy or postnatal period for all women	0.0%	0.0%	Static
16.	Maternal tobacco use during pregnancy or postnatal period for all women	22.9%	21.4%	Decreasing
17.	Preterm births (under 37 weeks' gestation) for all women	7.8%	7.5%	Decreasing
20.	Babies born at 37+ weeks' gestation requiring respiratory support	2.9%	2.4%	Decreasing
14.	Peripartum hysterectomy for all women	0.1%	0.1%	Decreasing
6.	Intact lower genital tract among standard primiparae giving birth vaginally	40.2%	27.3%	Increasing
7.	Episiotomy and no third- or fourth-degree perineal tear among standard primiparae giving birth vaginally	12.4%	15.1%	Decreasing
12.	Blood transfusion for all women giving birth vaginally	1.4%	2.5%	Decreasing
18.	Small babies at term (37-42 weeks' gestation)	3.8%	4.0%	Decreasing
19.	Small babies at term born at 40-42 weeks' gestation	36.8%	38.0%	Decreasing

Key to actual position: **Favourable** **Static** **Unfavourable**

The following sections provide detailed information about the rate of each clinical indicator, based on our internal data. The rate of each indicator, from 2013 to 2017, is reported with graphs and tables depicting the 2017 clinical indicator rate for Hawke's Bay DHB, by ethnicity. The national Ministry of Health 2016 rate is stated in the ethnicity tables for comparison.

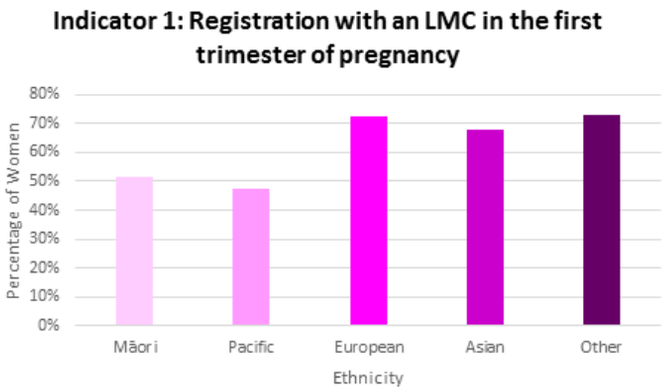
In addition, graphs based on the New Zealand Materntiy Clinical Indicators 2016, published by the Ministry of Health, are presented. The rate for each indicator for the Hawke's Bay DHB is reported, along with the national mean rate and its 95% confidence interval, for each year from 2009 to 2016.

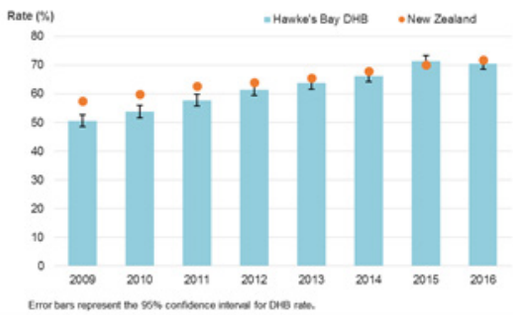
Indicator 1: Registration with an LMC in the first trimester of pregnancy among all women



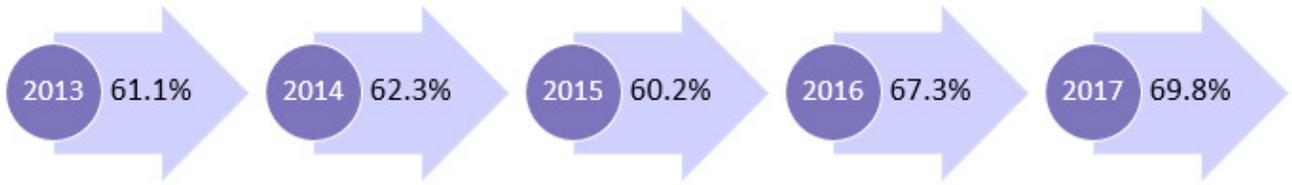
	Total number of women who register with an LMC in the first trimester per ethnic group - 2017	Total number of women who register with a LMC per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	369	716	51.5%	
Pacific Islander	62	131	47.3%	
European	722	998	72.3%	
Asian	90	133	67.7%	
Other	16	22	72.7%	
Total	**1259**	**2000**	**63.0%**	**71.9%**

Strength: It is encouraging to see an increasing proportion (n=1259, 63.0%) of women registering with a Lead Maternity Carer in their first trimester of pregnancy versus (57.4% in 2016); however we remain below the 2016 national rate of 71.9%. Women of other ethnicity (n=16, 72.7%), Europeans (n=722, 72.3%), and Asians (n=90, 67.7%) are more likely to register in the first trimester than women of Māori (n=369, 51.5%) and Pacifica (n=62, 47.3%) descent.



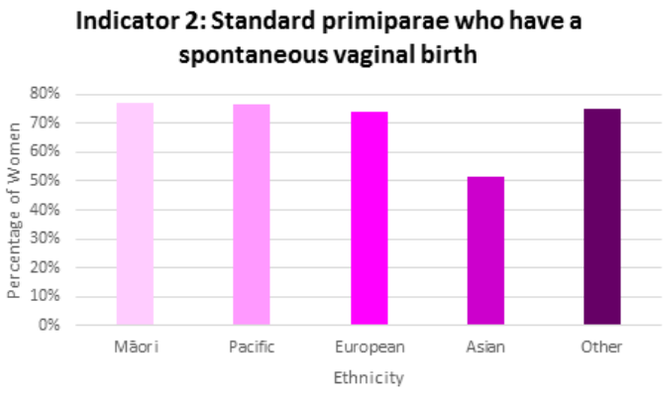


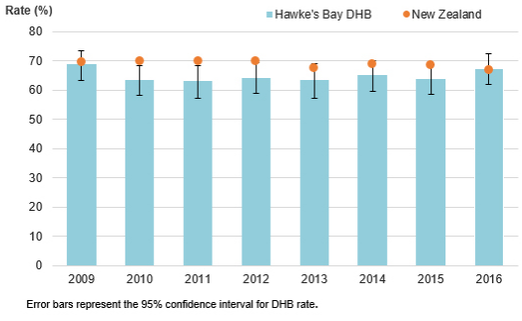
Indicator 2: Spontaneous vaginal birth among standard primiparae



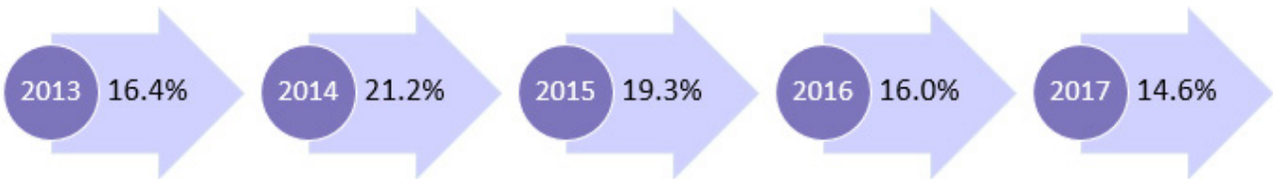
	Total number of standard primiparae who have a spontaneous vaginal birth per ethnic group - 2017	Total number of standard primiparae per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	65	86	75.6%	
Pacific Islander	13	18	72.2%	
European	126	180	70.0%	
Asian	17	32	53.1%	
Other	3	5	60.0%	
Total	**224**	**321**	**69.8%**	**67.0%**

Strength: Hearteningly, our rate of spontaneous vaginal birth among standard primiparae (n=224, 69.8%) is above the 2016 national of 67.0%. The rate has also been increasing over the last three years (60.2% in 2015, 67.3% in 2016, and 69.8% in 2017). Asian standard primparae (n=17, 53.1%) and women of other ethnicity (n=3, 60.0%) are less likely to have a spontaneous vaginal birth than Europeans (n=126, 70.0%), Pacific Islanders (n=13, 72.2%), and Māori (n=65, 75.6%). Please see the Birth Statistics Chapter for further information.



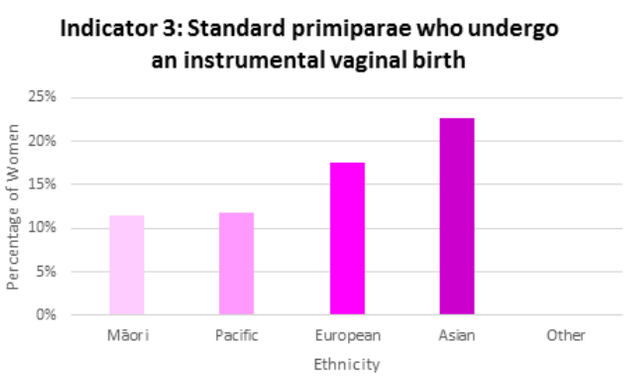


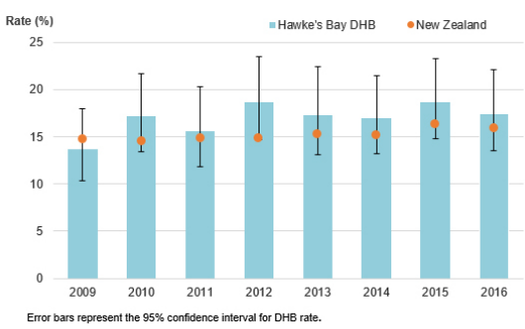
Indicator 3: Instrumental vaginal birth among standard primiparae



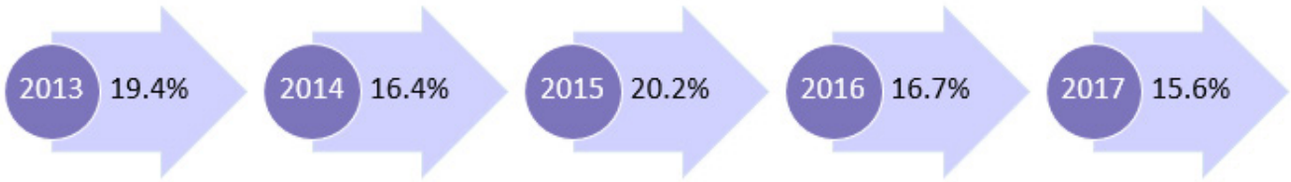
	Total number of standard primiparae who undergo an instrumental vaginal birth per ethnic group - 2017	Total number of standard primiparae per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	9	86	10.5%	
Pacific Islander	2	18	11.1%	
European	29	180	16.1%	
Asian	7	32	21.9%	
Other	0	5	0.0%	
Total	**47**	**321**	**14.6%**	**15.9%**

Strength: Since 2014 we have seen a decrease in the prevalence of instrumental vaginal births among standard primiparae (21.2% in 2014 versus 14.6%, n=47 in 2017). In addition, our prevalence (14.6%) is below the 2016 national rate of 15.9%. Asian (n=7, 21.9%) and European (n=29, 16.1%) women had an increased chance of an instrumental delivery compared to Pacifica (n=2, 11.1%) and Māori (n=9, 10.5%) women. There were too few standard primiparous women of other ethnicity (n=5) to make any meaningful conclusions regarding any of the Clinical Indicators involving standard primiparae of this ethinic group.



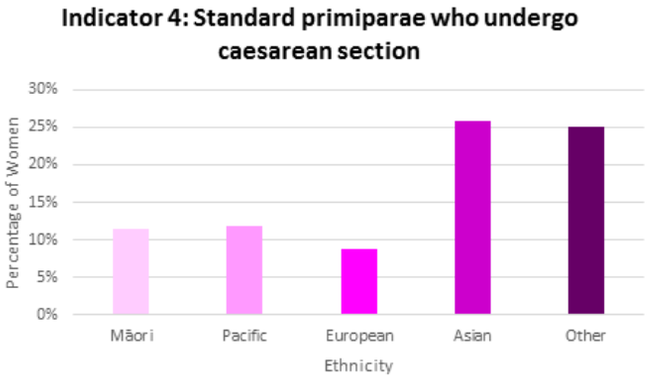


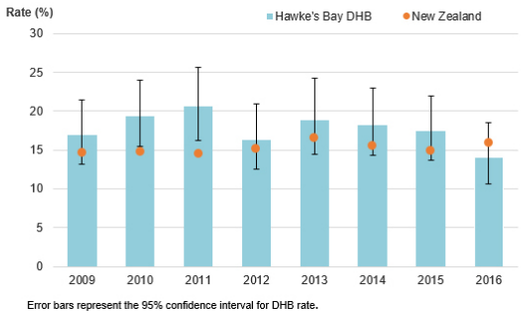
Indicator 4: Caesarean section deliveries among standard primiparae



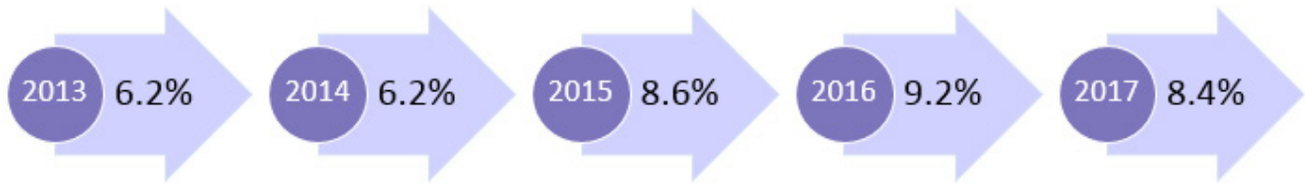
	Total number of standard primiparae who undergo cae-sarean sections per ethnic group - 2017	Total number of standard primiparae per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	12	86	14.0%	
Pacific Islander	3	18	16.7%	
European	25	180	13.9%	
Asian	8	32	25.0%	
Other	2	5	40.0%	
Total	**50**	**321**	**15.6%**	**15.9%**

Strength: It is exciting to see a continuing decrease in the rate of caesarean sections among standard primiparous women (n=50, 15.6%) compared to 16.7% in 2016. Our rate (15.6%) is now similar to the 2016 national mean rate (15.9%). Asian women (n=8, 25.0%) were at higher risk of a having a caesrean section than Pacific Islanders (n=3, 16.7%), Māori (n=12, 14.0%) and Europeans (n=25, 13.9%).



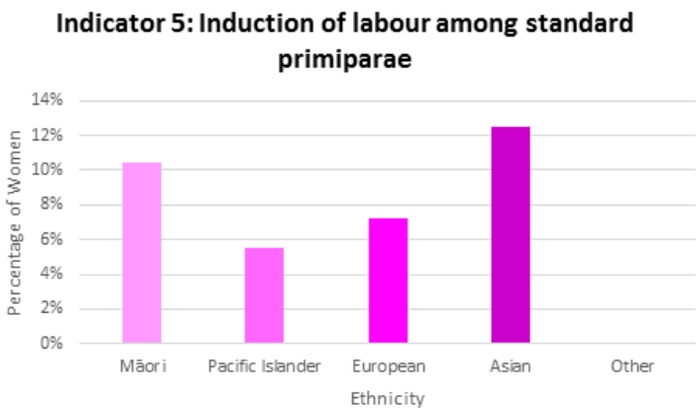


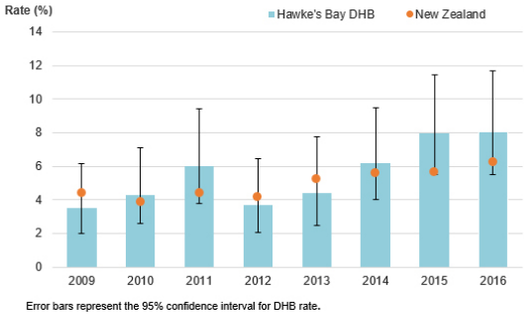
Indicator 5: Induction of labour among standard primiparae



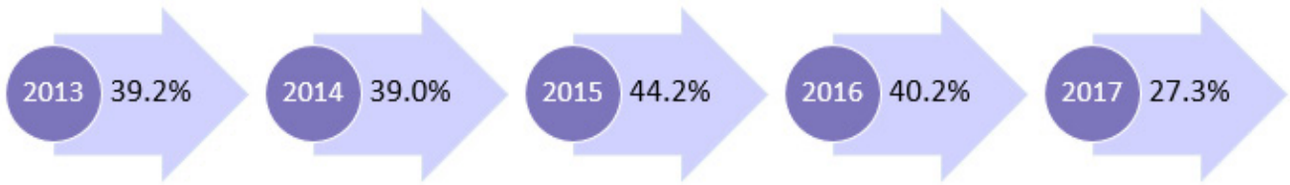
	Total number of standard primiparae who undergo induction of labour per ethnic group - 2017	Total number of standard primiparae per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	9	86	10.5%	
Pacific Islander	1	18	5.6%	
European	13	180	7.2%	
Asian	4	32	12.5%	
Other	0	5	0.0%	
Total	**27**	**321**	**8.4%**	**6.3%**

Strength: Although higher than the 2016 national rate of 6.3%, it is positive to see our rate of induction among standard primiparae (n=27, 8.4%) has decreased from our 2016 rate (9.2%). More Asian (n=4, 12.5%) and Māori (n=9, 10.5%) were induced than European (n=13, 7.2%) and Pacifica (n=1, 5.6%) women.



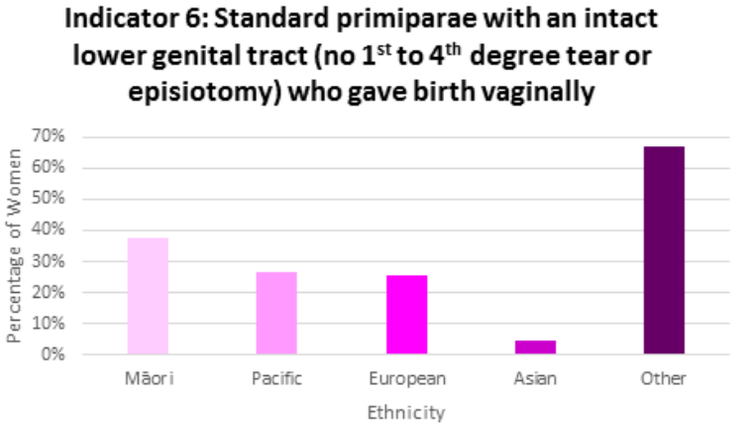


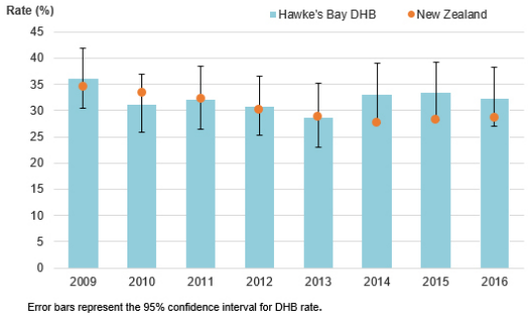
Indicator 6: Intact lower genital tract among standard primiparae giving birth vaginally



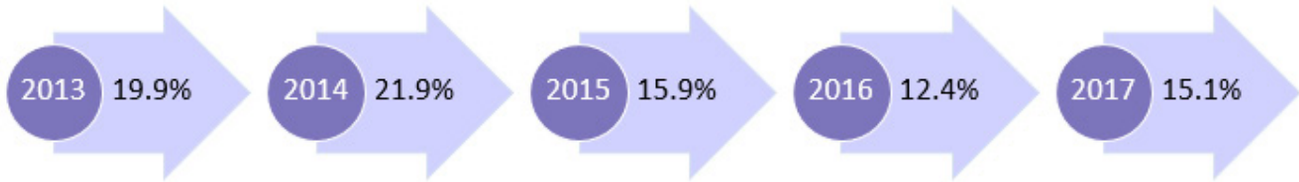
	Total number of standard primiparae with an intact lower genital tract with vaginal birth per ethnic group - 2017	Total number of standard primiparae who give birth vaginally per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	27	74	36.5%	
Pacific Islander	4	15	26.7%	
European	40	155	25.8%	
Asian	1	24	4.2%	
Other	2	3	66.7%	
Total	**74**	**271**	**27.3%**	**28.6%**

Investigate: Unfortunately our rate of intact lower genital tract among our standard primiparae (n=74, 27.3%) is slightly less than the 2016 national average (28.6%). Due to a change in the method of reporting there appears to be a significant decrease from our 2016 rate (27.3% versus 40.2%), but we are confident that this is artificial rather than an actual dramatic drop. Far fewer (n=1, 4.2%) Asian women have an intact lower genital tract than women of European (n=40, 25.8%), Pacifica (n=4, 26.7%), and Māori (n=27, 36.5%) descent.



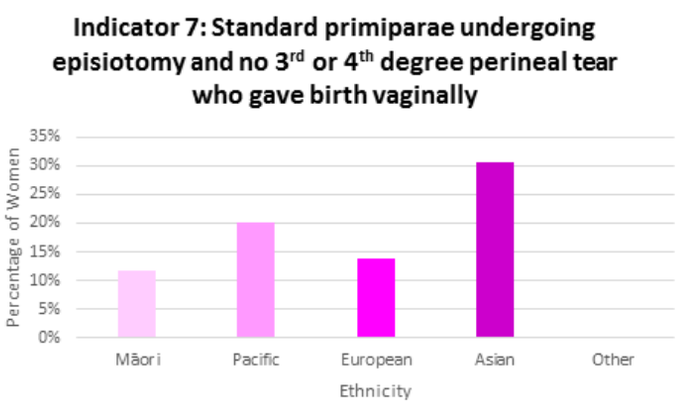


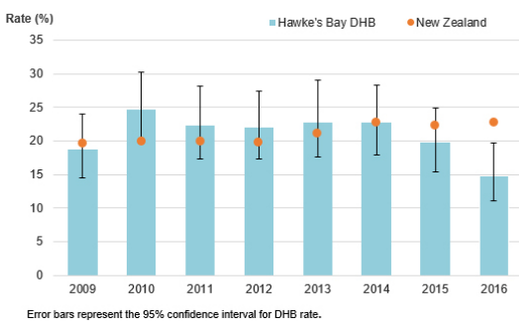
Indicator 7: Episiotomy and no third- or fourth-degree perineal tear among standard primiparae giving birth vaginally



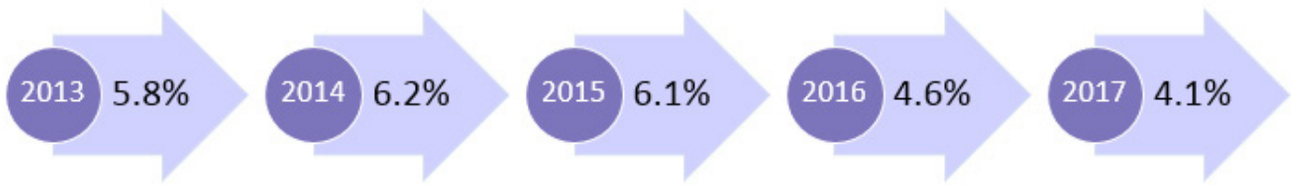
	Total number of standard primiparae undergoing episiotomy and no 3rd- or 4th-degree perineal tear with vaginal birth per ethnic group - 2017	Total number of standard primiparae who give birth vaginally per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	10	74	13.5%	
Pacific Islander	3	15	20.0%	
European	20	155	12.9%	
Asian	8	24	33.3%	
Other	0	3	0.0%	
Total	**41**	**271**	**15.1%**	**22.7%**

Investigate: Although our rate of an episiotomy with no third- or fourth-degree tear for standard primiparae (n=41, 15.1%) is considerably less than the 2016 nationwide rate (22.7%), it is higher than the rate seen in 2016 (12.4%). Women of Asian (n=8, 33.3%) and Pacifica descent (n=3, 20.0%) had greater odds of an epsiotomy than Māori (n=10, 13.5%) and Europeans (n=20, 12.9%).



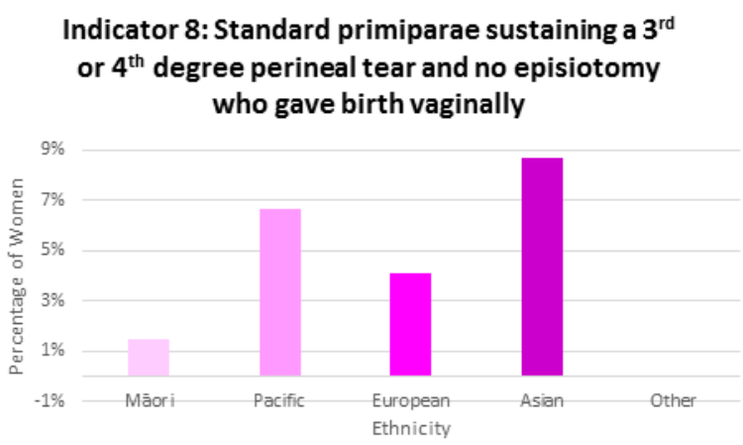


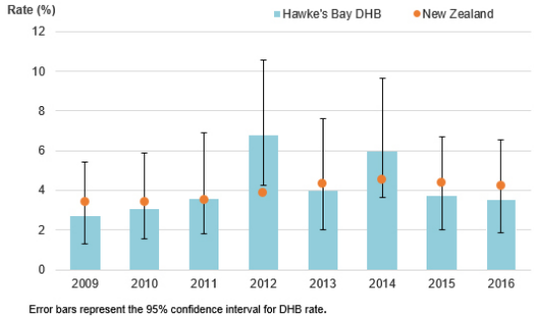
Indicator 8: Third- or fourth-degree perineal tear and no episiotomy among standard primiparae giving birth vaginally



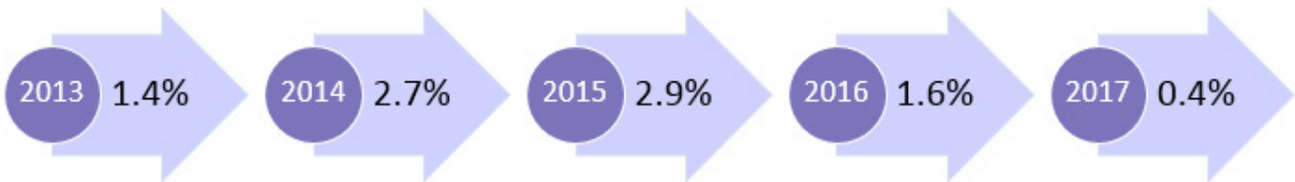
	Total number of standard primiparae sustaining a 3rd- or 4th-degree perineal tear and no episiotomy with vaginal birth per ethnic group - 2017	Total number of standard primiparae who give birth vaginally per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	1	74	1.4%	
Pacific Islander	1	15	6.7%	
European	7	155	4.5%	
Asian	2	24	8.3%	
Other	0	3	0.0%	
Total	**11**	**271**	**4.1%**	**4.2%**

Strength: For the past three years the rate of a third- or fourth-degree tear with no episiotomy amongst standard primiparous women has decreased (6.1% in 2015, 4.6% in 206, and 4.1%, n=11 in 2017). Our rate (4.1%) is comparative to the national average (4.2%). Māori (n=1, 1.4%) were significiantly less likely to have a tear than Europeans (n=7, 4.5%), Pacific Islanders (n=1, 6.7%), and Asians (n=2, 8.3%).



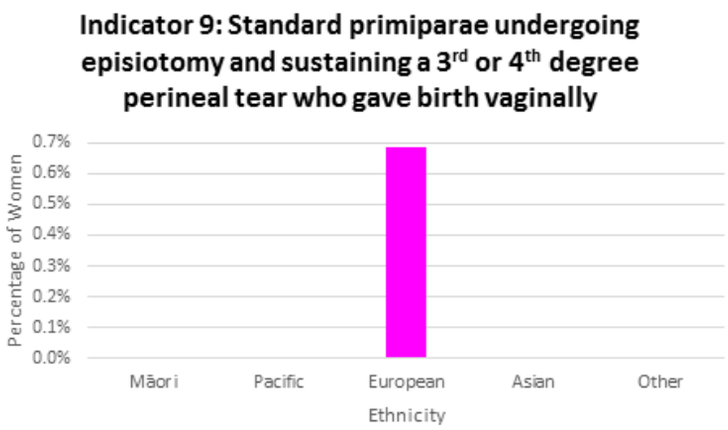


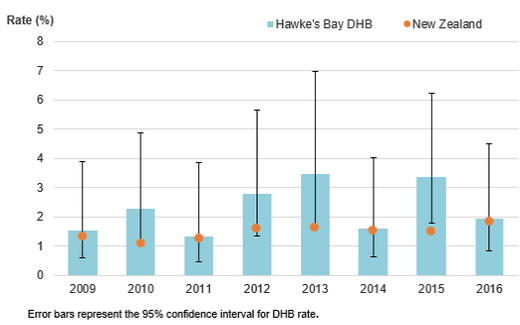
Indicator 9: Episiotomy and third- or fourth-degree perineal tear among standard primiparae giving birth vaginally



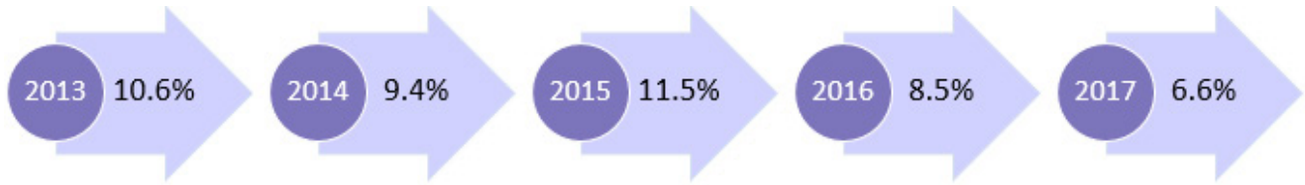
	Total number of standard primiparae undergoing episiotomy and sustaining a 3rd- or 4th-degree perineal tear with vaginal birth per ethnic group - 2017	Total number of standard primiparae who give birth vaginally per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	0	74	0.0%	
Pacific Islander	0	15	0.0%	
European	1	155	0.6%	
Asian	0	24	0.0%	
Other	0	3	0.0%	
Total	**1**	**271**	**0.4%**	**1.8%**

Strength: Only one (0.4%) standard primiparous woman received an epsiotomy with a third- or fourth-degree perineal tear present, a slight decrease from the 2016 rate of 1.6% and less than the 2016 national rate of 1.8%. This woman was of European descent.



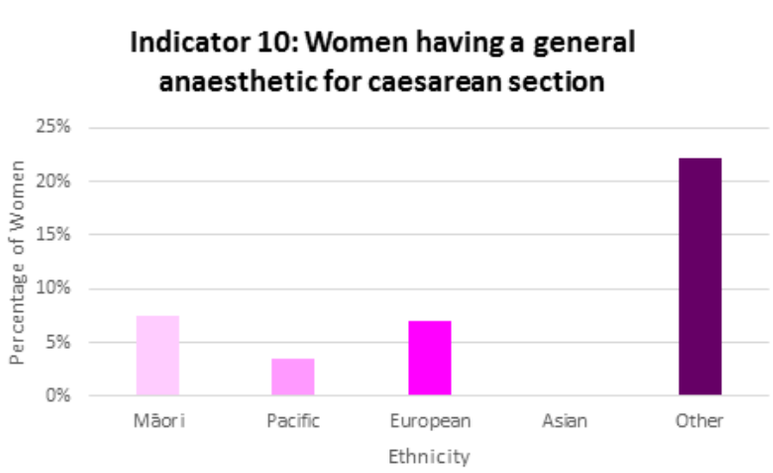


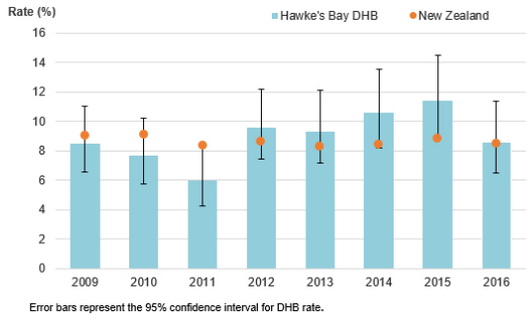
Indicator 10: General anaesthetic for women giving birth by caesarean section



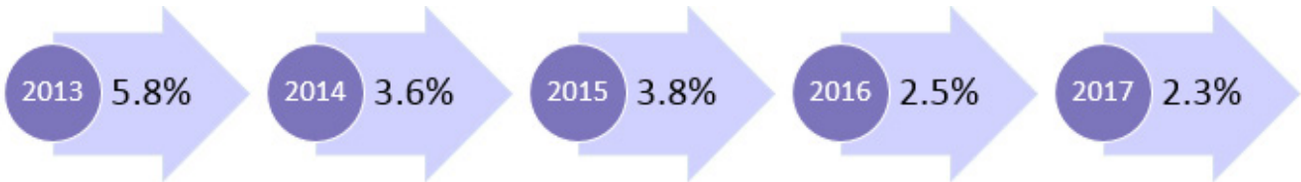
	Total number of women having a general anaesthetic for caesarean section per ethnic group - 2017	Total number of women who undergo caesarean section per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	12	161	7.5%	
Pacific Islander	1	29	3.4%	
European	17	245	6.9%	
Asian	0	43	0.0%	
Other	2	9	22.2%	
Total	**32**	**487**	**6.6%**	**8.5%**

Strength: Promisingly, fewer women continue to receive a general anaesthetic when undergoing a caesarean section (n=32, 6.6% versus 8.5% in 2016) and we are pleased to report our rate is lower than nationally (8.5% in 2016). Women of other ethnicity were most likely to receive a general anaesthetic (n=2, 22.2%), but only nine women were of this ethnicity, so any results for this group must be interpreted cautiously. Māori and Europeans had similar rates (n=12, 7.5% and n=17, 6.9%, respectively), with Pacific Islanders having a lower rate of 3.4% (n=1). No Asian women had a caesarean section under a genereal anaesthetic.



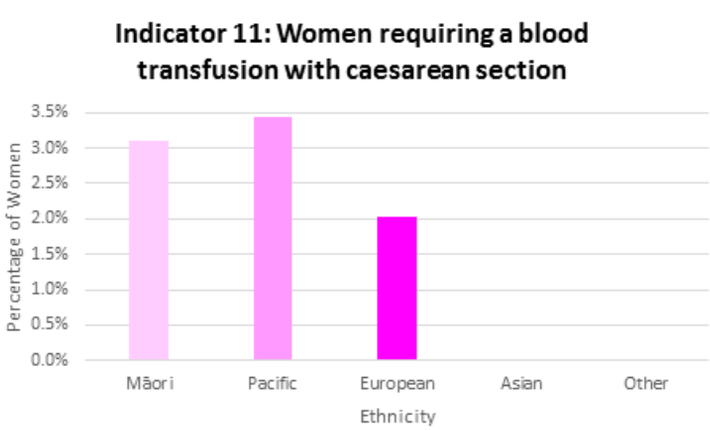


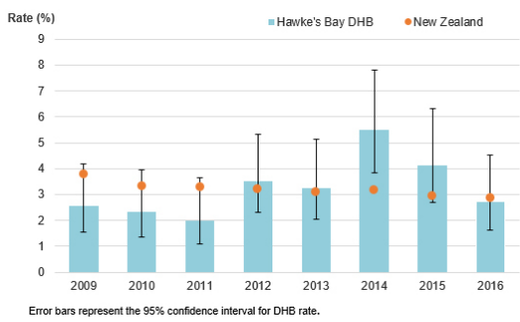
Indicator 11: Blood transfusion during birth admission for caesarean section



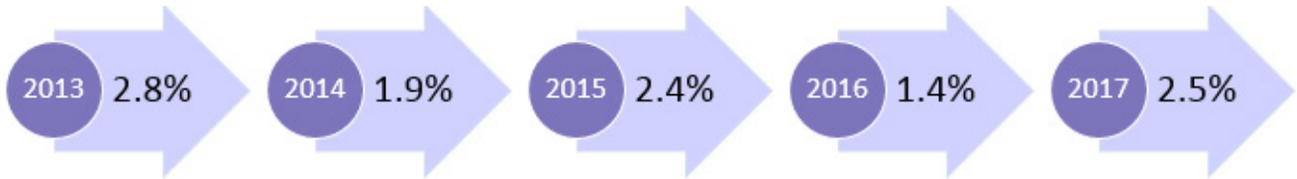
	Total number of women requiring a blood transfusion with caesarean section per ethnic group - 2017	Total number of women who undergo caesarean section per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	5	161	3.1%	
Pacific Islander	1	29	3.4%	
European	5	245	2.0%	
Asian	0	43	0.0%	
Other	0	9	0.0%	
Total	**11**	**487**	**2.3%**	**2.9%**

Strength: Blood transfusions after a caesarean section are rare, with only 11 women (n=2.3%) receiving one. The rate has stayed constant in the past two years (2.3% in 2017 and 2.5% in 2016) and is similar to the rate seen across the country in 2016 (2.9%). No Asian women or women of other ethnicity received a blood transfusion (0.0% and 0.0%), compared to five European women (n=2.0%), five Māori women (n=3.1%), and one Pacific Islander (3.4%).



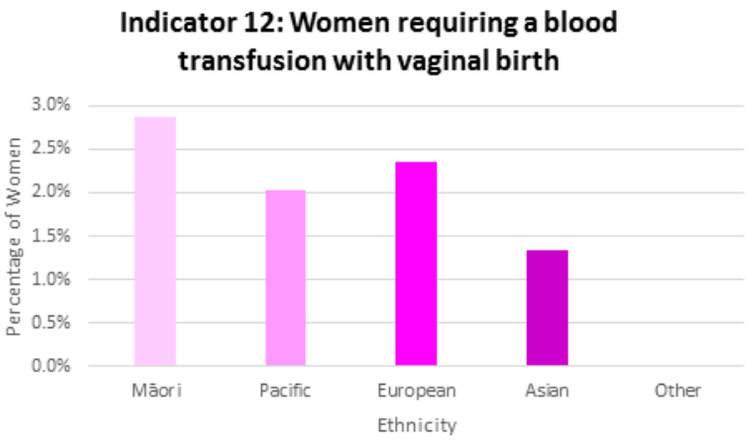


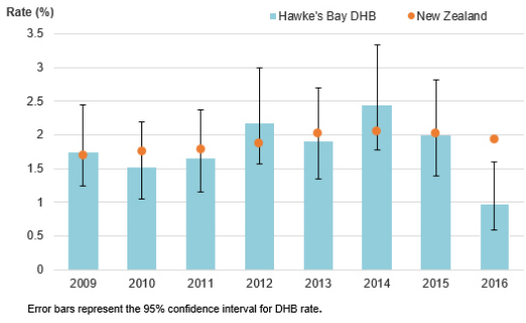
Indicator 12: Blood transfusion during birth admission for vaginal birth



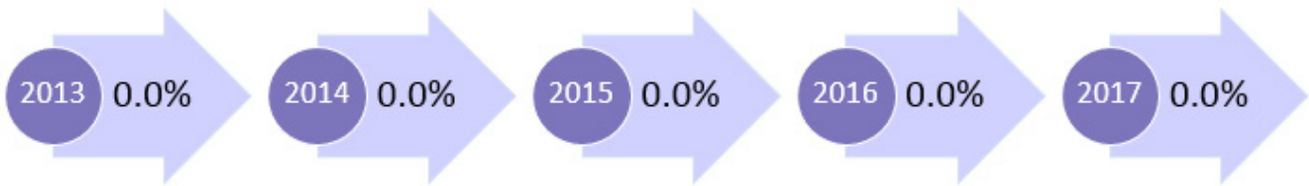
	Total number of women requiring a blood transfusion with vaginal birth per ethnic group - 2017	Total number of women who give birth vaginally per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	16	556	2.9%	
Pacific Islander	2	99	2.0%	
European	17	723	2.4%	
Asian	1	75	1.3%	
Other	0	13	0.0%	
Total	**36**	**1466**	**2.5%**	**1.9%**

Investigate: Our blood transfusions post vaginal birth rate (n=36, 2.5%) is slightly more than the nation-wide 2016 rate of 1.9%, and has increased against the 2016 rate of 1.4%. Māori (n=16, 2.9%), Europeans (n=17, 2.4%), and Pacifica (n=2, 2.0%) have slightly increased odds of having a blood transfusion than Asians (n=1, 1.3%) and women of other ethnicity (n=0, 0.0%).



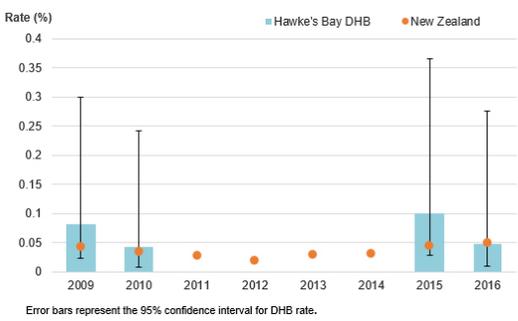


Indicator 13: Diagnosis of eclampsia during birth admission for all women

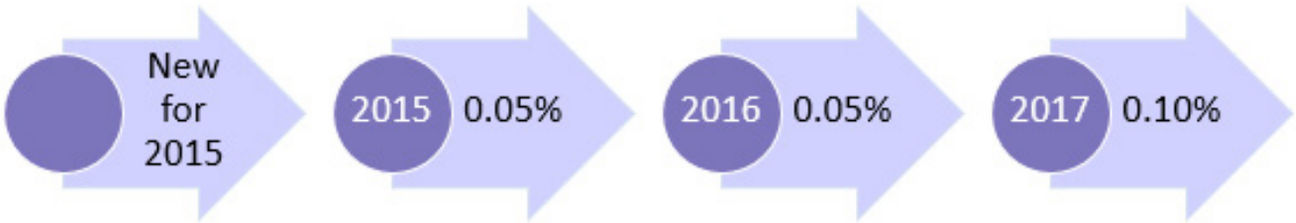


	Total number of women diagnosed with eclampsia during birth admission per ethnic group - 2017	Total number of women giving birth per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	0	742	0.0%	
Pacific Islander	0	134	0.0%	
European	0	1064	0.0%	
Asian	0	135	0.0%	
Other	0	23	0.0%	
Total	**0**	**2098**	0.0%	**0.05%**

Strength: No women who delivered within Hawke's Bay were diagnosed with eclampsia in 2017, as has been the case for the previous four years. The countrywide 2016 rate was 0.05% for this extremely rare diagnosis.

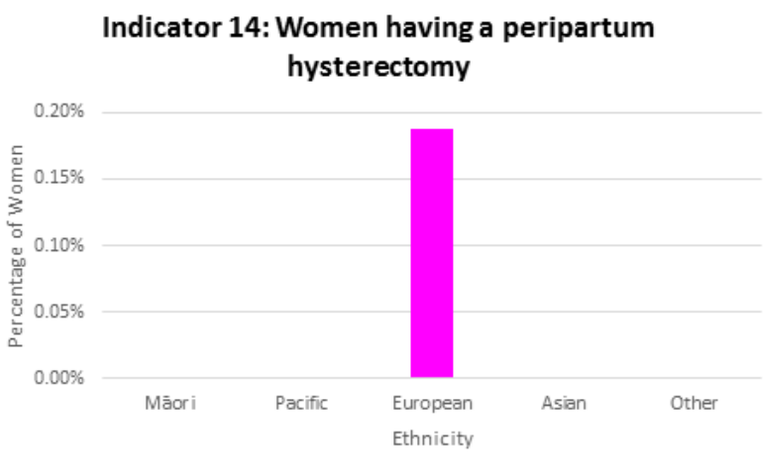


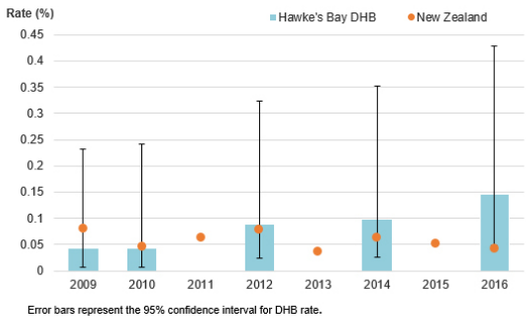
Indicator 14: Women having a peripartum hysterectomy



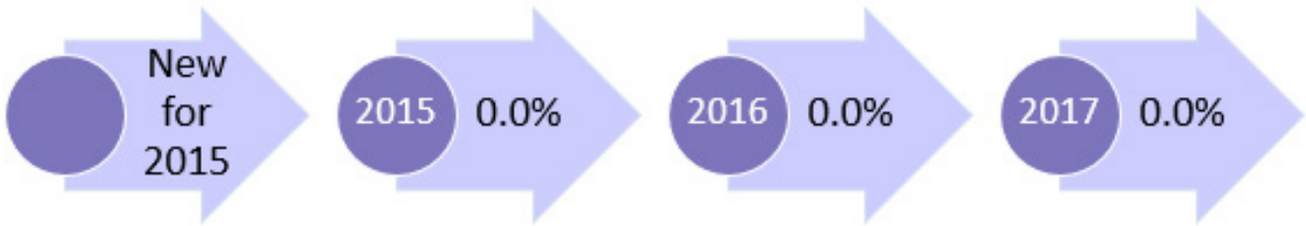
	Total number of women having an abdominal hysterectomy within 6 weeks after birth per ethnic group - 2017	Total number of women giving birth per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	0	742	0.00%	
Pacific Islander	0	134	0.00%	
European	2	1064	0.19%	
Asian	0	135	0.00%	
Other	0	23	0.00%	
Total	**2**	**2098**	0.10%	**0.04%**

Investigate: Two (0.10%) women had a peripartum hysterectomy within six months of giving birth in 2017, compared to one woman (0.05%) in 2015. Both women were of European descent. The 2016 national rate was 0.04%, very slightly less than our rate of 0.10%.



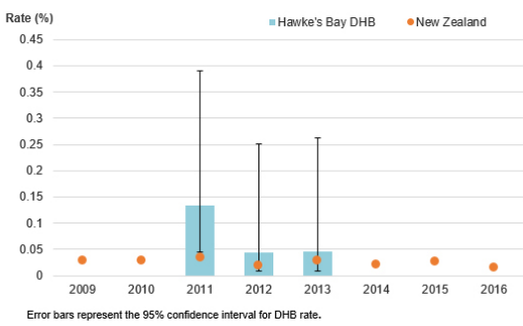


Indicator 15: Women admitted to Intensive Care Unit and requiring ventilation during the pregnancy or postnatal period

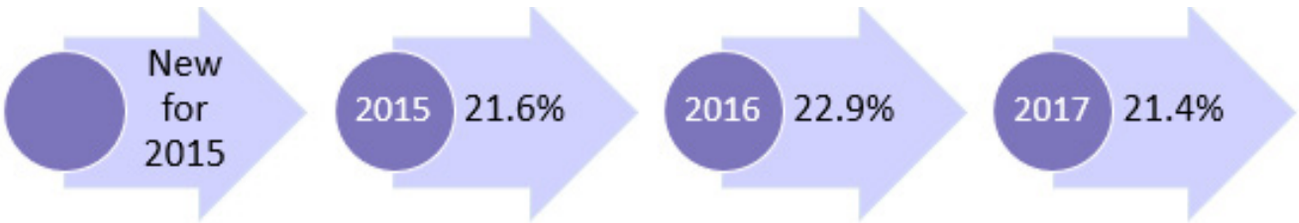


	Total number of women admitted to ICU and requiring over 24 hours of mechanical ventilation during admission any time during the pregnancy or postnatal period per ethnic group - 2017	Total number of women giving birth per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	0	742	0.00%	
Pacific Islander	0	134	0.00%	
European	0	1064	0.00%	
Asian	0	135	0.00%	
Other	0	23	0.00%	
Total	**0**	**2098**	0.00%	**0.02%**

Strength: Since 2015, no women have been admitted to the Intensive Care Unit in Hawke's Bay requiring over 24 hours of ventilation during a pregnancy/postnatal admission. This is similar to the countrywide admissions rate (0.0% versus 0.02%).

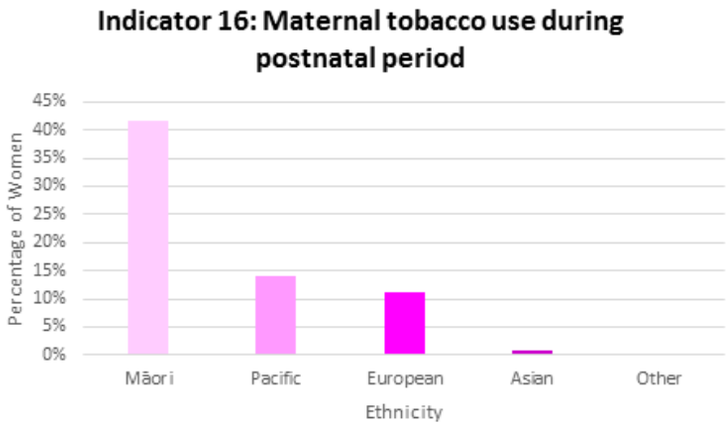


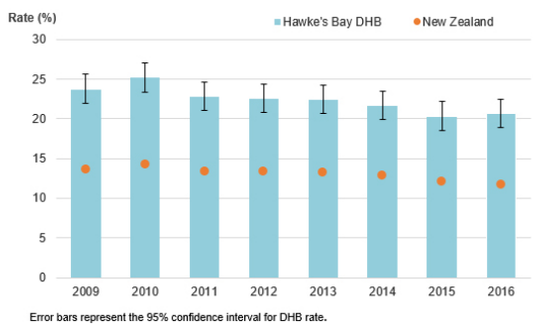
Indicator 16: Women not smokefree during postnatal period



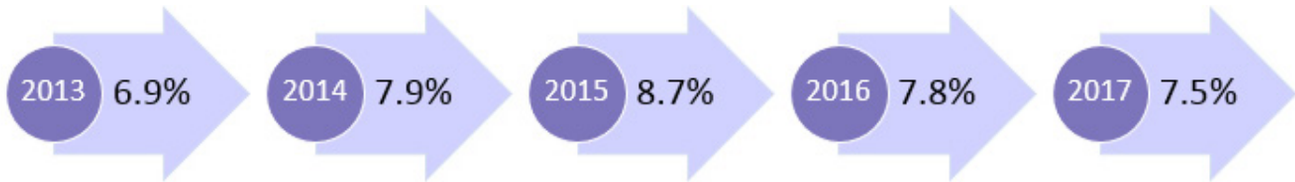
	Total number of women not smokefree at 2 weeks after birth per ethnic group - 2017	Total number of women with smoking status at 2 weeks after birth reported per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	293	703	41.7%	
Pacific Islander	18	128	14.1%	
European	111	989	11.2%	
Asian	1	132	0.8%	
Other	0	22	0.0%	
Total	**423**	**1974**	21.4%	**11.7%**

Improving: We are pleased to report a small reduction in the proportion of women not smoke free at postnatal discharge from 2016 (n=423, 21.4% in 2017 versus 22.9% in 2016). However, our rate of women smoking remains stubbornly significantly higher than the national rate of 11.7% for 2016. This can be partly explained due to our social determinants of health, where our Health Equity report (2017) identifies the increased family harm, hazardous drinking, addictions, poor housing, and overall deprivation of our community to be significantly adverse compared to the rest of New Zealand. Māori women have a greatly increased odds of smoking during their pregnancy (n=293, 41.7%) compared to Pacific Islanders (n=18, 14.1%) and Europeans (n=111, 11.2%). Women of Asian descent (n=1, 0.8%) and other ethnicities (n=0, 0.0%) were least likely to smoke. Please see the Quality Initiatives and Services for information about the support we provide to encourage women and whānau to become, and remain, smoke free.



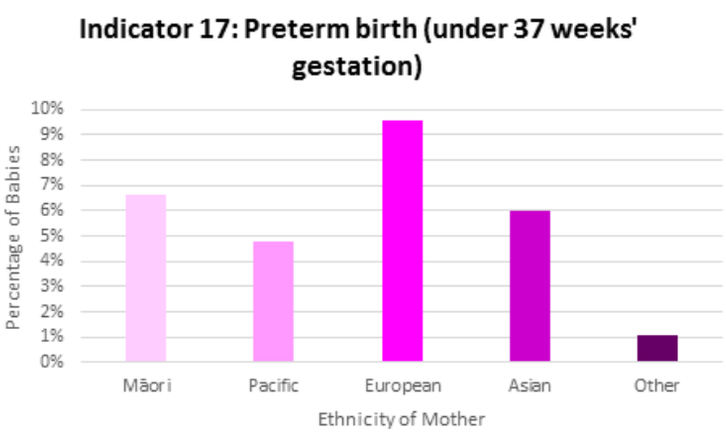


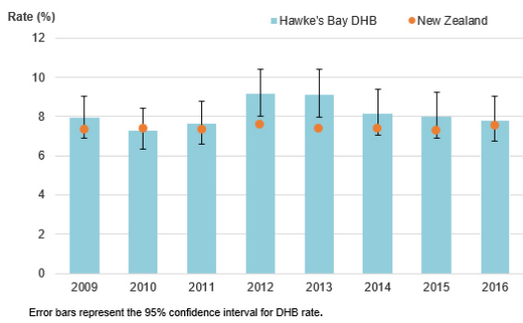
Indicator 17: Preterm births (under 37 weeks' gestation)



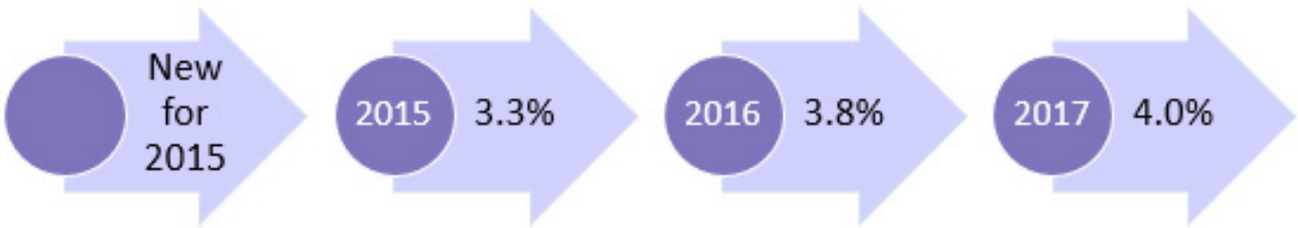
	Total number of babies born under 37 weeks' gestation per ethnic group - 2017	Total number of babies born (live births) per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	57	859	6.6%	
Pacific Islander	7	147	4.8%	
European	84	877	9.6%	
Asian	8	133	6.0%	
Other	1	91	1.1%	
Total	**157**	**2107**	7.5%	**7.5%**

Improving: Our prevalence of live preterm births (n=157, 7.5%) is the same as the 2016 New Zealand rate of 7.5% and has remained constant since 2016 (7.8%). Women from other ethnicities were least likely to deliver a baby preterm (n=1, 1.1%), followed by Pacifica (n=7, 4.8%), Asian (n=8, 6.0%), Māori (n=57, 6.6%), and European (n=84, 9.6%) women.



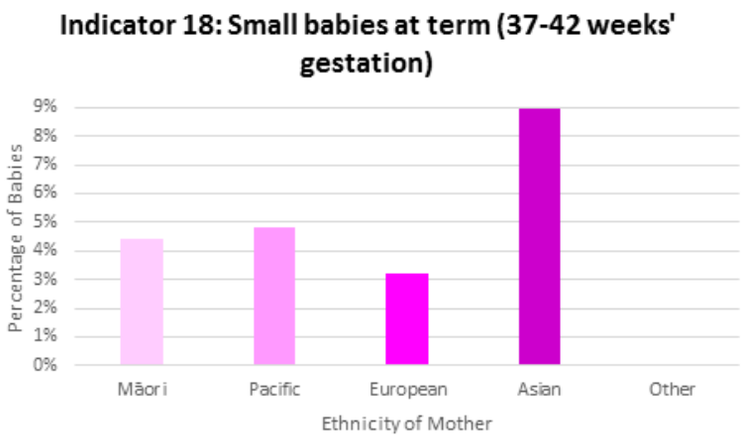


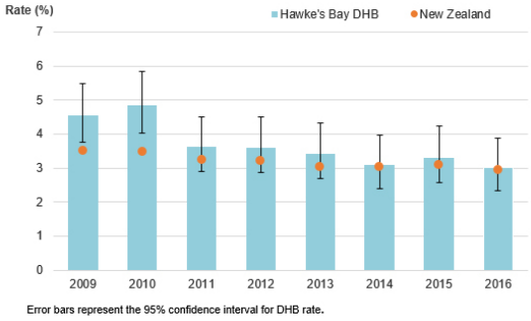
Indicator 18: Small babies at term (37-42 weeks' gestation)



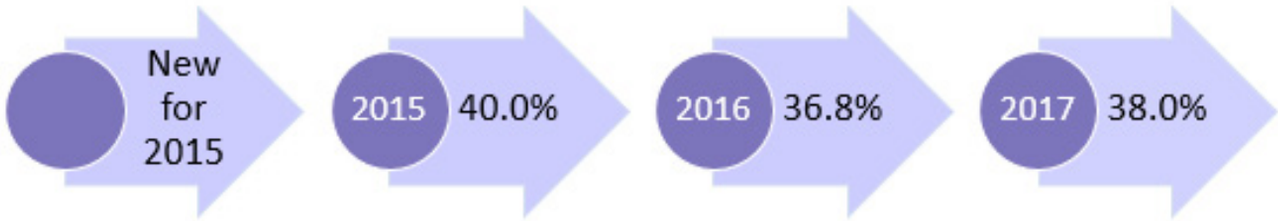
	Total number of babies born at 37-42 weeks' gestation with birth weight under the 10th centile for their gestation per ethnic group - 2017	Total number of babies born at 37-42 weeks' gestation per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	30	679	4.4%	
Pacific Islander	6	124	4.8%	
European	33	1028	3.2%	
Asian	10	112	8.9%	
Other	0	20	0.0%	
Total	**79**	**1963**	4.0%	**2.9%**

Investigate: It is noted that we have a slightly higher proportion of small babies born at term (n=79, 4.0%) than the 2016 national proportion of 2.9%. The ethnicity most at risk of having small babies are Asian women (n=10, 8.9%), with Pacific Islanders (n=6, 4.8%), Māori (n=30, 4.4%), and Europeans (n=33, 3.2%) having a similar risk. Women from other ethnicities had no small babies at term in 2017. The recent introduction of the birth weight centile tool has enabled the detection of previously undiagnosed small for gestational age babies, which has contributed to our increased rate.



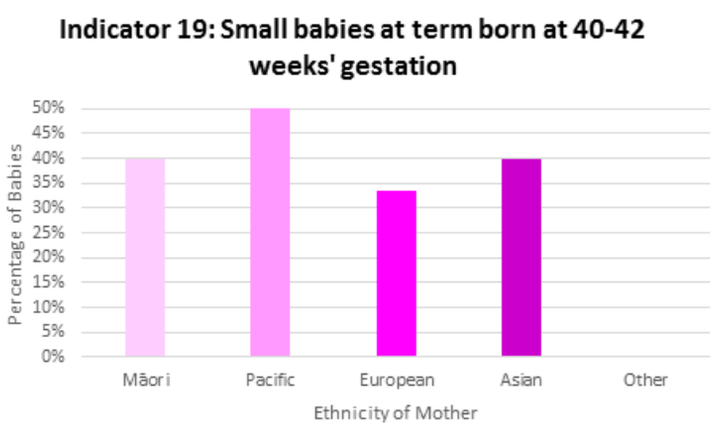


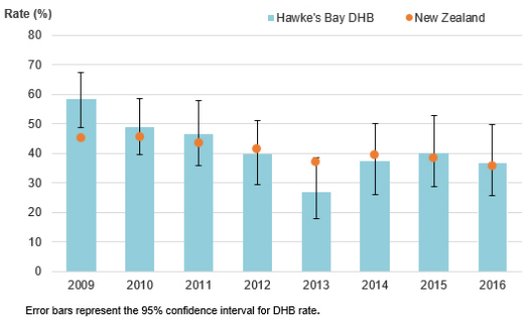
Indicator 19: Small babies born at term at 40-42 weeks' gestation



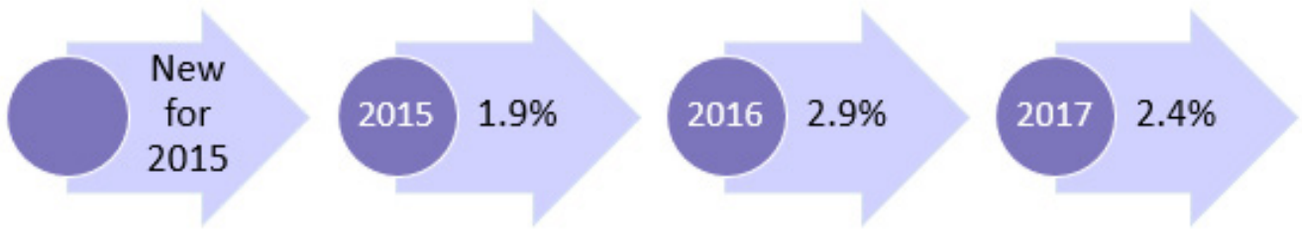
	Total number of babies born at 40-42 weeks' gestation with birth weight under the 10th centile for their gestation per ethnic group - 2017	Total number of babies born at 37-42 weeks' gestation with birth weight under the 10th centile for their gestation per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	12	30	40.0%	
Pacific Islander	3	6	50.0%	
European	11	33	33.3%	
Asian	4	10	40.0%	
Other	0	0	-	
Total	**30**	**79**	38.0%	**35.8%**

Investigate: Unfortunately there was a slight increase in the proportion of small babies born at 40-42 weeks' gestation in 2017 (n=30, 38.0%) than in 2016 (36.8%). Our rate (38.0%) is higher than the 2016 New Zealand rate of 35.8%. As mentioned previously, the introduction of the birth weight centile tool for all babies born has clearly improved our identification of the undiagnosed during pregnancy small for gestational age babies. It is interesting to note that Asian women (n=4, 40.0%) are no longer the ethnic group most likely to have small babies, compared to Clinical Indicator 18. Pacifica women had a higher risk of having small babies (n=3, 50.0%), but the number of women in these two ethnic groups are small, so caution should be used when inferring from these figures. Māori women also have a 40.0% (n=12) chance of delivering a small baby post dates. There were no (0.0%) women of other ethnicity who had a small baby.



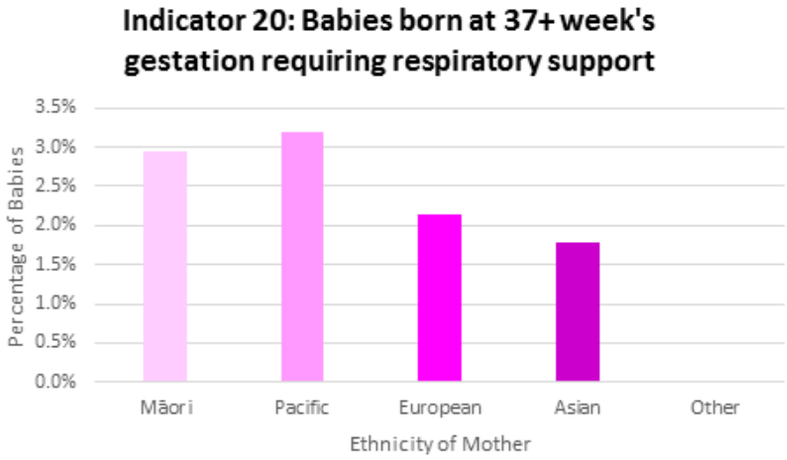


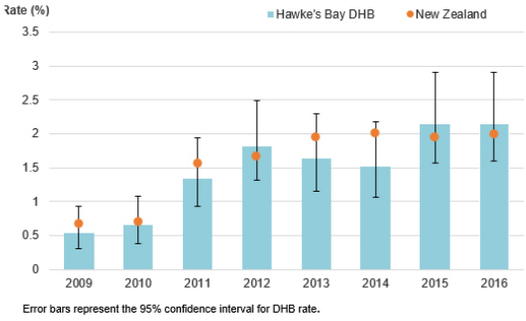
Indicator 20: Babies born at 37+ weeks' gestation requiring respiratory support



	Total number of babies born at 37+ weeks' gestation requiring respiratory support per ethnic group - 2017	Total number of babies born at 37+ weeks' gestation per ethnic group - 2017	Rate (%) per ethnic group - 2017	2016 National Rate
Māori	20	680	2.9%	
Pacific Islander	4	125	3.2%	
European	22	1031	2.1%	
Asian	2	112	1.8%	
Other	0	20	0.0%	
Total	**48**	**1968**	2.4%	**2.0%**

Strength: The prevalence of babies born at term requiring respiratory support has continued to stay consistent (n=48, 2.4% in 2017, 2.9% in 2016, and 1.9% in 2015). This is a comparable rate to the national prevalence in 2016 of 2.0%. No women of other ethnicity had a baby that required respiratory support (0.0%), which put them at a lower risk than Asian (n=2, 1.8%), European (n=22, 2.1%), Māori, (n=20, 2.9%) and Pacific Islander (n=4, 3.2%) mothers, who all had similar risks.





A Hawke's Bay Consumer Story

Birthing in Hawke's Bay looks supportive, trust worthy and reliable to me. After an ectopic pregnancy in 2016 which led to losing a fallopian tube, we were able to successfully conceive naturally four months later. With the support from our midwife we were able to have early scans to confirm all was well with the baby bean. After a fairly smooth pregnancy we went into labour and birthed in Waioha. As a first timer (and after antenatal classes) we/I was not really fully aware of what and how it all takes place! Silly I know! I was always preparing more for the who and what baby bean needs rather than the how! On arrival the staff were friendly and helpful, my midwife arrived shortly after us and started to fill the pool and offered me the gas to regulate my breathing.

I birthed on my back in the bed, and honestly I will never forget the pain and pressure of labour. At one stage while pushing, my midwife had my feet on her side/ribs while my partner supported the other side, I remember saying 'I think you're going to have to cut me to get this baby out'. Our baby was kindly born with her arm held under her chin - so yes a cut and tear took place. We didn't find out the gender so it was lovely to find a wee little girl was ours. While her dad held her and had a look of shock on his face the midwife expertly stitched me up. I was and am still truly amazed how much the midwife goes through to support the birth, they are the most capable women and exactly who you need at the moment of time.

My midwife and the Waihoa midwife helped me shower after a fainting spell and the exhaustion kicked in. Over the next few days it became apparent that my tail bone had suffered badly and would need some treatment to heal. Our stay at Waioha was a bit of a surreal experience, the ladies there were totally amazing, understanding and supportive. Birthing is not what I expected but birthing in Hawke's Bay, well I couldn't have asked for better.

A Hawke's Bay Consumer Story

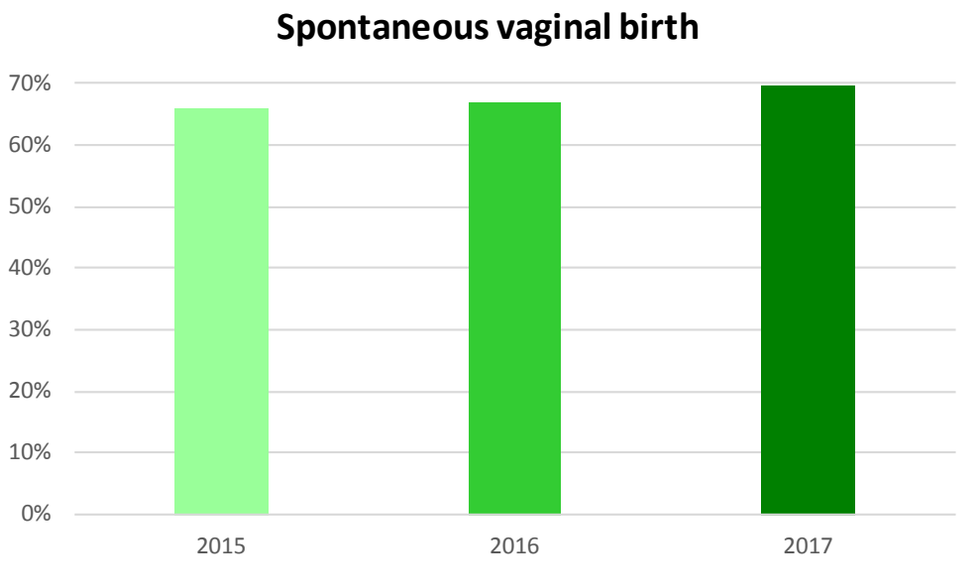
We were induced on October 18th the week the Noro virus was about - fortunately Bubba didn't muck around and was out that night - although our midwife was away and the hospital only had two because of noro virus they couldn't break my waters as they were short staffed - I was going to have to wait until the next day; however Bubba came out that night and popped her sac as she came out. The midwife from the hospital, Megan I think her name was, was so good to us. As I was induced we were in the old part. After bubba was born the next midwife showered me and helped me so much e.g. putting my undies on etc. At 2am we were thrilled as they were able to move us to the new part which was much more relaxing. The staff in that department amazing too. For our first child it was a great experience!

Birth Statistics

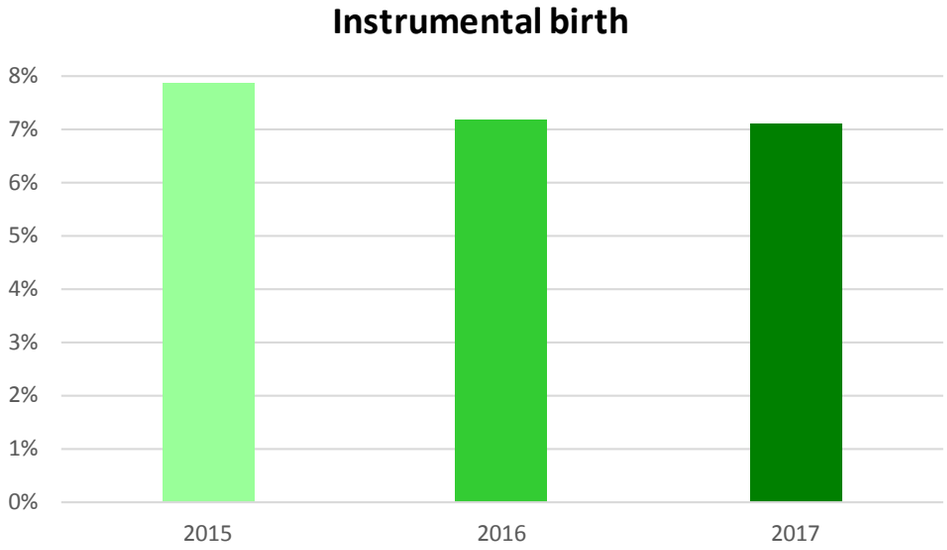
Measurable Outcomes for 2017

Spontaneous Vaginal Birth Rate	Instrumental Birth Rate	Elective Caesarean Section Rate
69.7%	7.1%	9.1%
Emergency Caesarean Section Rate	**Total Caesarean Section Rate**	**Caesarean Section Under General Anaesthetic Rate**
14.2%	23.3%	6.6%
Induction of Labour Rate	**Epidural Rate**	**Episiotomy Rate**
19.5%	25.4%	5.9%
3rd / 4th Degree Perineal Tear Rate	**Postpartum Haemorrhage Rate**	**Postnatal Blood Transfusion Rate**
1.4%	13.6%	2.2%
ICU Admission Rate	**Homebirth Rate**	**Exclusive Breastfeeding Rate**
0.5%	4.4%	75.0%
Registration with an LMC in 1st Trimester Rate	**Women Living in Deprivation Deciles 8-10 Rate**	**BMI >35 at Booking Rate**
63.0%	60.4%	12.5%
Premature Birth Rate (<37 weeks' gestation)	**Neonatal SCBU Admission Rate**	
7.5%	15.9%	

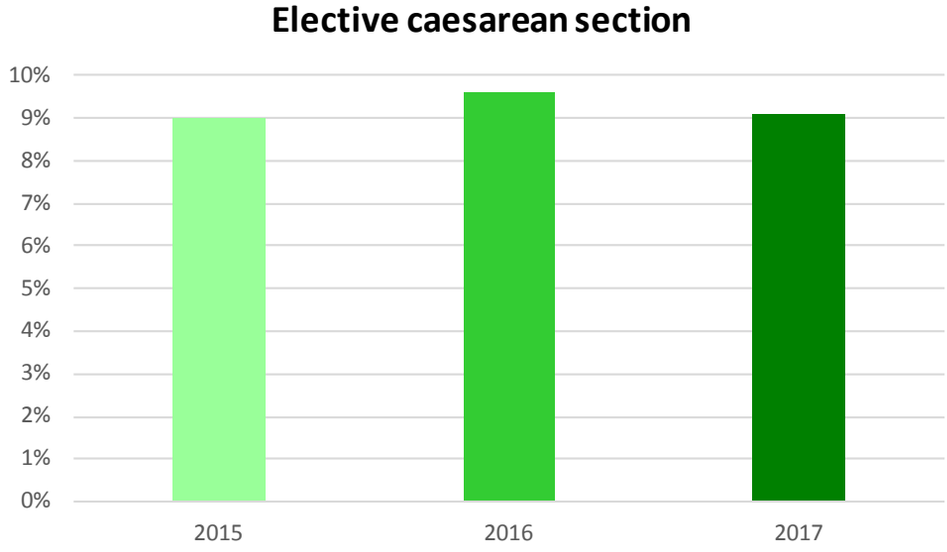
Measurable Outcome Rates by Year 2015 – 2017



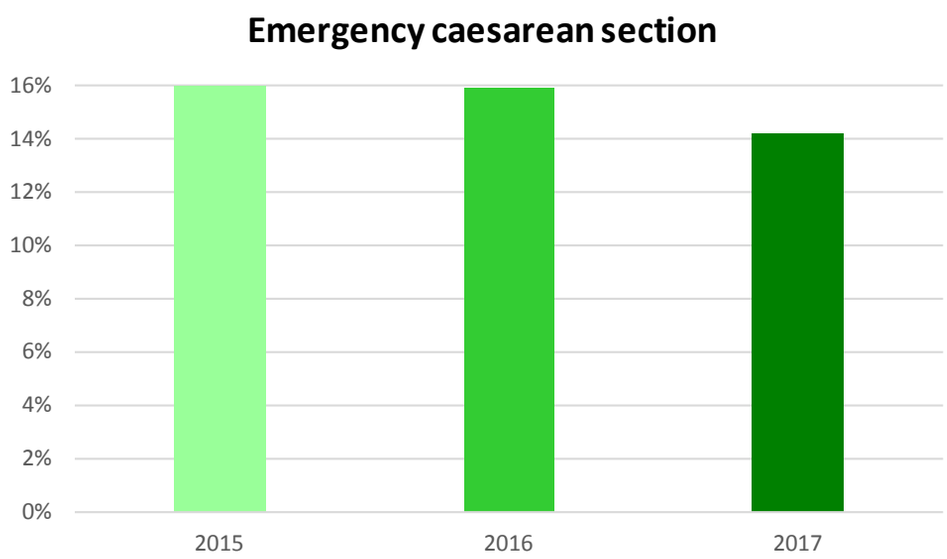
Spontaneous vaginal birth (Strength):
We are delighted to report our rate of spontaneous vaginal births (n=1462, 69.7%), across all our services, has continued to improve since 2015 (66.0%). Waioha, our alongside Primary Birthing Centre, opened on 4 July 2016 and we believe this has had a positive impact on our outcomes for our primary women and their babies.



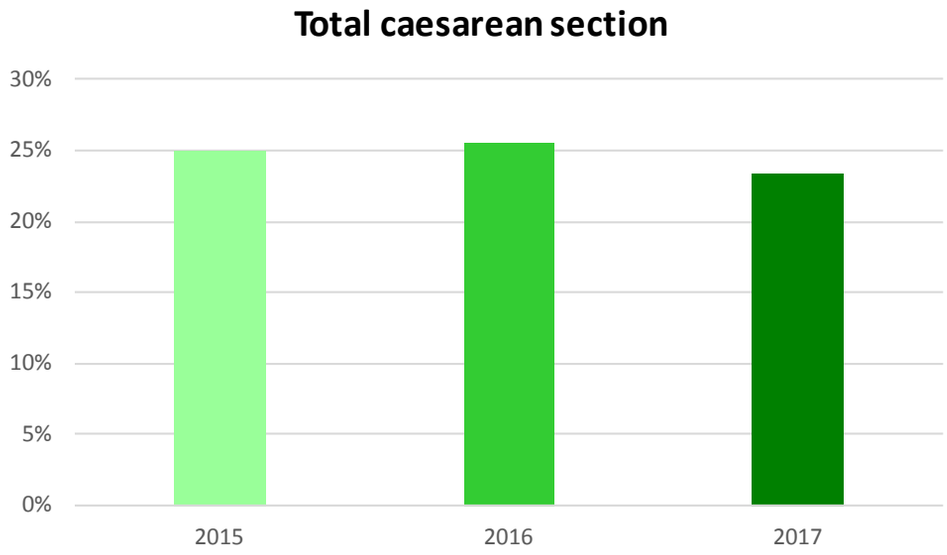
Instrumental birth:
Our overall rate of instrumental births has been relatively constant for the past three years (7.9% in 2015, 7.2% in 2016, and 7.1%, n=148 in 2017).



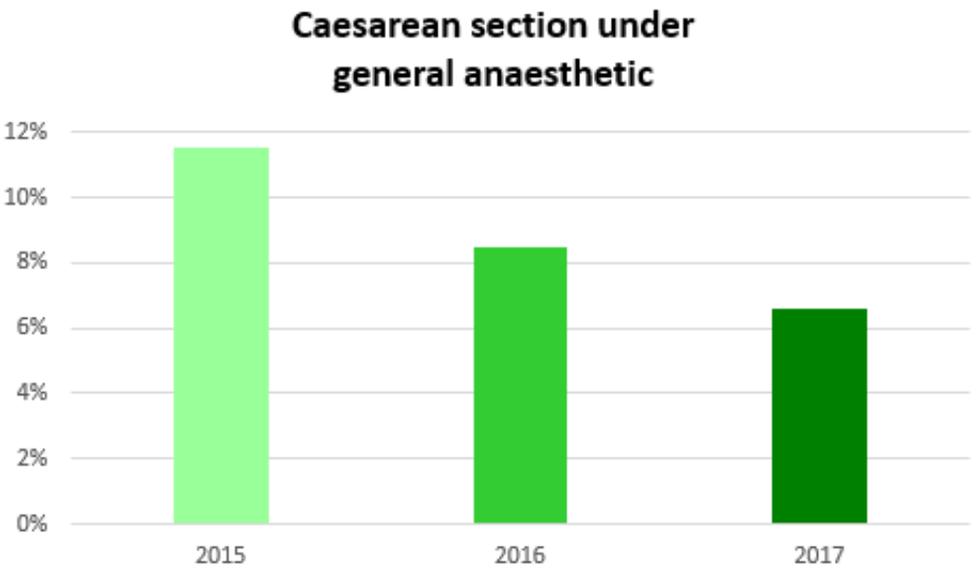
Elective caesarean section:
Our prevalence of elective caesarean sections shows little movement. The prevalence was 9.0% in 2015, 9.6% in 2016, and 9.1% (n=191) in 2017.



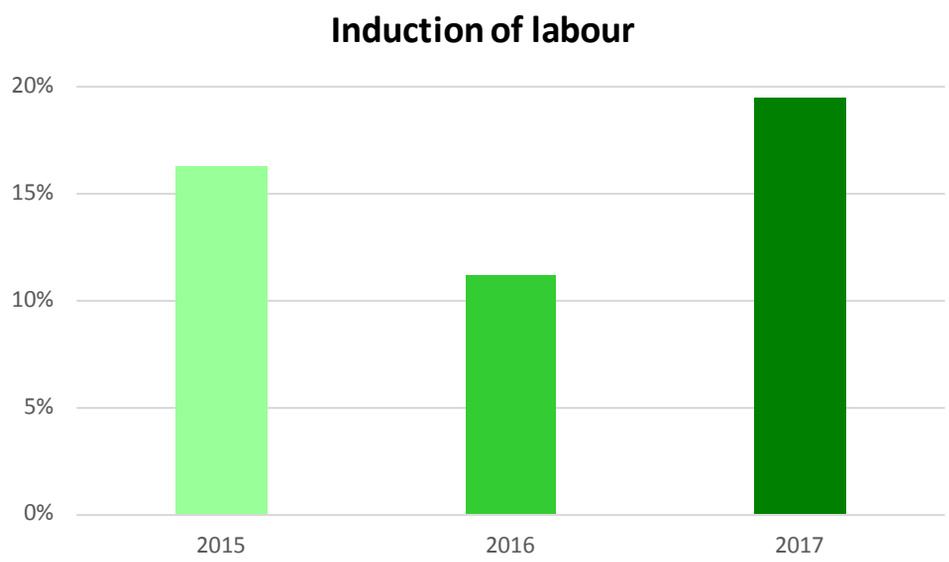
Emergency caesarean section (Strength):
Hearteningly, fewer women have received emergency caesarean sections in 2017 (n=297, 14.2%) compared to 2016 (15.9%). Again we believe the opening of Waioha has influenced our practice and hope that this trend will continue.



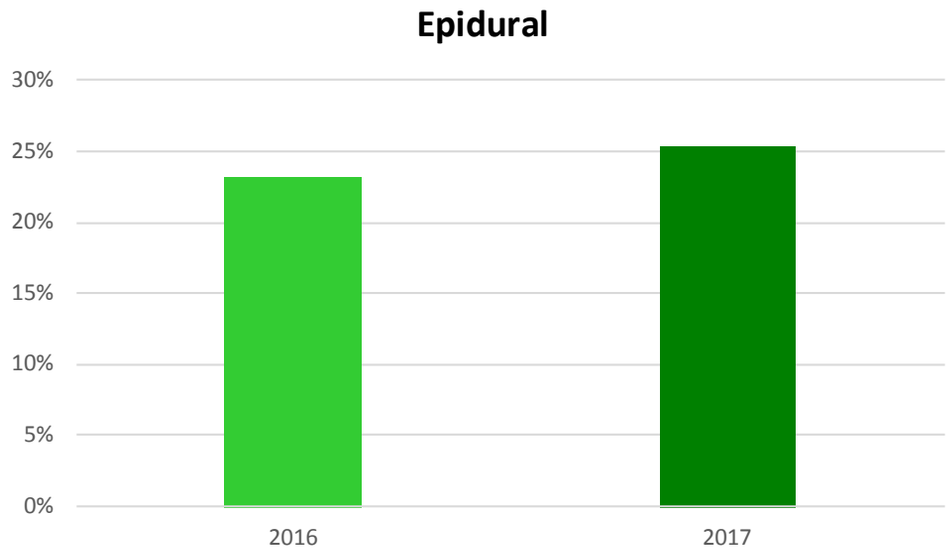
Total caesarean section (Strength):
As to be expected, given our decrease in emergency caesarean sections, there has been a corresponding progressive decrease in women receiving any type of caesarean section (25.5% in 2016 and 23.3%, n=488 in 2017).



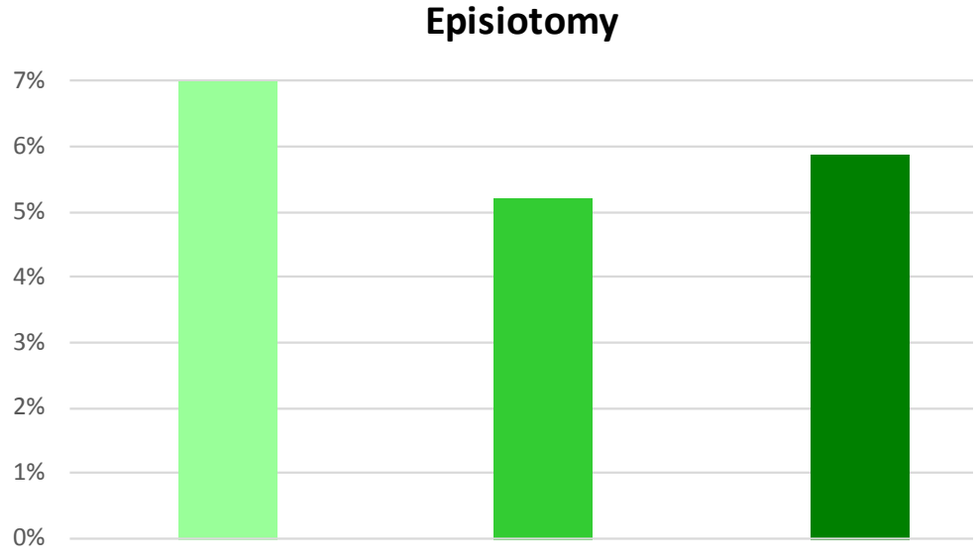
Caesarean section under general anaesthetic (Strength):
It is encouraging to see a steady decrease in the percentage of women requiring a general anaesthetic to undergo a caesarean section from 11.5% in 2015, 8.5% in 2016, to 6.6% (n=32) in 2017.



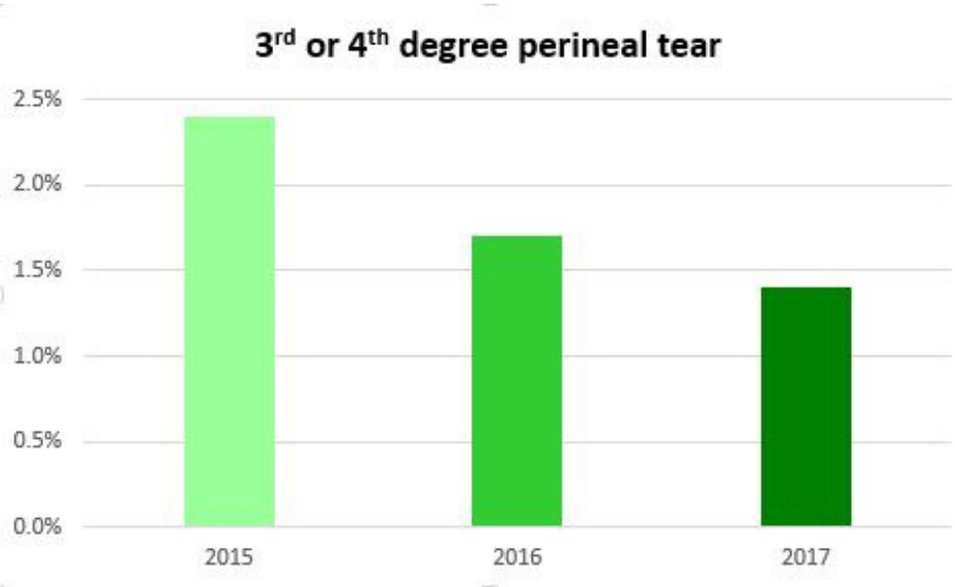
Induction of labour (Investigate):
There has been no consistent pattern in the percentage of women being induced in labour. It is discouraging to report that after a promising decrease from 2015 (16.3%) to 2016 (11.2%), our rate has further increased to 19.5% (n=409) in 2017. Reassuringly, a recent internal audit of inductions of standard primiparous women found that inductions were performed for appropriate clinical reasons. (Please refer to the Summary of Audits Chapter for further details.) However, the cause of the recent increase in inductions for all women remains unclear.



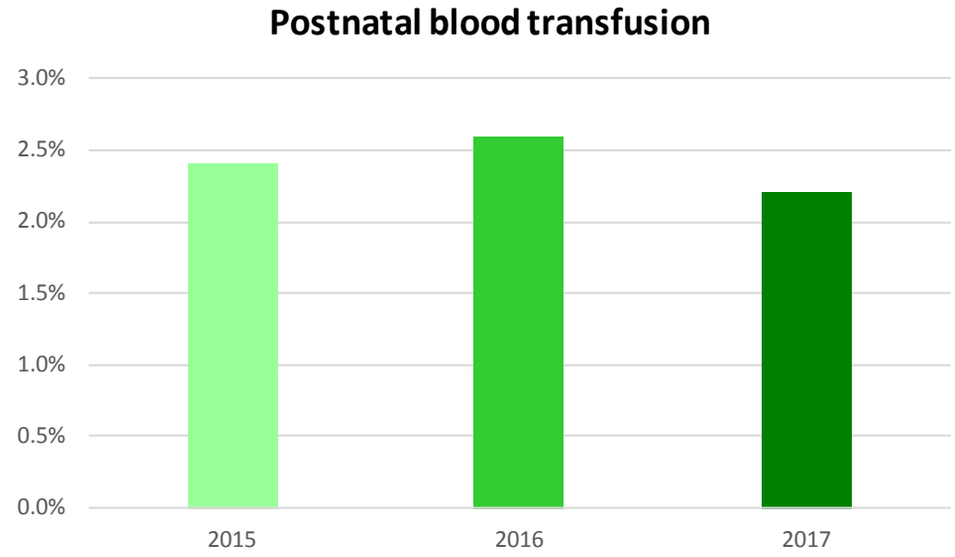
Epidural (Investigate):
Five hundred and thiry-two (25.4%) women requested an epidural in 2017, which is a continued increase from 2016 (23.2%). A potential influencing factor suggested would be the increased induction of labour rate and its correlation with epidural use.



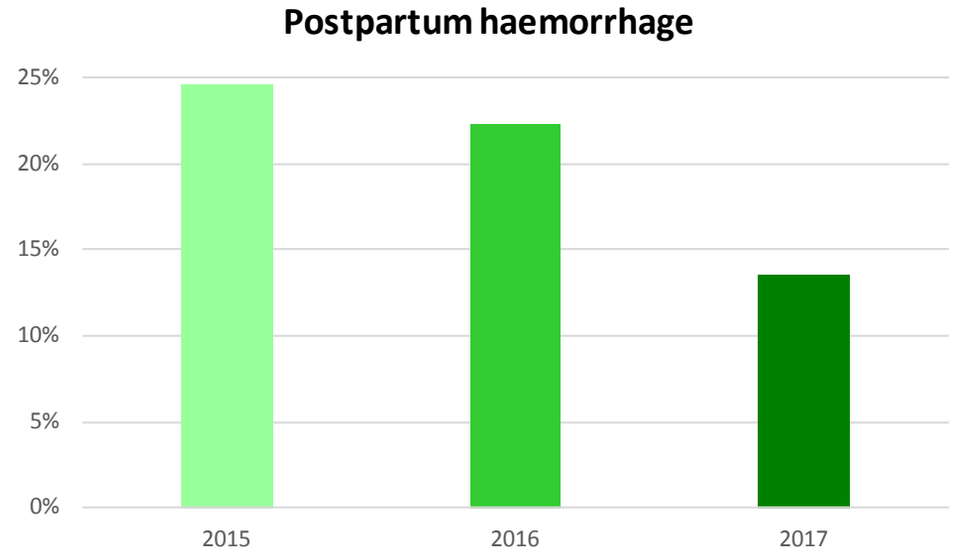
Episiotomy:
Having been at a rate of 7.0% in 2015, our rate of episiotomies dropped to 5.2% in 2016. Data demonstrates a slight increase to 5.9% (n=124) in 2017. This could again be due to more women birthing vaginally.



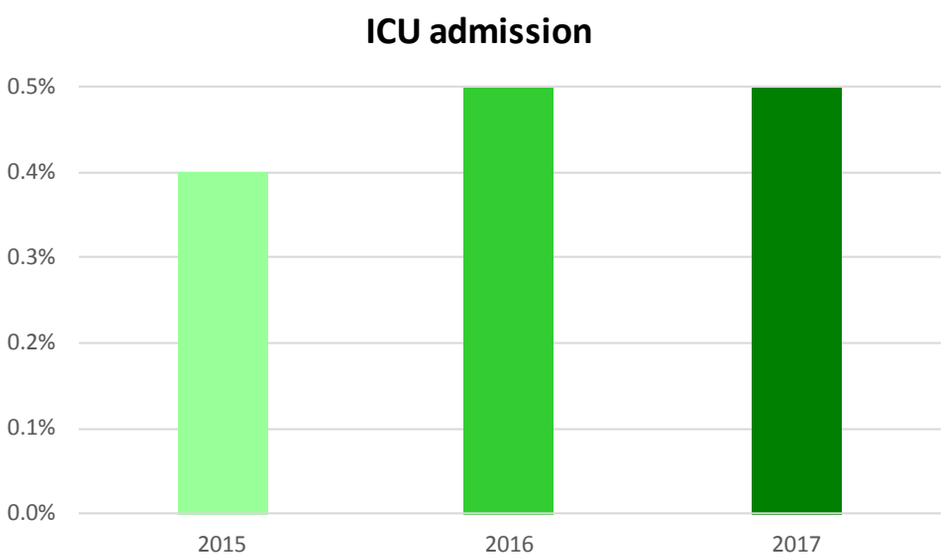
Third- or fourth-degree perineal tear (Strength):
We are happy to report that the percentage of women receving a third- or fourth-degree perineal tear has been on a small downward trend since 2015. In 2015, 2.4% developed a tear, which decreased to 1.7% in 2016, and continued to decrease in 2017 (1.4%, n=30). Given that this is a rare event, this small, but steady decrease is encouraging, especially given that more women are birthing vaginally than previously.



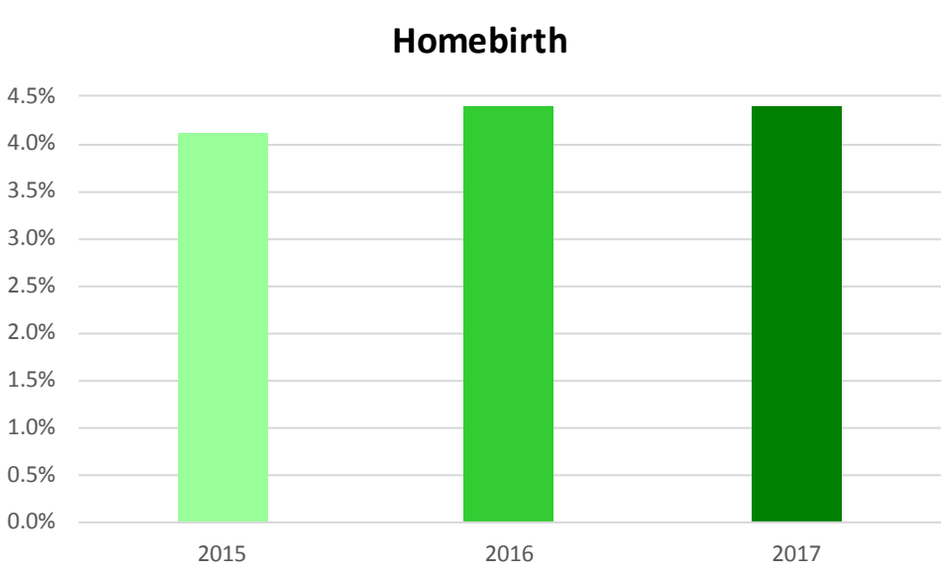
Postnatal blood transfusion:
There has been little change in the prevalence of women requiring blood transfusions postnatally. The rate has remained constant of roughly 2% of our maternal population (2.4% in 2015 versus 2.6% in 2016, versus 2.2%, n=47, in 2017.)



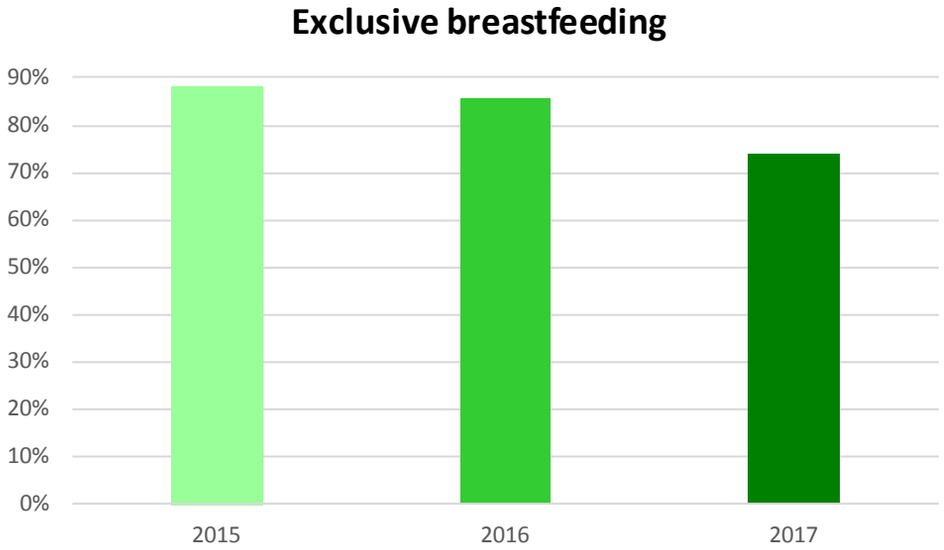
Postpartum haemorrhage (Strength):
After remaining relatively constant for the previous two years (24.6% in 2015 and 22.4% in 2016), it is encouraging to see a large drop in the rate of women experiencing a haemorrhage postpartum (n=285, 13.6% in 2017).



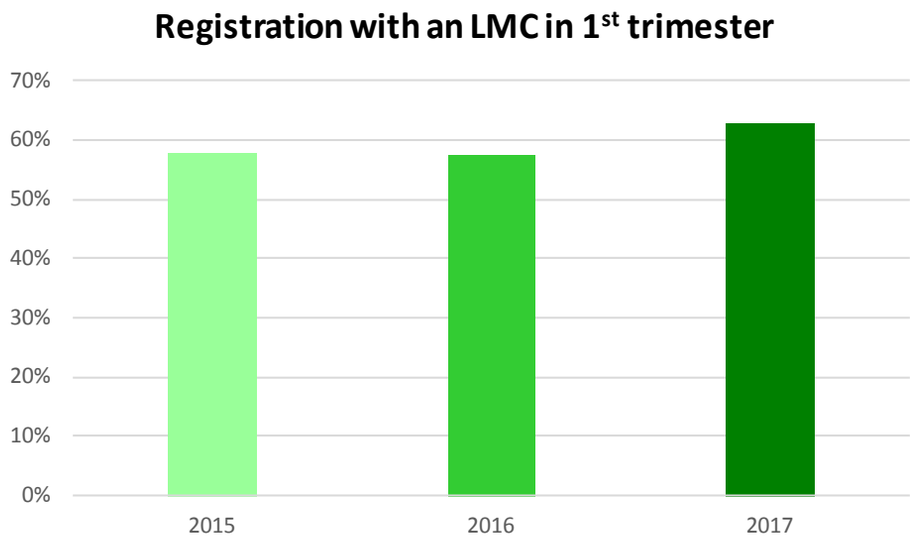
Intensive Care Unit admission: Ten (0.5%) women needed to be admitted to the Intensive Care Unit in 2017. There has been no change in the rate of of this measurable outcome since 2015 (0.4% in 2015, 0.5% in 2016, and 0.5% in 2017. It is important to note that each case is reviewed and any practice recommendations shared.



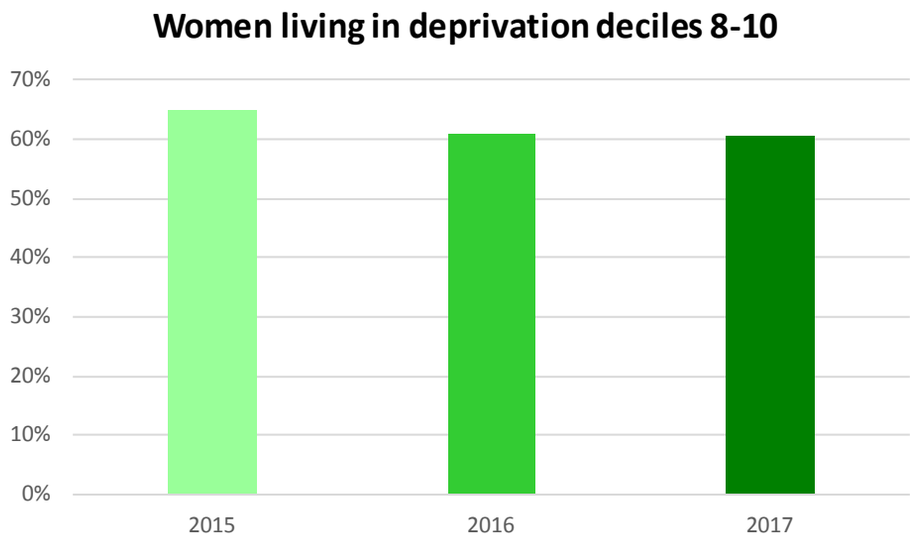
Homebirth (Strength): The number of women having homebirths (both planned and unplanned) has remained consistently around 4%, with 4.1% women delivering at home in 2015, 4.4% in 2016, and 4.4% (n=93) in 2017. The characteristics of these women are discussed later in this Chapter.



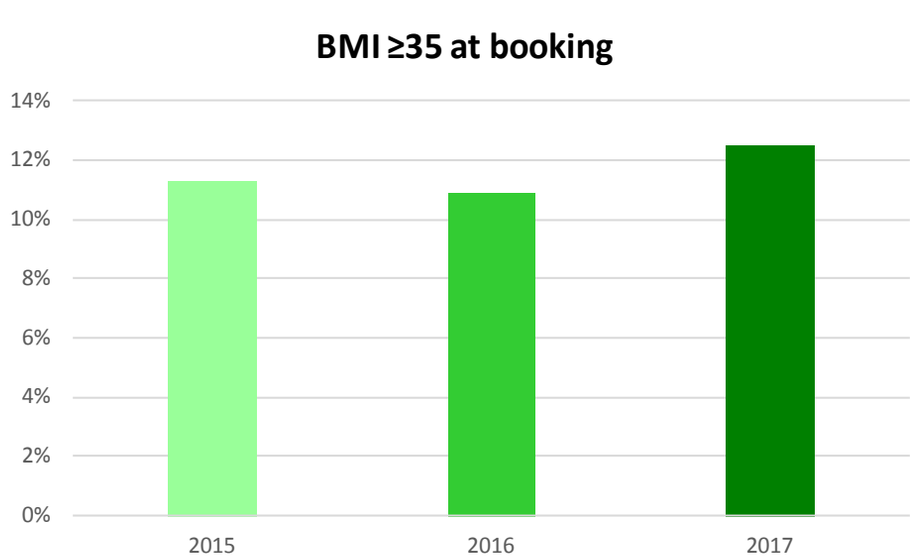
Exclusive breastfeeding (Investigate): Regretfully, there has been a decline in the proportion of women exclusively breastfeeding their babies. In 2015, 88.1% of women exclusively breastfed their babies, but this reduced to 85.8% in 2016, and even further in 2017 to 75.0% (n=1573). There are a number of key influences that may have caused this reduction; particularly workforce challenges, increasing complexity of women and babies, and the quality of the data. The Quality Initiatives and Services Chapter provides details of the services we provide to support women to breastfeed and provides further statistics regarding our breastfeeding rates.



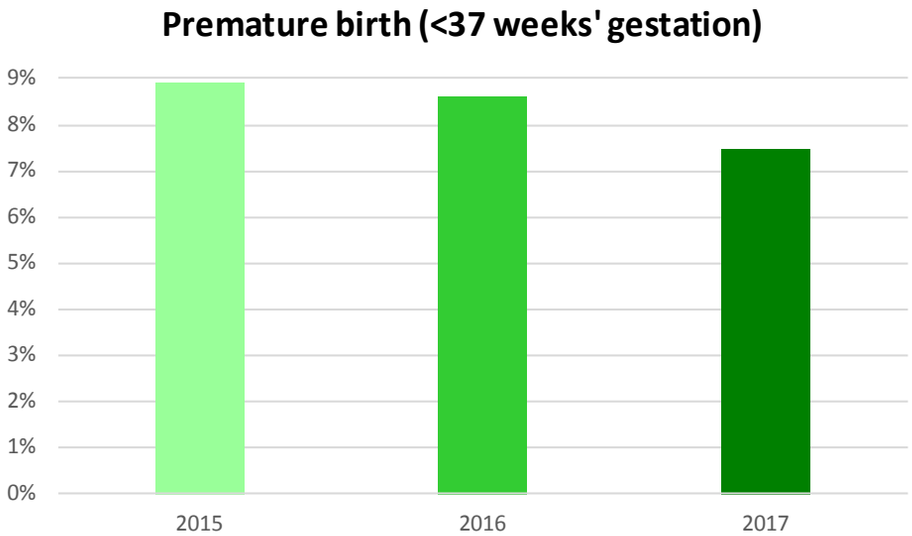
Registration with a Lead Maternity Carer in the first trimester (Investigate):
There has been a small increase in this outcome for 2017 (n=1259, 63.0%), than did so in 2016 (57.4%) and 2015 (58.0%). At the end of 2016, the "Top 5 for My Baby to Thrive" Hawke's Bay DHB campaign was launched and has had an initial impact. From an equity perspective, there remains significant work to improve our Māori and Pacific women's early engagement, as mentioned earlier.



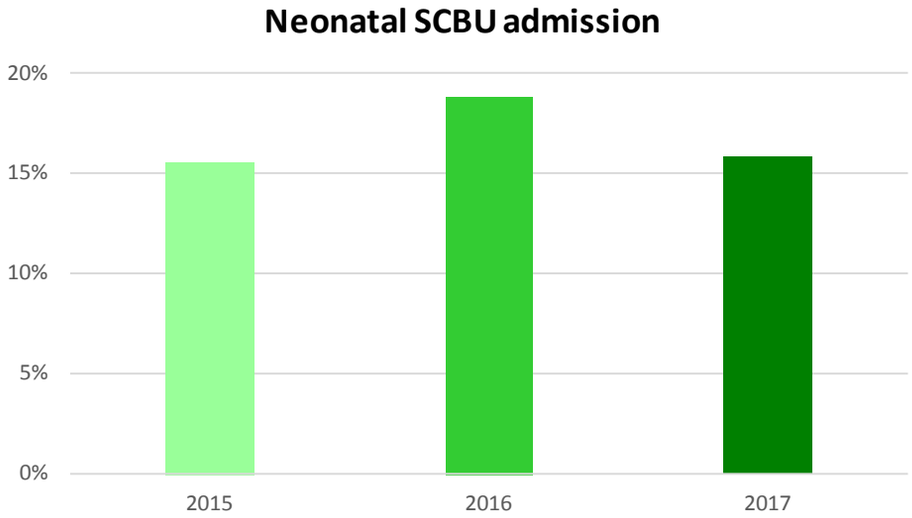
Women living in deprivation deciles 8-10 (Investigate):
As previously discussed in the Population Demographics Chapter, the majority of our maternal population live in areas classified as most deprived by the New Zealand Deprivation ranking deciles (deciles 8-10). This is of concern, as it is well known that deprived individuals tend to have poorer health outcomes compared to affluent people. After dropping from 64.9% in 2015 to 60.8% in 2016, the percentage of women living in the most deprived areas has remained consistent (n=1268, 60.4%).



Body mass index ≥35 at booking (Investigate): After remaining consistent for two years (11.3% in 2015 and 10.9% in 2016), the proportion of women with a body mass index of 35 or more has slightly increased to 12.5% (n=263). This is concerning, as health outcomes for women with raised BMI are poorer than those within normal range.



Premature birth (<37 weeks' gestation) (Improving): Encouragingly, there has been a slight downward trend in the number of babies born prematurely (8.9% in 2015, 8.6% in 2016, and 7.5% in 2017). One hundred and fifty-seven babies were born before 37 weeks' gestation in 2017.



Neonatal Special Care Baby Unit admission (Strength): After rising to a rate of 18.8% in 2016, it is heartening to see the rate of babies requiring admission to the Special Care Baby Unit has returned to a rate similar to that seen in 2015 (n=338, 15.9% in 2017 and 15.6% in 2015). Further outcomes regarding our neonates are reported in the Newborn Services Chapter.

A Hawke's Bay Consumer Story

The choice of a natural birth has never been an option for me. A planned caesarean is the only way to bring my babies safely into the world. In 2015 I gave birth to my daughter through a planned caesarean. During the next two years I found my way and paved a path to the kind of mother I wanted to be.

When I became pregnant for the second time I knew I wanted to pursue a more gentle and natural caesarean birth plan. I felt disappointed in myself and guilty that I could not give my babies the best possible start; it was difficult coming to terms with this. After researching a 'natural caesarean' I began to feel more confident and content with the birthing process.

The day of our booked-in caesarean arrived. The preparation was no different to the first caesarean I had already had. Where it differed began after our beautiful baby girl was lifted from my stomach. The surgical team lowered the screen completely and took our baby directly over the screen and onto my chest for immediate skin-to-skin. It was at this point that the room was silent as we all looked in awe and appreciated the magical moment. Delayed cord clamping took place for 3 minutes; during this time I was able to completely soak up the smell and feel of my baby, and I was her first cuddle and heartbeat on the outside word, just like a natural birth. The importance of this initial contact was a huge healing experience for me. During this time my placenta slowly emerged itself. The surgeons then cut the cord, put the screen back up and began their work again on the sterile end.

We took the opportunity in theatre for my partner to bond with our baby girl. He removed his shirt and had skin-to-skin also. The process of becoming a father is an equally important part of a birth plan and this allowed him to connect on a deeper level.

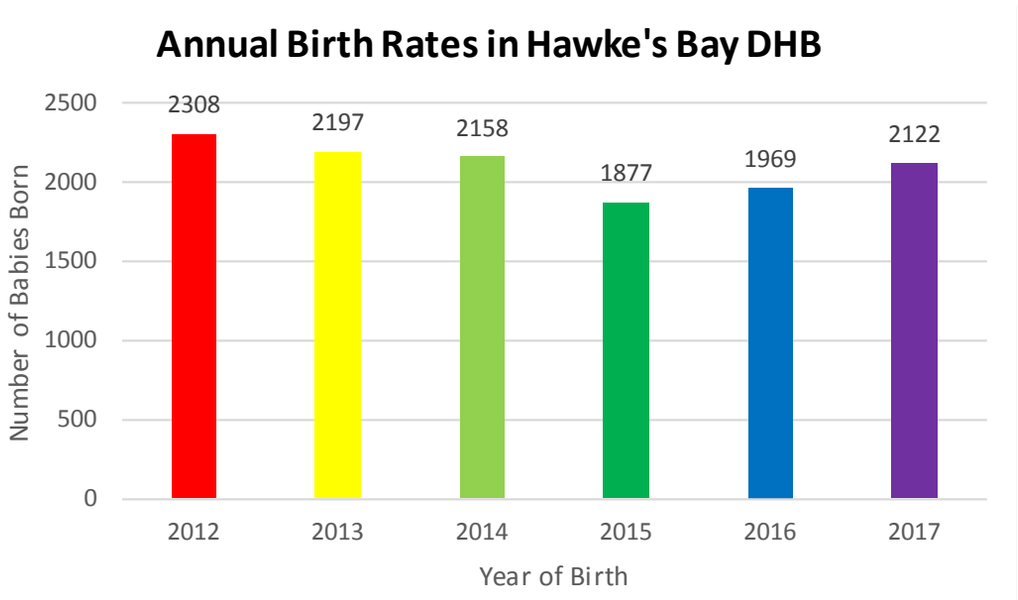
My daughter was then passed back to me to breastfeed in theatre. The first feed is so special as I could feel the rush of those hormones still flowing. All the while we played a song that is now very special to us.

It is so empowering to have had a voice in my own birth journey. After challenging the norm, experiencing low, fear and strength, I was finally able to feel peace.

Birth Outcomes

Annual Birth Rate

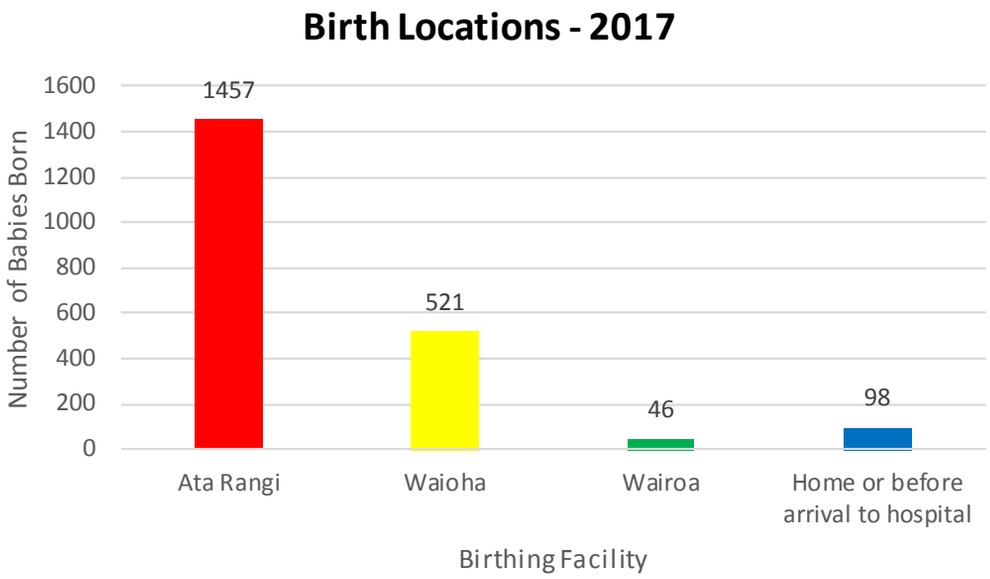
In 2012 there were 2308 babies born in the Hawke's Bay DHB area. The number of births declined in the following three years, to 1877 in 2015, a drop of 19%. In 2016, the number of babies born increased to 1969, and further increased to a total of 2122 babies being born within Hawke's Bay in 2017, although this is still 8% less than the annual birth rate of 2012. What is evident by examining the data (shown elsewhere) is the increasing co-morbidities and complexity of women having babies.



Birth Locations

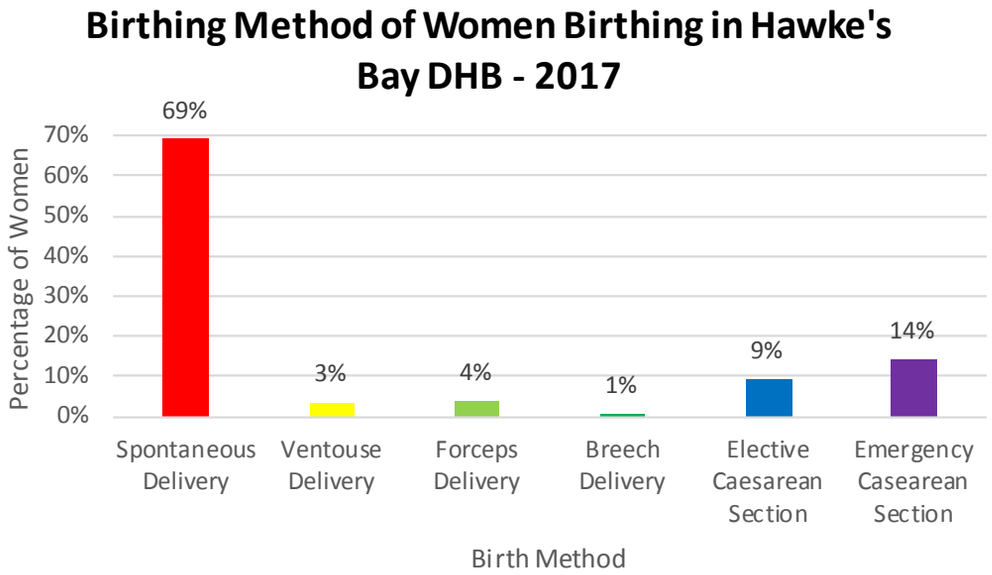
Of the 2122 babies born in Hawke's Bay in 2017, the majority (n=1457, 69%) were born in Ata Rangi, our Secondary Maternity Services Unit. Waioha, our alongside Primary Birthing Centre, was the birth place of a quarter of the babies (n=521). A further 46 (2%) were born in our Remote Rural Primary Services facility in Wairoa. Seventy-four (3%) babies were born at home as planned, nineteen (1%) were born at home unplanned, and five (0.2%) were born on the way to our maternity facilities.

Waioha opened in July 2016 and it is encouraging to see that the percentage of births taking place here has increased from 15% in 2016 to 25% in 2017, with a corresponding decrease in the proportion of births occuring in Ata Rangi (80% in 2016 versus 69% in 2017). The rates of births in Wairoa (2% in 2016 and 2017) and at home or in transit (3% in 2016 compared to 5% in 2017) have remained constant.



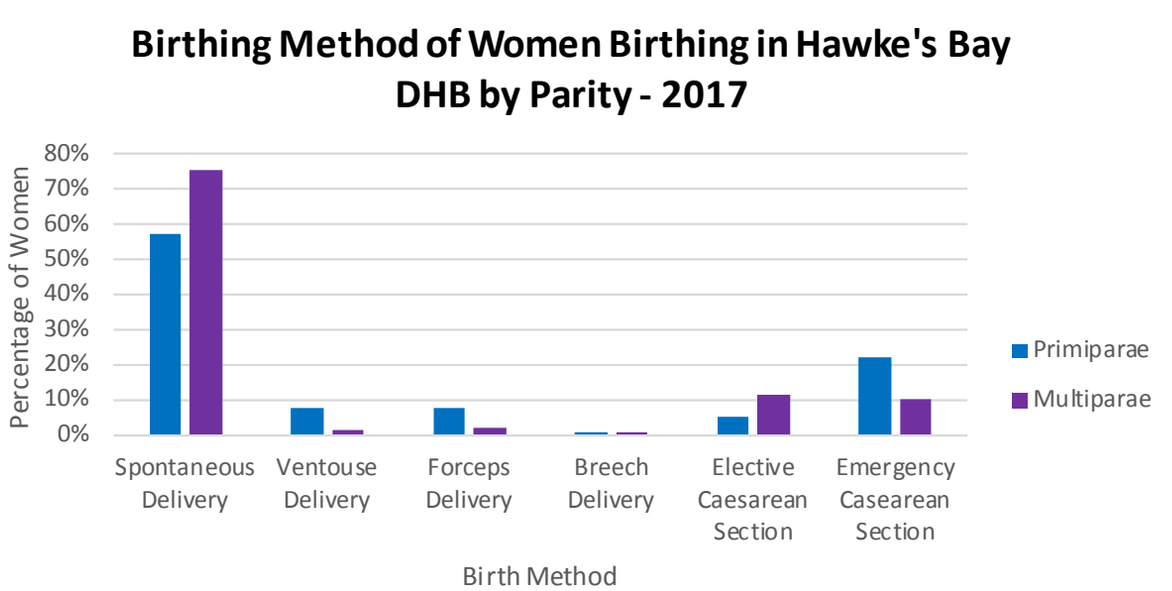
Birth Outcomes

The most frequent mode of birth for the 2098 women who gave birth in 2017, in Hawke's Bay, was spontaneous vaginal birth (n=1449, 69%). Two hundred and ninety-seven (14%) women gave birth via emergency caesarean sections and 191 (9%) women had elective caesarean sections. Four percent (n=77) of women were assisted to give birth with forceps and 3% (n=71) with a ventouse. Only 13 (1%) women had vaginal breech births. There were no changes in the percentages of women experiencing each mode of birth from 2016, with the comparative rates being 67% for spontaneous vaginal births, 16% for emergency caesarean sections, 10% for elective caesarean sections, 4% for forceps deliveries, 3% for ventouse assisted births, and 1% for breech births.

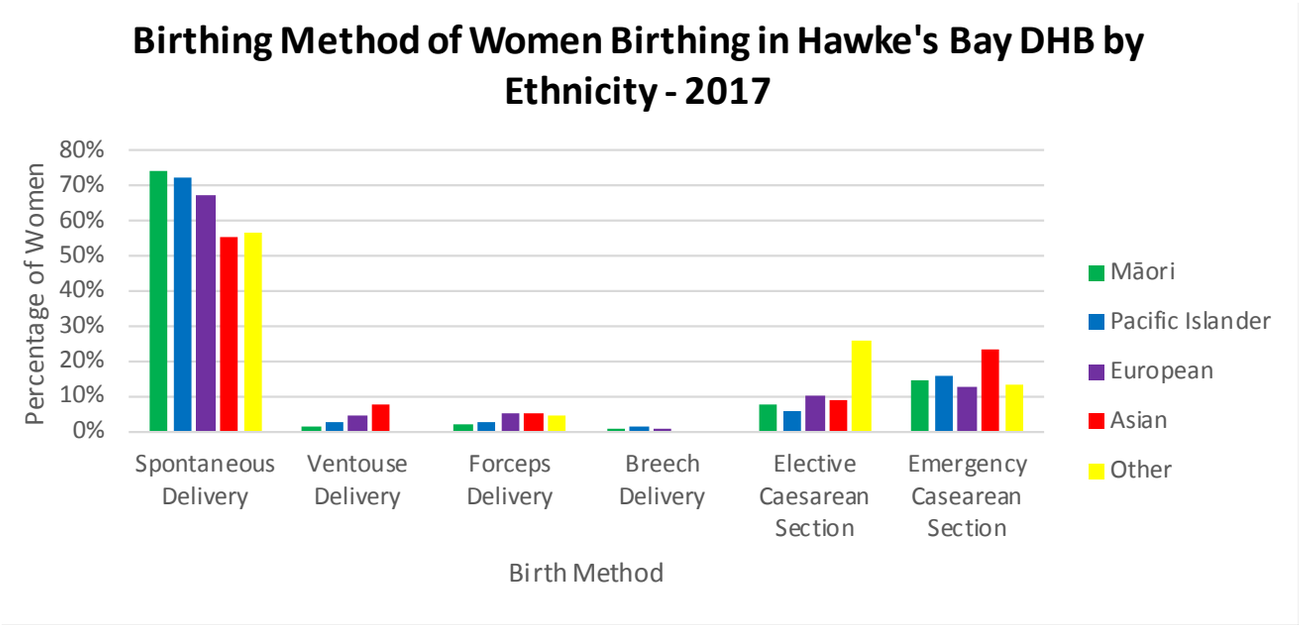


Birth Outcomes by Parity

As to be expected, fewer (n=419, 57%) primiparous women gave birth spontaneously than multiparous women (n=1030, 75%). Unsurprisingly, primiparae were twice as likely (n=160, 22%) to have an emergency caesarean section than multiparae (n=137, 10%), but half as likely to have an elective caesarean section (n=38, 5% versus n=153, 11%). First-time mothers also had a greater chance of giving birth with assistance via ventouse (n=56, 8%) and forceps (n=55, 8%), than women who were already mothers (n=15, 1% for ventouse deliveries and n=22, 2% for forceps births). The breech birth rates were similar between the two groups, with three (0.4%) primiparous women and ten (0.7%) multiparous women having breech births.



Birth Outcomes by Ethnicity



Māori and Pacific Islander women had the highest chance of having a spontaneous vaginal birth (n=549, 74% and n=97, 72%, respectively), followed by Europeans (n=715, 67%), women of other ethnicity (n=13, 57%), and Asians (n=75, 56%). Correspondingly, Asian women were more at risk of having an intrumental delivery or a caesarean section than the other ethnic groups, with 23% (n=31) of Asian mothers having an emergancy caesarean section, compared to 16% (n=21) of Pacifica mums, 14% (n=106) of Māori, 13% (n=136) of Europeans and 13% (n=3) women of other ethnicity. Although the number of women was small (n=6, 26%), mothers from other ethnicities were nearly three times more likely to have an elective caeasarean section than Europeans (n=110, 10%), Asians (n=12, 9%), Māori (n=55, 7%), and Pacific Islanders (n=8, 6%).

A Hawke's Bay Consumer Story

Hiya,

My first baby was a forceps delivery in 2009 so I wasn't expecting an easy labour!

My little girl was due 19 March but my fundal height was measuring ahead. I had a few extra scans and looked like she was going to be big. She was also posterior and sitting diagonally for a bit, but she straightened up in time! I had a stretch and sweep on Mon 20 March, then another on Fri 24. My midwife, Rizwaana Latiff was awesome and told me to come in on Sat and she would induce me instead of having to wait til Mon. However, I went into labour that night and went to hospital at midnight. I had a bath about 6 where my waters broke without me realising. I was checked and meconium was seen in the water; I was strapped to monitors and a cap put on baby's head. During the day I got an epidural and finally the call was made to rush to surgery. This was because of my blood pressure, the fact baby was taking too long to recover after a contraction, the fact she hadn't entered the birth canal and the (I think) lactic acid measure?

Rushed us in, my baby was born at 5.22pm, happy and healthy. I lost a 1L of blood and got stitched up as well as the tear they found in my uterus.

We stayed in hospital til Tues, and the staff where lovely and caring and helpful at all times. My midwife was awesome and I couldn't have got through it without any of them.

We were in Ata Rangi and it was very nice that we had a room with a lazy boy as it meant my husband could stay and help me.

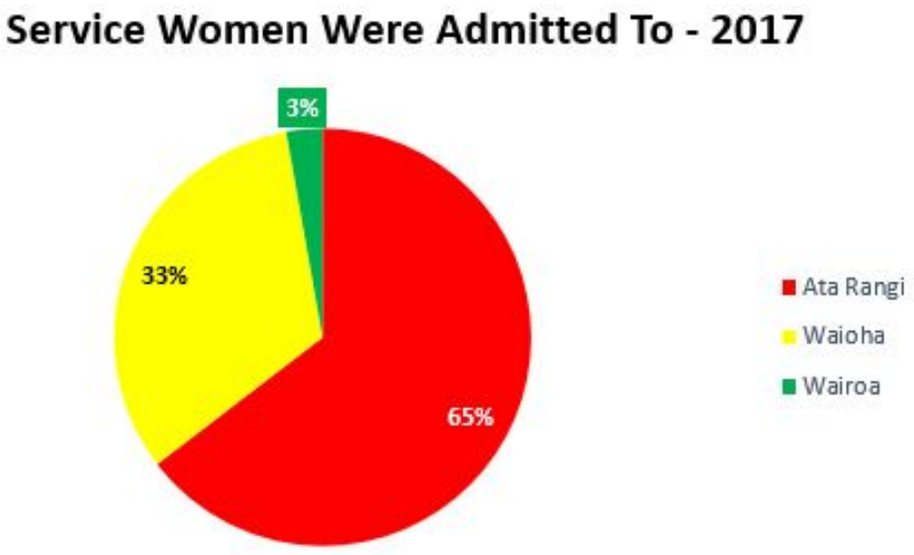
On the Thurs I managed to convince myself I had a blood clot (vv tired and low in iron). Went back to hospital, given lots of tests and reassured. Still embarrassed, but grateful for all the help and support (and non judgemental people!)

Thanks

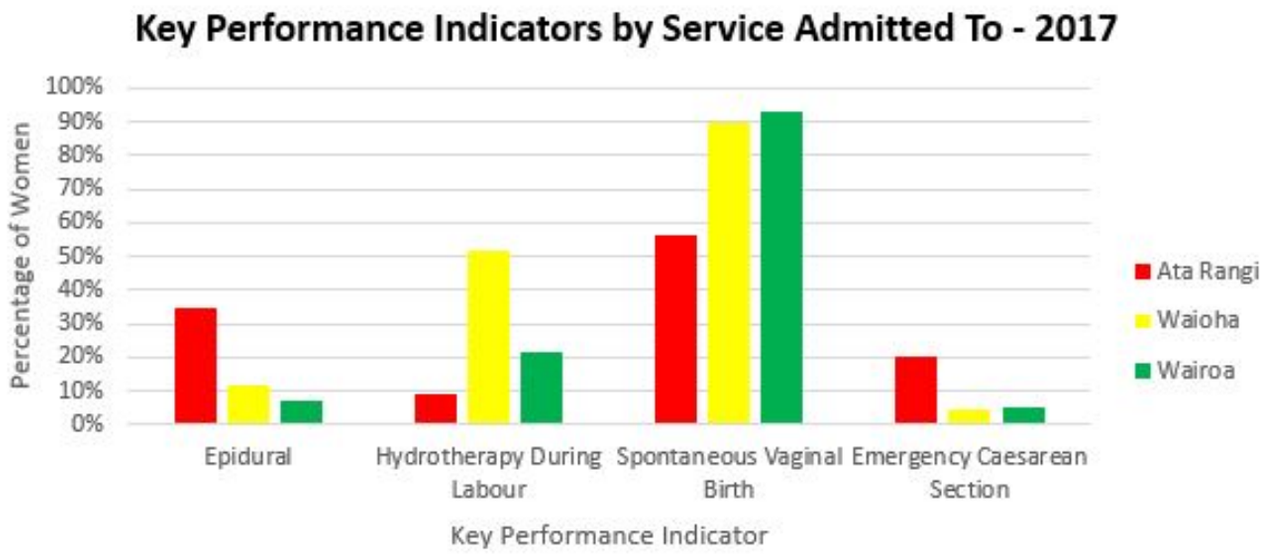
Key Performance Indicators

This section of the report presents the Key Performance Indicators of Ata Rangi, Waioha, and Wairoa for 2017. In 2017, 2098 women gave birth in the Hawke's Bay District Health Board (HBDHB) area. Two thousand women gave birth in our facilities and are the focus of this section. The remaining 98 women gave birth either at home or in transit to our services, and their outcomes are described elsewhere. Outcomes are reported and compared based on the service women were initially admitted to or by the place of birth, as indicated. Changes over time are not addressed, as they have been discussed elsewhere. Frequencies and percentages are presented. Missing values are included in the analyses.

In 2017, 2000 women gave birth in our HBDHB maternity centres. The majority of these women were initially admitted to Ata Rangi (n=1292, 65%), 652 (33%) were admitted to Waioha, and only 56 (3%) were admitted to Wairoa.



The figure below depicts the rate for four key performance indicators separately for each service, based on the service the woman was initially admitted to. Please note that the comparisons are related to the facility, rather than comparing similar groups of women. A subsequent section does look specifically at our sub group of lowest risk women called 'standard primiparae'.[1]



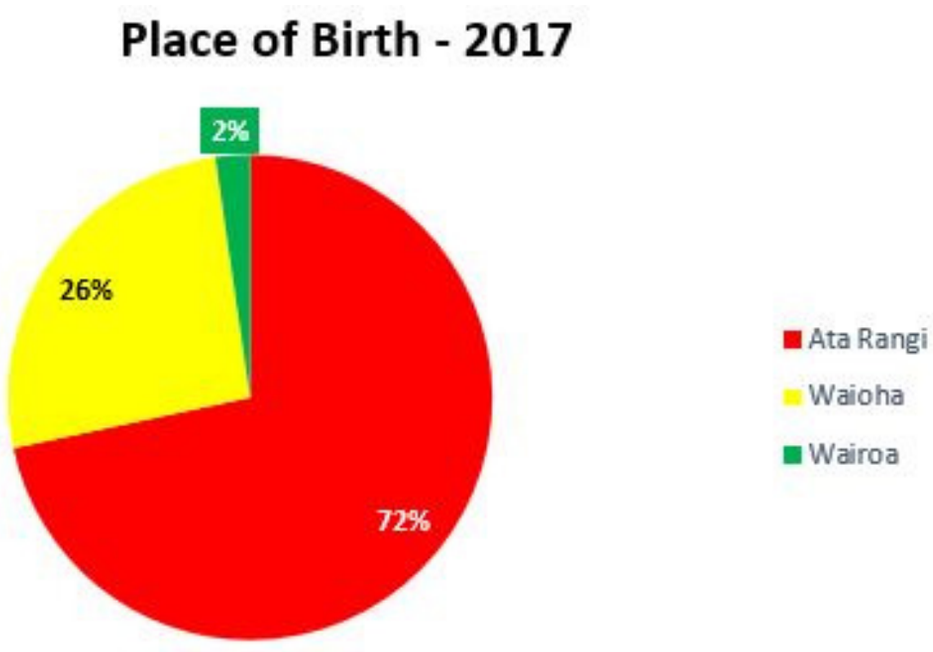
1. Women aged between 20-34 years (inclusive) at birth, pregnant with a single baby in cephalic position when presenting in labour, with no known prior pregnancy of 20+ weeks' gestation, giving birth to a live or stillborn baby at 37-41 weeks' (inclusive) gestation, with no recorded obstetric complications in the present pregnancy that are indications for specific obstetric interventions.

The use of epidurals during labour was highest for women admitted to Ata Rangi (n=446, 35%), followed by Waioha (n=75, 12%), and then Wairoa (n=4, 7%). These difference are predictable, as only Ata Rangi offers the use of epidurals, so women in our primary services would have to be transferred to Ata Rangi to receive an epidural for pain relief and some women may choose not to be transferred or it may be medically unwise to do so. Also, women admitted to Ata Rangi are at higher risk of having complications or have underlying medical conditions, and hence may require more pain relief or be recommended an epidural to manage medical conditions, such as hypertension, than women admitted to our primary services.

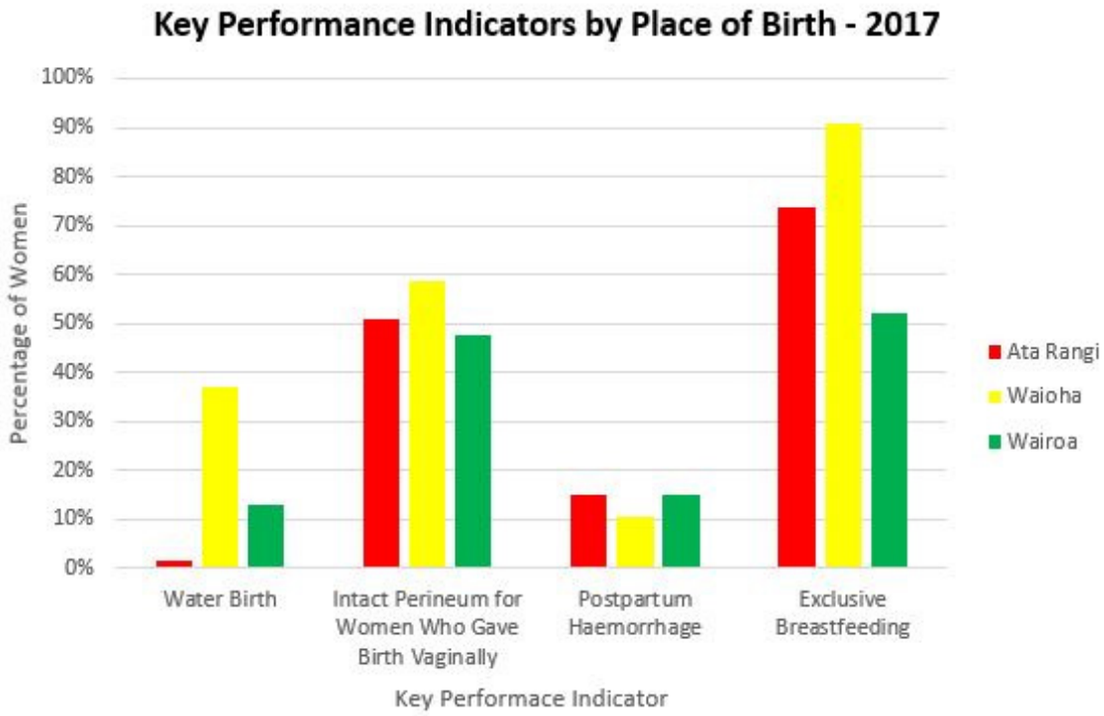
Women admitted to Waioha were most likely to use hydrotherapy during labour (n=339, 52%), compared to 21% (n=12) for Wairoa, and only 9% (n=115) for Ata Rangi. Every room in Waioha has a birthing pool, unlike Ata Rangi and Wairoa, making it easier for women to use this method of pain relief. Some of the women presenting to Ata Rangi require a type of monitoring and the use of intravenous medication that make the use of hydrotherapy unsuitable for them.

We aim to have women with known, or suspected, medical conditions that increase the risk of having complications admitted to Ata Rangi (our secondary care facility). Therefore, it is no surprise that women admitted to Ata Rangi had the highest chance of having an emergency caesarean section (n=263, 20%), compared to only 5% for both Waioha (n=31) and Wairoa (n=3). Consequently, women who presented at Ata Rangi are least likely to have a spontaneous vaginal birth (n=714, 55%). Women admitted to Waioha have a similar chance to spontaneously give birth vaginally as those admitted to Wairoa (n=585, 90% versus n=52, 93%).

Twenty percent (n=131) of the women initially admitted to Waioha were transferred during labour from primary to secondary care, which is similar to the rate seen for women initially admitted to Wairoa (n=10, 18%). Taking these transfers into account, 1433 women gave birth in Ata Rangi, which is 72% of the 2000 women who gave birth in HBDHB services in 2017, 521 (26%) women gave birth in Waioha and only 46 (2%) women in Wairoa. The following analyses compare outcomes based on the place women gave birth.



A similar pattern to the use of hydrotherapy in labour is seen when looking at water births. Thirty-seven percent (n=193) of women who gave birth in Waioha did so in a birthing pool, compared to 13% (n=6) for Wairoa, and only 2% (n=23) for Ata Rangi. The reason for the place of birth, ease of access to a birthing pool, and the ability of women to move freely may explain these differences between services.



When looking at women who gave birth vaginally (either spontaneously or assisted instrumentally), the rate of an intact perineum was highest for women who gave birth in Waioha (n=305, 59%), followed by Ata Rangi (n=480, 51%), and then Wairoa (n=22, 48%). Since women have to be transferred to Ata Rangi to be assisted to give birth instrumentally, it is understandable that women who give birth in Ata Rangi are less likely to have an intact perineum than women who birthed in Waioha. Why Wairoa has a lower rate of an intact perineum for spontaneous birth than Waioha is unclear and it would be valuable to perform an audit to ascertain any reasons for this.

The rate of postpartum haemorrhage is significantly lower for women who gave birth in Waioha (n=56, 11%) than women who birthed in Ata Rangi (n=214, 15%) and Wairoa (n=7, 15%). We aim to have women with a higher risk of complications to give birth in Ata Rangi, so it is not unexpected that women giving birth in Ata Rangi are more likely to have a postpartum haemorrhage than those who birth in Waioha. This emphasises the importanace of the right woman, in the right place, for the right outcome to occur. However, it is again unclear why Wairoa has a higher rate of postpartum haemorrhage than Waioha and an audit will be useful for discovering any causes for this.

There were large differences in the exclusive breastfeeding rates across our services. Waioha attained the highest proportion of women exclusively breastfeeding (n=473, 91%), followed by Ata Rangi (n=1059, 74%), and Wairoa (n=24, 52%).[2] Wairoa's disappointing low rate may be explained partly by their low capture of breastfeeding outcome at discharge electronically. The breastfeeding status for twenty (43%) women who birthed in Wairoa was not recorded electronically, compared to only 26 (3%) in Ata Rangi and none (0%) in Waioha. We are working on improving systems to decrease the amount of missing electronic data for breastfeeding at discharge across our services. Based on an audit of the clinical records of 107 women domiciled in Wairoa, who gave birth in 2017 in Hawke's Bay, 92% of the women discharged from our Wairoa facilities exclusively breastfed. (Please see the Rural and Primary Maternity Facilities and Primary Services Chapter for further details.)

2. Please note that the frequencies and percentages reported here are based on the place the woman gave birth and missing values are included in the denominators for these analyses. Therefore, the rate of exclusive breastfeeding reported here differ to those reported in the Quality Initiatives and Services Chapter, which are based on the place the woman was discharged from and missing values were excluded from the denominators.

A Hawke's Bay Consumer Story

Ok here it goes... 😅 This is my first baby and I had picked a midwife I liked and thru the pregnancy she was great but when it came to the birth she really let me down. I was fully dilated at home without knowing, I used a tens machine that I hired and I think that helped a lot. I went to the hospital and got an exam and was 10cm, I was in Waioha to start and after approx 6 hours of pushing nothing was really happening so we went through to Ata Rangi to be checked out by the doctors. The lovely doctor showed me how to push and how long for and after 20mins pushing with her I managed to get my baby boy's head out to the point where I could reach down and feel it myself. Then the doctor said that he was turning and that they needed to take me into surgery. I was very upset as I had done so much work on my own and really didn't want a c section but my partner and I went into surgery and had an epidural then they tried to use forceps first but he had turned face up and wasn't safe to use them so they cut him out.

He is a beautiful healthy 9lb2oz baby boy with heaps of black hair. After the birth the midwives at the hospital where the most amazing people I have ever met they, were so helpful, they looked after everything for us. Then eventually we were allowed to go home which was great. I had a pico dressing on my wound which the district nurse came and checked a few days after we got home. She noticed that it was bleeding when she changed the dressing and told me to go back up to the hospital. Once we got there I started feeling very sick and had a red rash all over my tummy. The team were running tests on me then took me down to have an ultrasound on my tummy. They found a buildup of fluid and a blood clot behind my scar. So they took me into surgery opened me up again cleaned everything up and left the wound open to heal from the bottom up. After that I had two more surgeries to check out the wound then eventually close me up. My surgery was postponed twice as well so I was nil by mouth two days in a row from midnight till 4pm which was hard. One month on and my beautiful baby is 10lb and fully breastfed and sleeping well despite all of this and I have had my stitches removed but still am having check-ups by the district nurse to keep an eye on everything. Despite all of this it hasn't put me off having another baby. But not for two years according to the doctors. 😅❤️

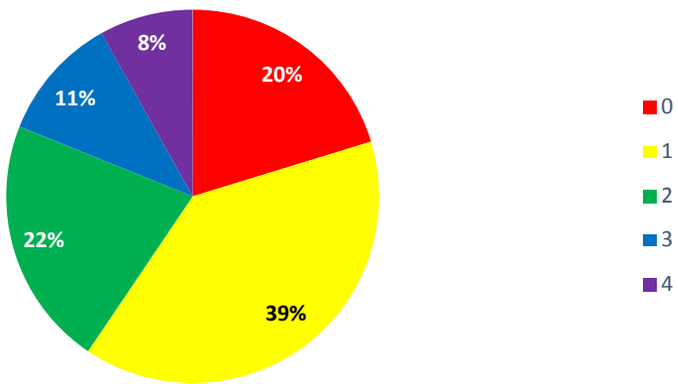
Planned Homebirths

Of the 2098 women who birthed within the Hawke's Bay District Health Board area, 74 (3.5%) women had planned homebirths and 19 (0.9%) women birthed at home unplanned, giving an overall homebirth rate of 4.4% (n=93). A further five (0.2%) women birthed their babies in transit before arrival at a maternity facility. The rate of planned homebirths in 2015 was 4.1%, which decreased to 2.0% in 2016, and has increased in 2017 (3.5%). This section focuses on women who planned to birth at home, with details regarding women who unexpectedly gave birth at home or while travelling to a maternity facility following.

Parity of Planned Homebirths

As indicated by the graph on the right, women who had planned homebirths were more likely to be multiparous (n=59, 80%) than primiparous (n=15, 20%), with second-time mothers being the most likely (n=29, 39%).

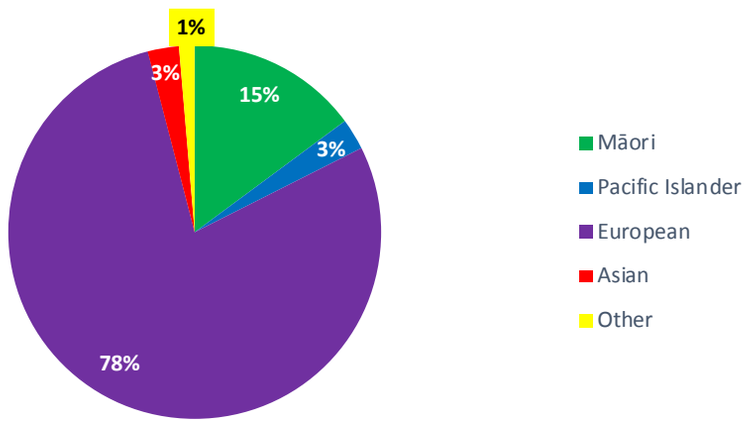
Parity of Planned Homebirths - 2017



Ethnicity of Planned Homebirths

The vast majority (n=58, 78%) of women choosing to have homebirths were European, compared to Māori (n=11, 15%), Pacific Islanders (n=2, 3%), Asian (n=2, 3%), and women of other ethnicities (n=1, 1%).

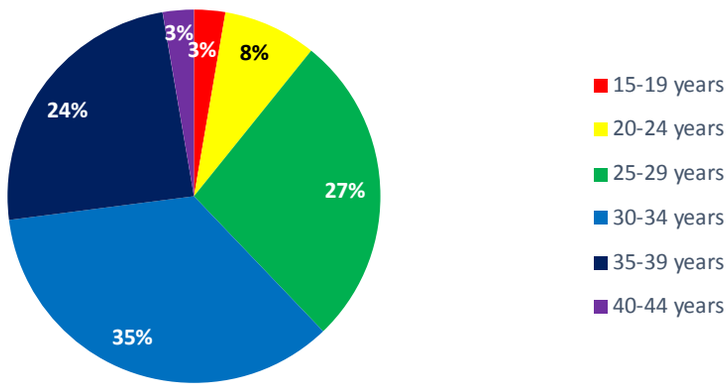
Ethnicity of Planned Homebirths - 2017



Age of Planned Homebirths

As the graph on the right illustrates, younger women and older women were less likely to opt to birth at home, compared to women aged 25 to 39 years old, inclusive.

Age for Planned Homebirths - 2017



A Hawke's Bay Consumer Story

Finding out I was pregnant was one of the greatest joys in my life. The excitement of bringing new life into our world was so heart expanding. I knew from the start of my pregnancy journey what kind of birth I most resonated with, a home birth.

To begin with I didn't know the fine details or major benefits of birthing at home, but I was certain home birth was definitely for me. There was something natural & soothing about the thought of delivering our baby in the comfort of our home & knowing our environment would be familiar after experiencing the most exhausting, magnificent & emotional time of my life.

After delving into research, having continuous encouraging, informative chats with our incredible midwife & of course going with what felt best about birthing at home, I found my heart expanding with the upmost confidence that birthing our precious baby in our home was our best, safest & most instinctive decision.

By the time my due date rolled around our home was clean & felt fresh, the fridge was filled with delicious food, we had the pool set up, my swiss ball awaited me, I made a beautiful alter for myself with my salt lamp & flowers which made me feel happy & calm, the bassinet was waiting in our room by our bed with fresh sheets along with bubs first outfit, everything was in place & ready for whenever our darling decided to be born.

I was 41 weeks, 6 days when I went into labour. It started with mild cramping in the early afternoon. However I laboured continuously & with all the wonderful oxytocin pumping through my body I continued to progress in my labouring very steadily.

One of my most vivid memories was when I was bouncing on the swiss ball in our living room, gripping onto the bookshelf through each contraction & then looking down to the ground to feel our beautiful dog laying next to me with her head resting on my foot. I remember smiling to myself thinking, how perfect it is I'm at home having our baby. Even the dog could be a part of welcoming our new addition into the world & she could support me in her sweet yet silent love.

More fond memories I hold from my labour are watching & having my loving partner getting the birthing pool filled with water, holding me through the various places through our home that I made my way to, putting wood on the fire, rubbing my head & speaking to me with gentle encouragement & looking around our home feeling so safe, supported & focused.

As life has it not everything goes to plan, which definitely occurred in the birthing of my beautiful baby. I needed to be checked by my midwife to access how far dilated I was, so, out of the pool I got waddled over to the couch & lay. Only to be told I was fully dilated where I then had the greatest urge to start pushing.

I looked across the room to where I had set up my alter, saw my salt lamp glowing & the flowers looking so radiate & bright. I took deep breathes & pushed with all my strength.

Within minutes our perfect baby girl was born & laying on my chest, with everyone in complete awe & admiration of the whole experience.

I couldn't have been more happier birthing our daughter at home, the feeling of having my own things surrounding me, the privacy of only who we chose to be a part of our experience & the complete overflowing joy of taking our time with our baby in the calmness of our own space will forever be imprinted in my Heart as the best experience of my life, to date.

I will most certainly have another home birth/s for any future babies we have.

Homebirth: A Midwife's Perspective

By Annie Frogley - LMC Midwife

As a newly qualified midwife, I had a 'head' belief in the physiological process of birth, but still had doubts about the 'safety' of birthing at home. I worried about being solely responsible for attending a woman in labour and my ability to manage labour and birth complications and emergency situations. I had a niggling fear of the 'what ifs'.

Fortunately, my amazing practice partners are experienced 'homebirth' midwives that are happy to support well, healthy women to choose their place of birth, and I was lucky enough to begin 'seconding' for them soon after I started in LMC practice, and to grow my belief and skills in assisting women to birth their babies in their own homes. I read the extensive research that supports the safety of homebirth and demonstrates excellent outcomes for both mothers and babies. I grew to trust and learn that not only is homebirth safe, it is so much more than that. I was able to start sharing this information with my clients and to be genuinely happy and excited to support them if they decided homebirth was right for them.

What I have learned over the past two and a half years is that birth works WELL at home. Labours tend to be shorter and less painful as labour hormones are optimised in the woman's safe space. This is the space she has created for herself, and SHE owns the power - I am a guest in her home.

I have learned to become familiar and comfortable with what a normal, uninterrupted labour looks like - different for everyone - but following a similar progression toward the moment of birth. I love watching a woman sway and rock and laugh and move and chat and cry and vomit and sleep and moan and eat and grimace and roar! I feel peaceful and encouraged as the woman's noises build to a crescendo and her body works hard to open and move her baby downward. I am reassured by the process and the outward signs that birth is nearing. I am honoured to share in the birth space with the woman and her partner, her mum or whomever she chooses to be by her side. My heart swells within me as I witness love and tenderness and concern from those who walk alongside her, but cannot take the burden of this task from her. I KNOW she can do it - I have faith in her body and in the physiology that allows human beings (mammals even!) to birth our young. And when she reaches the point that many women do, where the challenge feels overwhelming and impossible, when she is beginning to wonder whether she has the strength to do that which is required of her, I am able to encourage her and answer her desperate "I can't do it!" with "But you ARE doing it!"

I also know I am not alone - the second midwife is here - or on her way - to bring additional skills and ideas, a second pair of hands, fresh energy, midwifery wisdom - and coffee. I appreciate this midwifery sisterhood and support.

I trust my training and intuition to alert me to any problems and to guide my decision making. I am ever vigilant - but no longer fearful. I know I have the skills and equipment to manage emergency situations in the same way I would if in hospital - and I practice and hone these annually. I am confident and trust that I am up to the task that I am trained for. I am a midwife and this is my job.

I am committed to woman's choice - to choose her place of birth - but not at any cost. I will explore her risk factors with her during her pregnancy and give her my recommendations. I will monitor her throughout her labour and birth and make the decision to transfer to hospital should the need arise. I trust that our partnership, built over 40 weeks of care, helps her to trust me and know my decisions and advice are about keeping her and her baby safe. And even if she ultimately ends up with a hospital transfer, she knows that she is a mama who chose homebirth because she felt it was best for her and her baby, and then equally made the right and necessary decision to transfer for them both - because birth is as predictable as life - there are no guarantees- but she gave labour the BEST chance of working well by beginning the process at home. If, for whatever reason, her journey takes this path - that is no kind of failure - in fact her courageous acceptance of this change in plan shows her pure love and concern for her child.

I love to support women who have chosen homebirth, no matter where their birthing journey takes them. I love it when women have considered their options, weighed the pros and cons and, with a clear conviction and belief in birth and their bodies, decided that it is right for them and their families, to welcome their babies earth side in the sacredness of their own home. I am in love with watching labour unfold in a darkened, quiet room, where my main role is watchful waiting; the art of sitting on my hands is developing. I love it afterward, when the new mama is tucked up on her own couch with her baby in her arms, a cup of tea beside her, her special people gazing in awe at the new arrival, the dog at her feet; and she looks at me, triumphant and exhausted, and says "I did it!"

Hawke's Bay Births Outside of the Maternity Units

As mentioned earlier, of the 2098 women who birthed within the Hawke's Bay District Health Board area, 19 (0.9%) women birthed at home unplanned, a very slight reduction from the 2016 rate (n=38, 1.9%). Five (0.2%) women delivered en route to maternity centres, a similar rate to that seen in 2016 (n=8, 0.4%). All of these 24 women gave birth to a single baby.

Only two (11%) of the 19 women who gave birth at home unplanned were first time mothers. Of the five women who gave birth in transit to our maternity facilities, all were multiparous women. Both of these results are unsurprising, given that primiparous women would be expected to labour longer than multiparous women and, therefore, have more time to get to hospital to give birth to their baby if they wished.

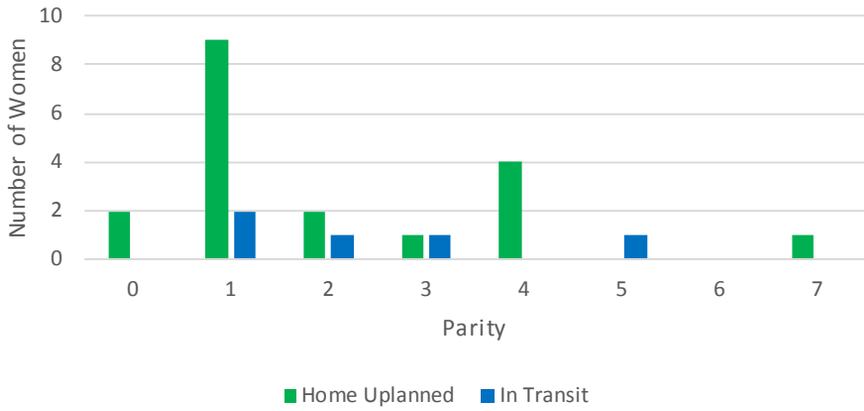
The majority of the women who birthed at home unexpectedly were Māori (n=10, 53%) or European (n=8, 42%), with only one (5%) Pacifica woman having an unplanned homebirth. No Asian and women of other ethnicity had an unplanned homebirth.

Women who gave birth while on their way to the maternity centre were most likely to be Māori (n=4, 80%), which was the case in 2016 and 2015 as well. One woman of Asian ethnicity birthed en route to our maternity facilities, but no Pacific Islanders, Europeans, or women of other ethnicity did so.

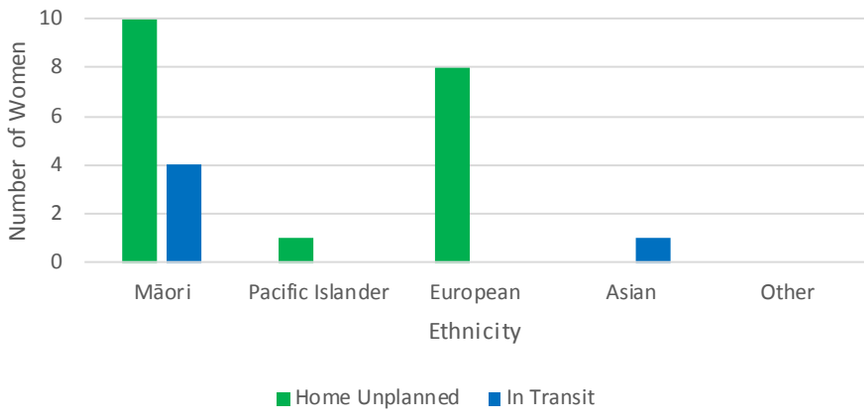
Most of the women who had unplanned homebirths were aged 20-34 years (n=15, 79%), with only one being a teenager (5%) and three (16%) being 35 years or older.

Two (40%) of the women who gave birth in transit were 40-44 years old, with the remaining three (60%) women being between 20-34 years old, inclusive.

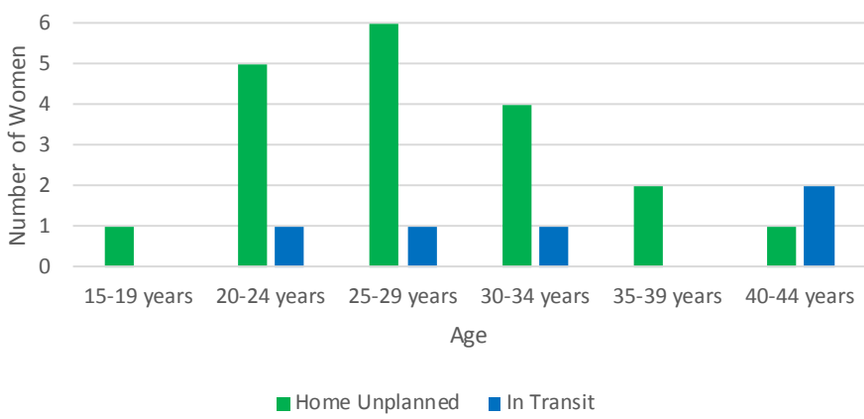
Parity of Unplanned Homebirths and Births In Transit - 2017



Ethnicity of Women having Unplanned Hombirths and Births In Transit - 2017



Age of of Women having Unplanned Homebirths and Births In Transit - 2017



Birth Outcomes for Primiparae

By Donna Foote - Maternity Quality and Safety Programme Project Midwife

In 2017, Hawke's Bay District Health Board (DHB) provided care for 731 primiparous (first-time mothers) women, 35% of our total birthing population (n=2098). This is the first full year our alongside Primary Birthing Centre Waioha has been in operation and we have a measurable outcome for place of birth comparisons for our standard primiparous women. Hawke's Bay DHB has three facilities for birth: Waioha, an alongside Primary Birthing Centre; Ata Rangi, a Secondary Maternity Service; and Wairoa, a Remote Rural Primary Service.

It is important to note that influential factors in relation to place of birth include:

- Maternal decision
- Place of birth guideline
- Social determinants of health
- Engagement with midwifery during pregnancy

Standard Primiparae

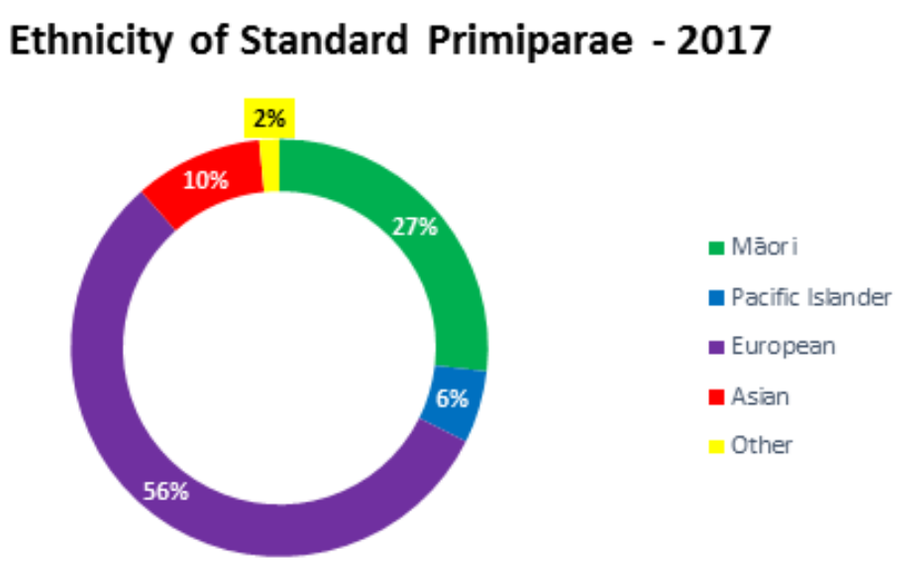
Definition of Standard Primiparae

Standard primiparae are women who are expected to have an uncomplicated pregnancy. In this report, standard primiparae are defined as women who meet all of the following criteria:

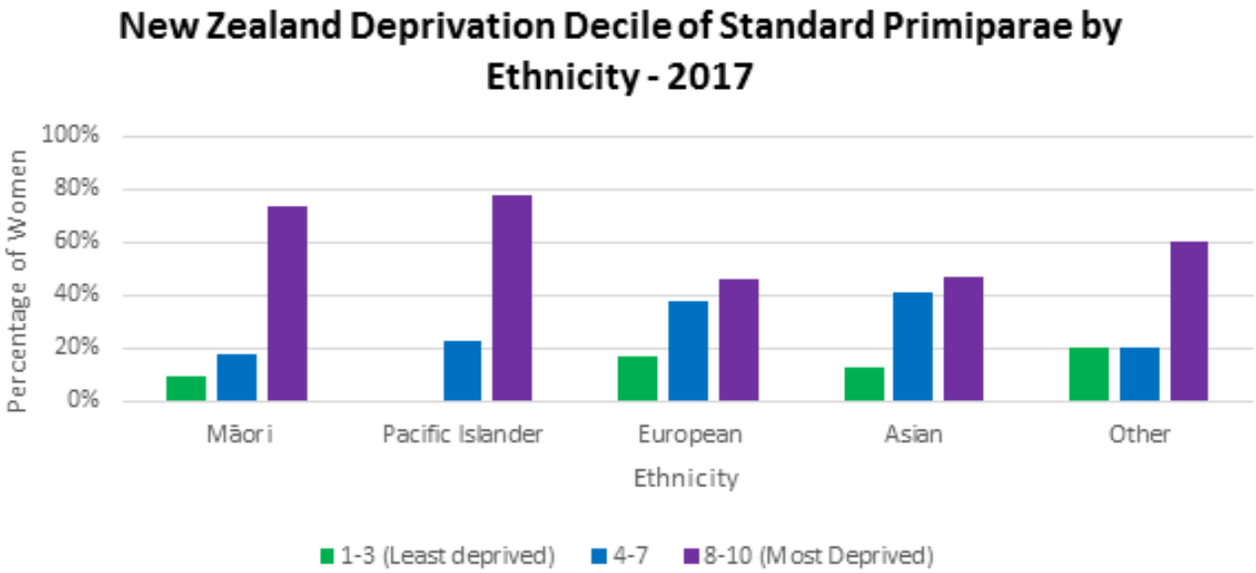
- are aged between 20 and 34 years (inclusive) at birth
- are pregnant with a single baby in cephalic position when presenting in labour
- have no known prior pregnancy of 20 weeks' and over gestation
- give birth to a live or stillborn baby at between 37 and 41 weeks' (inclusive) gestation
- have no recorded obstetric complications in the present pregnancy that are indications for specific obstetric interventions.

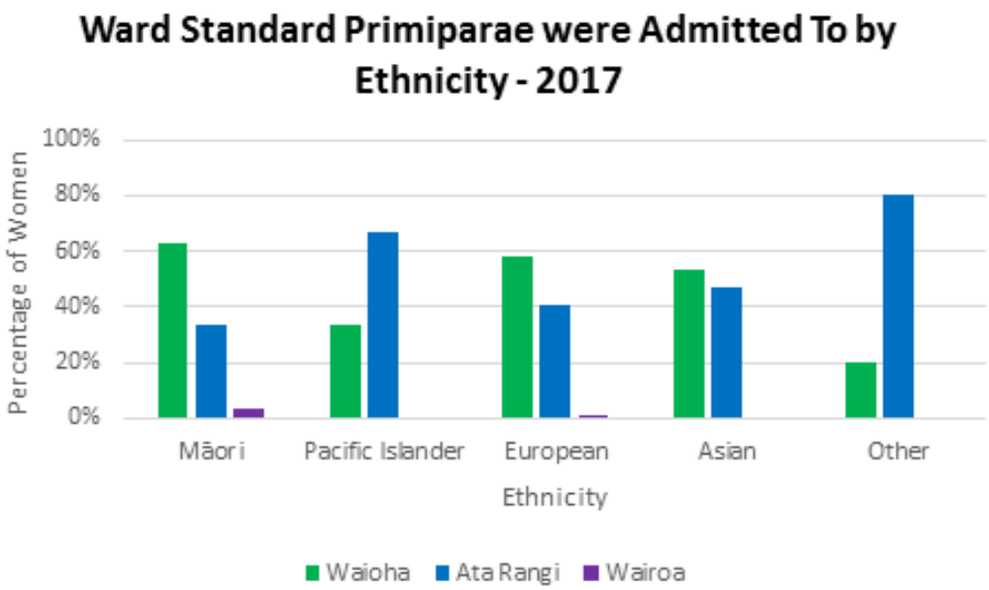
Demographics of Standard Primiparae

A total of 321 standard primiparous women were identified across the service, of which 127 (40%) birthed in Waioha, 191 (60%) birthed in Ata Rangi and only 3 (1%) birthed in Wairoa. At the birth, 130 (40%) of the standard primiparae were aged 20-24 years' old, 129 (40%) were aged 25-29 years' old, and 62 (19%) were aged 30-34 years' old.



As shown by the graph to the left, the majority of standard primiparae were European (n=180, 56%), 86 (27%) were Māori, 32 (10%) were Asian, 18 (6%) were Pacific Islanders, and 5 (2%) of other ethnicity. Women of Pacifica descent (n=14, 78%), Māori women (n=63, 73%), and those of other ethnicity (n=3, 60%) were more likely to live in the most deprived areas (New Zealand Deprivation deciles 8-10) than Asian (n=15, 47%) and European (n=82, 46%) women (see the following graph).



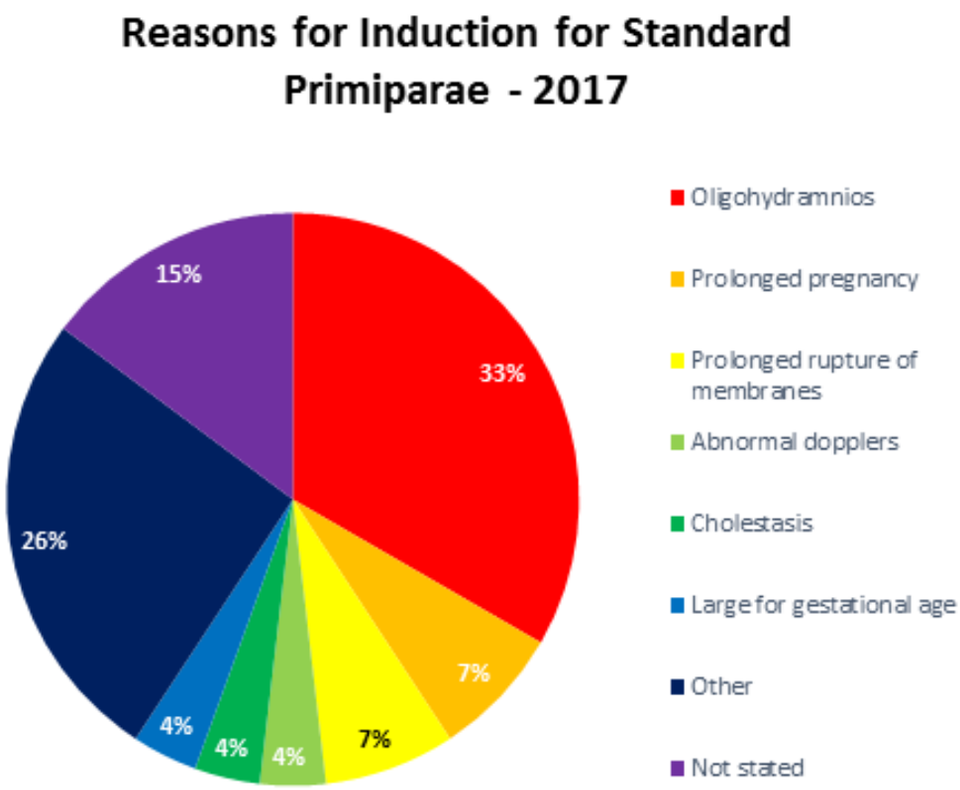


The majority of the 321 standard primiparae were initially admitted to Waioha (n=183, 57%), with 133 (41%) admitted to Ata Rangi, and only five (2%) admitted to Wairoa. As indicated in the above graph, women of other ethnicity (n=1, 20%) and Pacific Island women (n=6, 33%) were less likely to be admitted to Waioha than Asian (n=17, 53%), European (n=105, 58%), and Māori (n=54, 63%) women.

Induction of Labour of Standard Primiparae

The induction rate of standard primiparae for our region has fallen from 9% in 2016 to 8% (n=27) in 2017, which is a pleasing decrease, however we are still above the 2016 national rate of 6%. The indications for inducing these 27 women are illustrated in the following graph. The most common reason for inducing labour was presence of oligohydramnios (n=9, 33%). Unfortunately, the indications for inducing women were poorly captured, with other reason (n=7, 26%) or no reason (n=4, 15%) for induction stated for a large proportion of women. The reason for induction for two (7%) standard primiparous women was recorded as prolonged pregnancy. However, these two inductions were commenced at 39 and 41 weeks' gestation, which do not meet the criteria of prolonged pregnancy (42 weeks' gestation or more).

A recently completed audit of the standard primiparae induced into labour, across our services in 2016, also discovered that the reasons for inducing women into labour was poorly captured, but reassuringly found that the reasons the inductions were performed were clinically appropriate. There were several recommendations made in this audit and it will be interesting to see how the recommendations impact on our rate of induction of labour and accuracy of relevant data in the future. Please refer to the Summary of Audits Chapter for further details.



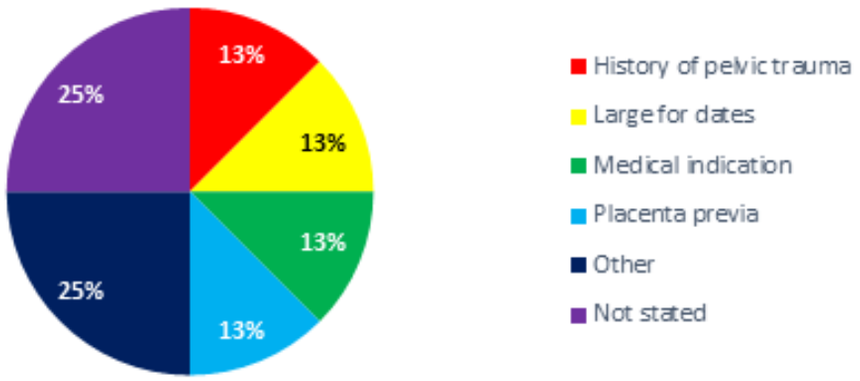
Birth Outcomes for Standard Primiparae

Overall, the spontaneous vaginal birth rate achieved for standard primiparae within the service is 70% (n=224), with the remaining standard primiparae women giving birth assisted instrumentally (n=47, 15%) or via caesarean sections (n=50, 16%). There has been improvement in all areas, with an increase of three percentage points in spontaneous vaginal births compared to 2016 (70% versus 67%), and slight decreases in instrumental vaginal births (16% versus 15%), and caesarean sections (17% versus 16%). This means we (70%) compare favourably to the 2016 national spontaneous vaginal birth rate of 67% for standard primiparous women, and equivalent for instrumental deliveries (15% versus 16%), and caesarean sections (16% versus 16%).

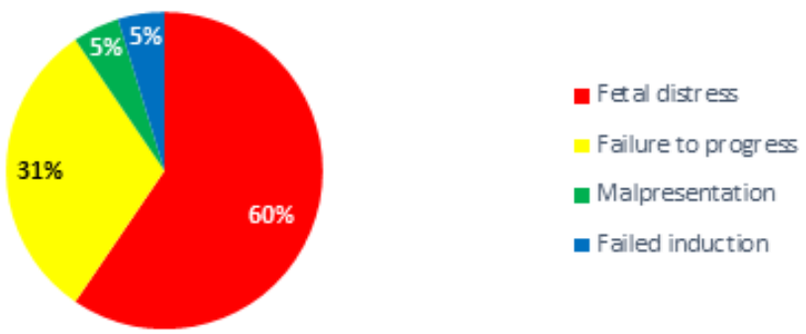
Looking at the 50 standard primiparae who gave birth via caesarean sections in more detail, only eight standard primiparous women had an elective caesarean section. The indications for an elective caesarean section are illustrated on the following page. There is room for improvement regarding the electronic capture of reasons elective caesarean sections are performed, with two women having “other” recorded and a further two women having no reason recorded.

Forty-two standard primiparae had an emergency caesarean section. Please refer to the following graph for the reasons these emergency caesarean sections were carried out. The most common reason an emergency caesarean was performed was fetal distress (n=25, 60%), with labour dystocia the next most common (n=13, 31%) and the use of the partograph may help in the diagnosis of this. The ability to provide home assessment in latent phase labour and delay admission to the unit until labour is established are other key factors in ensuring that women are given adequate time to labour and reduce the cascade of intervention.

Reasons for Elective Caesarean Sections Among Standard Primiparae - 2017

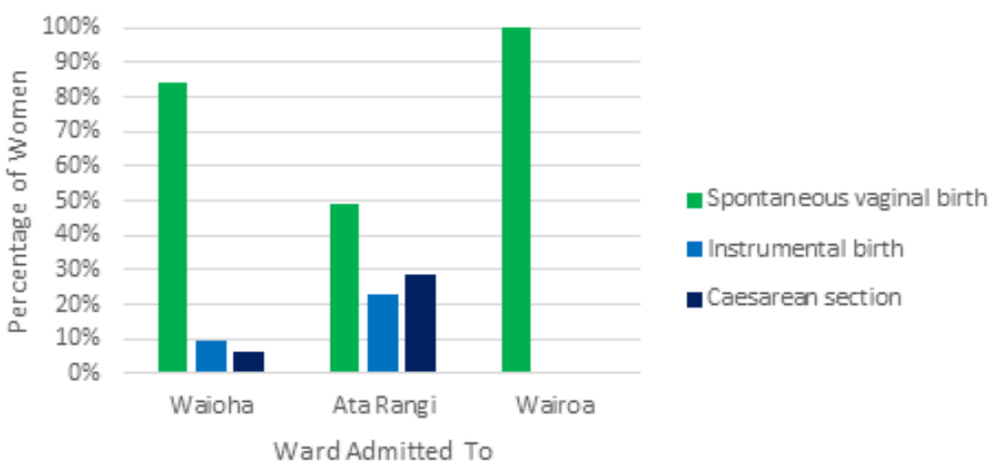


Reasons for Emergency Caesarean Sections Among Standard Primiparae - 2017

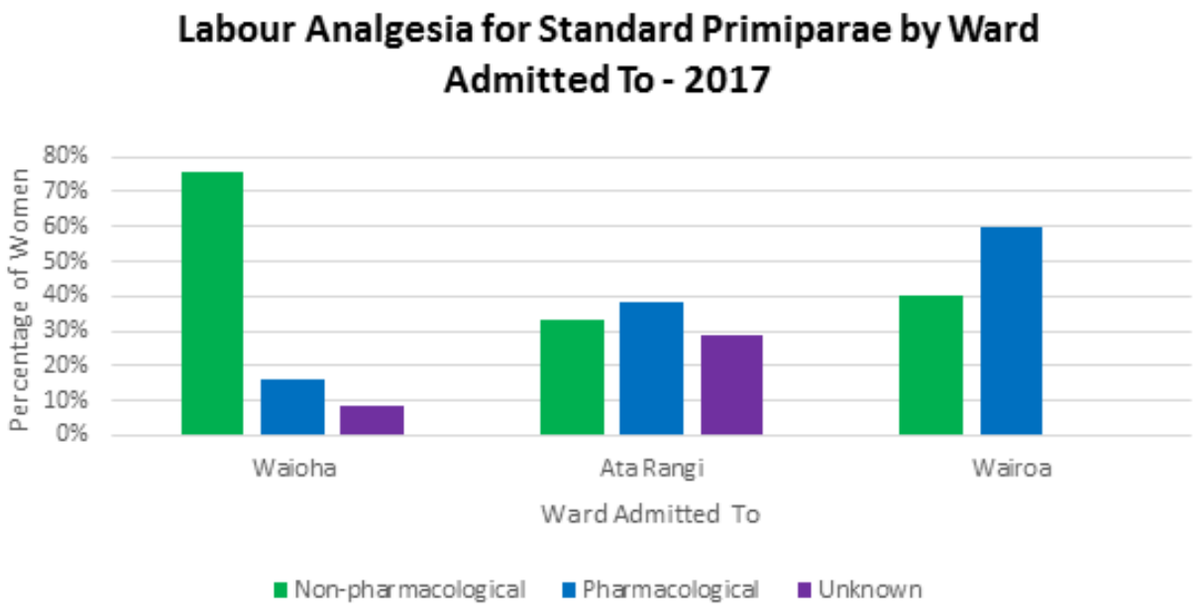


As to be expected, women admitted to Wairoa (n=5, 100%), and Waioha (n=154, 84%) were more likely to have a spontaneous vaginal birth than women admitted to Ata Rangi (n=65, 49%).

Birthing Method of Standard Primiparae by Ward Admitted To - 2017



Of the 188 women initially admitted to Waioha and Wairoa, 141 (75%) used only non-pharmacological types of analgesia (including homeopathy, hydrotherapy, and a TENS machine), compared to only 44 (33%) of the 133 women admitted to Ata Rangi.

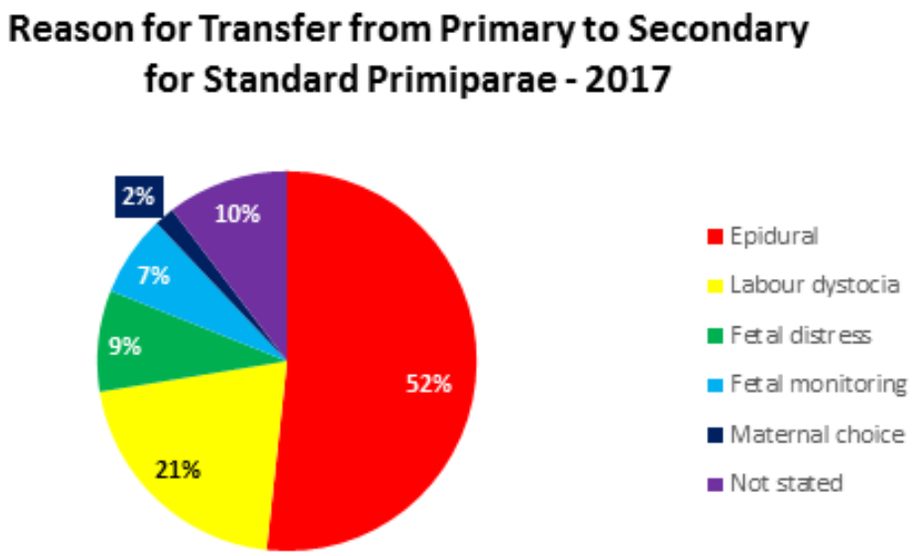


The epidural rates for standard primiparae women admitted to Waioha (n=41, 22%) and Wairoa (n=2, 40%) are lower than the epidural rate of standard primiparae admitted to Ata Rangi (n=74, 56%). These results suggest that the admission to Ata Rangi directly influences the choice of analgesia in labour and raises the following questions:

- Should epidural anaesthesia be offered as a choice to low risk women?
- Is epidural offered with true informed consent?
- Do women understand that epidural anaesthesia changes their risk from low to high and has a direct impact on their birth outcomes?

Place of birth is an evident key factor that influences the use of labour anaesthesia and birth outcome. Going forward with this knowledge means we will need to identify the reasons a standard primiparae would be cared for in Ata Rangi from admission in labour, rather than Waioha or Wairoa, and the differences in care they were offered. The obvious difference is being given access to elective epidural analgesia. There is an opportunity to further audit this cohort of women to identify any other differing factors.

While 188 women were admitted directly to Waioha and Wairoa, 58 (31%) women were transferred in labour to Ata Rangi. The most common reason for transferring from primary to secondary care was that the woman wished to have an epidural (n=30, 52%), followed by labour dystocia (n=12, 20%).

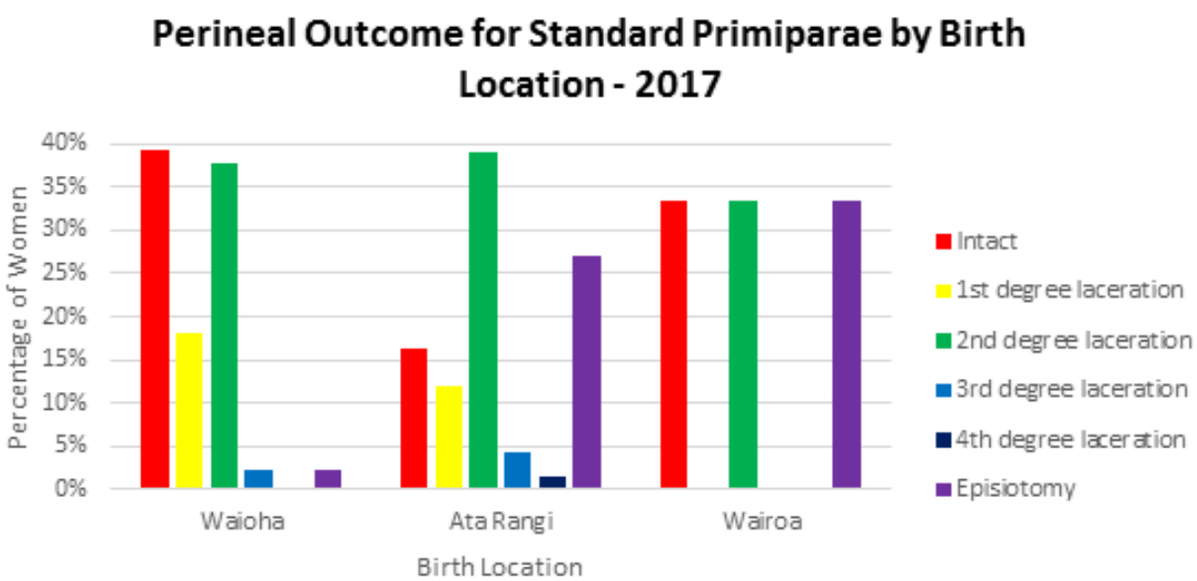


Of the 188 women initially admitted to Waioha and Wairoa, 130 (69%) went on to have a spontaneous vaginal birth in these locations. Of the 58 women who transferred to Ata Rangi, a further 29 women went on to have a spontaneous vaginal birth, giving an overall spontaneous vaginal birth rate of 85% (159/188) for all standard primiparae admitted to Waioha and Wairoa. Of the 58 women who transferred to Ata Rangi, 50% (n=29) had spontaneous vaginal births, 29% (n=17) instrumental vaginal deliveries, and 21% (n=12) emergency caesarean sections.

We then compared the outcomes for standard primiparous women admitted directly to Ata Rangi and discovered a considerably different outcome for these women. Of the 133 women admitted directly to Ata Rangi, the spontaneous vaginal birth rate achieved was just 49% (n=65), well below the 2016 national rate of 67%. The instrumental vaginal birth rate of 23% (n=30) again compares unfavourably to the 2016 national rate of 16% for standard primiparae. Ata Rangi's caesarean section rate for standard primiparae at 29% (n=38) also compares unfavourably to the 2016 national rate of 16%.

Of the 191 standard primiparae who gave birth in Ata Rangi, 32 (17%) had a postpartum haemorrhage, compared to 13 (10%) women who delivered in Waioha. Of the three women who delivered in Wairoa, one (33%) had a postpartum haemorrhage, but the number of women delivering in Wairoa was too small to draw any meaningful conclusion regarding this and other outcomes.

Perineal outcomes for standard primiparae delivering vaginally differed across the places of birth, a reflection in the rate of instrumental birth in Ata Rangi. Across the service, the intact perineum rate of 27% (74/271) compared unfavourably to the 2016 national rate of 29% and was significantly less than the previous year's rate of 40%. However, the dramatic decrease in intact perineum is believed to be due to a change in reporting methods to improve accuracy, rather than an actual significant decrease. The rate of episiotomies with no third or fourth degree tear was 15% (41/271), comparing favourably against the national rate of 23%, however, this was a small increase from 2016's rate of 12%. The rate of third or fourth degree tears with no episiotomy at 4% (n=11) continues a decreasing trend over the last two years (6% in 2015 and 5% in 2016), and is comparable to the 2016 national rate of 4%.

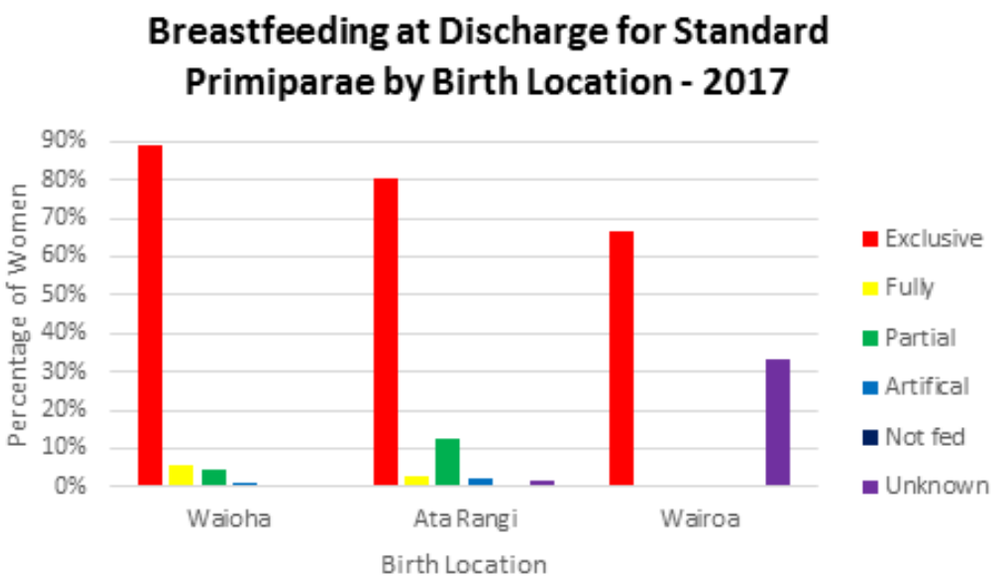


Neonatal Outcomes

Data was not available in time to report on the outcomes for babies in regard to place of birth for standard primiparae and all primiparous women. A detailed review of neonatal outcomes for standard primiparae who gave birth in Waioha is scheduled to be completed by November 2018.

Breastfeeding at Discharge for Standard Primiparae

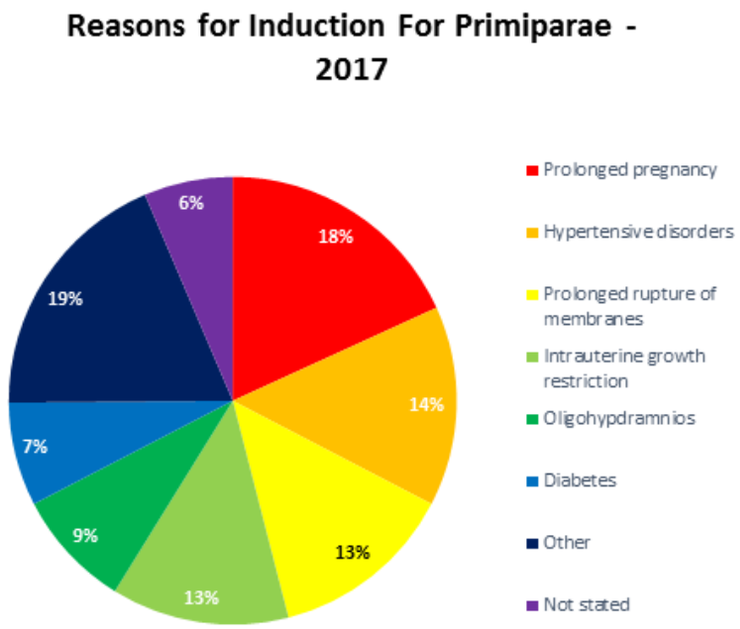
Standard primiparae who birthed in Waioha achieved a higher exclusive breastfeeding rate (n=113, 89%), than those who birthed in Ata Rangi (n=154, 81%) and Wairoa (n=2, 67%). One baby born in Ata Rangi was transferred out of Hawke's Bay, to the Neonatal Intensive Care Unit in Wellington, before feeding was initiated.



All Primiparae

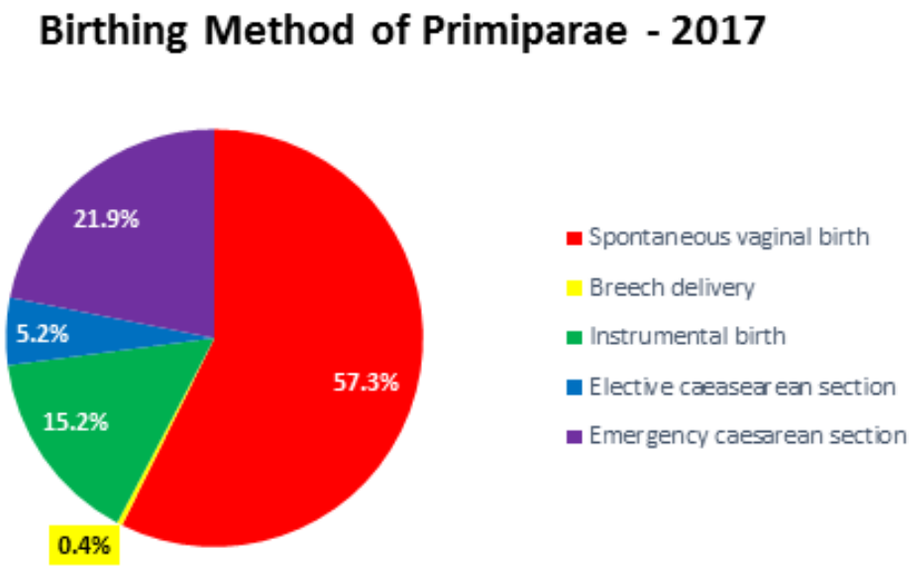
Induction of Labour of All Primiparae

Of the 731 primiparous women, 187 had their labour induced, a rate of 26%, compared to an induction rate of 16% (222/1367) for multiparous women. Prolonged pregnancy was the most common reason for induction among primiparae at 18% (n=34), with hypertensive disorders at 14% (n=27), prolonged spontaneous rupture of membranes and intrauterine growth restriction both at 13% (n=25 and n=24, respectively), and diabetes (including gestational, and types 1 and 2) at just 7% (n=14), with other reasons at 19% (n=35). The indication for induction was not stated for 12 (6%) women. Addressing postdates versus post mature definitions for induction of labour may reduce the incidence of induction for prolonged pregnancy. We have for some time tried to have a postdates assessment pathway with women assessed in the Antenatal Clinic. Access to a timely clinic appointment may figure in the timing of planned induction.

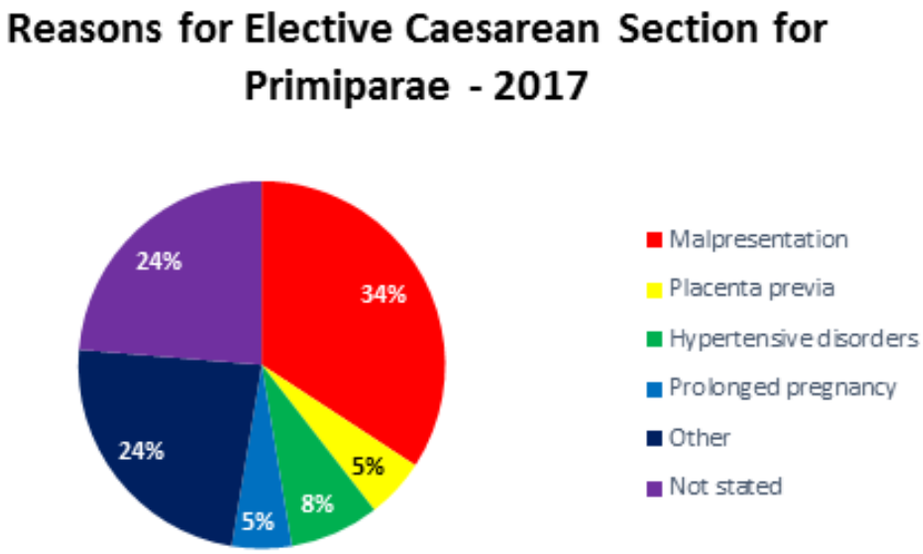


Birth Outcomes for All Primiparae

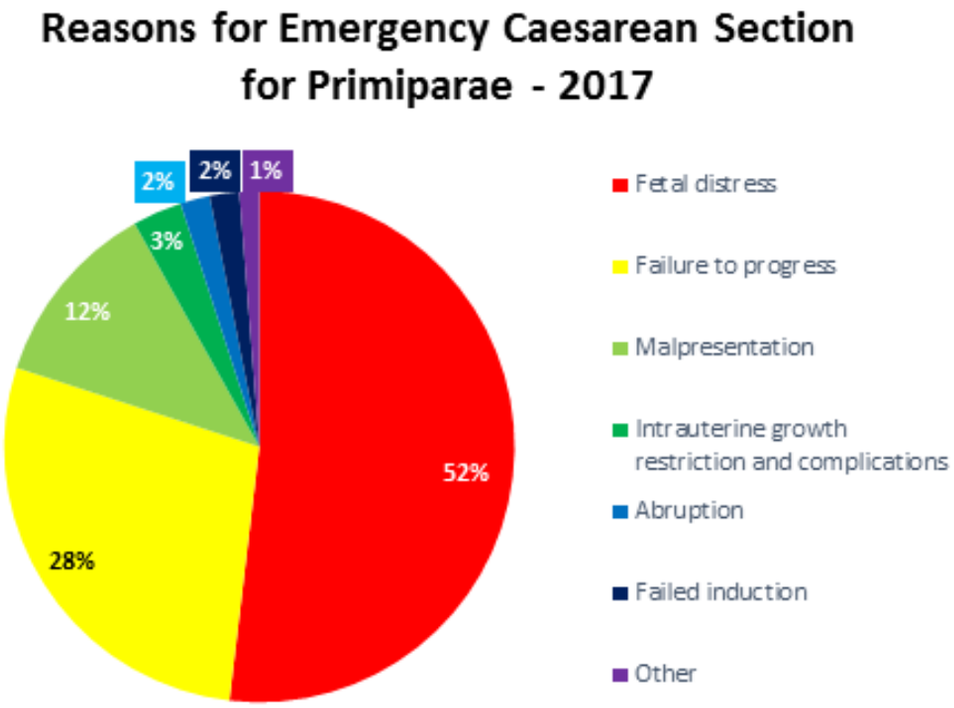
Of the 731 primiparae, 419 (57%) had a spontaneous vaginal birth, 160 (22%) an emergency caesarean section, 111 (15%) an instrumental vaginal birth, 38 (5%) an elective caesarean section and just 3 (0.4%) a breech birth.



As you would expect, elective caesarean sections are most commonly performed for primiparae due to breech presentations (n=13, 34%). Underlying obstetric complications dictated the need for an elective caesarean section in all other cases.

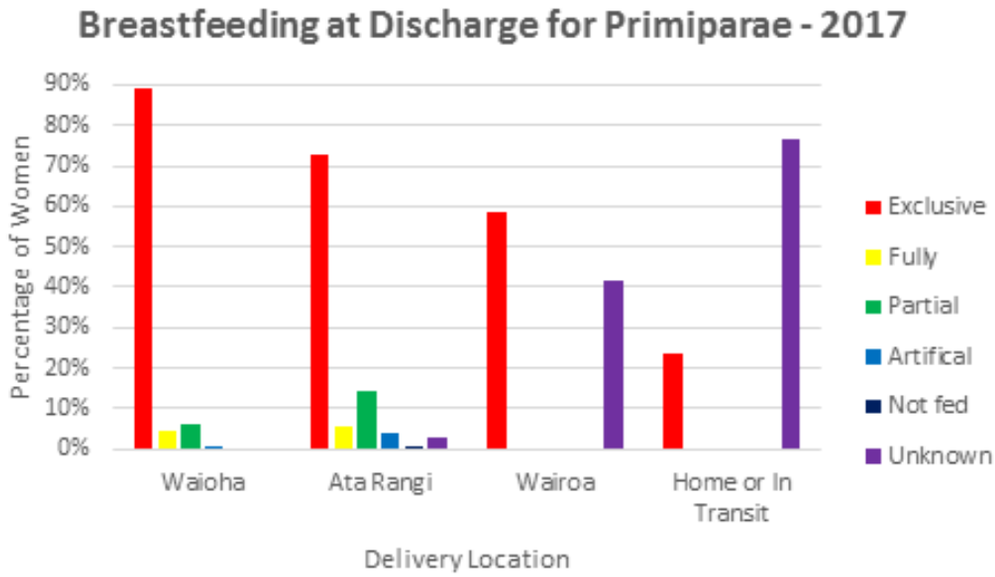


Fetal distress was the most common reason given for performing an emergency caesarean section 52% (n=83), followed by labour dystocia 28% (n=45). The introduction of the Physiological Primiparous Partograph for all primiparous labours may help to diagnose labour dystocia; a trial and audit of this partograph is scheduled for the next 12 months. The use of the partograph to date has been sporadic and insufficient for auditing purposes.



Breastfeeding Outcomes at Discharge for all Primiparae

Seventy-five percent (n=549) of all first-time mothers exclusively breastfed their babies at discharge from our maternity services, which is significantly lower than the 86% reported for 2016. Five percent (n=36) of primiparous women fully breastfed their babies, 12% (n=86) partially, and 3% (n=23) only used formula to feed their babies. Three babies (0.4%) were transferred to the Neonatal Intensive Care Unit in Wellington before feeding was commenced and the breastfeeding outcome was unknown for 34 (5%) women.



The impact of place of birth on breastfeeding shows with Waioha achieving a rate of 89% (n=148) women exclusively breastfeeding compared to 73% (n=390) in Ata Rangi and 58% (n=7) in Wairoa. Women who gave birth in Wairoa lived in highly deprived areas and this may explain why they are less likely to exclusively breastfeed than women who gave birth in Waioha. The difference in rates between Waioha and Ata Rangi may reflect the effect of the medical model of birth on breastfeeding. The higher intervention and operative birth rates that occur in Ata Rangi will have an impact on access to skin-to-skin care, postnatal pain, women's satisfaction of their birth experience, babies' outcomes, and separation at birth. Women giving birth in Ata Rangi have a higher risk of underlying medical problems, such as a high body mass index, small for gestational age babies, and large for gestational age babies, which could also affect the ability to breastfeed.

The current pressure of staffing ratio to inpatient is a factor in breastfeeding outcomes, as dedicated time to supervise all feeds as needed is restricted. The ability to spend time at the bedside with women to support them and assist in developing skills and confidence is greatly reduced.

Standard primiparae who birthed in Waioha had the same exclusive rate (89%) as all primiparae who birthed in Waioha (89%). The exclusive breastfeeding rate was higher for standard primiparous women who birthed in Ata Rangi (81%) than for all primiparae who gave birth there (73%). This would confirm that primiparae with underlying obstetric complications have a reduced ability to breastfeed exclusively compared to those without complications. It may also suggest that known primiparae should be given priority in care provision to support better outcomes with the current staffing crisis.

Future Quality Improvements

- Implementation of the Neal & Lowe partograph for standard primiparae across Maternity Services.
- Audit of the standard primiparous women that are admitted to Ata Rangi in spontaneous labour to ascertain identified risk factors antenatally, for example, body mass index.
- Identify how to ensure that all appropriate standard primiparae commence labour in Waioha.

A Hawke's Bay Consumer Story

Three and a half hours after my waters broke, I found myself in one of the beautiful Waioha units, fully dilated and ready to push. I stripped off and hopped into the pool. I always imagined myself pulling my own baby out whilst in the water. I struggled to get a good grip in the bath as my body was so buoyant, and this baby's head did not want to budge. So, after trying multiple positions in and out of the bath, and two hours of pushing, my midwife suggested the doctor take a look down there. Mijo was in optimal position, however, his head was on a slight angle making it impossible to push him out.

We moved to Ata Rangi, and the doctor suggested we might need the help of a ventouse. But because Mijo was calm and I wasn't completely exhausted, we decided to keep trying on my own. There was no rush, and the energy was calm and relaxed. My midwife made sure the room we were in was kept dim and relaxed - just the way I wanted it. The doctor decided to try and move Mijo's head with her fingers to see if that made any difference. At this point, I was more than determined to get this baby out! This helped and I was starting to make progress - pushing in the most efficient way. Both the doctor and my midwife felt confident that there was no longer the need for a ventouse, so instead, the doctor gave me a little cut to give Mijo's head a bit of leeway, and a couple of big pushes later, out he came. I have never worked so hard in my life! I gave birth to my beautiful giant (10lb!!!) baby boy.

Because I didn't have any pain relief or any serious medical intervention, I was able to go back to the beautiful Waioha unit, where my partner and I stayed for two nights. Over this time, the help from my personal midwife and the hospital midwives was beyond amazing. The midwives in the Waioha wing were very friendly, and were at my side whenever I need them - whether it was to help hand express colostrum to Mijo all through the night, or to get me some more maternity pads. They were incredible. I didn't want to leave. The suites were homely, spacious, and warm and there was plenty of room for my family.

My experience in Waioha and Ata Rangi were both exceptional and couldn't have been better. The doctor respected my birth plan and wishes and didn't rush me off to theatre to have a c-section, or put the ventouse on straight away. They were patient and dealt with the situation in the best possible way. Unfortunately, I did have a more than normal healing time for the episiotomy that I received due to a small opening not being sutured properly.

But all in all, my memory of this birth of my first baby was empowering and wonderful. I am so proud of myself and can't wait to have another! (I'm saying that now!)

Quality Initiatives and Services

Waioha - Primary Birthing Centre

Waioha has been opened since 4 July 2016 and has welcomed 821 babies at 31 December 2017. As a reminder the establishment of the first alongside primary maternity centre came about as a result of Hawke's Bay reviewing its maternity services in 2011 and the voice of our women and community spoke about having choice in place of birth in Hastings and a centre that embraced whānau and a purpose built environment to welcome pēpē into the world.

Our Waioha philosophy encompasses the celebration of new life and true to its gifted name the gift, breath and sense of belonging in time.

Waioha Philosophy: Waioha is a safe space centring care on women and whānau, empowering them to birth within their primal, spiritual, and cultural beliefs. We promote and protect normal labour and birth, encouraging belief and trust, surrendering to the feminine power of birth in a sacred place. We are supporting the creation of Mothers, Fathers, and Whānau through the childbirth experience. We respect this special environment and the gifts each of us bring, unifying the roles of LMC and DHB midwives. Supporting and learning from each other to provide excellence in care.

Women have been walking with their feet and Waioha is popular with great consumer feedback and ownership in the community. Overwhelmingly the responses received talk about the calmness of the environment, the space, active birth options, how welcome partners and whānau feel and the ability for support people to stay comfortably.

In 2017, 652 women were admitted to Waioha and 521 (80%) birthed there. Of those women, 127 were standard primips who birthed in Waioha (40% of total standard primips (321 total)).

The following data represent the specific clinical indicators measured for Waioha - firstly on the basis of the number of women admitted there and secondly by the number of women who gave birth there (ie excluding all women who were transferred to Ata Rangi during labour for secondary care. Further analysis comparing birth outcomes based on place of birth across the Maternity Services, and a comparative look at the standard primiparous women, can be found in the Birth Statistics Chapter earlier. Very exciting initial data is revealing the positive impact environment, clinicians and women are having on their outcomes.

Waioha Key Performance Indicator	Number of women	Percentage
Admitted to Waioha	652	100%
Use of water during labour	339/652	52%
Epidural during labour	75/652	12%
Spontaneous vaginal birth	586/652	90%
Caesarean section	32/652	5%
Transferred in labour from Waioha to Ata Rangi	131/652	20%

Waioha Key Performance Indicator	Number of women	Percentage
Gave birth in Waioha	521	100%
Water birth	193/521	37%
Intact perineum for women who gave birth vaginally	305/521	59%
Postpartum haemorrhage (>500ml)	56/521	11%
Exclusive breastfeeding on discharge	473/521	91%

These indicators show an ongoing rise in vaginal births, use of non-pharmacological pain relief and improved maternal outcomes with continued reduced likelihood of PPH, increased intact perineums and reduced likelihood of caesarean sections. The transfer rate has risen by 2% over 2017 in comparison to the first 6 months at 18%. This is still well within acceptable transfer rates from a primary birthing centre highlighting informed choice and accurate risk assessment of primary, low risk women.

Quality initiatives and improvements have continued with the commencement of the Your Birth, Your Power project led by the MQSP Project Midwife – further details of this project can be found in the Quality Initiatives and Services Chapter.

Breakfast Club continues to be supported with attendance from both LMC and DHB midwives for discussions of many different topics from management of hypogylcaemia to delay cord clamping as well as sharing stories and learning from each other. All of which supports the development and growth of a birth culture supported by evidence, experience and consumer stories.

Active birth classes commenced run by one of the Waioha midwives in partnership with a childbirth educator. These have been very successful in providing women booked to birth in Waioha an opportunity to familiarize themselves with the environment, try out the active birth resources and feel empowered about labour and birth. In particular one of our Maori midwives has found this time invaluable in supporting her young Māori rangatahi to choose Waioha, feel confident and comfortable in preparation for the arrival of their pēpi.

A Hawke's Bay Consumer Story

Baby H

I had my boy baby H in the new birthing building Waioha. He was born just after it opened August 2017. The first part of pregnancy I had placenta previa, so that was very worrying. He then stayed in posterior position, which they said would be painful, luckily he changed in labour.

I was there probably thirty mins and he was out, he came out with sac/caul still over him, apparently very rare and some people say it means good luck.

It was lovely to have a term baby 7lb15oz compared to my first 2lb14oz, born at 28w, they said have no more. I had four more lol ,so I have my famous five haha.

I planned him hehe. He was my number five and first born in Hawke's Bay, as I come from Auckland. My midwife was amazing and the new birthing suite was amazing, very clean and spacious.

Wairoa Maternity Services

By Sue Marshall - Caseload Midwife

2017 has been a big year for the Wairoa Maternity team. The year started with a road trip to look at other primary units of a similar size. We were able to compare the challenges and innovations that have led to some improvements that have been implemented. The trip also highlighted some areas where Wairoa is very fortunate. This area is small, so we are on a first name basis with organisations such as Oranga Tamariki. We have an effective smoke change program and the ability to transfer women quickly to our base hospital. We have seen a variety of environments to work in, some better than ours and some more challenging than ours. This has helped to formulate a vision of how we can make our unit more whānau friendly. This is a work in progress that will extend into 2018 and 2019.

Baby Friendly Hospital Initiative accreditation was early in the year and was achieved through significant effort by everyone including the Hastings Breastfeeding Advisor support and midwife liaison in Wairoa.

A significant achievement has been to secure a permanent midwifery team. Tungane Kani joined the team in March, which made four permanent midwives. By October we had a regular locum midwife to provide cover for leave. One significant change implemented following the road trip has been to start a four day on, four day off roster. This is in place in a number of primary units and increases job satisfaction, health, and well being of midwives.

In 2017 we initiated the first ever practice nurse/ midwife meeting in Wairoa. There was important shared learning to improve communication and achieve common goals. Another change is that we now have bimonthly meetings with all four midwives attending together with management. This is a significant step to improve team communication, provide professional development, streamline processes, and improve quality of services.

A number of education days were run in Wairoa in 2017, including: neonatal resuscitation, healthy conversations, and two breastfeeding workshops.

We participated in the Big Latch with Kahungunu Executive and had an excellent turnout.

The team has implemented a number of practice innovations including increasing the use of hand-held notes, particularly for postnatal care, the routine use of the EPDS tool both antenatally and postnatally, and developing a new handover sheet and statistics form to enable the easy measure of the key performance indicators. We have initiated the standard use of the midwifery standards review consumer feedback form with every discharge. Our homebirth pack has been streamlined. A new birth trolley doubles as the emergency trolley. We have purchased fans and heaters and have begun the revitalisation of the unit.

The team is motivated to make the environment a more positive space, so we have run a number of raffles to buy toys for the siblings of the baby to play with and to beautify the birth pool room.

We developed and improved the antenatal classes, with invitations and resources developed.

2017 has seen the initial discussions regarding whether we would participate in a research project called He Korowai Manaaki, Victoria University. This project is to determine whether wrap around services such as transport, housing, dental, extra GP visits and free contraception will improve the health of babies and children during pregnancy to 2 years of age. The decision was made by the end of the year that we would participate in this study.

Key Performance Indicators

The following findings has been collected from raw data recorded by Wairoa Midwives using a number of systems and represents the care provided to women for antenatal and postnatal care.

Demographics

One hundred and seven notes were audited to identify these key performance indicators. A further 14 women and their babies were seen for postnatal care only with antenatal and birth care provided by midwives elsewhere and are not represented in these findings.

Of interest 27/107 (25%) women receiving antenatal and postnatal care were primigravida and 80/107 (75%) were multigravida.

93/107 (87%) women identified as Māori ethnicity. Population data for Wairoa (census) shows 62% of the general population are Māori. This identifies the importance of providing birthing services, antenatal and postnatal care that serves the community and reflects the guiding principles, as with all maternity services, of Turanga Kaupapa.

14/107 (13%) women were 20 years old or younger at time of booking. Engagement with young women effectively for antenatal care and pregnancy and birth education are high priorities, as well as ensuring access to acceptable effective contraception to enable adequate birth intervals.

Booking for Maternity Care and Births in Wairoa
The numbers of women engaging for maternity care have increased. 140 women booked for care at Wairoa Maternity in 2017. Difference in numbers of notes audited (107) is accounted for by women who miscarried or moved away from the Wairoa district and therefore received maternity care elsewhere.

Early engagement by 12 weeks remains a challenge for the service. Overall the percentage of women booking by 12 weeks has dropped slightly (from 57 % in 2016 to 53% in 2017), however the percentage of Māori women booking by 12 weeks has increased (from 38% in 2016 to 43% 2017).

The number of women that birthed in Wairoa has increased from 44 in 2016 to 50 in 2017, and 55% of the women who aimed to birth in Wairoa achieved this. There were nine emergency transfers overall: seven being transferred in labour and two postnatally. This is a decrease of two transfers in labour compared to the previous year.

Breastfeeding
Initiation of breastfeeding at any time in the days following birth were very high, with 100% of European woman and 98% of Māori women breastfeeding their babies. Of the women who birthed in Wairoa or returned to Wairoa Maternity Ward after a birth in Hastings, 92% were exclusively breastfeeding at discharge from the ward.

However, a dramatic drop in exclusive breastfeeding was seen at 6 weeks. Exclusive breastfeeding at 6 weeks was 50% in 2017 compared to 49% in 2016. Maintaining exclusive breastfeeding is very challenging and remains a high priority for the team with enthusiasm, commitment, and focus to understand what and how things need to change to increase exclusive breastfeeding at home. Community attitudes to breastfeeding appear to be dominated by beliefs regarding the use of formula as an acceptable choice. Innovative and effective community messaging to change beliefs, knowledge, and understanding may see improvements to these outcomes for 2018.

Smokefree Status and ABC Response
All women were screened about their smokefree status. Of urgent concern is the rate of smoking, with 57% (61/107) of women not smokefree at booking. Of those women, 93% received a smokefree intervention and 93% were offered or referred to cessation services or received nicotine replacement therapy. At discharge from maternity care, nine women (10%) became smokefree. Wairoa midwives are committed to change towards increasing smokefree women and whānau in pregnancy and postpartum and want to increase momentum for effective incentives and innovative engagement for skilled support to address this.

Safe Sleep
Of great encouragement is the safe sleep education and plans evidenced in documentation tools and records with every woman receiving clear consistent messages about the essential principles for safety in sleep for babies. Twenty-six wahakura and 43 pepi pods were distributed to families to support safe sleeping. This was for babies identified as at risk or vulnerable due to living or lifestyle environments. The supply and distribution service in Wairoa from Kahungunu Executive is to be commended for the response and provision of pepi pods and wahakura to the community.

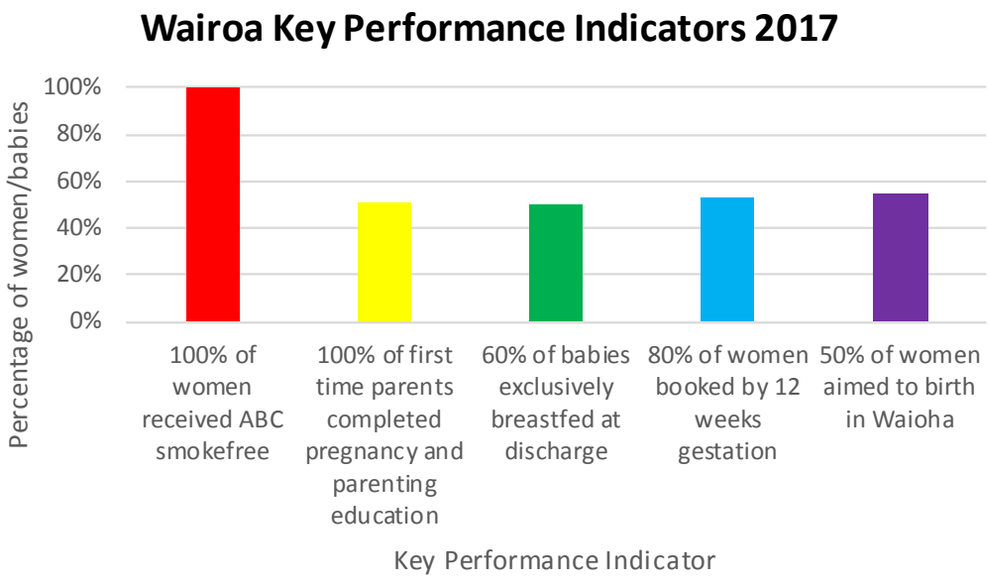
Registration with GP
All women were registered with a GP.

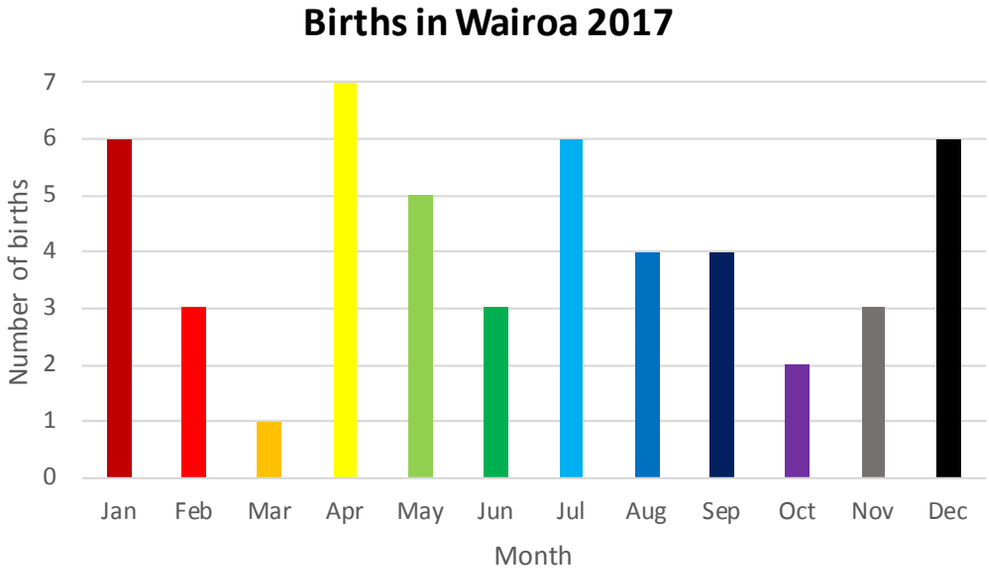
Parenting Education
Twenty-seven women with their partners and other whānau attended formal antenatal education classes run by the Wairoa midwives. 14 /27 (51%) of the women having their first baby came to these antenatal classes. The remaining attendees included multiparous women and other first time parents who had Napier or Hastings LMCs.

These classes were offered on a Sunday afternoon to assist attendance and used audio-visual, discussion, group work, practical hands on, and formal teaching to provide information. A warm comfortable environment with food and drink was always provided.

Women identified as at risk and early referral to Tamariki Ora

Wairoa midwives aim to refer all women to Tamariki Ora service's within the first week after birth. 99% (10/11) of the women identified as being at risk were referred to Tamariki Ora services by two weeks postpartum.





Goals for 2017

The subsequent goals for Wairoa were identified in the Hawke's Bay Maternity Services Annual Report 2016, with statements recording the achievement and response in 2017 following:

1. **Improve communication across the team.**
   Communication improved through formal handover, bimonthly meetings and improved respect for, and by, colleagues
2. **Raise the profile of the Wairoa midwifery team and increase community perceptions and confidence in the maternity services.**
   Improved with increased demand for services and women and whānau friendly environment. Established Wairoa maternity Facebook page and logo.
3. **Improve numbers of women attending for antenatal care.**
   Evidenced by the increased numbers of women booking for care compared to previous years.
4. **Ensure timely follow up to care.**
   Systems are in place to ensure timely follow-up and engagement for antenatal care
5. **Achieve recertification for Baby Friendly Hospital status.**
   Achieved March 2017.

Other goals identified by the Wairoa Midwives report in 2016 that have been achieved in 2017:

- Identification of primiparous and multigravida women to determine rates
- Improved data regarding smokefree status at booking and discharge and documentation of ABC
- Revitalization of clinical areas
- Improvements to work and storage areas
- Standardizing emergency equipment. Improving visibility and access

Recommendations for future data to collect and report on in Wairoa for 2018:

- Reasons when formula is introduced in previously breastfeeding baby
- Prematurity
- Birth weight centiles, especially babies under 10th centiles
- Numbers completing flu and whooping cough vaccinations
- Maternal age under 20 and over 40 years old.
- Completion of antenatal and postnatal EPNDS with comments about high scores frequency
- BMI range and numbers of women with BMI over 35
- Women seen for solely antenatal care/postnatal care
- Caesarean section rates – attempted vaginal birth after caesarean section and successful vaginal birth after caesarean section

A Hawke's Bay Consumer Story

Last year I was carrying my second child, a boy due on 19/05/17. My first child, a girl, was 4 years old at the time. Because my first labour was fast and intense (4 hours long but I only went to the hospital for 2 hours before she was born), and living in Raupunga, 30 minutes from the hospital in Wairoa, my midwife thought it would be a good idea to educate me on a home birth. I told her I didn't expect to have my baby at home but she provided me with the information and advice. So at 5.15am on 15/05/17 I got up to go to the toilet and my waters broke. I had no signs of labour up until then, so decided to have a shower then told my partner and Mum to get ready to take me into the hospital. My mum went to drop my daughter off at my sister's so we could head into town. It was about 5.45am and I waited for another contraction to finish so I could go get into the car but I barely made it out the door and another contraction started. I knew I wasn't going to make it to town and decided to go back inside, my mum was trying to change my mind but I couldn't sit let alone sit for 30 minutes. She wanted to call an ambulance but I felt calm and confident that it was all going to be all good so I went and got back in the shower with a deep tub and my mum called the midwife.

My mum had also called my Aunty (who has 6 kids and been in plenty of births). So my Aunty and my sister came into the bathroom with me. My partner lit the fire to warm the house up and my mum was warming towels in the drier. My Aunty and sister were both trying to keep me as calm and comfortable as they could but I could feel the need to push. I told them and sure enough, after one good push baby's head appeared. Then I gave myself a minute (or so it felt) then I gave another good push and my baby was born at 6.45am into my Aunty's arms (we quickly checked our time after he was born). I had some skin-to-skin time then jumped out of the water and we got wrapped up in the warm towels and fed him until the midwife arrived about a half hour later. She did all the necessary checks etc and he was a healthy 8 pound 5 ounce baby. There was no need for us to go into hospital and it was so good to settle in comfortably at home without taking my baby into the cold.

Napier Maternity Resource Centre

Annual Report: 1 January to 31 December 2017

By Julie Kinloch and Ila Northe - LMC Midwives

Welcome to the third annual report for the Napier Maternity Resource Centre.

The Napier Maternity Resource Centre (NMRC) has been providing midwifery services with the support of the Hawke's Bay District Health Board to the women of Napier for just over three years. The desire is to provide a known and easily accessible site for women and their families to access midwifery care.

There are two main aims for this service. The first is to provide a drop-in maternity service in the Napier community. This is a place where women could seek pregnancy and maternity-related care and advice from a midwife. The hope is to encourage early engagement with an LMC midwife. The second aim is the provision of an urgent/out-of-hours facility where LMC midwives can provide urgent assessments in their local community.

Objective 1: Early Engagement

Early engagement of pregnant women with an LMC midwife is the first objective of the NMRC. The use of the Midwifery Centre as a hub for maternity care is vital, as it is recognised as a facility in the community where pregnancy and maternity care and information is given.

With the aim of early engagement it is rewarding to see that the 83% of pregnant drop-in women were still within their first trimester of pregnancy. 14% of women visiting were in their second trimester and only 2% were in the third trimester of their pregnancies. Several of these late bookers were from out of town, including Wairoa.

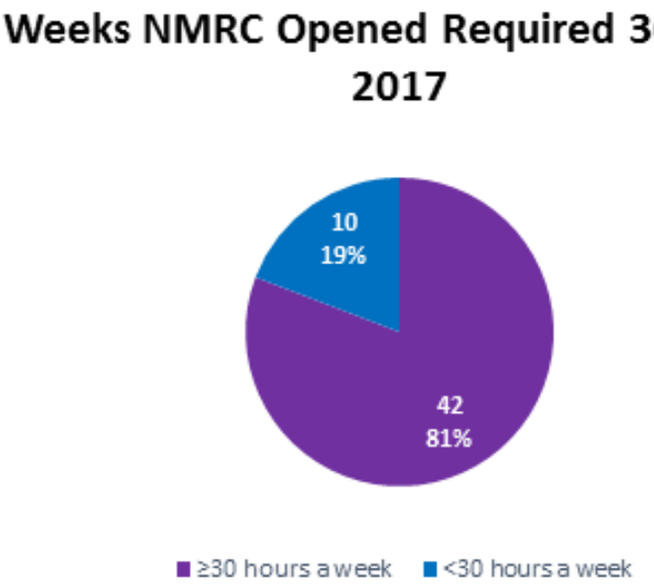
Early engagement leads to ongoing care being successful initiated. The NMRC now collects data on how many days it was from when the pregnant women dropped into the NMRC, until when she has her first appointment with her LMC midwife. 84% of the time the first visit is within seven days. This is up 3% on the previous year. There have been 12 women for whom it was over seven days before they met up with an LMC midwife. Five women have been unable to be contacted and followed up. These women were all phoned and texted several times, without success.

Over the years we have observed that one woman most months will drop-in and receive a totally unacceptable positive pregnancy result from a urine test. Instantly they know they will be terminating the pregnancy. In 2017 we started asking these women if NMRC could ring them in a week's time and check on them. After several discussions with the midwives involved at the NMRC and the wider midwifery community, we are now trialling offering midwifery care to these women prior to sending them to see their GP, a mandatory requirement in Hawke's Bay to gain a referral to termination services. This means the midwives need to provide a tailored booking visit, preparation for termination of pregnancy, as well as the possibility of ongoing pregnancy care. Early scanning as pregnancy dating is a vital component of this care.

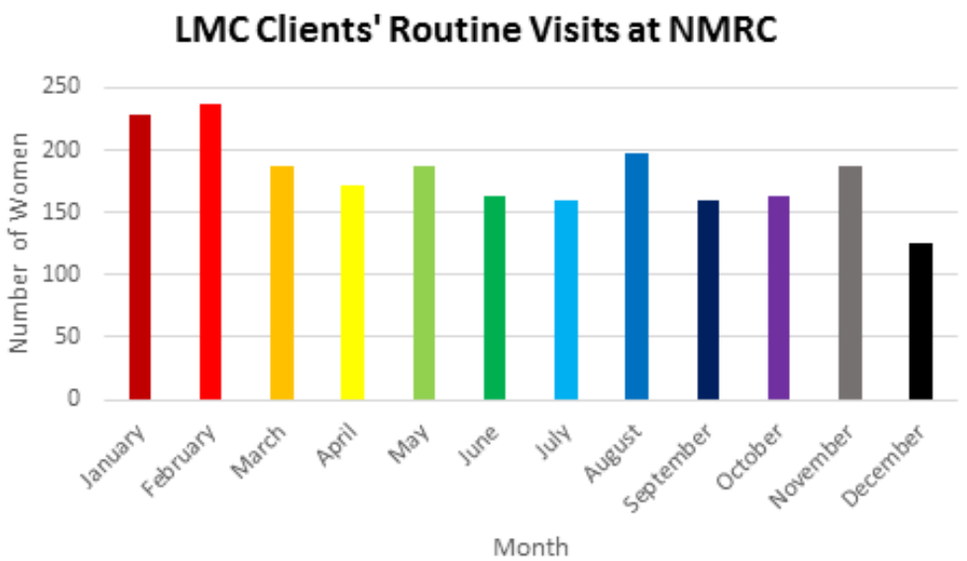
These women are often the most vulnerable, so we hope by having some interaction with them we could have a positive and small impact on their lives. We have become aware from the Perinatal Maternal Mortality Review Committee 2016 National Report, that Maori women with existing mental health issues suffer after termination of pregnancy and have an increased risk of taking their own lives. We hope we can help these women.

The NMRC goal is to be open each week day with a midwife in attendance. It is also the goal that the NMRC will be open each week for 30 hours. Six midwives hold their regular clinics at the NMRC. Often this means that two midwives are present at the NMRC each day. The unpredictable nature of midwifery work in the community can lead to a rapid change in the midwives ability to remain at the NMRC, but the target was met the majority of the time.

Over half the time the NMRC exceeds the 30 hours a week by at least five hours. There were ten weeks when this goal was not met. Eight of these weeks were affected by a public holiday including the week between Christmas and New Year, when the NMRC was closed completely. In May all the midwives working out the Midwifery Centre attended a full day study day, so the NMRC was not open for the day. This training assists our professional competence and meeting the statuary requirements, so we felt it was important to close the NMRC on this day. This left only one week of the year available when the goal of 30 hours open was not met.



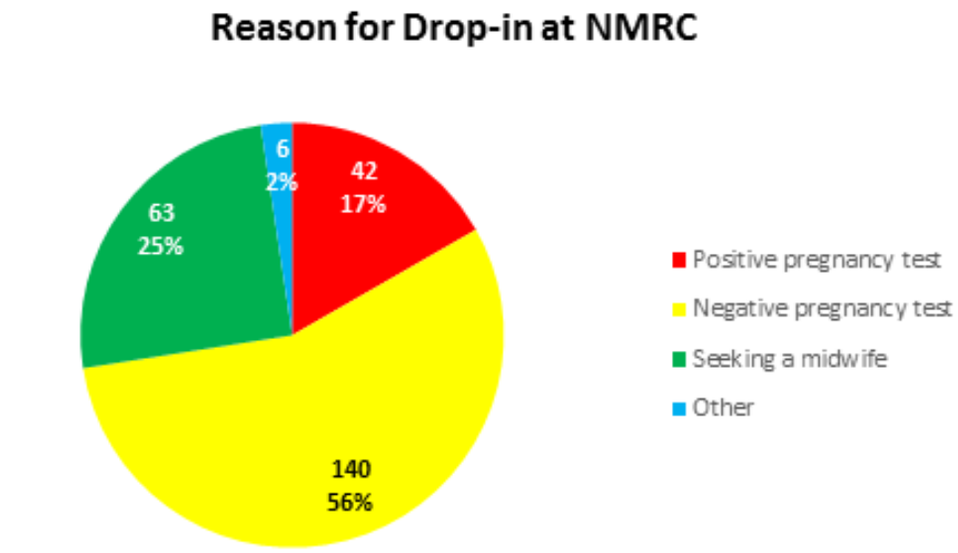
There are six midwives, including one Maori midwife, holding regular clinics at the Midwifery Centre, where the NMRC is operated from. Over the past year the number of women visiting each month for their regular midwifery appointments has decreased slightly. During 2017, 2168 women attended midwifery clinics. This is a slightly lower number than 2016 when it was 2200. There is a monthly average of 181 pregnant women receiving antenatal care at the NMRC. Maintaining this high level of overall attendance is seen as a positive sign that the NMRC is meeting a local need.



For this 2017 report we have added all the hours the NMRC was open, subtracted 30mins for each routine visit with a midwife, which then leaves us with the percent of time where the Midwifery Centre is solely open for the NMRC service. 38.1 % of the time is exclusively NMRC, and for the other 61.9% both services, LMC midwife clinic and NMRC, are being attended to. The feeling from the midwives is that at least 50% of the opening time is to service the NMRC.

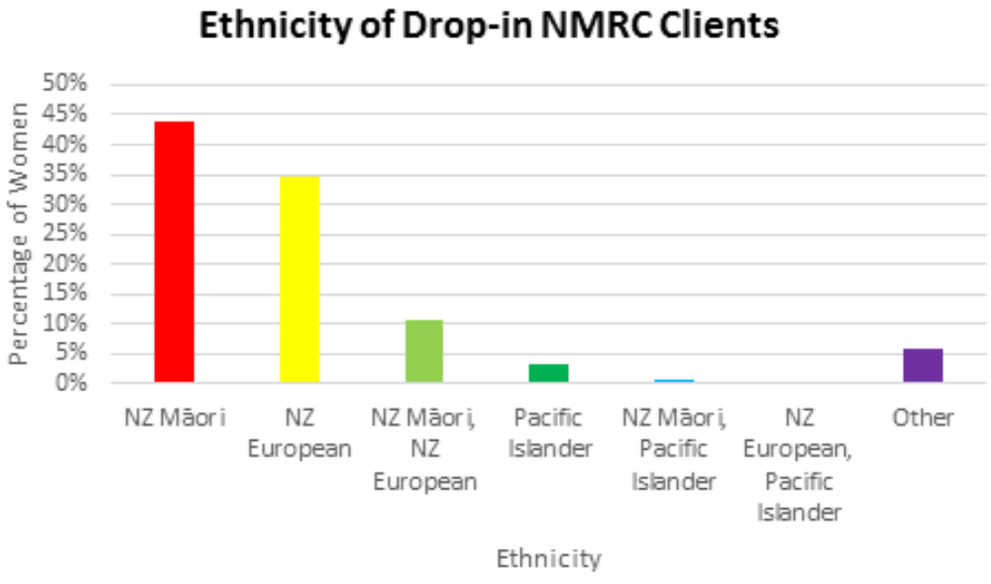
Free pregnancy testing continues to be the major reason people drop into the NMRC. In 2017 there were 251 women dropping in to the NMRC. 73% of these women requested a pregnancy test, similar to the previous year of 75%. Free pregnancy testing gives all women the opportunity to positively engage with a midwife, who shares pre-conceptual advice, contraception information and encourages becoming smoke-free before becoming pregnant. Over the year the NMRC was visited 69 times for other reasons, 63 of these were seeking a midwife. When you combine the positive pregnancy tests and those women seeking a midwife the total of 42% of all drop-in clients are pregnant, slightly up on last year's 38%. It is reassuring that the NMRC continues to attract both pregnant women as well as women unsure about the pregnancy status.

Other reasons people visited the NMRC include needing a place to breastfeed and gain advice, use the electric breast pump, males seeking information about the service and availability of free maternity care to their immigrant partners. These are positive uses of the facility, ensuring the sustainability of the NMRC as a hub for midwifery care in Napier.



Ethnicity of Drop-in Clients

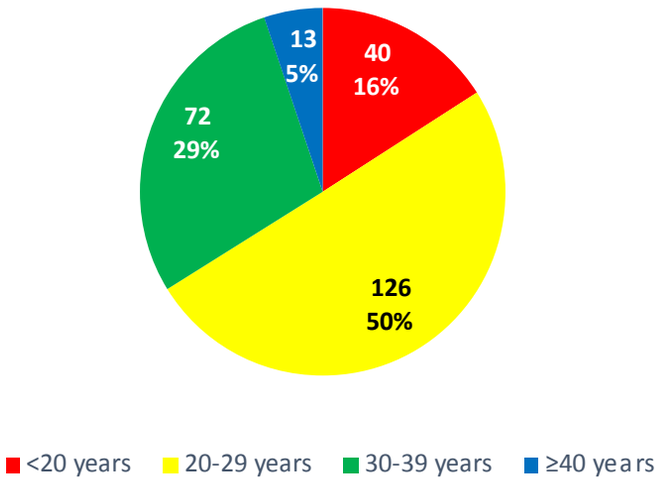
The DHB contract for the NMRC has a goal of improving all early engagement especially with pregnant Māori and Pacific women with maternity services. It is positive to note that 56% of all drop in clients identified as Māori or part Māori. This percentage is similar to the preceding years and shows that the NMRC continues to be an acceptable venue to receive this drop-in service. The number of women identifying as Pacific people remains around 12%.



Age of Drop-in Clients

There continues to be a steady stream of women under twenty years old (16%) dropping in to the NMRC. This is an increase of 3% on last year. This is good news as this group of women are known to be slow to engage the services of a midwife when pregnant. The most common age group of women accessing the NMRC are those between 20 – 29 years, accounting for half of all drop ins.

Age of Drop-in NMRC Clients



Objective 2: Provision of an Urgent/Out-of-hours Facility

The second objective for the NMRC was to establish a fully equipped, well lit, safe facility available to LMC midwives and DHB community midwives, and their Napier or rural clients to meet at any time day or night. The nature of pregnancy often means that assessments are required outside of office hours. Often midwives will not have access to their usual clinic space when urgent assessments are required. Also the NMRC holds specialist equipment.

With no DHB maternity facility in Napier prior to the NMRC, women needing urgent/out-of-hours assessments were travelling to Hastings and being seen at Ata Rangi, a secondary care facility. This often meant that a secondary care medical consultation was occurring, instead of solely a primary care midwifery assessment, which may have been all that was needed.

There was an increase of 41 in the number of visits taking place at the NMRC out-of-hours. A total of 356 women were seen. This shows that midwives are utilizing the NMRC more frequently. This is a good outcome for women, as they are often closer to home and require less time away from home.

This year 38% of these out-of-hours were assessments regarding reduced fetal movements. This is an increase from 33% in 2016. A decrease in fetal movements can be an indication of fetal compromise. During these out-of-hours assessments, a cardiotocograph (CTG) is performed, a monitoring of the baby's heartbeat and movements over a period of 15 to 60 minutes. This is frequently enough to reassure the mother and the midwife. This means that 134 times during the year women were able to be comforted and cared for close to home and not have to visit the secondary Maternity Services based in Hastings. The partnership with the DHB enables these assessments to be supported in the community.

21% of pregnant women visiting out-of-hours were seeing a LMC midwife for antenatal care. These 75 pregnant or postnatal clients required visits outside of the midwives routine clinic day for a large and varied number of reasons. These may include: women only being available to see their LMC midwife at certain times of the day or on certain days of the week, or they may only travel into town on specific days.

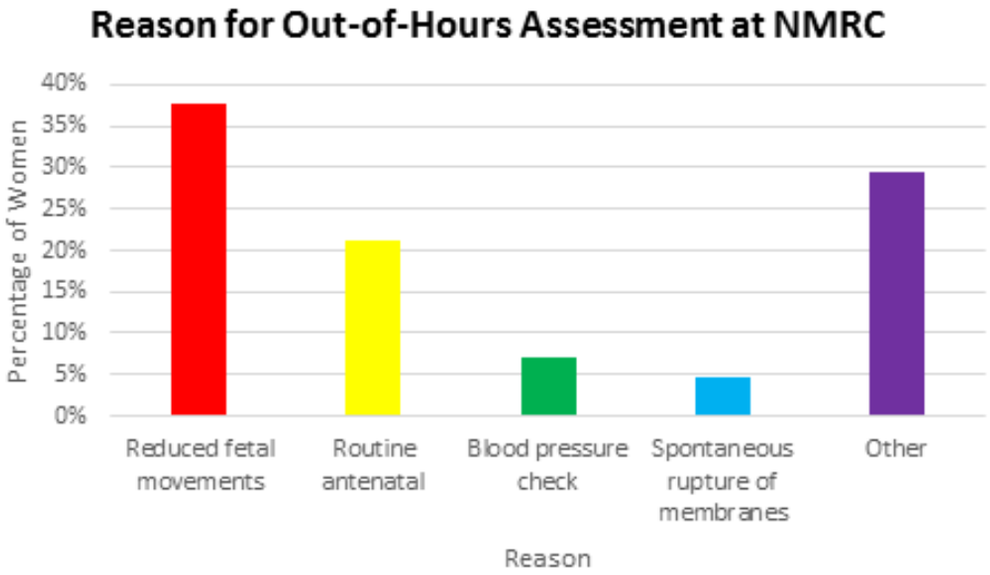
Last year 27 women were assessed for suspected rupture of membranes, this year only 17 were seen to assess if their waters had broken. The ability to see these women outside of the hospital helps keep births normal when there are no other complications. It is a medical recommendation that if labour has not started within 18 to 24 hours of the waters leaking, that labour should be induced, due to the risk of infection. So timely assessment of ruptured membranes and planning is vital, to ensure this happens.

A third of all out-of-hours visits fit into the other category: early labour checks, postdate pregnancy checks, extra blood pressure assessments, abdominal pain and vaginal bleeding. These can be assessed effectively away from the hospital at most times with the ability to refer to hospital as required.

In monitoring the reasons the NMRC is utilized in out-of-hours scenario there are often a combination of concerns. 60% of all out-of-hours assessments utilize the CTG machine provided by the DHB.

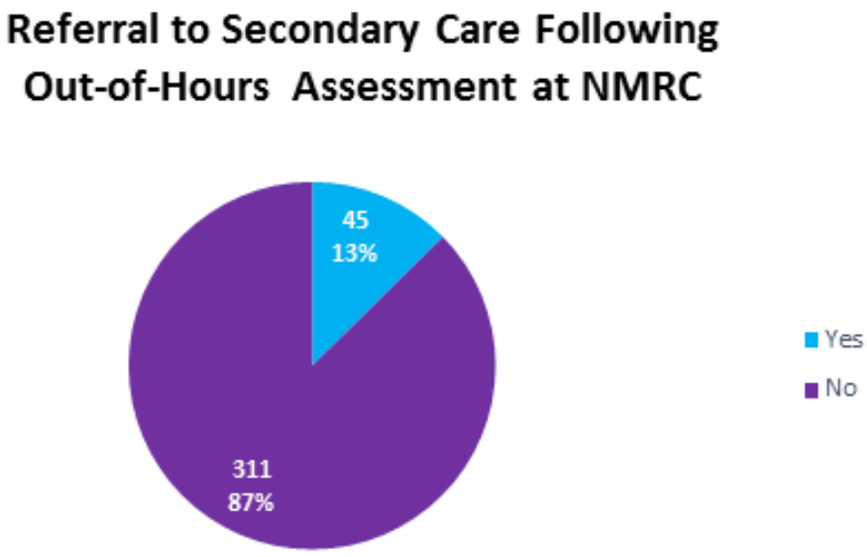
These assessments are often following a phone call between the LMC midwife and the pregnant or postnatal woman, with the midwife using her knowledge of the woman and her overall health, as well as the pregnancy information, to determine whether an out-of-hour's assessment is required. Keeping women in the community and seeing her in a primary setting is a cost effective and safe use of the NMRC.

During 2017 21 different midwives utilized the NMRC, this includes the DHB community midwives and a locum covering an LMC midwife. If the midwife meets her client at the NMRC while a centre midwife is holding her routine clinic, the out of hours assessment takes priority.



For the 356 women seen urgently/out of hours at the NMRC only 13% required consultation with the Obstetric team based in Ata Rangi, and were therefore referred to their care. This is a consistent figure over the last two years as well. This means 311 were seen, assessed and then able to return home, following the assessment of their LMC midwife. Although the number of women being seen for an out of hours assessment has increased, the percentage referred to hospital remains the same. This is supportive of the midwifery model of care in New Zealand where midwives are trained to assess advice and treat most low level concerns in pregnancy, with referral to secondary care specialists if there is a deviation from the normal.

This is cost efficient, as the women being assessed out of hours at the NMRC are not using DHB midwifery, medical staff, or facilities, thus keeping the Ata Rangi beds available for medically unwell women or those with complications in pregnancy.



Supplementary Report Data

The Baby Café continues to be popular. The NMRC is pleased to provide resources and a venue for the Baby Café. We feel that consistency of venue and hours helps women have confidence in this service.
Baby Café sessions: 47 run by a Lactation Consultant. Each session of: 2 hours
Clinic rooms available: 3 rooms
LMC midwives based at 234 Kennedy Rd: 6 midwives
Drop in women: 251
Out-of-hours Assessments: 356

NMRC Extra Goals 2017

1. Improved data collection: We have met this target, and the ability to correlate the data every three months to share with the Midwifery Director.
2. The ability to collect the Smokefree data for drop in clients. This continues to be difficult to complete because women often answer yes to "Are you Smokefree?" on paper, yet when asked they are smokers. We have changed the data collection form for 2018 to see if we can collect some better data.
3. We now have a signed off Smokefree policy.
4. We have NRT on the shelf at the NMRC, so we can provide seven day course of treatment along with a referral to Cessation Support which would hopefully occur within a week.
5. We have displayed the DHB provided posters in the waiting area supporting early engagement and the five things to do in the first ten weeks of pregnancy.
6. We have met several times with Sandra Bee in her role of emergency planning for the DHB. With Sandra the NMRC Directors met with the management of the Plunket Hub, which is just around the corner from the NMRC. Plunket have experience in supporting families after a major natural disaster and have an established plan for caring for their staff and continuing service to families. There is no written plan but an understanding that Midwifery and Plunket Well Child Services are often interacting with the same families and may be able to work together or alongside each other in cases of a large scale disaster or emergency.
7. We are unable to have any more permanent signage outside 234 Kennedy Road.
8. We have talked with Napier Directions Youth Services. They are now calling and arranging meetings between a NMRC midwife and their clients if required. This can support young pregnant women to engage in midwife ry care as early as possible.
9. We have held another campaign to contact all Napier General Practices reminding them about the "Find your Midwife" web site and the NMRC is happy to follow up any emails, faxed or phoned referrals, along with feeding back to them when contact is established and who the woman's LMC midwife will be.
10. We surveyed the regular midwifery uses of the Out of Hours assessment facility to ensure we were meeting their needs and any ideas for improvements. We now stock more DHB equipment.

Work that remains in progress

1. Continue to meet with local Pacific Island Community leaders to encourage early engagement with an LMC midwife.
2. We have not asked for women's stories from Urgent/ Out of Hours visitors which could be printed in the DHB Maternity Annual Plan.
3. The NMRC becoming a community facility that is Baby Friendly.

A Hawke's Bay Consumer Story

The Birth of Baby Pearl by Jessica White

I had been feeling to stay 'inward' for the last few days, treating myself to the luxury of staying home and absorbing all the love that had been poured into our Birth Space over the last weeks of my pregnancy (I adored the prep that went into this creation - every detail a birth visualisation).

At 9am on the morning of Tuesday 29th August, I felt a dull, ache of a tightening in my lower back... five minutes later I felt another... five minutes later another... and so it continued. They were so mild, and only in the back, very different to my previous birth where I had labored all in the front. So I wasn't convinced I was in labour but it was enough for me to answer Nathyn, "no, don't go out to Ocean Beach for a surf... just somewhere local". He knew what I was saying and his adrenalin pump switched on - he lit the fire, filled the birth pool half way and prepared steak and mushrooms to cook me for lunch, eager for me receive a last minute iron boost! And then he went to surf Te Awanga, me feeling it a good idea he cool off!

I yearned for the sea also - it was a beaut of a Summer-feeling day, with fresh swell rolling in. I took a walk to the beach, with my daughter Inca and my beautiful friend Suzy and her (homebirth) baby Lenny. Inca had insisted (a rare request) that we bring her pushchair - and what a utensil it turned out to be! I leaned on that chair every four minutes, when I had to stop talking and just breathe.

I was feeling dreamy, all was delicious... the cool water swirling beneath my bare the feet, the warmth of Inca's pudgey little hand in mine, she squealing with delight as the ocean kissed our toes, the sound of the waves crashing, rolling and merging with my own internal waves. I was completely One with All, and my friend Suzy was the perfect partner to share this magic with me. She embodied the Divine Feminine - I felt so connected to her love, her smile, she understood, every wave I felt, her excitement matching my own. I am forever grateful Suzy.

A sudden practical thought reminded me it would be a good time for Inca to nap, so I peeled myself away from the ocean, gave Inca one final Su su (breastfeed) before she was expected to forever share, and took Suzy up on her offer of taking Inca for a drive to lull her into easy sleep. I used this opportunity of being by myself to dive inwards... leaning over the bliss ball (the word 'swiss ball' would not enter my vocab the days after birth as I told my story - I think 'bliss ball' is much more fitting!) on my knees in front of the open door, cuddled by the sun and sea breeze. It really was true bliss.

Nathyn returned home and became my smooth operating support man, switching between filling the birth pool, feeding the fire, cooking the steak (yuck - I hadn't the heart to tell him the smell was repulsing me, I could feel his devotion in preparing it!) and pressing those amazingly-relieving back pressure points with every contraction, now at least every three mins apart. And they were intense. I really had to stay focused on breathing over the waves I suddenly felt a little anxious and like I could cry - I had had the thought that my baby may be posterior, as I was feeling everything in my back and that I could be in for a looooooong day. Little did I realise then that I was transitioning!

I phoned Mum (please be here in an hour for when Inca wakes), I phoned my midwife - she said she would gather her things and be on her way. I'm slightly disappointed, I was enjoying sharing this space with only Nathyn, but my midwife is awesome; we had pre-discussed my wishes and agreed she would nest in another room and be there if I needed her.

What happened next blows me away every time I think about it - I felt my cervix fully open and my baby slide through! I told Nathyn I felt I wanted to push against the contractions, so he helped me into the pool. Next contraction I could feel baby move downwards... "Baby's comiiiiing", I managed to pant, and Nathyn grabbed my phone, crying "what's the midwife's name?!!"

I tell him that there's no time for that, I can feel baby's head! My contractions had all blended into one big one then, and all I could do was hang on for the ride and let my body and baby do their thing!!

2.37pm I felt my waters burst which propelled our baby forward... her Daddy reached into the water, to help her, to guide her into our world... she turned her little body and lay serenely under the water, facing up towards us... we were totally quiet, speechless, in awe of her...
Nathyn gently lifts her and places her at my chest. My beautiful baby girl. Now in my arms.

The explosion of our feelings then will stay imprinted in me forever - Nathyn and I looked at each other, euphorically in shock! What the F just happened?!? Giggling, eyes and mouths wide, what a rush!!! Serenity engulfed baby and I... I am of the fullest gratitude. Dreams do come true.

Mum arrives ten minutes later, my midwife ten minutes after that. Inca awoke to meet her new baby sister. My Dad arrived a little later. Whilst I had total trust in my body to birth I knew I needed, and wanted, my midwife there to support me through. I had some unhealed anxiety around this area from my first birth and I knew I had to keep the oxytocin flowing. I was in the pool for 2.5 hrs before my placenta emerged - my midwife was so encouraging and supporting, she soothed any worries I had about time away. In fact, it was only after I asked my family to leave the room (and my midwife beautifully left us to it too, at the perfect time), that birth was complete... baby and placenta, on the outside, and still as one.

I will never forget the love filling the room that evening, as the sun tucked itself away... our beautiful family of four, Inca holding her little sister Pearl, in her arms, Nathyn smiling proudly at both his girls. And me.... enjoying the best piece of steak I had ever tasted!

A Hawke's Bay Consumer Story

I had always wanted to experience a home birth but had always thought I needed a test run in the hospital first and then perhaps I would have the confidence to birth at home.

If it wasn't for my wonderful midwife Sarah who I shared all of my concerns with and the possibility of birthing in the comfort of my own home then this would have been the case. Sarah presented my husband and I the choice and supporting documentation backing up many outstanding statistics and information regarding the benefits of home birthing. Confirming that there was actually less chance of intervention and proven decreased labour times!

We were thrilled to have the supportive care, knowledge and expertise of Sarah and her incredible partner midwives Annie (who delivered our daughter) and Kylie from start to finish. Thanks to her I was able to have the confidence in her and myself to deliver my very happy and healthy baby girl at home, without any intervention or complications; and labour time, 7 hours start to finish!

It means the world to share my birth story with others and it's one that is positive, calm and non traumatic. If I can help change the perception on what birth is and can be for women who choose it by sharing my positive birthing story then that is my part done.

Yours sincerely
A Homebirthing Mama.

Obstetric Ultrasound Services

By Kirsten Gaerty - Obstetrician and Gynaecologist

Obstetric Ultrasound Services in Hawke's Bay remain largely unchanged since the 2016 report. The majority of obstetric scans both primary and secondary continue to be done by the same three private providers: Onsite, TRG and Unity, with a smaller proportion of scans done within the DHB. With the limited capacity of the DHB to provide obstetric ultrasound services we are fortunate to have these private providers that provide a reliable service to our patients.

The Fetal Medicine Clinic did not run between Jan 2017 and July 2017, as Dr Gaerty that runs the service as a sole practitioner, was on maternity leave. In the limited time that the service was running in 2017, a total of 53 women were seen through the clinic, 28 as one-off second opinion scans and 25 women requiring multiple scans and follow up, with some women requiring scans up to weekly. This includes two women with complex cardiac abnormalities that were coordinated with the Paediatric Cardiology department in Auckland. The service continues to be able to provide prompt review of suspected anomalies and prevent a number of women needing to travel to Wellington for formal MFM assessment.

Ongoing work has occurred to further strengthen networks with Maternal Fetal Medicine in Wellington, Paediatrics and the Paediatric surgical team to try and manage more patients closer to home where possible.

A business case for an obstetric specific ultrasound machine was successful and the new machine (a GE Voluson E8) arrived at the end of December. This will not only allow reliable access to an ultrasound machine to run the Fetal Medicine Clinic as an actual clinic, but will allow for more advanced imaging to run a more specialised service in the upcoming year.

LMC Midwifery in the Community

Entry for Hawke's Bay Health Awards
Commitment to Reducing Inequities Category

Title of Entry:

Providing quality midwifery continuity of care to Hawke's Bay's most vulnerable pregnant women

Synopsis of Entry:

We are a team of five experienced midwives employed by the DHB to provide care to women in the community, as well as giving continuity of care through obstetric clinics. We are dedicated to ensuring the best possible outcomes for women, babies and their wider whānau throughout pregnancy and up to six weeks postnatal.

Name of Organisation:

Hawke's Bay DHB Team Midwives: Sue Davey, Louise Gelling, Sarah Joyce, Jayne Kittow, Cushla McLaren

Our Organisation:

Our team of five dedicated midwives have been employed by the DHB to provide care for pregnant women who have complex needs throughout pregnancy and the postnatal period. Each of the team has one day a week in the Obstetric Antenatal Clinic, and one day a week providing care in the community. This involves home visits to pregnant women and postnatal visits once they have had their baby. (The midwifery scope of practice requires autonomous Lead Maternity Care (LMC) throughout pregnancy and for up to six weeks postnatal.) Our women and whānau generally have complex social (and sometimes also medical) issues, such as: family violence, drug and alcohol addictions, mental health problems, transience, homelessness, poverty, gang affiliations, and often they come with a history of previous children having been uplifted by Oranga Tamariki.

Women are seen regularly and we give full education around all facets of becoming a parent (particularly breastfeeding), as well as general health messages such as becoming smokefree, healthy weight-gain in pregnancy, alcohol and substance abuse, safe-sleeping education, and referrals for pepi-pods and wahakura. When engaging with care becomes a problem in pregnancy, we step in to visit women at home and sometimes also provide transport to scans, obstetric clinics, sexual health visits, etc.

We establish good continuity with women, we generally provide upwards of 15 visits throughout their pregnancy, then, when the baby is born, we visit at least seven times, but up to 20 times in the six weeks postnatal (tailored to individual needs and requirements). Self-employed midwives are simply not funded for so many visits and therefore we can step in to provide midwifery care.

Women become part of our case-load for three specific reasons:

1. Women who require secondary care in pregnancy for complex medical reasons (for example diabetes in pregnancy, twin or triplet pregnancy, cardiac problems, etc). Some secondary care women are not engaged with self-employed midwives due to the demand on their time, requiring so many clinic visits.
2. Women who are not engaging in care with their self-employed midwives. We receive a formal hand-over of LMC care, this is for the safety of women and babies, but also for the safety of self-employed midwives (allowing them time to concentrate on the rest of their case-load, who still require 24 hour on-call midwifery care).
3. The Maternal Well being and Child Protection Multi Agency Group (MWCP) receive notifications from different sources about vulnerable pregnant women in the community, who have not sought maternity care. Often these referrals come via the police after attending family violence events.

Commitment to Reducing Inequities:

Our team are working to reduce the inequities faced by a vulnerable population of pregnant women, new mothers, and babies. Our daily work involves co-ordinating care for these women involving multiple support agencies. For example: MWCP, social workers, Family Start, Tamariki Ora, NZ Police, Te Ara Manapou, Te Tai Whenua o Heretaunga, Maternal Mental Health, food banks, Cosy Kids, Plunket, etc. Our referrals are many and varied, we aim to provide wrap-around care, however we are ultimately responsible for co-ordinating and proving the care.

The women we serve are often not willing participants in the free maternity care offered to them as New Zealanders, but we aim to break-down the barriers that are created when women have previously had poor outcomes or experiences within the health-care system. Our team have been instrumental in disrupting the cycle of poverty and violence which is experienced by so many in our childbearing population. We do this by proving non-judgemental care and education. Women are empowered by feeling they have control over their child-birth experience; this can be achieved by working in partnership, which addresses the power imbalance often seen at the interface between health care professionals and patients.

Women's Stories:

A young pregnant Māori woman in Flaxmere, was referred to our team by our MWCP team when the police had been called to her home during an assault on her by her boyfriend. This young woman had been in several relationships with similar incidences each time. Initially the young woman did not want to see a midwife and the team visited every few days leaving notes saying we would love to see her and give care for her and her baby. Eventually the team got access to her home and took her to her clinic appointments and scans and organised different agencies to support her and built up her trust. The young woman left her violent boyfriend and went to live with her grandparents in a safe environment. She continued to welcome us into her home and our continued midwifery and social support after the baby was born and on her last postnatal visit she confided that:

'"You were the first people in my life who never gave up on me. It had made me want to change my life for myself and for my baby."

A Pacific Island family again living in Flaxmere, with six children and a new baby. The husband works in the orchards. The baby was born in the winter and their heating consisted of a heat pump in the lounge. The parents slept in the lounge with the two younger children and the baby on mattresses on the floor. The windows had thin holey curtains and the windows were streaming wet with condensation. The midwife visiting had recently been to Healthy Homes training day and was able to advise regarding adequate ventilation and getting curtains that provided some insulation, as well as information for the landlord to get adequate insulation. A pepi-pod was provided to ensure that the baby was sleeping safely in his own sleeping place. After one visit giving support and advice about healthy homes and sleeping their baby on the next visits following this, the house had been adequately ventilated and no more wet windows, the house was warmer and the mould on the wall cleaned off as instructed with the correct treatment. The family were grateful for the support and advice to ensure they had a healthy home as well as the usual midwifery support ensuring the mother, baby and family were safe well and thriving.

A young Maori woman with two children and pregnant again, was living in Maraenui in a small flat, and had moved here to get away from a violent relationship and from being with friends and who shared her drug and alcohol habits. This woman only knew one person in the area but had moved here to get away from the issues back home. The initial visits were difficult as the young woman had trust issues and did not really see why she needed a midwife so early on in her pregnancy. Life was difficult for her no longer using the drugs and alcohol and looking after two school age children with no support and being pregnant. Support agencies were quickly put in place by the community midwives and two midwives from the five in the team visited to build a trusting relationship. Baby clothes and equipment were found by the team, then she had a burglary, which set her back for a while. Once again the team rallied around to make sure she had what she needed for baby and the older children, and food parcels and meals from Bellyful were organised, as well as the Team buying her some groceries themselves. The young woman was extremely grateful and joined the local church for support. The woman continued to do well and remain drug and alcohol free, and started to build a network of support and friends, and felt the team had helped her to have a fresh start.

Benefits and Results

The stories above demonstrate tangible results from the work the Team Midwives give to our vulnerable pregnant women and their families in the Hawke's Bay.

The team do over 2000 visits to women, their babies, and their families in their homes and encounter many hurdles, but overcome them with their experience, knowledge, tact, professionalism, and friendly non-judgemental approach. The team are proud that they have the expertise and compassion to quickly build up relationships with families and are allowed access into their homes in some cases where no-one has been allowed in before.

As part of our quality improvement, as documented in the Annual Midwifery Clinical Report 2017, we work closely with the Maternal Well Being and Child Protection Group and are now capturing many more vulnerable women earlier on in their pregnancy in order to provide optimal midwifery care.

The DHB has a large vulnerable population, with higher than average numbers of Māori mothers, mothers under 20 years and living in New Zealand deprivation decile 8-10 areas (the most deprived areas). Vulnerable populations tend to engage less with maternity care, so as a team by encouraging these women to engage we are getting benefits and results to support and achieve the optimal outcome of a healthy mother and her baby.

We see over 3,300 women a year in the antenatal clinic and many of these are our vulnerable women with medical issues and small babies due to their lifestyle.

Future Plans

The Team Midwives plan to continue with their exceptional ability to engage with the most socially vulnerable and complex women, babies and whānau. Our approach, commitment, and dedication to making a difference is invaluable to engaging these women early and maintaining an effective meaningful professional relationship in partnership with them and as a team we are passionate about this. We will continue to work as a dedicated team ensuring optimal care for our women, babies and whānau in the Hawke's Bay.

LMC Midwifery in the community: A Midwife's Perspective

By Beatrix Exeter - LMC midwife

Most women expecting their first baby have little comprehension about how life-changing, overwhelming and amazing the journey is they are about to share with their midwife. The work of the LMC midwife in the community is often invisible, yet such a vital part for the well being, education, and overall experience of the woman's pathway to motherhood. I take a case load of 30-40 women a year. The following is a glimpse into the care I provide to a woman during her maternity experience.

My first antenatal (booking) visit with the woman is usually in her home. This gives me a chance to meet other family members and get some insight in the living conditions, support network, and her social well being. Often women are more relaxed in their home and share family stories and I get an impression of their cultural and spiritual connections. It is the time for information sharing. I take a thorough history and give the woman relevant information about early pregnancy, as well as performing a physical check-up. When I leave the home one to two hours later, I am often amazed how much I have learnt about this person who I didn't know before.

Back in my office I set up her maternity file and write referrals to make sure all necessary services are wrapped around the mother-to-be. This could be anything from Smoke-free Service, Maternal Green Prescription for high BMI, a social worker referral or an early referral to Antenatal Clinic, if necessary. I also connect with other services which may already be involved with the pregnant woman, e.g. Mental Health. I also inform the woman's general practitioner that I am now providing maternity care for her.

Besides seeing the woman (and her partner) for monthly antenatal visits in my clinic, I am on-call for any concerns, like bleeding, abdominal pain, morning sickness and vomiting, constipation, and other pregnancy discomforts. I will order investigations (e.g. for a urinary tract infection) and treat if required. I give advice about nutrition, life-style, and listen to the woman's concerns. I request blood tests and - when required- a scan and guide the woman and her partner through her options about genetic screening. Available results will often be discussed over the phone, outside a routine visit and necessary prescriptions (e.g. Iron supplements) faxed to the pharmacy. If a woman has problems in early pregnancy (e.g. bleeding) I would refer her to the emergency department or early pregnancy clinic. As the LMC Midwife I stay involved, keeping in touch with the woman, organize Anti D if required, and am available for any ongoing concerns.

As the pregnancy moves on, I provide advice about various health issues – for example how to relieve pelvic girdle pain and sciatica. I provide information about childbirth and parenting education and support the woman with any housing, employment issues, and parental leave. I use the Edinburgh Pre/Postnatal Depression Score (EPDS) tool to check the woman's emotional well being and help address any issues which become apparent from that. Further referrals might be required as I learn more about the woman and her situation e.g. Maternal Well being Child Protection Group, Family Start or extended Well Child Service. If the woman's situation becomes more complex I try to ensure that I connect and communicate with the woman/her family and the services involved. This may require extra home visits to the woman antenatally if she lacks transport or is unable to come to clinic for her antenatal care.

As the baby grows we talk about the importance of baby's movements and that she should contact me the same day if she has any concerns. I also discuss and organise additional blood tests and follow up as necessary e.g. any abnormal polycose/GTT results with a referral. We are now meeting fortnightly and it is time for education about 'Safe Sleep' (maybe a pepi-pod/wahakura needs to be organized), breastfeeding, Vitamin K for the newborn, immunisations, perineal massage, preparation for the birth, and so on.

Between 34-36 weeks I usually offer another home visit to discuss the birth and postnatal care plan with the woman and her support people. This is often during the evening, when the partner is home from work. I like to be familiar with the place where a family lives so I know where to go in case I am called in the night for a labour assessment. In the last few weeks before the due date I see the woman for weekly antenatal checks.

As a LMC Midwife I often feel like I am providing a 24 hour triage service. I am the first point of contact for any issues related to the pregnancy and sometimes even non-maternity issues - simply because I am always available. I see my job as keeping the "normal" in the community - in other words "out of the hospital". In order to make a responsible decision I need to have a detailed conversation with the woman over the phone to ascertained the degree of urgency, then decide if I can reassure her, if she needs to be assessed by me immediately, and/or a referral to other services is required. All phone conversations and advice given need to be documented.

I would estimate that about a third of women's concerns can be addressed over the phone with basic advice and reassurance (e.g. constipation, ligament pain), a third require a physical assessment in their home or at my clinic (often out of hours) and may require further investigations (e.g. abdominal pain, reduced FMs), and a third need to be referred to either primary services (e.g. GP for other medical issues) or secondary maternity services (e.g. PV bleeding).

Around the time of the birth I often see women in their homes for reassurance about early labour signs and, if the mother is planning a hospital birth, I encourage her to stay in her familiar surrounding as long as she is comfortable. Wherever she decides to give birth I will be with the woman with all my heart, like midwives do all around the world…keeping mother and baby safe with as little intervention as possible, in tune with the rhythm of labour, but still vigilant, while forgetting the busy world around us.

Our Ministry of Health is supporting healthy and well women to have a homebirth, however if there is a clinical reason or the mother wishes to transfer, it is no problem to change to a hospital birth. Because I have an access agreement I am still able to stay with the woman while I get supported by the hospital midwife and medical staff.

By the time the woman holds her baby in her arms she may have shared with me an intensive time of growing and learning about life, tears of despair and tears of joy, and I feel so privileged to be part of this process.

Following the birth I am a welcomed visitor to the home, helping with breastfeeding, providing advice about baby care, and making sure mother and baby recover well from the birth. A debrief about the birth is usually an important part of the early postnatal time and positive feed-back to the mother about her achievement, but also giving her the chance to re-visit possible traumatic situations. I assess how the parents are coping with the new situation, how well supported the mother is, and guide the father to be involved in the care for the baby. Reassurance about normal baby behaviour, concerns about colic, reflux and unsettled babies are common subjects while the mother is often overwhelmed with tiredness. Another EPDS score will help me in my assessment for possible postnatal depression, which might require further referrals to support services, e.g. Postnatal Adjustment Programme, 'Mothers Matter', MMH Service, or a GP.

I will undertake the metabolic screening of the newborn, after explaining it to the parents antenatally. Regular baby checks and postnatal assessment of the mother are usually reassuring, and if there are any concerns I will either observe with more frequent visits or treat problems like mastitis or postnatal infections if they occur. Observation for jaundice in the newborn is a vital part of the early postnatal period and SBR blood samples may need to be taken and sent to the lab. If prolonged jaundice is evident, further investigations are required and possibly a referral to a Paediatrician. At times I need to refer for other reasons like heart murmur, tongue tie, referral for BCG vaccination, or orthopaedic referrals for a family history of hip dislocation.

Contraception options are discussed both during pregnancy and postpartum. I might refer to Sexual Health Services/Directions and/or prescribe contraceptives. Following the birth I will also offer referral the baby to Well Child Services and send a referral to their GP with a birth summary and relevant postnatal details.

At the final visit four to six weeks after the birth I will perform a comprehensive postnatal check of the mother and her baby and document this in her maternity book and in the Well Child Book. By this time the family has made some adjustments to their new life and is ready to farewell me. It is time for me as well to move on to be with other women on their journey to motherhood.

I would like to take this opportunity to say how much I LOVE my work as a midwife. For me it's the most 'un-boring job' in the world. You wake up in the morning and do not know what the day will bring and there are usually extra jobs that need to be fitted into the diary - maybe a rural visit due to mastitis or someone's waters broke. Someone who you know and care about, and who is trusting you with her life (and her baby's) and you will do your best to keep them safe.

There are aspects of my job which I find challenging, like the sometimes crazy working hours (12-24 hours plus) often with interrupted sleep prior to that (due to early labour phone calls), finding the right time to be 'off call' and not having a secretary for re-arranging appointments, helping with supply and maintenance of equipment, and for the endless paper work, phone calls and text messages.

I would like to thank all Hawke's Bay midwives (DHB and LMC) for their beautiful commitment to women's health and for sharing their wealth of knowledge and wisdom with me. As practitioners we all work differently, however not in isolation as we have strong professional networks and processes (e.g. Midwifery Standard Reviews) to keep us safe. Our DHB and the College of Midwives are providing us with great opportunities to maintain our skills and offer ongoing education in addition to the Recertification program set by the Midwifery Council.

I also want to mention how much I appreciate the team-work and good communication with the medical staff, their knowledge and decision-making skills, if their input is required, and the valuable expertise our nurses contribute to the Maternity Service.

Finally a big thank you to my back-up midwife Yoka for her support when I need a break and to my husband and children for being flexible whenever Plan A turns into Plan B ... and off I go … who knows when I will be back home again?

Consumer Engagement

2017 Overview

By Louise Curtis - Consumer Representative

It has been another interesting year as a consumer representative for Maternity services here in the Bay.

In this role we are not only exposed to the thoughts and reflections of mums and families in the communities, but that of midwives, doctors and nurses. What is always clear, is that the desire for all involved, is for the best possible experience of pregnancy, birth, and postpartum care, whilst being mindful of and working within the circumstances that apply for each individual – socially, clinically, mentally, spiritually, and financially.

Governance forums are a privilege to attend - for the inclusion of being transparent in the experiences of whānau, reflective practice, and the desire to understand the feedback of consumers and how that translates.

It was great to be able to bring some DHB representatives to Central Hawke's Bay to meet with some mums and babies to discuss what is important to them. It is important that the DHB engage in conversation with rural families to better understand what they consider to be the points of difference for them in the provision of care and services, given the distance involved in accessing many of the maternity centres. These sorts of conversations add weight to the DHB when advocating for changes in the way we provide more accessible midwifery care, and earlier and easier engagement with a midwife. The goal, for example, to have a drop-in centre for midwifery care, for central Hawke's Bay families, would mean women can feel more at ease about drawing attention to any concerns they might have during their pregnancy, with the knowledge that it will be easier to have their babies heartbeat assessed, easier to have a face-to-face chat with a midwife, less costly to connect (less petrol to be tended to closer to home), easier to juggle their lifestyle when they have children that need dropping off and picking up from school, and less stress to connect with a midwife locally, than travelling to Hastings.

I have appreciated the opportunity to partake in the Maternal Mental Health project and relay the experiences of some of the women/babies/whānau in the community affected by postnatal (or perinatal) depression. These experiences are often so very raw and impact deeply. If not well-supported, postnatal depression can have significant negative effect on many relationships surrounding the mum – especially her relationship with herself. It has been particularly useful to maintain ongoing engagement with a local service supporting some of these whānau, and to hear how much that is appreciated. It is also insightful to welcome women who have shared their experiences directly, in a closed, consumer forum which has a very sacred and respectful kaupapa, with the opportunity for women to comment on potential improvements, commendations, and learnings. The experience of postnatal depression cannot be undone; most will tell you it is helpful and healing to at least be provided an opportunity to be heard, and to be a part of a project that promises to make a difference. Whilst the project is still a work in progress, I look forward to the learnings for our community, our care providers, families, and the opportunities for better access to support for women, their babies, partners, and support crew. I look forward also to better support for women who experience early pregnancy loss – another experience which can have lasting impact, and which therefore has the opportunity to be a respectful, honoured experience not a lonely one. The consumer voice is powerful.

It has been exciting to see the positive impact of Waioha and hear of so many appreciative stories, and, equally, it is appreciated to see that, where able, gestures towards improving the physical environment of Ata Rangi are progressing. Alongside that, it will be exciting to see some changes in beliefs and opportunities as the Your Birth, Your Power initiatives progress also – the desire to empower women to recognize their opportunities and rights in birthing and to be better informed and involved in decisions.

All the best to our future families out there and those repeating the journey as well. May all your dreams come true!

2017 Goals, Overview, and Highlights

By Gabby Allen - Consumer Representative

My reflections and journey into the second and third year of being a consumer representative and experiences and interactions with our whānau. This representative role personally enables me to formally represent "our families" and hear their voices. This drives me to do more for our mums, dads, babies, and families as a whole. This is still a role I hold with much pride; I see it as an achievement for myself and for the consumer in general. The fact that I get to represent "our community" at this level is one of my career highlights to date and making small inroads to represent harder to reach families is still at the forefront of my goals as a consumer rep.

After over one year in the role as a maternity rep I set myself some new goals. Could I reach out to those who are so hard do reach? Is this the eternal question of anyone in such a role? I decided it had to be baby steps. I also gave myself time to reconnect with all those who I connected with in my previous time in this role. I want to best use my time to provide as much consumer representation as I can in the time I have with the many groups I interact with, and those I will try to connect with some more. I know what it is to be a consumer, but could I gain a more varied and wider perspective as I grow in this role and as my role becomes more widely recognised?

The challenge: this is a small role with limited time and resources so I have to think wisely, use all my interactions with mums and families as learning experiences and have my "consumer rep ears" on in all I do. Sometimes the encounters where we expect to learn the least are those that we learn the most. Becoming a consumer rep has opened my mind to things I never knew existed in our community. I want to know and understand as much as I can, so that I can feedback information that is valuable in helping shape maternity services for the future in an ever changing society. I want to hear the everyday "living" experiences, real life, mum-to-mum stories that are just as important in their own way to balance the evidence based "clinical indicators". As a consumer rep I am the one who needs to have this in mind and to collect as much real life maternity based themes and trends from those whom I interact with in my day-to-day life, as well as seeking to connect with those that are harder to reach.

Every story is as important as the next, every mum's view is relevant, but as a consumer rep or anyone in any health related role, the stories we want to hear and the people we want to connect with are often "hard to reach". I guess that is my catch phrase this year and it proved to be very relevant. My "drive" to represent the mums and whānau that often have very little "voice" is a huge goal of mine. Goals, however, are often harder in these cases. Taking the themes and trends I saw in 2016 and addressing them in 2017 and onwards is at the forefront of my journey this year, as well as picking up new roles that may come my way.

Interactions and Highlights

Continuing on with the many relationships I have developed within the community. Groups such as Le Leche League, Plunket groups and other coffee groups, tongue tie support groups, Baby Wearing Hawke's Bay, Sands, and Mummy Matters (mums connecting with mums to support each other through postnatal depression and PTSD), Napier Family Centre, Kidz Need Dadz. Other mothers' groups that I call on from time to time and also the online information I collect via my social media network when I need to gather large amounts of information. I continue my interaction with groups in Wairoa supporting families and gathering stories not only via my consumer role, but also by the role I have in social media and the charity drives I do.

This has provided opportunity to chat to local Wairoa and Flaxmere mums via the internet mainly and local community centres to collect birth stories from our more remote, rural and poorer parts of the region. Individuals and groups have shared their stories that I can use in my feedback. I also have had interaction in this role with Foster Care HB and grandparents raising grandchildren. These many avenues and networks have supported a good variety of themes and trends across many areas and maintain some good strong and valuable relationships, both on a small and large scale and each are equally important.

I worked with Jules Arthur on a project to gather information about care in Ata Rangi, how quality initiatives are going, a similar project around breast feeding and a "survey monkey" that was shared on social media and loads of information was obtained, all of which supports the improvement, development and decisions made in shaping maternity services.

A large amount of my work and my allocated hours were spent working with a team at the DHB on a maternal mental health (MMH) pathway. MMH is such a huge and topical theme and as a consumer it breaks my heart and pushes me more to represent these mums. MMH is an area where work needs to be done. Mums are falling through the cracks and I personally did a lot of background networking and meeting mums to bring themes to these meetings. I was part of the main MMH work stream, as well as a consumer based MMH work stream. This led on into a work stream for developing a consumer directory. I am eager to see how this pans out and hopefully see over time more support for our vulnerable mums. This area of work took a majority of my hours and focus for 2017 and I found this hugely valuable and hope that I may continue to work alongside this group as this work stream continues to come to fruition in mid 2018.

I carry on supporting mums who lose babies and trying via various networks to connect them with services they may need - funeral directors, support groups, mum to mum support systems, etc. I feel this is so important as it can lead to better coping strategies and hopefully, in turn, less need for MMH services. After all a community that "wraps around our mums in times of need" helps build stronger mamas and families. Through my role I see that there is need for a balance of professional services and the basic support that one can get via connecting with others in similar positions. This to me is "complete wrap around" and the theme that "it takes a village" is true in this sense too.

I joined the HB IMHAANZ Group (Infant Mental Health Association of Aotearoa NZ) and met this group on a fairly regular basis. Enabling me to grow my understanding of this area and how it completely ties in with maternal mental health. I feel it was good to represent not only the HBDHB, but also the Hawke's Bay consumers on this group. My understanding of child mental health and wellbeing has greatly grown and understanding the work done with our most tiny infants is fascinating and really broadened the scope of my knowledge in this field.

I highly value my bi-monthly Maternal Clinical Governance Group (MCGG) meetings, where I can give consumer feedback and touch base with hospital staff members and network as part of this role. For me is very important as I spend most of my time in the community and I like the formal aspect that comes with the MCGG and the readings provided. It gives me the "clinical based information" of interest to balance the consumer information I mainly gather. I feel supported and grateful to be part of this group. For me it is a group I highly value being part of and this "touching base and keeping a finger on the pulse" meeting keeps me on task to the importance of my role.

The Central Hawke's Bay forum held in September 2017 in Central Hawke's Bay was also a highlight and the ongoing work around developing a hub for this community is of much interest to me. This forum and consequent conversations with "rural" mums gave insight into the constraints and areas of hardship these woman face.

In 2016 I had a lot to do with the Teen Parent Unit at William Colenso College and I have developed a "line of help" via my networks that sees many of these mums benefit from many donations of clothing, car seats, baby goods, bedding, etc. This is ongoing into 2017/18.

Collecting birth stories for the Annual Clinical Report has been the focus of the first months of the year for me. This is not only "part of my role", but it is a valuable task to pick up on themes and trends and in some cases hear stories where I feel a mum or family may need some extra support and do my best to send them in the right direction for this. One particular story led to a major part of our work stream in our Consumer MMH group. I have read and heard such a variety of stories that not only show the depth and breadth of care and support that our maternity services offer, but the "true, real and raw, beautiful reality of childbirth". This work stream is time consuming, but also very inspiring, and is a way that I connect with a huge variety of mums and hear their individual stories - each important in its own way. This part of my role is very special in that it may only be me and one or two others that a woman trusts to share her story before it is anonymised. The fact that so many feel comfortable doing this with me makes me reflect on the role I have and the trust and bond I have formed with our whānau. It is hugely special.

In 2017 I also noticed an increase in dads reaching out to me and wanting to tell their stories. This is heartening and also a sign that the consumer representative role is more noticed and appreciated.

One of the biggest achievements for me was the connections I made with some very young Pacific Island mums. I used some networks to make very careful and respectful "baby steps" to understand the culture around teen pregnancy, the hardship and often "shunning' that these young mums face. I learnt that it is not only the difficulty of being a teen mum, but there are a raft of issues such as poverty, shame, extreme deprivation, etc., that lead to a lack of early engagement with midwives, etc. I also found it hard to "keep track" of this often transient group and understand this also may lead to falling between the cracks of the maternity system. I also witnessed, however, that if the community midwives get the chance to connect with these women, there are amazing wrap around services available to them and it is my wish to try to carry this line of connection with these mums. I was able to follow one mum's journey and with some charity work able to help her family get set up for the new baby and her brother's new baby also. This interaction was at a really "close and special" level and although I did not have loads of interaction with a huge number of mums, I did learn so much from these bonds I made, and feel very much more in touch with how it is to be a young Pacifica mum and how she views maternity services. I would love to work further in to ensure these wonderful mamas realise that once they are in the system and have an LMC, they really will be looked after and that their age does not matter here. They are equal and as important as the next lady. In 2017 after learning about how much poverty and deprivation there is in Hawke's Bay (and after a few meeting with Jules Arthur to pick her brains) I realised how many babies are born into vulnerable situations. This led to me starting the "Our Babies" initiative. This was outside of my "consumer rep" role, but very much inspired by it and how much I had learnt. The short story is that now I fundraise, make, and collect new baby items and every baby born in Hawke's Bay who needs a little extra support can be given an "Our Babies" pack containing a merino wrap, full cotton outfit, and numerous pure wool knitted items. It was a huge undertaking and something I saw as very important. The midwives appreciate the ability to support and provide these gifts to mums as beautiful "nurturing" packs. If I leave anything as a legacy from the Consumer representative role that I have at present, this would be it. Grass roots, simple, warm, beautiful packs that say "we as a community care". Being a Consumer rep for maternity no doubt was the inspiration for the creation of this support pack for mums in need.

I personally use all opportunities I can to grow my role. It has been an honor to hear "your stories" and bring the consumer "voice" forward to enable us to shape and change Maternity Services for the better, not only for today's mums, but for those to birth here in the future. I hope all women in our community feel they have equal opportunities to birth here with support and options and go on to raise their families in this wonderful region of ours.

Going forward. What have I learnt and where do I see myself in 2018?

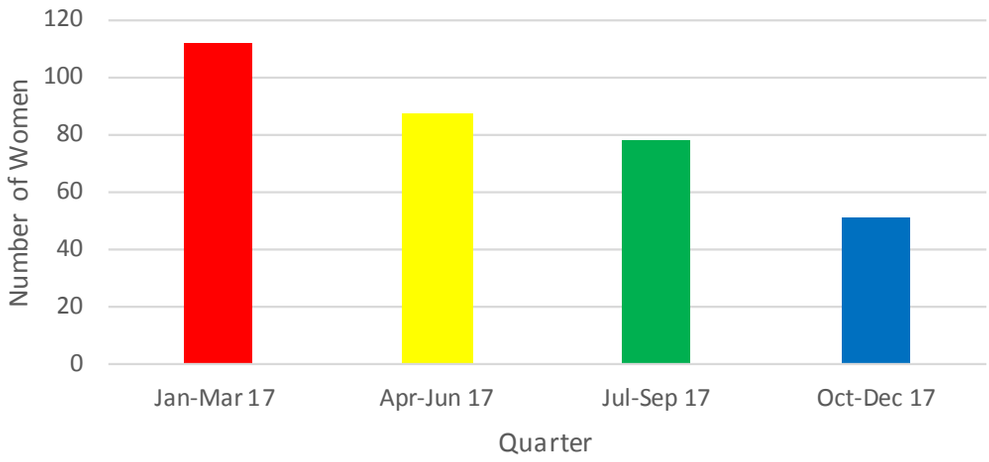
It is clear to me that the hard to reach mums are in fact "hard to reach", but I am determined to make this my focus. I feel connections with Wairoa and Central Hawke's Bay will be beneficial. My other area of interest is working with Māori, Pacific Island and Indian mums (as this is an increasing population making Hawke's Bay home). From my work with the teen mums and smaller groups I feel "baby steps" are needed to make this consumer interaction meaningful and genuine. I aim to do this in a sincere and gentle manner with very small groups or individuals, that will hopefully increase as trust and friendship grows. I really aim to try my best to make this work in 2018 and beyond.

Becoming a consumer representative for HBDHB Maternity Services was a really huge achievement for me personally. It would enable me to personally be able to formally represent mums, dads, babies, and whānau so that their "voices" are heard and I am passionate about being able to represent this community, not only as a mother myself, but to use the community role I have with Hawke's Bay families via social media. I hope to be able to continue to reach out to a variety of families via different networks and represent them in this role.

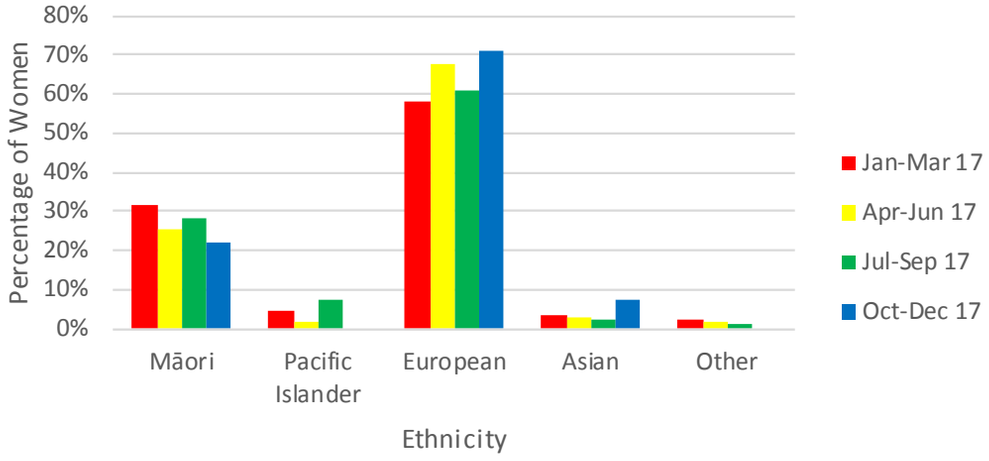
I feel after nearly three years in the role the consumer rep part of my life has been ingrained into my day to day life, and I use every opportunity I have to connect, reach out and find ways to engage consumers so that I can tell their story. So that I can represent them at a DHB level and most importantly to me every story matters. Every woman, child and family matter; every story and birth journey matters. Thanks for the opportunity to represent you, Hawke's Bay families. I will continue the hard yards to bring your voice, your ideas, problems, themes and trends to the HBDHB and do this with heart and diligence and care. Every baby, ever mother, every father, every family is worthy of representation and after doing this role for some time now it is "ingrained" in me to bring your voices to where they matter most, so that we have a very broad depth of knowledge that is consumer based.

Thank you for letting me be a part of this Hawke's Bay. It is an honour and a privilege.
xx Gabby Allen

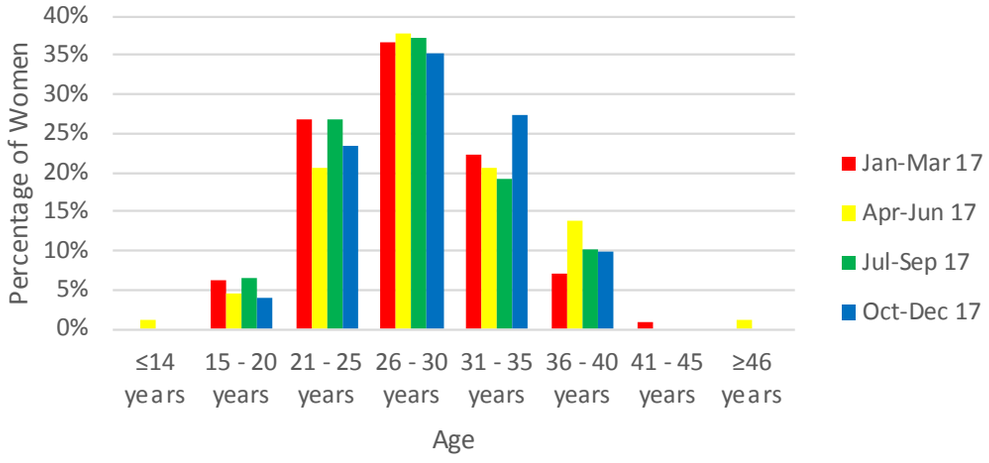
Number of Responses to Waioha Consumer Survey - 2017



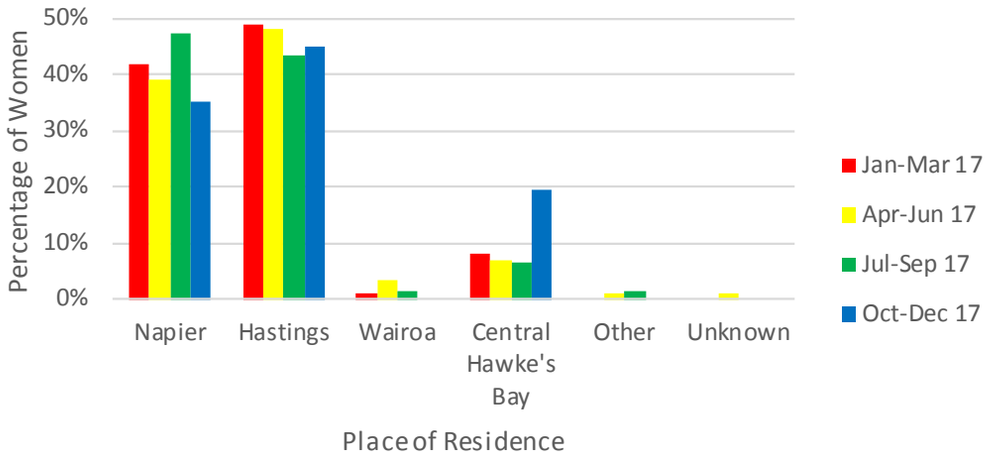
Ethnicity of Waioha Consumer Survey Respondents - 2017



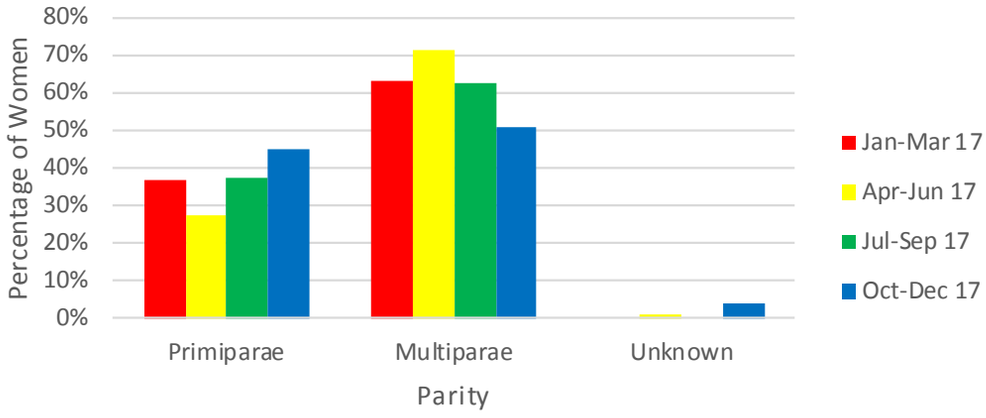
Age of Waioha Consumer Survey Respondents - 2017



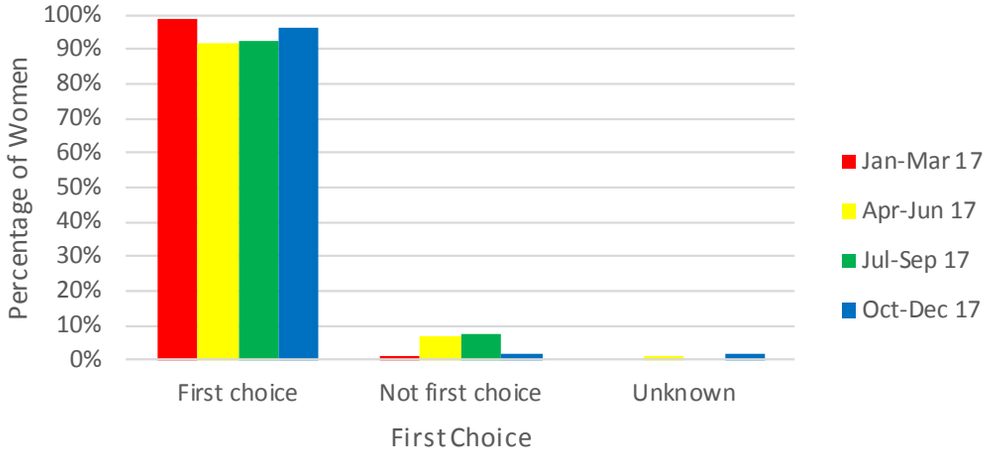
Place of Residence of Waioha Consumer Survey Respondents - 2017



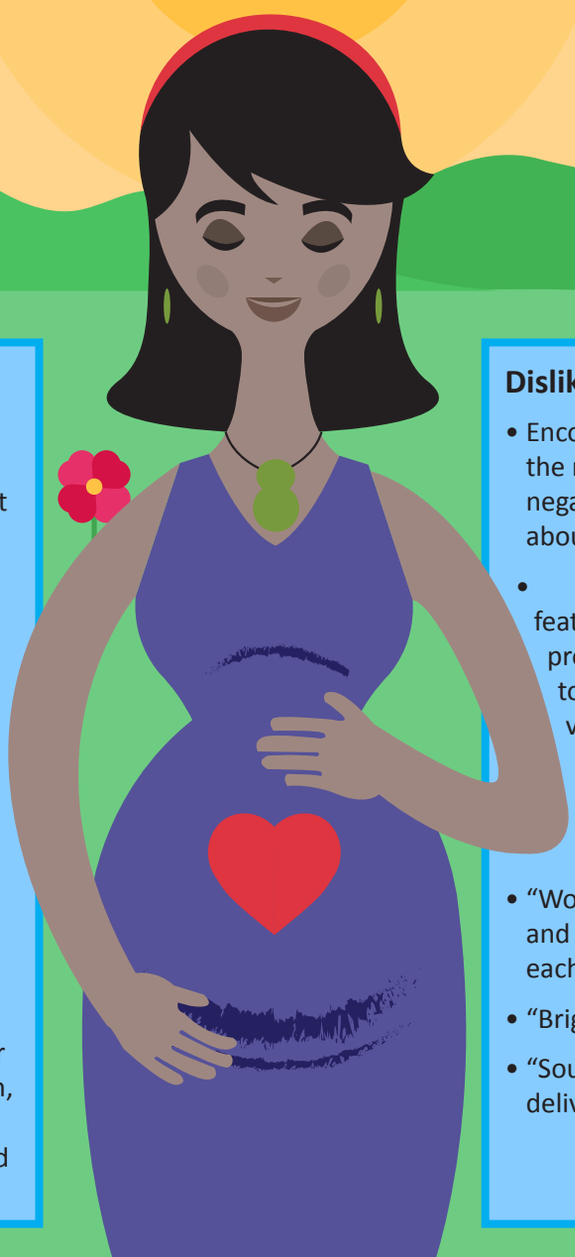
Waioha Consumer Survey Respondents Parity - 2017



Waioha First Choice for Birthing Facility for Waioha Consumer Survey Respondents - 2017



SERVICE RATING
WAIOHA



Positives about Waioha

- Our kind and supportive staff were consistently reported as the best aspect of Waioha.
- The fantastic, comfortable, relaxed environment was frequently highlighted.

Consumer feedback

- "The midwives are all amazing – they are kind, supportive, and genuinely invested in caring for mum and baby."
- "Birthing pool in the room; being able to labour, then stay in the same room afterwards; somewhere for my husband to sleep; clean, airy, and modern room; and amazing, sensitive, and caring midwives!"

Dislikes about Waioha

- Encouragingly, 62% of the respondents had no negative comments to make about Waioha.
- The most disliked feature was the meals provided, with regards to their taste, nutritious value, and timing.

Consumer feedback

- "Worrying about paying for and organising car parking each day."
- "Bright lights in rooms."
- "Sound effects of other deliveries."

How could we improve our service?

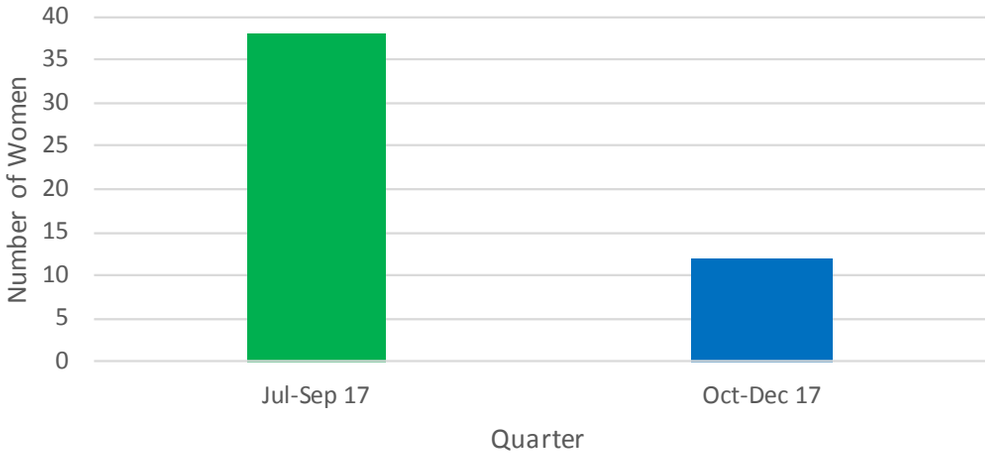
- It is reassuring that 70% of our consumers had no improvements to the service to suggest.
- Improving the quality, quantity, and frequency of the food was a common recommendation.
- More frequent cleaning of the rooms was also requested.

Consumer feedback

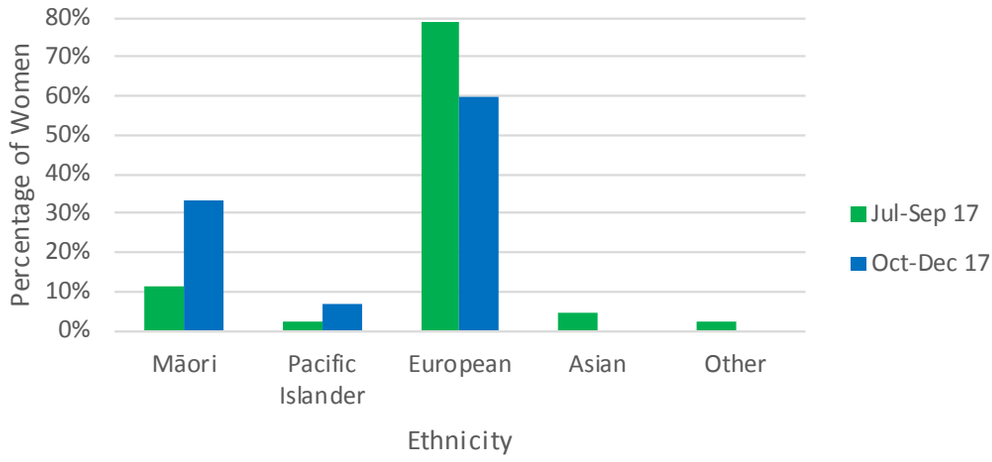
- "Provide purchasable meals for dads."
- "Have ladies who don't have 'normal births' allowed here."
- "There was nothing more I could have asked for. Thank you for such a positive experience and a great start to life with our new baby. I have raved about this amazing facility to many people!"

Ata Rangi Consumer Survey Response 2017
Demographics

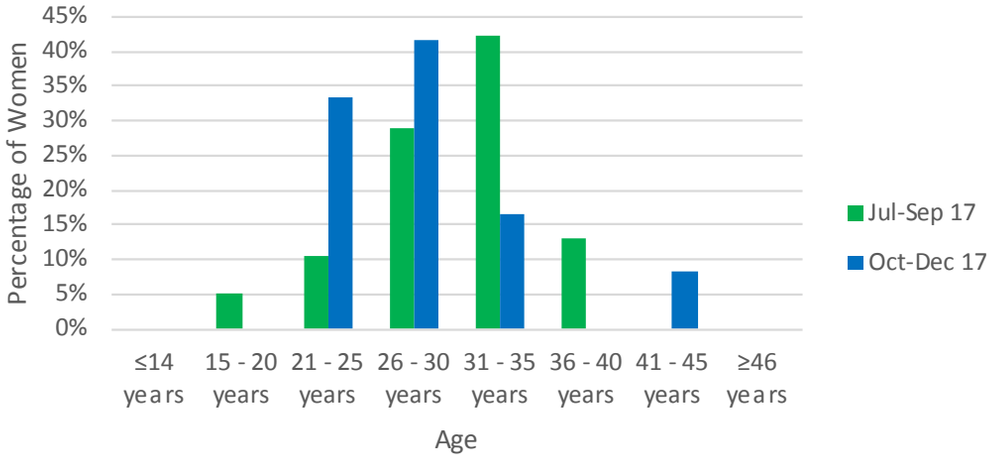
Number of Responses to Ata Rangi Consumer Survey - 2017



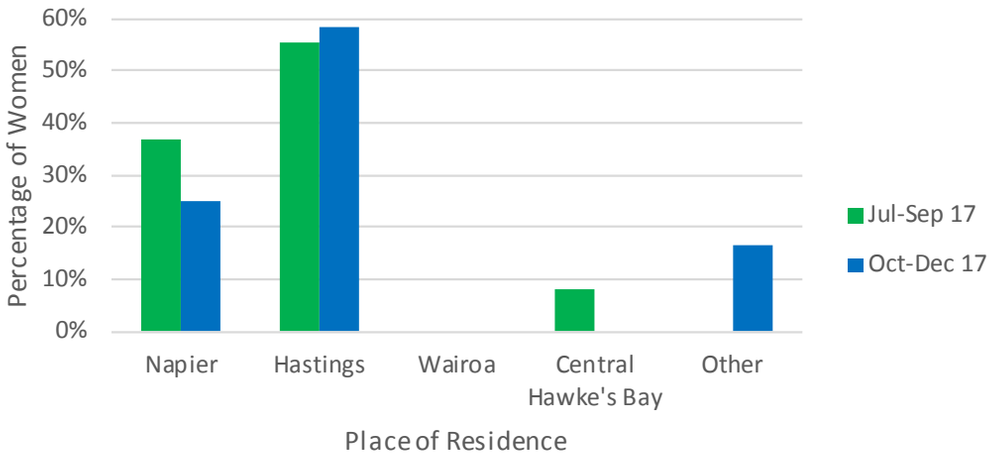
Ethnicity of Ata Rangi Consumer Survey Respondents - 2017



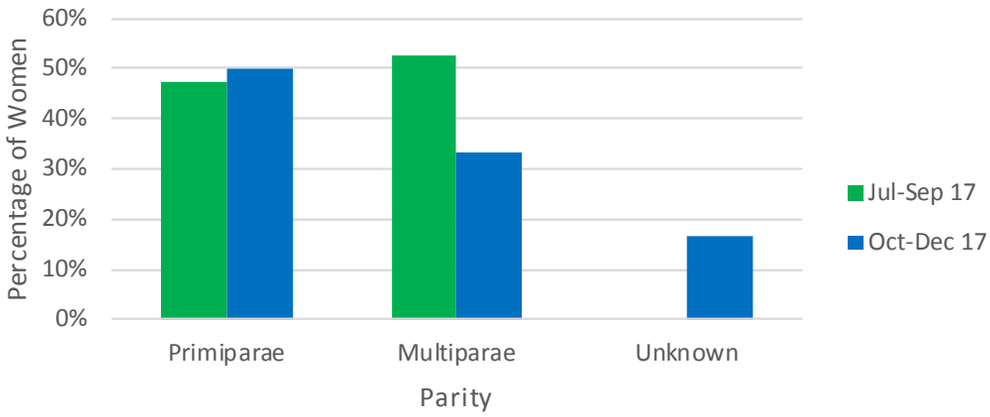
Age of Ata Rangi Consumer Survey Respondents - 2017



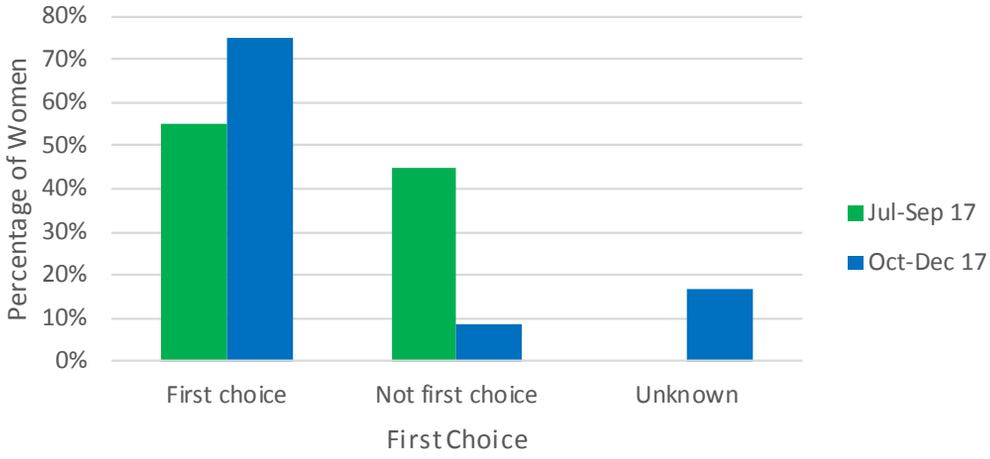
Place of Residence of Ata Rangi Consumer Survey Respondents - 2017



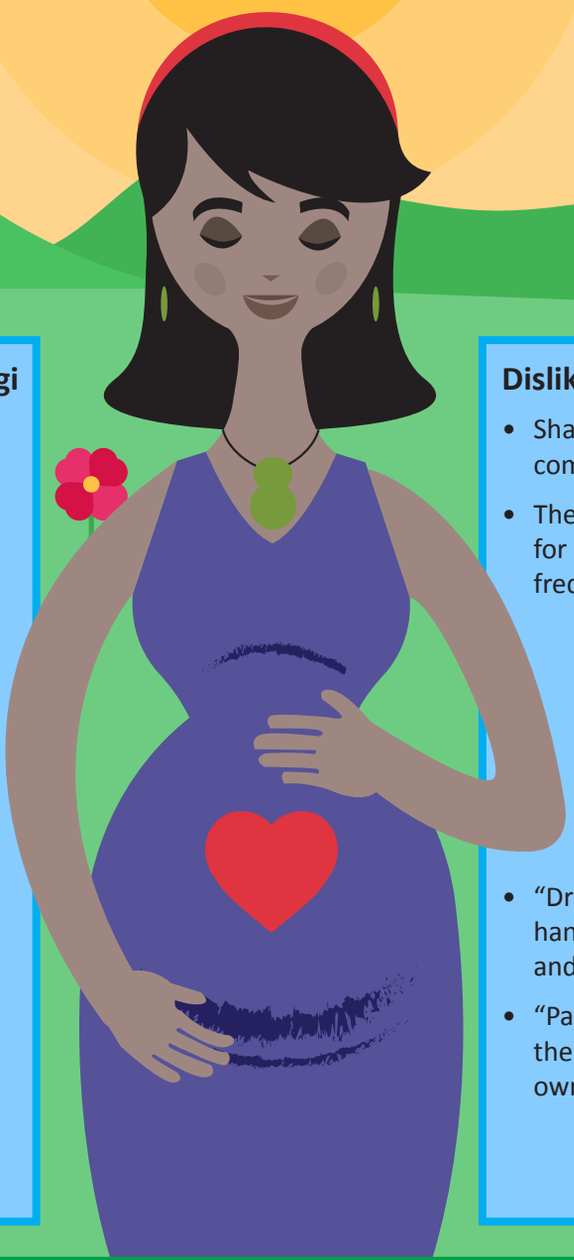
Ata Rangi Consumer Survey Respondents Parity - 2017



Ata Rangi First Choice for Birthing Facility for Ata Rangi Consumer Survey Respondents - 2017



SERVICE RATING
ATA RANGI



Positives about Ata Rangi

Overwhelmingly, the lovely staff were considered the favourite feature of Ata Rangi.

- The relaxed and calm atmosphere was mentioned by several consumers.

Consumer feedback

- "The midwives and doctors and how everyone made me and my family feel welcome and how helpful everyone's been."
- "Calm, supportive, and relaxed environment and midwife."

Dislikes about Ata Rangi

- Sharing a bathroom was a common dislike.
- The lack of accommodation for partners was mentioned frequently.

Dislikes about Ata Rangi

- "Drab, dated décor, curtains hanging down off hooks, and small room size."
- "Partners had to sleep on the floor and bring their own bedding."

How could we improve our service?

- Hearteningly, 66% of our respondents saw no need for any improvements to be made.
- A frequent suggestion was to provide more home comforts in the rooms, including a TV.
- Several consumers felt that more staff were required.

Consumer feedback

- "Give Ata Rangi the makeover it deserves, seeing as new mums tend to be in there far longer than mothers who birth in Waioha."
- "Keep hiring awesome, hard-working, and caring midwives."
- "I enjoyed my stay very much at Ata Rangi. Everyone who cared for my baby and me were all lovely. I am very grateful to have stayed here. Thank you Ata Rangi."

A Hawke's Bay Consumer Story

My story is I was 6 weeks pregnant with my son when I started bleeding lightly. My midwife told me to sit tight unless it gets worse; I started bleeding heavily so I went to the hospital, she checked my cervix, it was open so she said it was most likely I was having a miscarriage. I went home after that, then not long after I was bleeding heaps of big blood clots, I rushed back to the hospital. I was hysterically crying because it was so much blood and I didn't wanna die losing so much!

They examined me after most of the bleeding had stopped and said the cervix was closed they said it could have been a miscarriage, just bleeding or a threatened miscarriage but was probably a miscarriage but they booked me in for a scan the following Tuesday. I was sad that I thought I had lost my baby so I wasn't even gonna go to that appointment. When I went to it they said there's something still there and checked if there was a heartbeat and surprisingly my baby was still there alive! I was shocked, I had some bloods done as well. The scan showed a hematoma, the specialist said that I may not carry past 12 weeks so in other words not to get my hopes up.

It was past 12 weeks and the hematoma was still there only a little though so I had faith he was going to make it. From then on every discharge I had from my pregnancy I was so scared it was blood! About 20 weeks it was cleared and that's when we found out the gender and yay a boy what we were hoping for.

I went into Labour at 3am Tuesday the 9th of May 2017, he was born at 8.35pm. His labour was harder than my first one, I had no complications what so ever with my first and we had a scare with my boy but we are so blessed he is here with us. I say he is our miracle baby.

This is my story.

Early Engagement with an LMC

Top 5 for my Baby to Thrive Campaign

This quality initiative and campaign has progressed during 2017 with the actions identified in our 2016 report being completed.

This initiative is in response to the Clinical Indicator and until recently System Level Measure with a target that 80% of all women will be booked with a midwife in the first 10 weeks of pregnancy.

Ongoing collaboration and partnership with Te Haa Matea smoke free liaison team and midwife, population health, primary care and LMCs has meant this campaign was fully launched in 2017 with a second visit to all primary health care centres and practices by the smoke free liaison midwife.

Opportunities this programme offers

- Improved continuity of care for pregnant women in early pregnancy with a more seamless handover between GP and LMC
- Improved communication pathways between primary care professionals
- Improved understanding of the expectation of the first consultation in pregnancy and the expectations from the Ministry of Health
- Improved networks within the community setting closing the existing gaps for women seeking midwifery care in a more supportive and joined up framework

Main objectives

- Improve care in pregnancy facilitating engagement for women with LMC's by 12 weeks
- Improve engagement of the pregnant woman with her general practice
- Strengthen communication between GP's and LMC's
- Meeting education needs of women in early pregnancy

Actions completed early 2017

- Woman focused resources for Top 5 for my baby to thrive public campaign were completed following extensive consultation with the community
- Communication plan was actioned with
- Maternity webpages updated to reflect the Top 5 with the banner posts regularly displaying the poster on the community focused website Our Health Hawke's Bay
- A large billboard evident in Clive focusing on the Top tip of Finding a midwife and how to do so displayed for 3 months – this is a very busy road with high traffic and visibility for our community
- Two back of bus messages reflecting the top tip of finding a midwife; particularly placed on bus routes covering high needs areas with high Maori and Pacific Island communities
- Posters displayed across the community in public areas e.g. Library's, childhood centres, community notice boards, Napier Maternity resource centre, all primary health centres and LMC midwifery clinics
- Large signage with all messages permanently displayed outside our Maternity main entrance and also a standalone sign on the roadside outside Te Kākano (Antenatal Clinic)

Outcomes so far

- Clinical indicator data for 2017 shows a steady increase over the last 3 years to overall 63% of women registering with an LMC by 12 weeks. This is still well below the target of 80% and below the 2016 national average of 71.9% (see Clinical Indicator chapter)
- The equity/ethnicity breakdown reveals a more concerning picture with significantly lower engagement with our Māori (51.5%) and Pacific Island (47.3%) women
- Engagement with our primary care colleagues has been beneficial however requires further strengthening as key messages get lost over time. In some areas the connection between primary care and their local LMCs has significantly improved; in other areas not so much
- Engagement with the hard to reach women requires further focus and action as there has been little shift in the engagement by Māori and Pacifica women
- Responsiveness from the LMCs is positive with renewed support to ensure the Find Your Midwife website and Hawke's Bay pages are kept up to date to support women to know who is available and how to get in touch

Actions for 2018

- Continue to work in partnership with Smoke free liaison midwife to support both early engagement and being smoke free; utilizing this position to further engage and support primary care
- Share quarterly statistics and data with key clinicians (LMCs/GPs/Practice nurses) to identify further opportunities
- Connect with Health Gains Advisor – Māori Health to brainstorm and develop a more targeted approach for our most disadvantaged women
- Connect with Population Health to discover other opportunities to share this message with the community meaningfully and change current culture

A Hawke's Bay Consumer Story

Avaleigh's story by Jessie Thompson

I have wanted another child for the last 4 years. I had come off the depo injection in late 2016, I was not on anything as I was letting my body recover from the damages of the depo so I would do a pregnancy test every few months just to check and make sure.

On the 16th of March 2017 I did my usual check not expecting anything. After 1 minute I saw a faint 2nd line come up, I ran next door to ask a mate if I was seeing things, 5 tests that day all faint positive. I then had to tell my partner which I had only been with about 6 months. I was so nervous as I knew he wasn't ready but when I told him he seemed calm and a little happy as he knew there was only one option and that was I was keeping the baby whether he was to stay or not (he stayed).

I had a dating scan within a week and was told I was roughly 4 weeks it was too early to really tell if there was anything. I had originally thought I would only be 2 weeks as that matches dates with when my partner and I got freaky in bed so thought the dating was off.

A few days later I was experiencing severe cramping and feeling sick and dizzy, went to ED and was told it can be normal but I was referred to the early pregnancy clinic (EPC). 2 weeks later I had my 1st appointment with EPC but had a scan at the hospital first and was then told I look 4 weeks in and no SAC visible. I was sent to have blood tests to see if my hormone levels were where they should be at 4 weeks. Being nervous waiting for results a friend and I went to Kmart for some distraction. As we pulled into the carpark my phone started to ring, it came up private number and I knew it was time to find out the fate of my baby. Sitting in the car on the phone tears start to fall down my face as I was getting the news that I'd had a missed miscarriage, the specialist gave her sympathies as I was trying to contain myself to ask what happens next. I was then told that if I don't miscarry properly by 7 days they would give me something to help move the process along. I then asked if it was possible for me to get an extra scan so I can at least get a picture. It was agreed if I hadn't miscarried naturally. We went straight to my partner's work were I just walked in looking like a ghost and he knew exactly what had happened he just held me tight until I could talk.

The next week was horrible knowing my body wasn't good enough for a baby that I wanted so bad, my depression got so bad, my mum suggested to name this baby as it would help with the grieving process; my partner decided to name it Bailey. I hated life but I had a small hope they were wrong about the dates and it was just all going to be ok, which I think everyone in that situation would but you also trust the specialist as mistakes like that don't happen very often.

It was a week since my last scan and I was ready for my confirmation scan. I went in knowing I'm only coming out with a picture, but laying on that bed looking at the screen I thought I could see something with a little flickering. I looked at the guy doing the scan and said did I just see what I think I saw a little heart beating?? He said yes a very healthy 5 week old heartbeat. Tears filled my eyes with joy, I looked at my partner with the biggest smile I was so happy, they had been wrong I had my dates right and my baby was perfect all this time.

Fast forward to 30weeks I had been in and out of hospital due to pains a little bleeding, but was told everything was fine. I started to feel less movements and often it was noted, as I had regular scans, her growth wasn't the best so specialists kept a very close eye on everything.

At 36 weeks I had a scan, her growth was ok but the amount she was moving was concerning as it was alot less than normal. It was then noted that I may have to be induced early if her growth wasn't gaining or her movements were little. At 36+6 I was back at the maternity ward due to baby not moving for nearly 12hours and as it goes when the monitor was on she started moving.

That day it was decided that it was best for both the baby and I to be induced sooner rather than later, so before I left the ward they gave me a date 10/11/2017. Wow I had a date when I was going to meet my darling.

Inducing was not nice at all. I went in 7:30am on the 10/11/2017 had the gel was told to walk around just don't go too far, 6 hours passed and nothing had happened so I had the 2nd lot of gel again walking around trying to progress things. I wanted to meet my baby, again nothing happened and by that stage it was 8:30pm and I was told we would resume in the morning.

Labour

7am on the 11/11/2017 I was woken by the doctors for my waters to be broken and wow I must say it was not the nicest thing to happen as soon as you wake up. My partner who had stayed on a chair that night got all our bags etc into the birthing room as I got myself prepared for what was about to come. Well, I was not prepared for what was coming. I got hooked up to the juice and within minutes I was having stage 2 contractions no warning they were coming either just boom so intense. I then asked for the epidural as I was only 5cms and there was no way I was going to cope with how the contractions were coming along, I remember as I was being read out the side effects of the epidural I just did not care I wanted the pain relief, so after that was in everything was sweet talking away to mum and my partner who thought it was funny that he could tickle my feet without any reaction what so ever. 5mins went by and my midwife came in, I asked when do you want to check down there as I think I feel pressure, she looked at me and said oh about 10mins, she came back 5mins later and I had said again are you sure you don't want to check, I'm feeling a lot more pressure down there I think she's trying to come out. My midwife did a measurement, she had a very surprised look and said oh wow she's right there, try not to push as I get everything ready.

2 mins later it was time to push. 1 push and her head was out, the midwife said to mum and my partner to get ready next push and she will be here. One big push and my darling miracle baby was out. Her dad cut the cord but she was very blue, we soon worked out she was not breathing very well if at all. She was rushed to the other side of the room to be given oxygen and help to start breathing. Her breathing calmed and became normal after 2 mins, it was the longest 2 minutes of my life. As I was holding her I ask my partner what her name would be cause I can't see what she looks like.

We had 2 chosen for her. He liked Miela, I liked Avaleigh. He replied Avaleigh which means strong and desired, I said it's perfect. She was 5lb 14oz born at .7+5. The first 24 hours were bad, she lost 9.8% of her body weight and I had no clothes to fit her as she was in 000000 or 00000 prem clothes. I was lucky she wasn't put into scbu, she was also not too keen on the boobie so the midwives showed me how to cup feed her. By the time my milk came through she had absolutely no interest in BF. I had made the decision to put her on the bottle with my breast milk. She still was not gaining much weight, we stayed in the hospital for 5 days. I had a lot of help with the "you made my day" page as I was in desperate need for woolly prem clothes; without the help of others I would not have been able to go home when I did.
We had a long pregnancy, a quick birth and a beautiful baby that's now 2 and half months old, a little strong trying to roll over and sit by herself. I'm now glad they had it wrong at the start I could not be more in love with my little family.

I would love to thank the maternity ward for their help though our first week, all clothes I received for Avaleigh were donated to scbu and maternity ward when she out grew them. She's also only now just fitting NB clothes.

Jessie Thompson

Maternal Mental Health

By Susan Barnes - Improvement Advisor

In response to an ever growing need to provide timely and appropriate maternal mental health support for our women during pregnancy and up to twelve months following the birth of their baby, a dedicated Improvement Group has been established.

Not only is the volume of referrals increasing, but so is the complexity of referrals. In addition to mental health needs, social, and physical health problems, many women are also experiencing poverty, family violence, and in some cases addiction.

The Improvement Group has the privilege of working closely with a network of consumers, who have bravely shared their own stories to help inform the way we provide this care. Our consumers told us they want to be asked about mental health well being; they want to feel empowered to access support from both professionals and other primary care providers depending on their needs and preferences; they want services in a timely way and most importantly they want us as professionals to remain aware of the potentially debilitating effect mental health has on individuals and their families.

Throughout 2017, the Improvement Group has prioritised the development of a care pathway that has the woman at the centre of care provision, a standardised referral form to support faster and appropriate intervention, a hot desk staffed by maternal mental health experts to act as a point of reference for professionals, and a directory of primary health support services. We look forward to the full implementation of these initiatives over the next few months.

The following are quotes from some of our consumers regarding their maternal mental health and the need for better support for them and others like them.

- "I come from an educated family with a huge amount of wrap around support. This scared me, the fact that I am who I am, but yet I still could not access the support that I needed. The support that helped in my recovery was nothing at all to do with mental health services. I believe I was failed by the system and the interaction that I did have with mental health services. Each time I did engage with the service, I was knocked back mentally. I tried and tried to get help, but it was not validated to me and I truly hope this pathway that you are working on helps the women who slip through the gaps. This is a theme in the circles of friends I associate with and a struggle thinking what it would be like for those who cannot access support or have family or resources."
- "I am a teen mum. I had no idea what was out there for me and my midwife didn't explain the help I could get until I nearly flipped out and got help. When I got help I was not at all coping mentally, but do a I need to flip out to get help when I thought I was telling her my need earlier or do I need to shout it out so I am heard? I've got help now, my baby is 2, and I am grateful; but it could have been worse, way worse"
- "I was referred to the system of MMH, I think it's called, or CMHS? I was very low and it took two weeks to see someone, before I got to offload my worries. But a further two weeks later I got a call to say I didn't fit the criteria and my GP would follow it up with PHO stuff or help. He never did, so I continued to find my own path, which still isn't easy. I am still not me."
- "My midwife referred me because a test I did meant I was not coping and I got turned away to go to my GP. I couldn't really afford it and I hadn't had much GP contact, so I found this a barrier. Something needs to be done so less of us feel this way. If there was help from the start maybe nobody would get bad like I did - it affected my relationship and that ended. My kids got taken away as I could not cope, but I loved them and did care for them well. I just needed care too!"
- "I am a sufferer of many, many miscarriages and never carried a baby to term to love and hold, yet there is no support out there for me? I still consider myself a mum to the babies I keep losing and this is a gap."

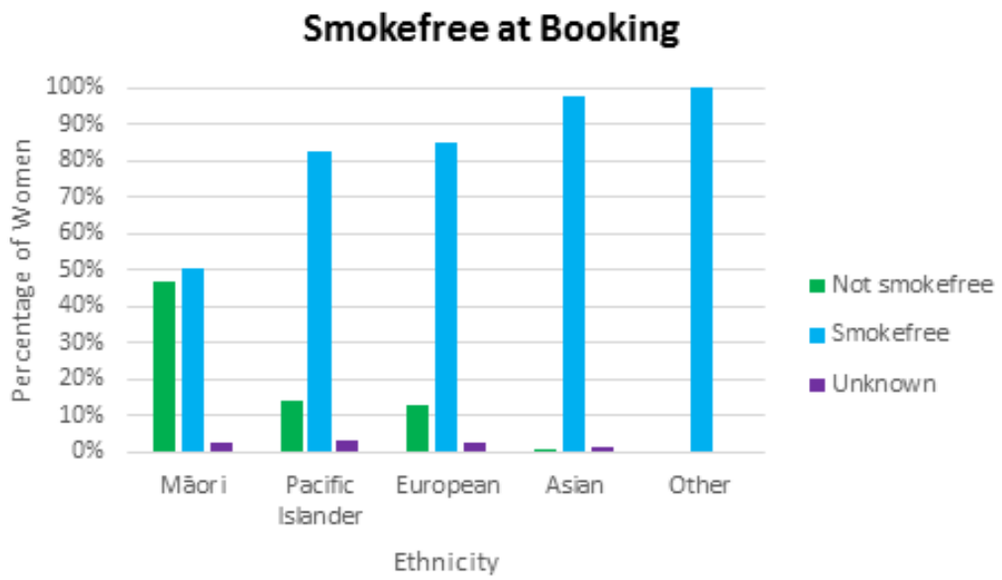
Smoking Cessation Service and Smokefree Intervention Programme

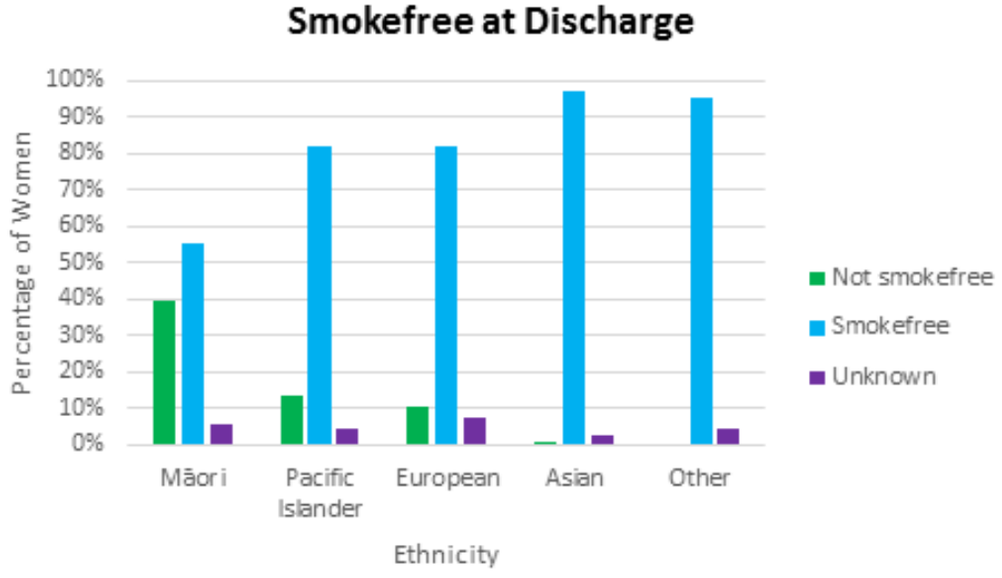
By Kirsty McMinn-Collard - Maternal and Child Health Smokefree Coordinator

Data collected during 2017 shows 24% of women booking for maternity care are not smokefree. Maternal smoking is the largest modifiable risk factor affecting fetal and infant health in the developed world and the number of women not smokefree in the Hawke's Bay is a major health concern. Forty-seven percent of Māori were not smokefree at booking, compared to 14% of Pacific Islanders, 13% Europeans, 1% of Asians, and 0% of other ethnicities. Pregnancy is a strong motivator to quit and first time mothers are the most receptive to cessation advice. Early antenatal advice about the benefits of quitting for baby and her health is crucial alongside obtaining her consent to be referred for cessation support. Some women quit on their own, others appreciate support to quit, and for some the smoking addiction is so strong they will not even attempt to quit despite knowing the risks for baby and their own health. Unfortunately 2% of the women were not asked their smokefree status and therefore not offered support to quit.

Smokefree status at booking	N	%
Not smokefree	501	24%
Smokefree	1548	74%
Unknown	51	2%

Smokefree status at discharge	N	%
Not smokefree	424	20%
Smokefree	1548	74%
Unknown	126	6%





The Ministry of Health wanted to gain insight into "Exploring why young Māori women smoke" see www.health.govt.nz/ insights into Māori women smoking (2017). From the study, young Māori women who are regular smokers are more likely to live with other adults who smoke, be unemployed, and have no secondary qualification. Young Māori women who do not smoke, tend to have higher secondary school qualification, have internet access at home, and live in areas of social and material advantage. Of 35,010 Māori women aged between 18-24 (2013 census) 38% were regular smokers, 13% ex-smokers, and 48% never smoked. Combining smoking status at booking, alongside ethnicity and age enhances the disparity between Māori and non-Māori.

Smokefree Cessation Service & Smokefree Intervention Programme

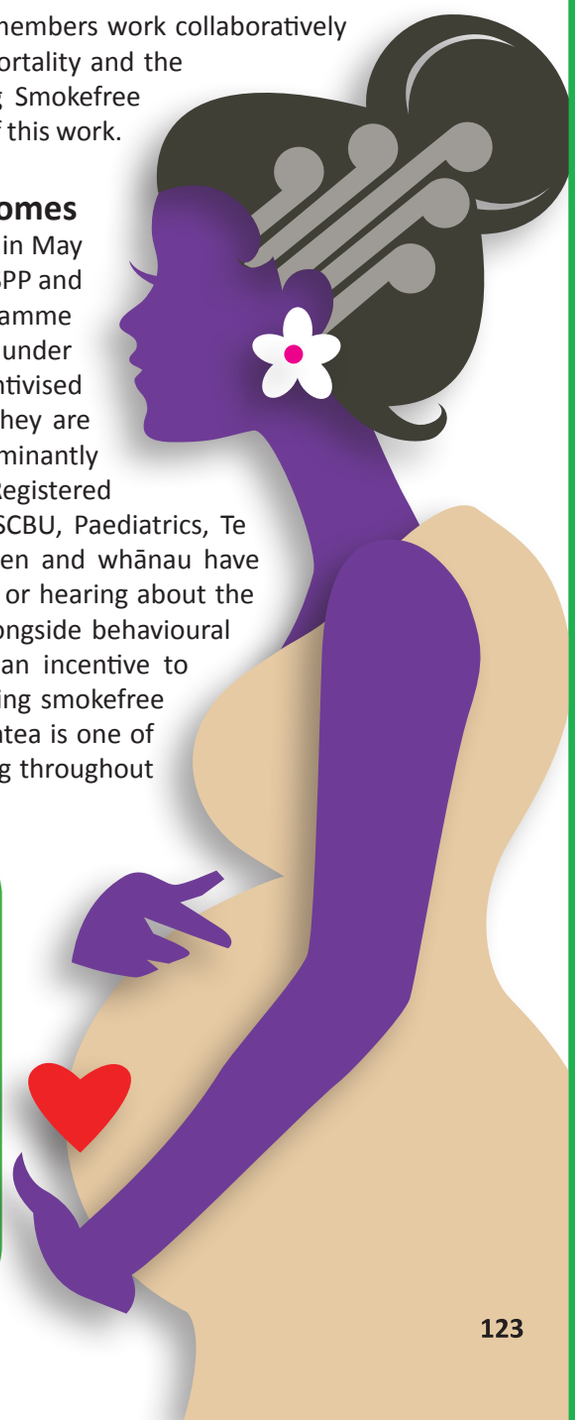
The Hawke's Bay District Health Board (DHB) Smokefree Team has six staff, with five located in Hastings and one based in Wairoa. The Smokefree Team adheres to the DHB vision "Healthy Hawke's Bay, Te Hauora o Te Mātau-A-Maui" by:

- Helping women and whānau to stop smoking
- Working collaboratively with health services and other services, important to the pregnant woman
- Providing an accessible and effective service to pregnant women in helping them to stop smoking.

While each team member has a designated area of work, all team members work collaboratively for specific projects and to reduce tobacco-related morbidity and mortality and the impacts of smoking during pregnancy. Co-ordinating the Increasing Smokefree Pregnancy Programme established in May 2014 is an important part of this work.

Encouraging smokefree pregnancies and smokefree homes

The Increasing Smokefree Pregnancy Programme (ISPP), commenced in May 2014, continues and the numbers of referrals, engagement with the ISPP and participants smokefree at 12 weeks increases. To qualify for the programme women need to be 'not smokefree' and be pregnant or have a baby under 6 months. Close whānau members can also join. Women are incentivised with free nappies and whānau members with grocery vouchers if they are smokefree and have a carbon monoxide reading of 4 or under. Predominantly referrals come from Lead Maternity Carers (LMC) or Midwives and Registered Nurses employed by the HBDHB. Referrals are also received from SCBU, Paediatrics, Te Ara Manapou, GP practices, and Plunket. A small number of women and whānau have self-referred as a result of viewing the Te Haa Matea Facebook page or hearing about the programme via a friend or whānau member. Setting a quit date, alongside behavioural support and nicotine replacement therapy (NRT), while receiving an incentive to become smokefree, has proven to increase the likelihood of remaining smokefree for women and their whānau. HBDHB in partnership with Te Haa Matea is one of a few maternal incentive smokefree support programmes still running throughout New Zealand.



Increasing smokefree pregnancy programme results for 2017

Total referrals for smokefree cessation support in 2017 were 357: 57% of women who were not smokefree at booking were referred, 73% (n= 260) of women who smoked antenatally, 9% (n=38) of women who were not smokefree postnatally, and 18% (n=64) of smoking whānau. Of the people referred for support, 239 (67%) were Māori, 106 (30%) were New Zealand European, six (2%) Pacific Islander and the ethnicity of the remaining four (1%) was not identified.

When first contacted, 173 women and whānau agreed to enrol in the 12 week Increasing Smokefree Pregnancy Programme (ISPP) known as Wahine Hapu. The main service provider is Choices. Other partners in Te Haa Matea (Hawke's Bay Stop Smoking Service) are Te Taiwhenua O Heretaunga and Te Kupenga Hauora Ahuriri. Referrals received within the DHB are contacted by the Smokefree team to encourage engagement with the programme. Anton Fasso, the Smokefree Co-ordinator in Wairoa, runs cessation clinics parallel to the antenatal midwife clinics.

From the initial referrals of 357, 173 (48%) agreed to go on the programme. Of these participants, 121 (70%) were antenatal, 16 (9%) postnatal, and 36 (21%) whānau. Ethnicity breakdown of participants were 119 (69%) Māori, 46 (27%) New Zealand European, 2 (1%), Pacific Island and 2 (1%) other. Ten percent of the referrals were from Wairoa, which received 26 antenatal, 2 postnatal and 8 whānau referrals and 34/36 of them agreed to join the ISPP. 82% of those on the programme are Māori and 68% antenatal Māori.

Fifty-seven participants completed the ISPP (79% were antenatal, 9% postnatal and 12% whānau) of those 55% were Māori, 39% NZ European, 2% Pacific Island and 4% other ethnicities. The age groups of the participants who completed the ISPP were 10% (16-20 years old), 20%(21-24 years old), 27% (25-30 years old), 36% (31-40 years old) and 8% (older than 40 years old). Thirty-three percent of women and whānau completed the 12 weeks smokefree.

A further 16 ISPP participants met 8 week, 10 met 4 week, and 15 met 1 week carbon monoxide validations. The biggest challenge of the Increasing Smokefree Pregnancy Programme (ISPP) is to reduce the number of women and their whānau members who change their mind about becoming smokefree, between the referral received and a cessation support worker contacting them. Women and their whānau may decline or are not contactable once the referral has been received. Remaining smokefree till their first week carbon monoxide validation is also a challenge. Becoming smokefree is often a difficult journey for women and their whānau. Therefore setting a quit date and being smokefree at the first week carbon monoxide validation is not always achievable. Unfortunately 43% of those who engaged with the programme initially, did not reach the 1 week carbon monoxide validation. The cessation support worker continues to support and encourage their smokefree journey as long as they are willing to engage with the service. To improve engagement with the programme the Smokefree Māori Support Worker has been contacting women and whānau, to inform them of the programme and meeting them. As a result engagement with ISPP has improved.

Over the past year we have collected surveys from the women and whānau who have completed the 12 week programme. We have asked them whether they are happy to have a photo taken and have their story shared on the Te Haa Matea Facebook page. Most participants are willing to complete the survey, but only a few are willing to publicly share their story. As a result of the Facebook postings other pregnant women have referred themselves to the programme.

A couple of stories shared on Facebook have been:

Chrystal Nikora age 31, Māori has children aged 14, 13, 8, 7, 6, 4, 2, and 2 weeks. Chrystal started smoking at 15. Prior to the Wahine Hapu programme she was smoking up to 40 cigarettes a day. She found out about the programme through Choices. Her motivation to stop was for her babies. She had previously tried 4-5 times. In the past she had used NRT patches, lozenges, and Champix. Her partner is smokefree. Since quitting she has noticed a huge financial saving and has a lot more energy. Chrystal continues to have urges to smoke and find the NRT gum and support from Ange at Choices helpful.

Another woman's story: AK age 29, European from Napier has a 1 week old and a 6 year old. She started smoking at 18 and was smoking 25 cigarettes a day prior to ISPP. Being pregnant and ready to quit was her main reasons for joining the programme. Her midwife told her about it. This has been her second attempt to quit, going "cold turkey." Her partner and household are smokefree. AK is not wheezing anymore and is using her inhaler less. She can now run around with her daughter as her energy levels are up. With the $400 saved a month since becoming smokefree, she has bought a car. This time she has not found it hard to quit. She was determined to become smokefree for herself, and to have a healthy baby. AK was thankful for all the free nappies and was breastfeeding her baby as the survey was completed.

The referral process for ISPP programme (Wahine Hapu) is easy, fill in the green smokefree referral form and fax it to 2278 at the HBDHB. On the run you can ring the 0800 300 377 and leave clients name and phone number, or fax to Choices 060878792, our main maternal cessation support provider.

Maternal Social Worker Service

The Maternity Services Social Worker delivers a service (Monday to Friday) across Ata Rangi and Waioha, and in the community. Her duties include safety assessment, discharge planning, and instigating community support and resources. In addition, the social worker offers intervention for problem solving and mediation in supporting whānau settle disagreements between themselves and third parties. Support is offered to women and whānau who have experienced grief subsequent to fetal loss and to women who are contemplating adoption (formal and whangai). The average case load for the social worker is 18-20 women each month.

The Maternity Services Social Worker often works and shares a case load with the Maternal Wellbeing and Child Protection (MWCP) Group, working alongside the Paediatric Social Worker. This group is opportunity for health professionals from a variety of organisations (both government and non-government) to confer about women who may have high risk social situations and complicated concerning issues. Reasons for referral include as family harm, alcohol and substance abuse, mental health concerns, child protection concerns, and poor engagement with medical care. Midwives, general practitioners, obstetricians, and the early pregnancy clinic of the Hawke's Bay District Health Board Gynaecology Service may all referral to the MWCP.

The services performed by our Maternity Services Social Worker are vital and greatly prized by clinicians, women, and whānau.

Maternal Well Being and Child Protection Group

By Liz Banks - Maternal Well Being Child Protection Coordinator

The Maternal Well being and Child Protection (MWCP) group is a multi-disciplinary group with representation from: Midwifery, Social Work, Oranga Tamariki, Family Violence services including the Police, Well Child Providers, Mental Health and Addictions Services, Māori Health, and Hawke's Bay NGOs. As a group, our strength lies in collegiality, respect, robust discussion, shared values, and an ability to quickly action any steps identified as being beneficial to a vulnerable woman and her family.

The group presently works to the key principle of early intervention to strengthen families identified to be at risk during pregnancy, and in the few weeks after a baby is born. Whilst referral is for the woman and her unborn child, an emphasis is placed on identifying services that can address the whole family's needs and work with them over a prolonged period, after they are closed to our group.

Referral reasons include

- family harm,
- alcohol and substance abuse,
- mental health concerns,
- poor engagement with medical care,
- child protection concerns - either historical or current,
- transience,
- poverty.

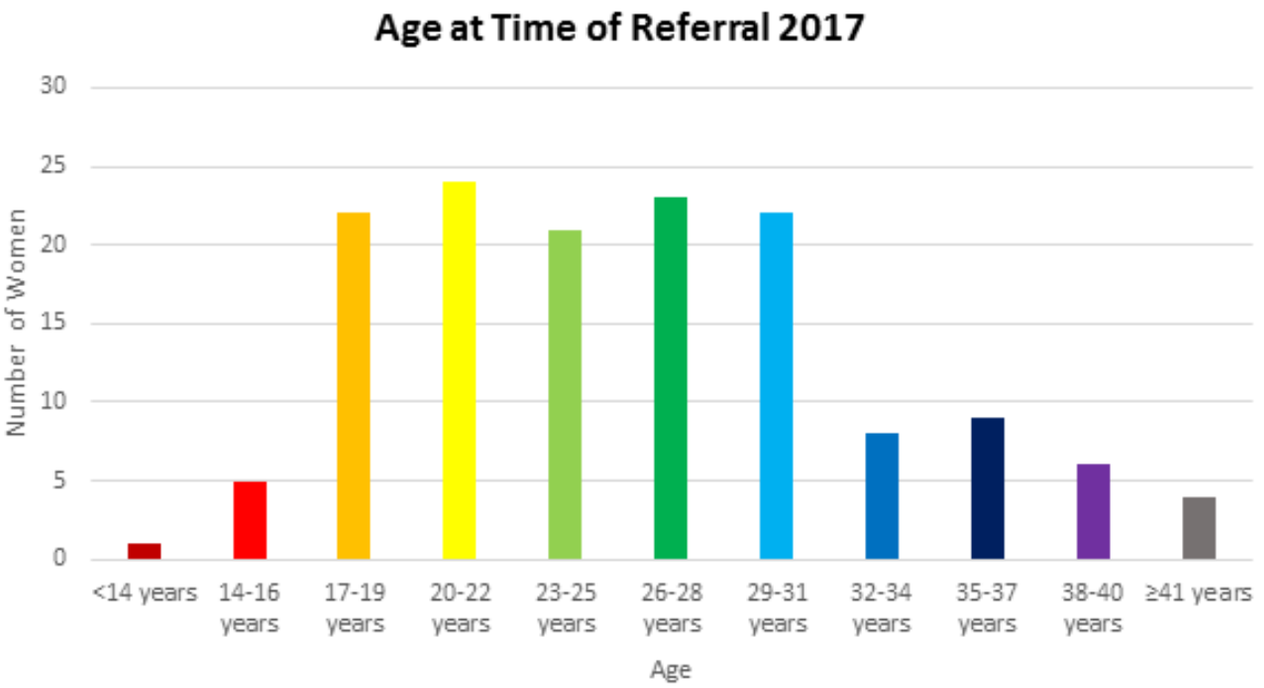
It is often the case that identified risk factors are numerous for each family, with family violence featuring highly as a referral reason to the group. Referrals to MWCP continue to show an over representation of Māori women and women experiencing family violence. Effort is being made to ensure that services who can best meet this client group needs are part of the MWCP group.

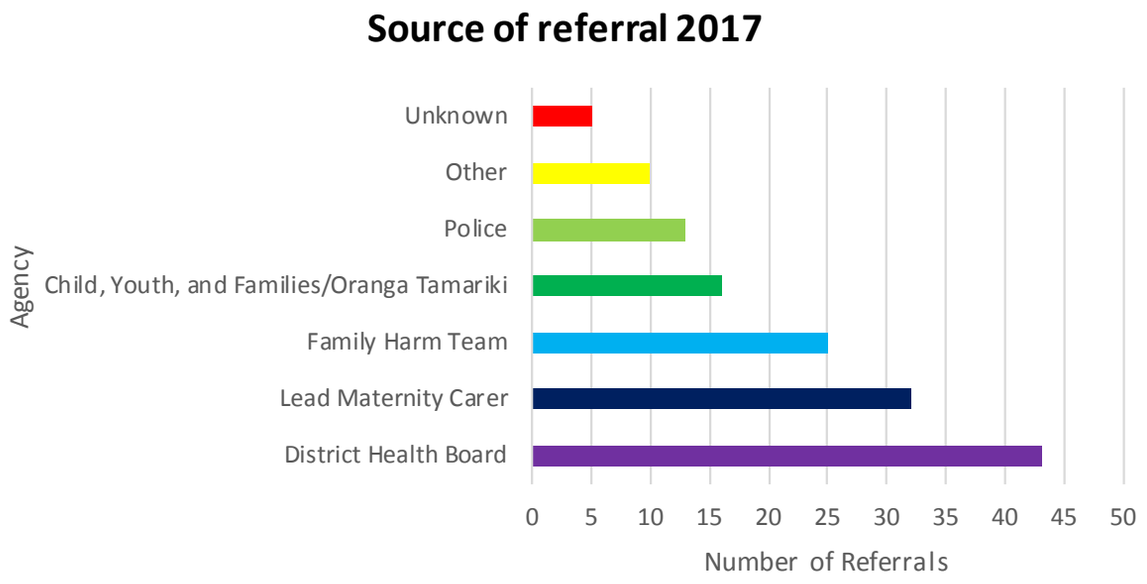
There is a dedicated 0.8 FTE coordinator for MWCP, with 0.6 FTE administration support. In 2017 the incumbent coordinator took up a new role and the position filled as a secondment for 6 months. In late 2017 a review of MWCP Programme took place with the aim to inform the direction of the MWCP group in 2018 and beyond. The report and recommendations are due in early 2018. There is ongoing consideration and planning to extend MWCP to include children aged six weeks to two years of age.

Challenges for MWCP group members in 2017 continue to relate to their resources. Time available to attend and participate in meetings and capacity to respond to all the families in need are key themes fed back to the meetings.

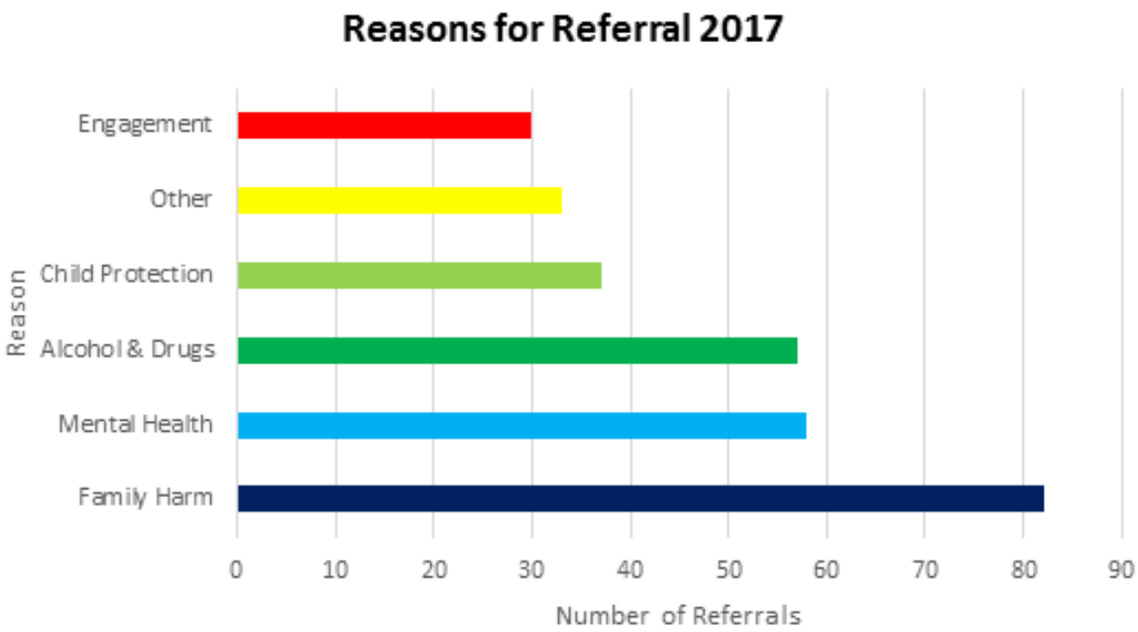
Poverty and inadequate housing were key factors impacting on families' ability to engage with services. Many were not having their basic needs of food, clothing and safe stable homes met; and services were increasingly preoccupied with supporting this as opposed to addressing more complex issues of violence and mental health. There are current processes in place to ensure the most at risk women and children have alerts within the DHB system, especially given the transient nature of many of these families.

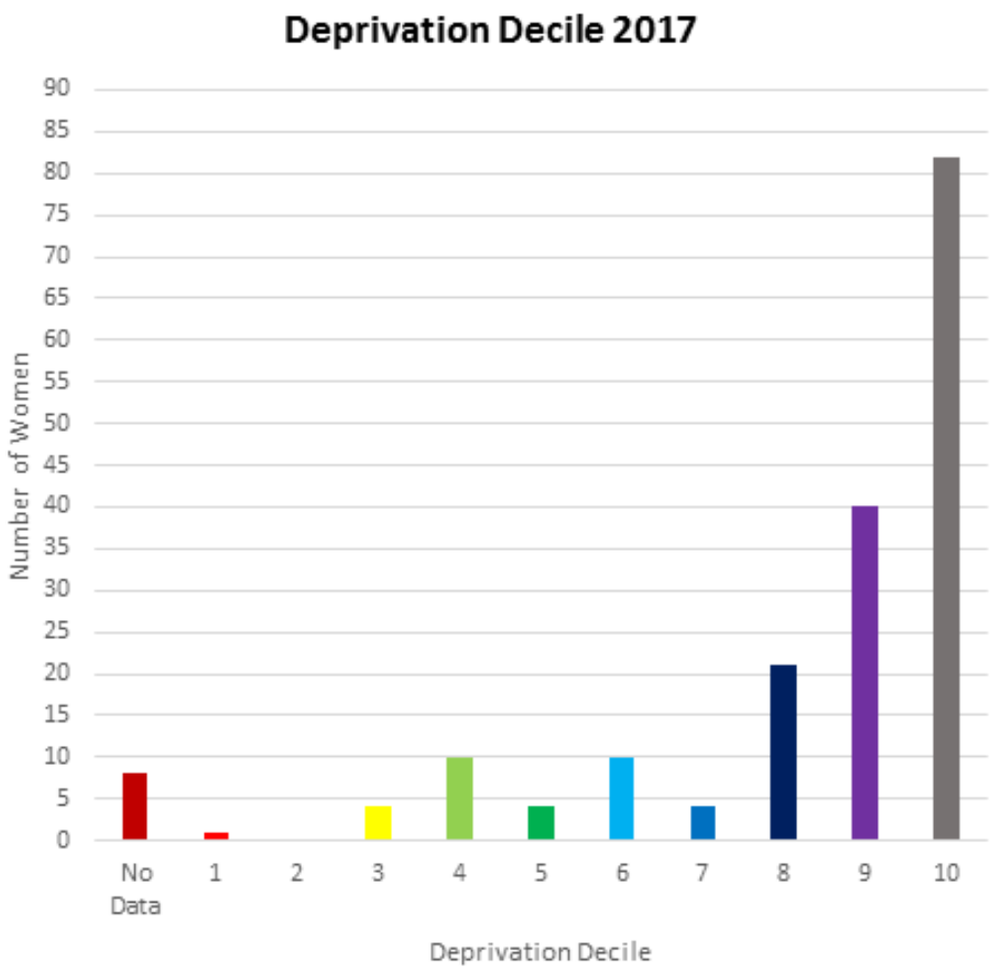
From 1st January 2017 to 31st December 2017, 144 women were open to the MWCP group, this equates to approximately 12 referrals per month. 39 MWCP women had the Ata Rangi Community Midwives as Lead Maternity Carers for part or all of their antenatal and postnatal care due to medical or social complication.





The most frequently cited reason for referral was for current or historical family violence. Very few referrals had single issue indicators, with family violence often coming hand in hand with child protection and/or alcohol and drug issues. Notably in 2017 there was an increase in the identification of mental health issues.


Reasons for Referral 2017
Engagement
Other
Child Protection
Alcohol & Drugs
Mental Health
Family Harm
Reason
0
10
20
30
40
50
60
70
80
90
Number of Referrals


Deprivation Decile 2017
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Number of Women
No Data
1
2
3
4
5
6
7
8
9
10
Deprivation Decile

Family Violence Intervention Programme

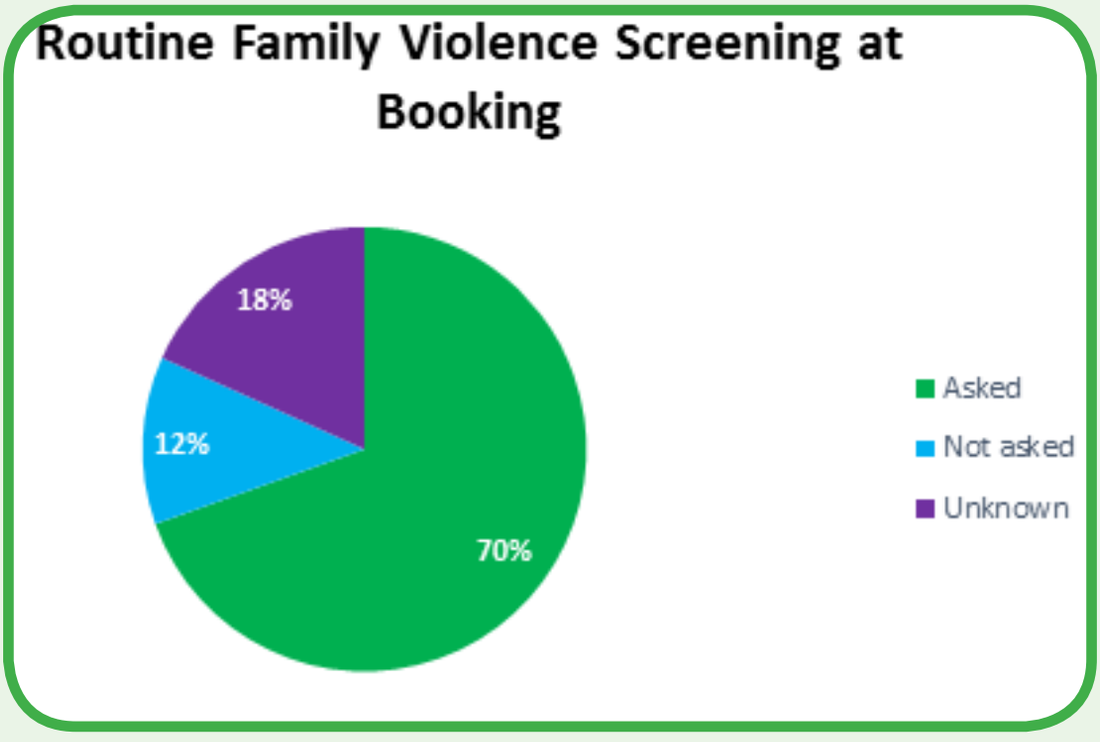
By Cheryl Newman - Family Violence Intervention Programme Coordinator

HBDHB has had a Violence Intervention Programme (VIP) since 2002. The programme includes a full day training for Maternity staff to support the practice of screening all women over the age of 16 to establish if they are experiencing intimate partner violence now, or have done so previously. The routine questioning occurs at booking and subsequent visits, during admissions, postnatally in the community, and on discharge from the maternity services between four and six weeks. Maternity staff are also educated to assess risk and put a safety plan and referral into place for any identified victims. Refresher training is offered yearly to keep clinicians up to date with the latest findings.

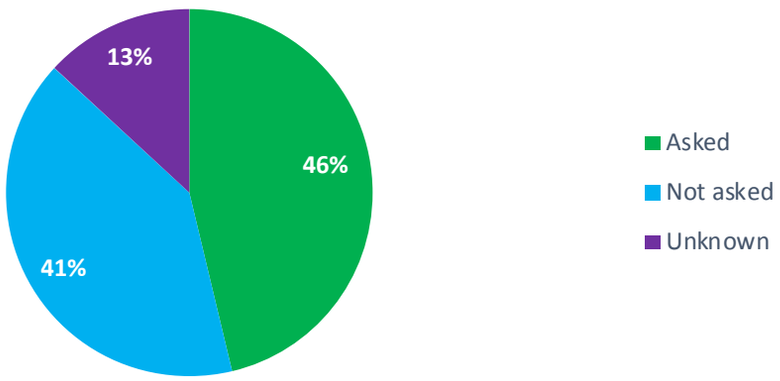
The co-occurrence of intimate partner violence and child abuse and neglect are high, and staff are therefore also trained to consider and address the risk to both the unborn baby and siblings. Additionally, the Shaken Baby Prevention Programme (SBPP) has been rolled out to all Maternity staff and they in turn educate all parents around the six key messages for keeping their babies safe and the risks and consequences of shaking a baby. To support Maternity staff, there are five VIP Clinical Champions and two SBPP Clinical Champions. Their role is to offer consultation in higher need scenarios and ensure best practice in their work place. They also participate in additional training on emerging themes that may be impacting on our community in relation to intimate partner violence and child abuse and neglect.

Maternity services continue to play a significant role in the VIP Improvement Group and supporting training. Their commitment to ensuring all staff attend training and maintain screening is notable and contrasts to other areas of the DHB in terms of attendance levels. The Maternity Services' VIP Champions are particularly passionate about ensuring all women receive input around intimate partner violence and have also planned some innovative ways to support routine screening practice unique to the work environment.

The Maternal Well Being Child Protection Co-ordinator now also sits within the VIP team, which has further reinforced the connection between the programme and Maternity services. It is supporting a more streamlined approach to the most vulnerable families and efficient ways of information sharing and intervention. In 2018 we anticipate an increased participation from community groups at the Maternal Well being Child Protection meeting to support our interventions for women impacted by intimate partner violence.



Routine Family Violence Screening at Postnatal Assessment



Routine screening rates at booking and in postnatal assessment continue to improve year on year, however disclosure rates are at 2% and 1.5% respectively, which is not indicative of national statistics and occurrences of intimate partner violence in our community.

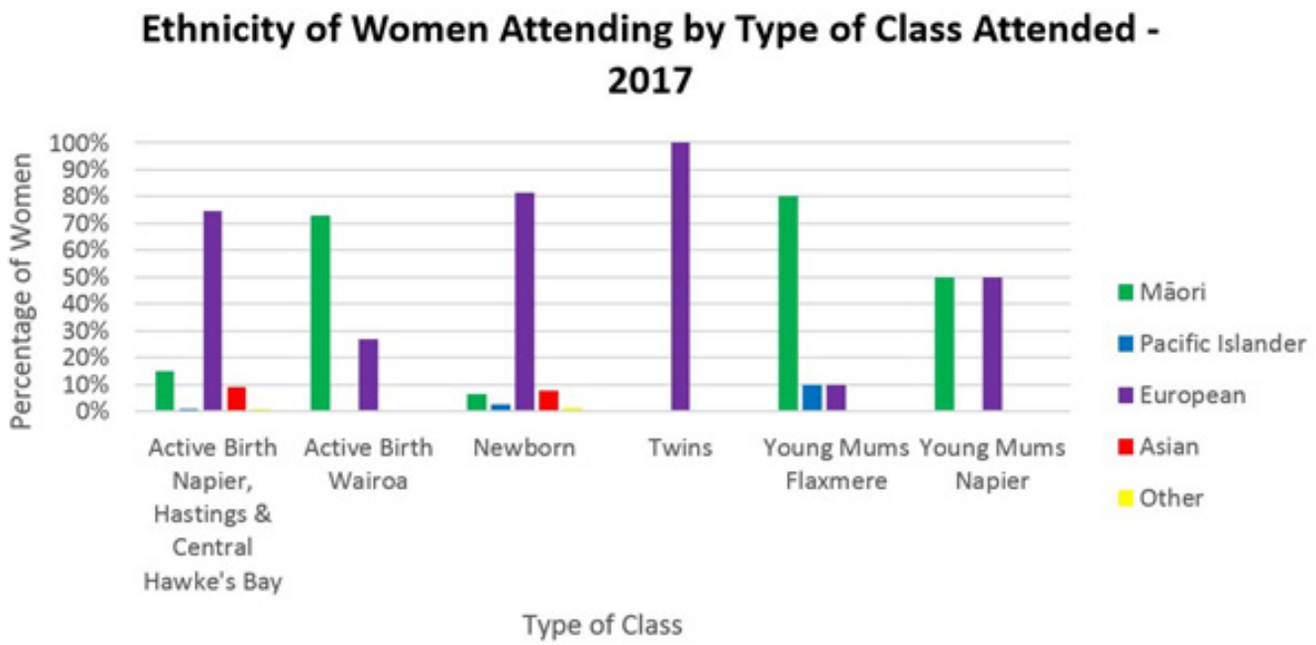
VIP Champions are working with the VIP team to identify ways to improve the quality of interventions and screening for all staff in Maternity services, so that women are given the safest and most supportive environment possible to make disclosures if needed. There is also an emphasis on documenting any discussions that have taken place, as this has been identified as a factor in the rates recorded. There has also been targeted training for Maternity services again this year to support learning specific to their working environment and level of patient contact. Going forward, there will continue to be an emphasis on service specific training staff.

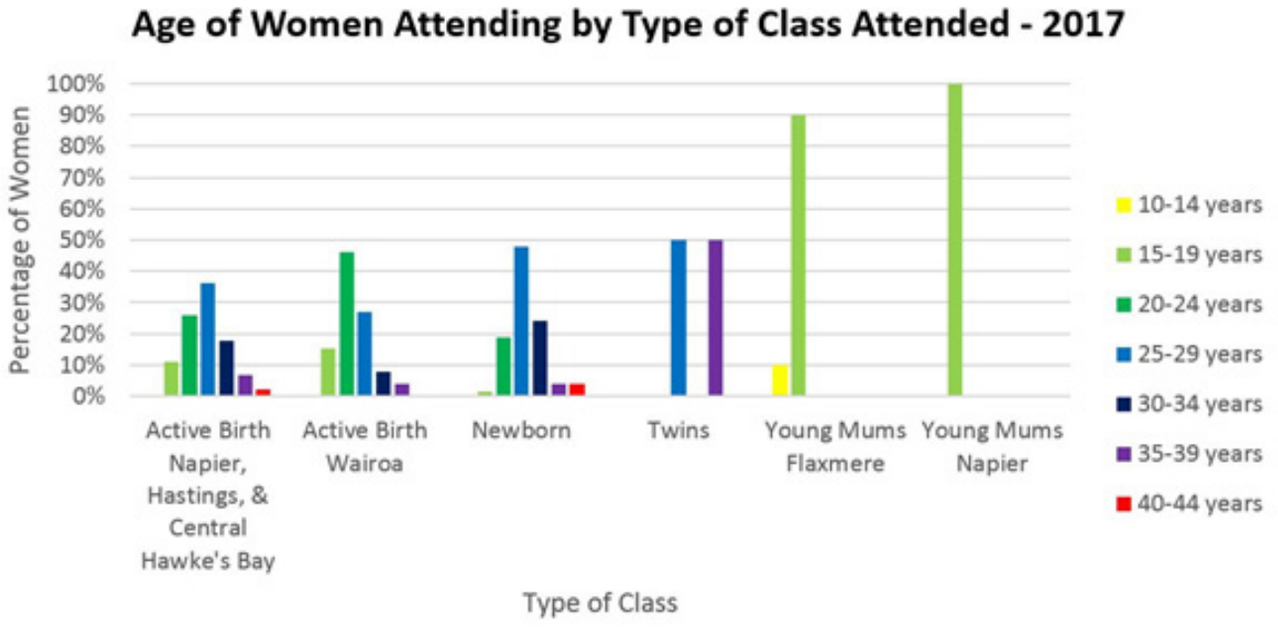
Pregnancy and Parenting Education 2017

Our pregnancy and parenting free education classes continued throughout 2017 with ongoing challenges in attendance, meeting the timing, venue and location needs of our community. Classes were provided across the Hawke's Bay District with the Wairoa midwives continuing their Wananga weekend classes, CHB parent centre contracted to provide classes in Central Hawke's Bay and our contracted childbirth educators providing classes across Hastings and Napier.

Our data evidences our ongoing challenges and from the review commenced in 2016 decisions were made in 2017 that have led to our Pregnancy and Parenting education being contracted to a local provider.

Our previous data highlights that only 33% of Maori who register and attend complete the full course of classes and for our Pacific Island women and young mums <20 years their attendance is extremely low. Our 2017 data shows this has declined significantly to 21% Maori attendance, 2% Pacific Island and 12% young mums at the free DHB classes.





Type of class	Number of women attending[1]	Women attending who were part of the target group[2]	Women who attended 80% or more of classes
Active Birth Napier, Hastings, and Central Hawke's Bay	146	32 (22%)	93 (64%)
Active Birth Wairoa	26	19 (73%)	5 (19%)
Young Mums Napier	2	2 (100%)	1 (50%)
Young Mums Flaxmere	10	10 (100%)	4 (40%)
Newborn	75	8 (11%)	75 (100%)
Twins	4	4 (0%)	4 (100%)
Total	**263**	**71 (27%)**	**182 (69%)**

1. Please note that women may attend more than one type of class.
2. The target group includes women who are Māori, Pacific Islander, under 20 years old, or have English as a second language.

Six classes, each of one hour in length, constitute the Active Birth programme provided in Napier, Hastings, and Central Hawke's Bay. The Active Birth programme in Wairoa consists of three classes, with each class of three hours duration.

The pregnancy and parenting programme has been under review during 2016 and a process was commenced during this year to revise the service provision and have a more targeted approach for those pregnant women who benefit the most from antenatal education e.g. first time mums, Maori, Pacific, young mums and those with English as a second language.

Key principles for this new model is a continued commitment to maternal health and wellbeing and a targeted focus on reducing inequities in maternal and child health. The new programme is to be more tailored to not only the pregnancy and parenting needs of pregnant women and their whānau but also their cultural and social needs.

The outcomes and objectives are:

- Mothers and fathers-to-be receive information and education that will prepare them for pregnancy, birth, and early parenting, and to make informed decisions

The objectives of the Programme are:

- To deliver a quality Programme that aligns with the National Service Specifications
- To provide an accessible and responsive Programme that meets the needs of disadvantaged and vulnerable whānau/families

In addition, HBDHB expect the Programme to:

- Provide an innovative, interactive approach to engage participants
- Prioritise the needs of Māori, Pacific, and vulnerable pregnant women
- Provide whānau/families with the opportunity to share their experiences and form and strengthen relationships with other whānau/families, as well as health and social networks
- Develop and maintain essential linkages with appropriate Māori and non-Māori communities to promote awareness and access to the programme, and
- Provide and maintain an effective electronic registration system, database, and IT solutions that appropriately meet the needs of whānau/families

A new, innovative and interactive programme that participants can relate and respond to is required to engage women that are often marginalized through mainstream service delivery. Unlike mainstream antenatal classes that predominantly focus on the physiological aspects of pregnancy and birth, the foundations of a kaupapa Māori antenatal programme are built upon concepts of tapu, noa, whakapapa, hapūtanga, whānaungatanga, and mātuatanga. Importantly, within this approach is the reaffirmation of identity, being Māori, building confidence and self-esteem, toward a more proactive process of empowering wāhine Māori and their whānau. Programmes such as Hapū Wānanga in Waikato, have demonstrated that programmes developed and delivered in a kaupapa Māori paradigm increase Māori and Pacific participation and completion rates. A more culturally responsive approach also aligns with the HBDHB organizational values; He Kauanuanu, Ākina, Raranga Te Tira, and Tauwhiro, and are to underpin how the programme is developed and implemented. Furthermore, women must be considered in context of their whānau/family, and so appropriate consideration to pāpā/fathers, partners, and whānau/families, and the role and influence they have in engaging in their pēpi/babies lives throughout the pregnancy, birth, and parenting period.

Our new service is about to commence in 2018: Whanake te Kura – Nuturing Healthy Babies which is based on the model and learnings so far from our Waikato colleagues. We are looking forward to supporting our new free service for women and whanau.

Other quality initiatives have included the commencement of establishing a one stop page of services and classes available in our community on our Maternity pages and also the promotion and referral pathways for women on our maternity facebook page. These are currently being set up and will be readily accessible by our women and our midwifery colleagues to support access for women to antenatal classes in 2018.

Infant Safe Sleep Programme

By Rawinia Edwards - Safe Sleep Coordinator

In 2013 the Hawke's Bay District Health Board (HBDHB) was the first DHB in New Zealand to create a dedicated Safe Sleep Programme. Since the inception of the Safe Sleep Programme there have been many Safe Sleep Coordinators who have passionately built the programme from the ground up. Strategies have been implemented to inform families and the Hawke's Bay community of the importance of keeping the safe sleep principles and providing safe sleep spaces (pēpi pods) for babies who have been identified as being high risk and vulnerable to Sudden Unexpected Death in Infancy (SUDI). In 2017 this work has continued with some exciting changes. The Safe Sleep Action Group (SSAG), a multidisciplinary group of health professionals from both within the DHB and in the community, continue to meet quarterly.

The programme is now run by one coordinator, with 0.5 FTE, and has moved under Te Wahanga Hauora Māori (Māori Health Services). The Safe Sleep Programme continues to offer comprehensive safe sleep education to HBDHB staff, community health and child care workers, patients, whānau, and community organizations. The coordination and distribution of safe sleep spaces (pēpi pods) has also continued with the addition of the wahakura/waikawa.

In 2017 the focus has been to continue to provide an excellent service to the community and to make available a culturally appropriate alternative to the pēpi pod. In October of 2016 a hui was held at Te Aranga Marae to which we invited weavers from our community to give input into how we might accomplish a steady supply of wahakura for our community. Subsequently a group of weavers (Arts by Riwa) were selected to supply the HBDHB with what is now fondly known as the wahakura-Rīwā, which is based on a waikawa model. This group is led by Riwa Wawatai who developed a technique by which our weavers are able to make the wahakura-Rīwā the same size every time, so that the mattresses provided fit snugly. Throughout 2017 the Arts by Riwa group provided 25 wahakura Rīwā per month; added to this is a mattress, sheets and a merino wrap. Riwa also ran wānanga (3 day classes) each quarter with funding support from HBDHB to share her knowledge with other weavers coming from all over the country to learn her model.

Riwa weaving the bottom of a wahakura Rīwā.

Little Willow sleeping in her wahakura Rīwā.

It has also been great getting a local clothing manufacturer business, called Soma, involved. The lovely Harold Trigg sources merino material for the HBDHB and makes our merino wraps at low cost and also donates merino mittens during the cold season to be handed out to families, along with the wahakura linen pack. The provision of wahakura to the Hawke's Bay community has had some fantastic feedback and has given an opportunity to change some mind sets around safe co-sleeping.

Just as an example, on an occasion two phone calls from concerned midwives were received about a baby who had just returned home from Ata Rangi. The midwives were concerned because the baby was identified as high risk for SUDI and had been given a pēpi pod, but the baby's mother had insisted that she didn't like it and most likely would not use it. I visited mum and her baby the same day and baby was sleeping on an adult bed, on a pillow, wrapped up and placed on his side, right next to the pēpi pod. I sat on the floor and spoke with this very loving mother about the wahakura that I had brought for her baby. I spoke about the weavers and the love they put into making them, and how the scent of the harakeke (flax) can be soothing for baby. We then went through all of the safe sleep principles, face up, face clear, smoke free air, and breast feeding. After our conversation mum lifted baby up off the pillow, re wrapped him in the new merino wrap, and lay him to sleep on his back in the wahakura and she said "Yes, I really like that." Not only is this a successful mind set change, but it also shows that partnership between HBDHB departments can render great results.

In 2016 the Ministry Of Health (MOH) held a meeting, attended by the three Safe Sleep Coordinators, including other HBDHB staff, community workers and Safe Sleep Advocates; namely, Dr David Tipene-Leach. This meeting was held after an independent review of SUDI evidence and the proposal for a National Safe Sleep Programme to retrieve information about what people working at ground level thought the community needs in regards to safe sleep and SUDI prevention. Similar meetings were held throughout the country to get a greater perspective. From these meetings the MOH created a contract that organisations could apply for to become the National SUDI Prevention Coordination Service. The selected service provider is Hāpai Te Hauora and in October 2017 began work as the National Safe Sleep Coordination Service. Hāpai Te Hauora is currently working on creating relationships between Safe Sleep Programmes, creating new resources, and regulating safe sleep education and practices throughout New Zealand. The overall goal of the National SUDI Prevention Programme (NSPP) is to reduce the incidence of Sudden Unexpected Death in Infancy (SUDI) to 0.1 in 1000 live born infants by 2025. More specifically a reduction of 86% for the general population and a 94% reduction among Māori.

In 2017, the Safe Sleep Programme has continued to support the Hawke's Bay community with pēpi pods and wahakura alongside our wonderful community distributors at Plunket, Te Taiwhenua O Heretaunga, Kahungunu Executive Wairoa and HBDHB maternity staff.

In order to be referred for a pēpi pod, vulnerability criteria must be met. Criteria remain the same as previous years: mother is not smoke free in pregnancy, baby born before 36 weeks gestation, baby born under 2500 grams, and baby living in an environment with safety concerns (these vary and must be explained by the referrer).

Wahakura referral criteria is the same as the pēpi pod, except that baby must be of Māori descent. This extra criteria was decided by the Safe Sleep Action Group due to the number of wahakura that are delivered for use being limited to 25 per month.

In 2017, 446 pēpi pod referrals were made, with 425 pēpi pods being distributed, and 197 wahakura referrals were made, with 195 being distributed. A total of 620 safe sleep devices were handed out to families in the Hawke's Bay community along with safe sleep education. The 23 referrals that were not completed were due to the family either refusing the safe sleep space or not being contactable after multiple attempts.

In 2016 safe sleep devices were promoted at multiple functions around Hawke's Bay. It was fortunate that they were promoted at the Te Matatini Hauora village, with health workers from all over the Hawke's Bay region promoting their respective messages. Safe sleep displays were set up and we had games, questionnaires, and a huge gift pack to be won, which was a wahakura filled with an array of baby items. Our wonderful weavers attended each day to demonstrate their weaving skills. More than 250 safe sleep discussions were had during the course of the Te Matatini event.

Workers and health promoters of the Hauora Village at Te Matatini.

Safe sleep display

Katarina May weaving a wahakura

We also continued to support the National Safe Sleep Day this year with prize draws at multiple locations. The prizes were huge baskets filled with goodies for baby and whānau.

Safe sleep programme actions for 2018

- Increase number of wahakura per month from 25 to 35 and open referrals to all groups that qualify for a safe sleep space.
- Work alongside healthy homes to create a cot bank to provide safe beds for our older babies in need.
- Continue to provide safe sleep education to community agencies and HBDHB staff.
- Strive to increase public and whānau awareness about SUDI prevention.
- Work with Hāpai Te Hauora to increase the Safe Sleep Programmes efficiency and create better messaging.

Immunisation Programme

By Diana Taylor - Immunisation Promoter

The DHB Immunisation Team has now offered "walk in" clinics to antenatal women eligible for free vaccinations in pregnancy for the last 5 years. In that time, over 1500 women have taken up the opportunity to present at the weekly clinics provided in the Napier Health Centre on Mondays and in Ata Rangi on Wednesdays. Some "pop up" clinics were organised and facilitated in Wairoa by our team.

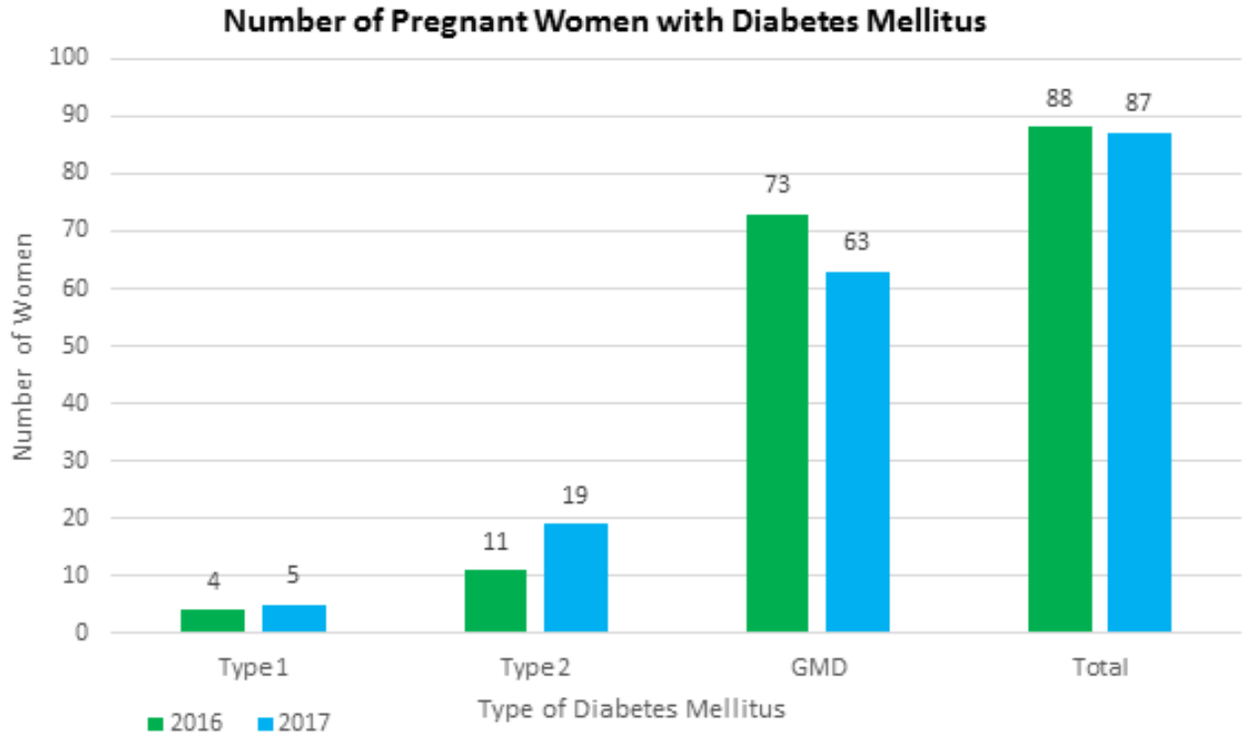
Numbers have remained consistent – for example in 2013 there were 286 presentations, and in 2017 there were 334, which is between 14% and 17% of women who gave birth in the HB DHB region.

Late in 2017, our team carried out a survey to find out how many women who gave birth in September had the Boostrix vaccination in pregnancy. There was a total of 175 women and findings showed 48% had been vaccinated at a GP or DHB clinic. When telephoned, 23 women knew about the vaccine, but had declined this immunisation. More concerning was that 21 women stated they did not know or could not recall their LMC mentioning vaccinations in pregnancy. A small working party lead by our team, was established to address this issue. Several initiatives have since been instigated, one of which is immunisation information being included in the "booking in" letter posted out to every women expected to use the HB DHB Maternity Services.

Ata Rangi staff midwife Julie Crawley is an authorised vaccinator and Les Huddleston is soon to complete her authorisation. These vaccinators provide up to date information for staff and patients and can vaccinate eligible women on days the Immunisation Team are not present. They also provide a valuable service to any DHB employee or a LMC contractor in the area wanting their influenza vaccine during the annual staff campaign.

Diabetes Specialist Service

During the period 1 January 2017 – 31st December 2017, there were 87 women referred to the Specialist Diabetes Service. Seventy-two percent of these women (n = 63) had a diagnosis of gestational diabetes mellitus (GDM), while the remaining 28% had pre-existing diabetes, either type one (n = 5) or type two (n = 19). In comparison to 2016, the number of overall women referred to the service remained static. However there was a notable an increase in the proportion of women referred with pre-existing diabetes versus a reduction in those diagnosed with GDM during the pregnancy compared to 2016. This change is demonstrated in the graph below.



The National GDM guidelines published in December 2014 guides health practitioners as to which women require referral and management to the secondary services. Following the implementation of the national guideline, the HbA1c is now taken as standard practice as part of the 'first antenatal bloods tests' in Hawke's Bay. Women identified as having a HbA1c > 49 mmol/mol are considered to have pre-existing diabetes and are now promptly referred to the Specialist Service. It is recommended they receive nutritional advice and maternal green prescription (offered by Sport Hawke's Bay) to prevent excessive weight gain during the pregnancy. There is limited capacity to provide specialist dietetic support to these women currently.

Women with HbA1c < 49mmol/mol are managed by their Lead Maternity Carer, with those at high risk of GDM with a HbA1c of 41-49 mmol/mol having a diagnostic Glucose Tolerance Test (GTT) at 24-28 weeks gestation and all other women having a polycose screening test at 24-28 weeks gestation. For these women, if their polycose test result is raised between >7.8 and 11.0 mmol/mol, they go on to have the Glucose Tolerance Test (GTT) to diagnose or are referred directly to secondary services for GDM management if the result is > 11.1mmol/mol.

Women diagnosed with GDM are managed by the Diabetes Service alongside the secondary services obstetric team. They receive ongoing monitoring and management of their blood glucose levels during pregnancy and the early postnatal period and are supported with diabetes dietician support, both during pregnancy and up to four months following birth, due to the increased risk of development of Type 2 diabetes for these women later in life.

Co-ordination of diabetic care for pregnant women with all types of diabetes has improved since the establishment of the Diabetes Clinical Midwife Specialist (CMS) role in January 2017 and the development of a new model of care for pregnant diabetic women implemented by the Diabetes Service in November 2017.

The additional resource of the Diabetes CMS, combined with the adjustment of role responsibilities of a Diabetes Clinical Nurses Specialist with an interest in pregnancy, has created opportunity to provide a wrap-around individualised service for this group of high risk women. Currently, the two practitioners work together to case load the women throughout their pregnancy via two cohorts, one of GDM women and one of women with Type 1 or 2 diabetes. Although in its infancy, this model of care is proving to be effective, with women having a direct 'go to' clinician for glycaemic control management and support across the working week, as well as the two clinicians now having the ability to act as a liaison between the primary and secondary services and the oversight of care provision to ensure that women access both the maternity and diabetes services in a timely manner, that care management is appropriate, and that no woman slips through the gaps.

Going forward, the diabetes CMS and CNS have several key areas of focus. The CMS hopes to create informative resources for women and whānau regarding diabetes in pregnancy. Another aim is to provide formal education and support to other health professionals in the primary and secondary maternity care settings, to manage pregnant women with diabetes. The CNS aims to focus on the provision of pre-conception care for women with pre-existing diabetes and postnatal diabetes follow-up for women with pre-existing diabetes, where the focus will be on supporting primary care to provide regular recall and follow-up to improve long-term health outcomes.

Nutrition support

All women with GDM are offered an appointment with the dietitian. The majority of women are seen, apart from the small number who either decline or are unable to be contacted. The percentage of women having an HbA1c blood test done at three months post-partum, as recommended, has declined in the past 12 months. This is a concern given the increased risk of Type 2 diabetes for these women. The up-take of post-partum dietitian appointments has increased slightly, however only half of the women who were offered an appointment took this opportunity up.

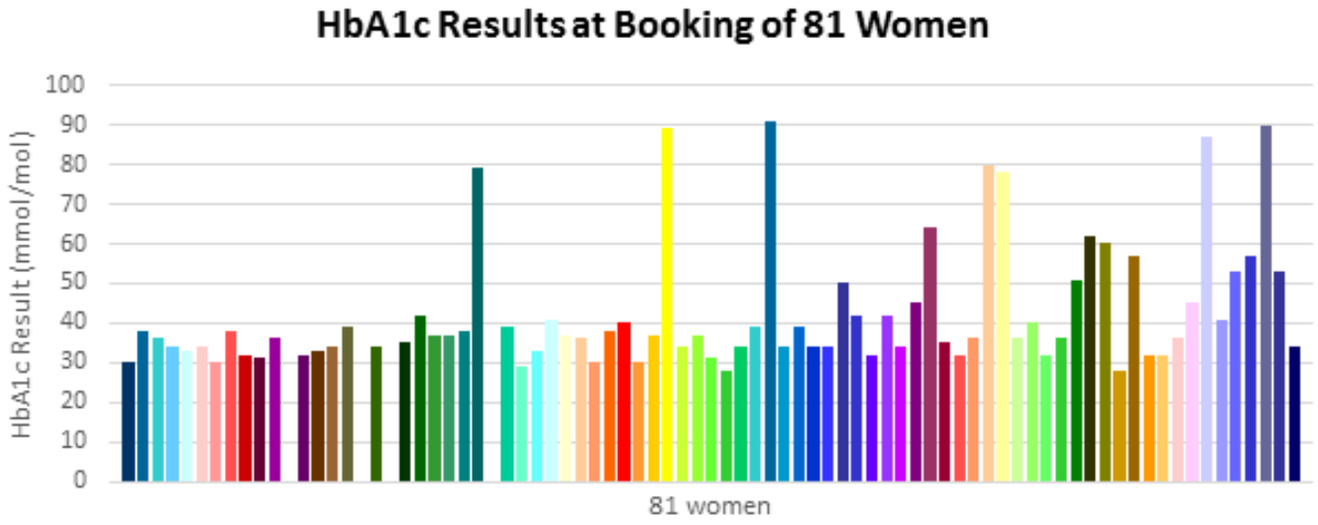
The number of pregnant women with Type 2 diabetes referred to the combined obstetric and diabetes clinic is increasing. Not all of these women are offered nutrition education and support by the dietitian, due to capacity and priority regarding supporting women with GDM. Ideally all women in this high risk group should receive nutrition education and support during pregnancy.

In 2017, continuing education sessions were undertaken supporting the Health Advisors from the Green Prescription Maternal program. These included attending coffee groups for mothers, and supporting the Health Advisors with nutrition and diabetes related information. A presentation was given to up-skill midwives in Wairoa on nutrition advice and healthy weight gain for women with GDM. An abstract outlining the Hawke's Bay DHB GDM statistics, captured by the diabetes dietitians, was accepted as a poster presentation at the national NZSSD (New Zealand Society for Study of Diabetes) conference in 2017.

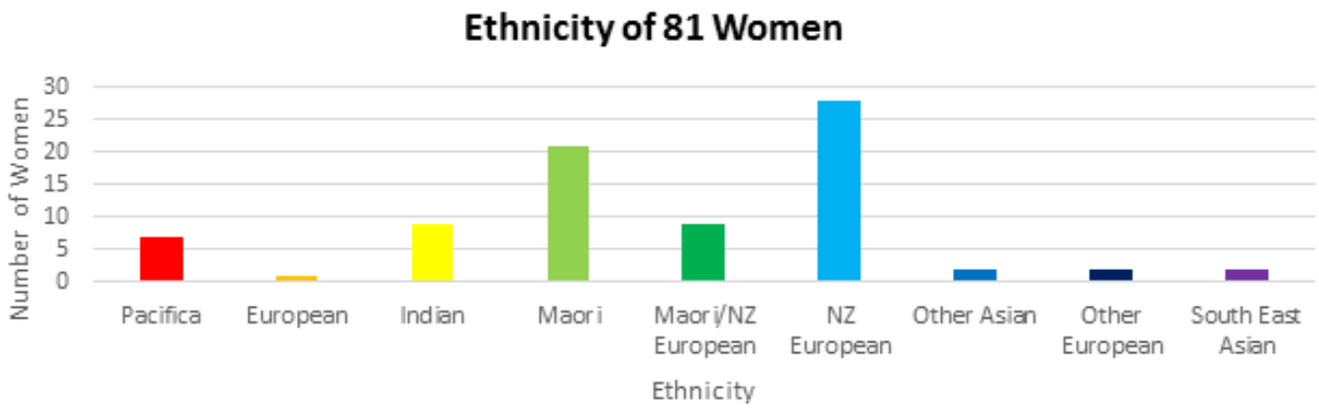
2017 Service Data

Of the 87 pregnant women referred to the Specialist Diabetes Service during the period 1 January 2017 – 31st December 2017, 81 went onto to complete their pregnancy under the care of the HBDHB Diabetes Services. Of the remaining six women, three experienced a miscarriage, one was transferred to a tertiary centre for the third trimester, and two left the Hawke's Bay district during their pregnancy. The data below represents the 81 women who completed their pregnancy under the Diabetes service.

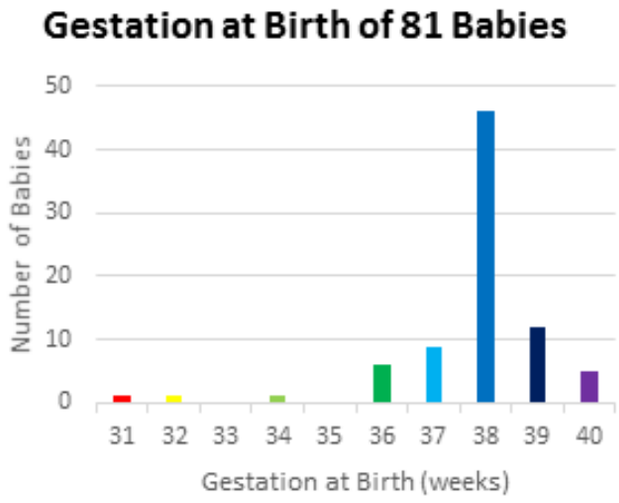
The 81 women were made of 62 GDM's, 15 Type twos and 4 Type ones. 69 women were referred into the Diabetes Service by their lead Maternity Carer, nine by their GP and three (who were already know to the service) self-referred. The range of HbA1c results is demonstrated in the following graph on the next page.

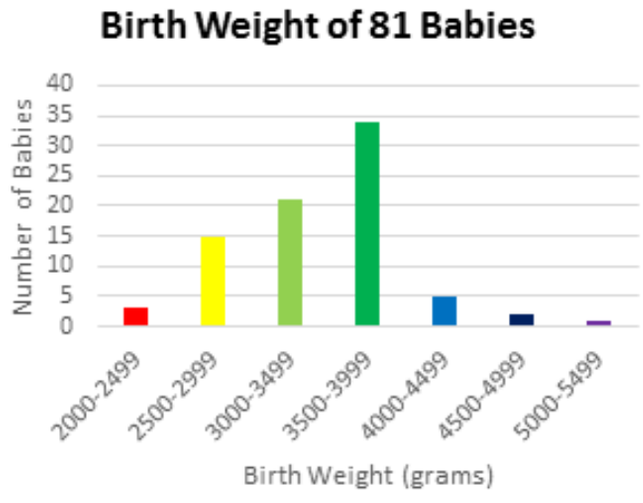


The ethnicity of this cohort is shown in the following graph, with the greatest representation being women of NZ European decent.



Forty-nine of the women had vaginal births, whilst 32 had caesareans. The gestation of birth and the birth weight of the 81 babies are shown in the following two graphs.





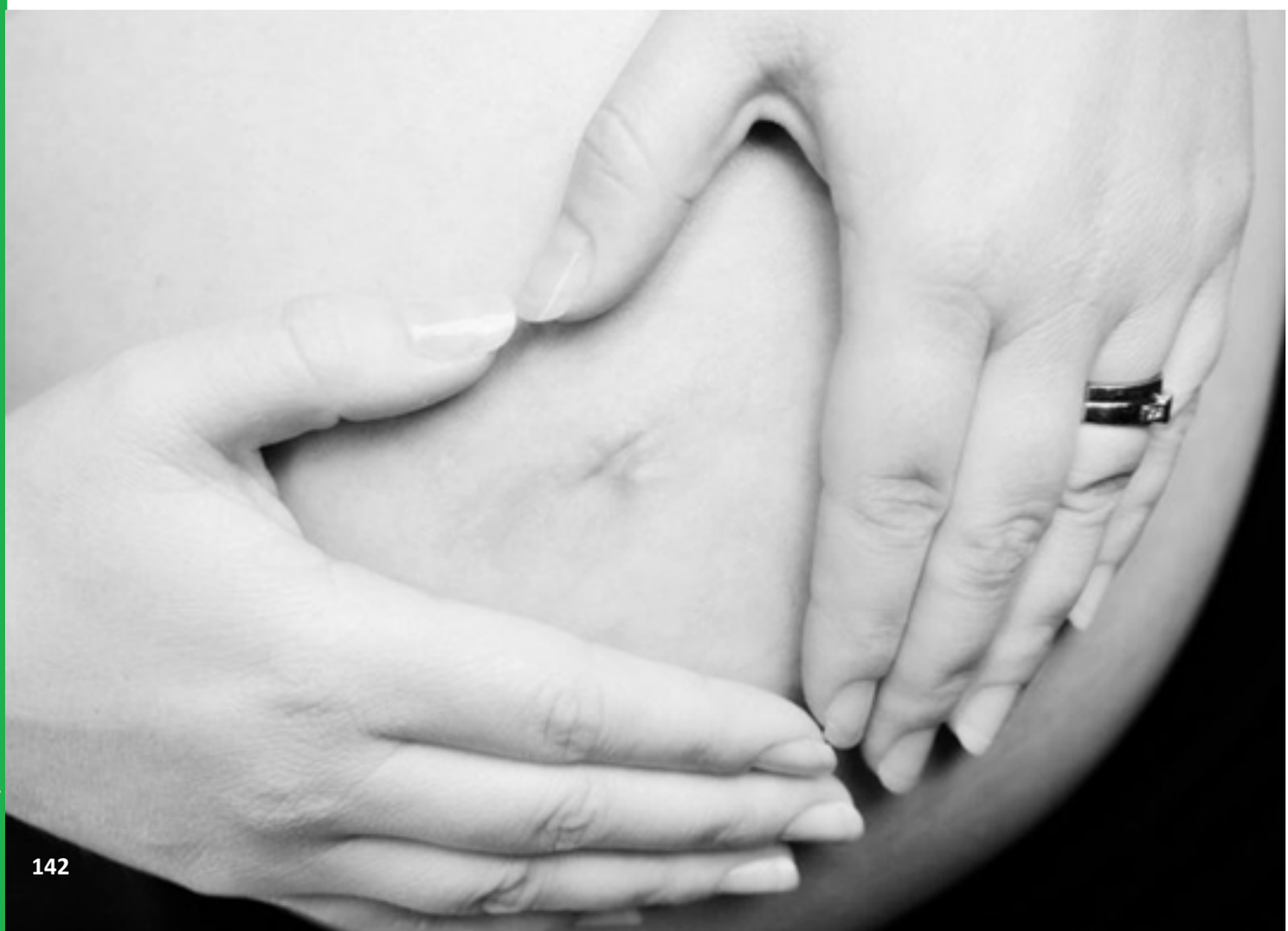
Dietitian data

Calendar years 1 January to 31 December

GDM Statistics 2016/2017	2016	2017
Number seen	68 (93%)	60 (95%)
Postpartum HbA1c	38 (56%)	22 (44%)
Postpartum dietitian appointment*	28 (41%)	24 (48%)
Type 2 pregnant consultations	9 (82%)	13 (68%)

* All women who had GDM are offered an appointment with the dietitian three months post-partum for healthy lifestyle advice.

Of the women with GDM, the pre-pregnancy body mass index of only 19% was a healthy weight, 31% were overweight, and 50% were obese. This is to be expected, as excessive weight is a known risk factor for developing GDM.



A Hawke's Bay Consumer Story

On the 21st October I was 36 weeks and 2 days pregnant with my first baby. At 6.30am as I was walking back to bed my waters broke, my partner was getting ready to go to work. I called the midwife and she told me to head to the hospital. We headed to Ata Rangi as I had gestational diabetes during my pregnancy. We arrived and were given a room. The doctors checked me over, confirmed my waters had broken and that I would need to be monitored for 48 hours. Well my boy wasn't waiting, at around 11.30 my contractions started and continued to increase in strength and time, my mother and partner were there with me supporting me.

7.30pm I was in active labour, my midwife was called and I was transferred into a birthing room. I was 4cm dilated, contractions were coming fast and hard. My midwife came and we were in full swing with gas at the ready. By 8.30pm I was 7cm dilated and was asked not to push. My little man was continuously monitored due to my gestational diabetes, unfortunately every contraction they kept losing his heart rate due to the monitor slipping so they had to put the heart rate monitor on his head. Fully dilated by 8.55pm and told to push with the contractions, on my hands and knees felt like I was pushing for ages, he just wasn't coming. The midwife then said that I needed to get him out in the next push otherwise they will look at intervening, everyone in the room encouraging me (sounding like I was at the horse races) so with everything I have I give it one last push and out he came!

Born at 10.09pm my beautiful baby boy was placed on my chest and I look down at the love of my life and he looks up at me what an amazing feeling. Vitamin k injection given with our consent and with that he does his first pee on Mum (one of many to come). Had to have 8 stitches due to a natural tear, painless compared to what I had just been through.

We were transferred through to a room where we would stay for the next 4 nights. His sugar levels were checked at every feed until they were all ok for 3 readings and due to him not getting enough from my colostrum I was offered donor milk as a top up to help get his levels up. We spent 2 days having to top up, I am so thankful for the opportunity to have breast milk to use. He latched pretty perfectly from the beginning and ate as much as he could. Weight gain was awesome.

He had a very prominent tongue tie which we booked into the pediatrician to look at getting fixed however by the time the paed had come my little man had broken it himself.

Finally after a week we named our boy Theo. He is the most precious perfect little man and every day since his birth he lights up my life. We have had rough days but one smile from him makes everything worth it.

Infant Feeding Outcomes

By Liz Banks - Breastfeeding Advisor

There has been a breastfeeding initiative in HBDHB Maternity Service for the past twelve years. The maternity service first achieved Breastfeeding Hospital Initiative (BFHI) in 2006 and has retained its status by three yearly assessments, the re-accreditation process has now been extended to four yearly audits due to successful implementation of the audit standards. Our next audit is scheduled for November 2021.

The maternity service promotes exclusive breastfeeding as the normal, optimum nutrition for babies as it provides nutritional, immunological, psychosocial, and financial benefits for the mother, her baby and family/whānau.

The Breastfeeding Hospital Initiative standards include the following definitions:

Exclusive breastfeeding: the infant has never, to the mother's knowledge, had any water, infant formula or other liquid or solid food. Only breast milk from the breast or expressed and prescribed medicines have been given from birth. (Prescribed as per the Medicines Act, 1981)

Fully breastfeeding: The infant has taken breast milk only, no other liquids or solids except a minimal amount of water or prescribed medicine in the past 48 hours.

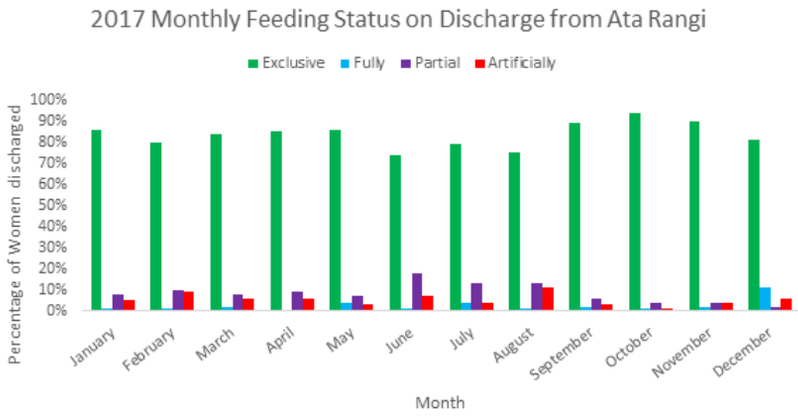
Partial breastfeeding: The infant has taken some breast milk and some infant formula or other solid food in the past 24 hours.

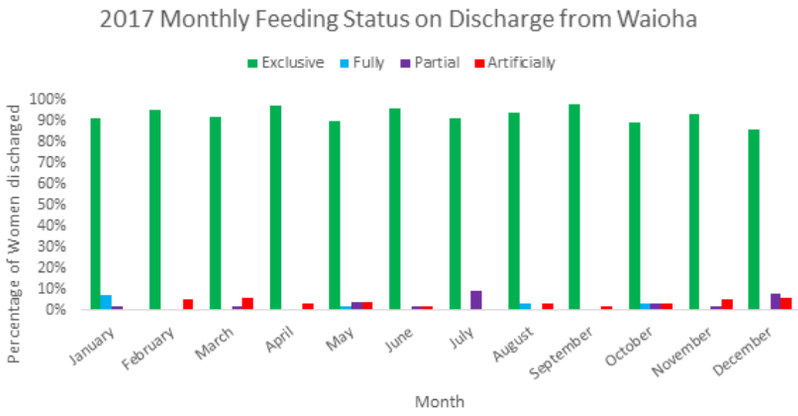
Artificial feeding: The infant has had no breast milk but has had alternative liquid such as infant formula with or without solid food in the past 24 hours.

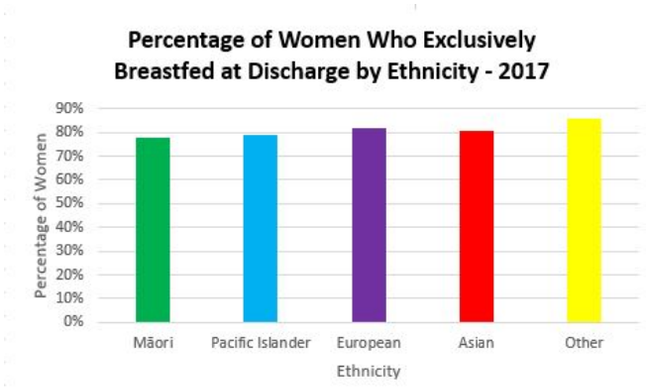
Exclusive Breastfeeding Rates at Discharge from Hospital

The BFHI target for exclusive breast or breast milk feeding is 75%. Ata Rangi Secondary Unit achieved an average of 84% on exclusive breastfeeding on discharge from hospital for the 12 months January 2017 to December 2017. This is a slight drop from the previous year 86% and is a reflection of a drop in nationwide breastfeeding statistics.

Waioha, a purpose built alongside Primary Unit was opened in July 2016. Waioha achieved an average of 93% exclusive breastfeeding in the 12 months from January 2017 to December 2017. Again there is a slight drop from the previous 6 months (92%) as reflected in national breastfeeding data.







Of the 2098 women who gave birth in Hawke's Bay in 2017, the breastfeeding status at discharge was unknown for 130 women and a further five women did not feed their babies before they were discharged. After excluding these 135 women, 80% (n=1573) of the remaining 1963 women exclusively breastfed at discharge from our services. Women of other ethnicities were most likely to exclusively breastfeed (n=18, 86%), compared to European (n=808, 82%), Asian (n=105, 81%), Pacifica (n=100, 79%), and Māori (n=542, 78%) women.

Infant Feeding Education and Service Provision

Breastfeeding education for all staff that have contact with pregnant or breastfeeding women occurs on an annual basis, according to BFHI requirements. The diversity of practice within the health professionals is recognised and consequently there is a variation of hours of education given to individual groups. For example, Obstetricians, Paediatricians and registrars now have ongoing education of (minimum) one hour yearly or three hours every three years. Registered Nurses and Midwives require four hours annually, including one hour clinical education on breastfeeding.

The risks of giving formula to infants is now well documented especially in the first few days of life. To reduce the possibility of infants being given breast milk substitute (BMS), the practice of antenatal expressing is now commonplace especially for women who are at a higher risk of delayed Lactogenesis II. Examples include diabetic mothers, multiple births, allergies, women in premature labour and women with poor lactation history. Anecdotal evidence shows a high patient satisfaction rate with this practice as many mothers are happy to be able to provide their infants with stored colostrum if required during the early postnatal period. Women also report more confidence with hand expressing and generally a good milk supply.

A Donor Milk Policy (unpasteurised) has been operating for three years now. This purpose of this practice is to reduce the use of BMS and offer mothers in the post-natal ward an alternative to formula if their infant requires supplementation. A significant barrier to providing donor milk is to source breast milk from a mother who has not tested positive for cytopmegaly virus (CMV) antibodies. The presence of these antibodies preclude some mothers from donating expressed breast milk. A recent audit of a small number of infants (n=10) who were given donor milk in the postnatal ward revealed that 90% of them were still exclusively breastfeeding at 3 months of age.

Services for Hawke's Bay maternity population and their whānau are diverse and frequent. They occur in the hospital and in the community and include:

Breastfeeding classes:

- Monthly breastfeeding classes - These are generally very well attended and family /whānau are always invited. They are held in the DHB Education Centre and run on the first Monday of every month. They outline the Ten Steps and include a practical demonstration of feeding with dolls, lecture and videos. Participant numbers vary between 18 and 40, including support people. An ongoing challenge is to attract Māori mama and whānau to both antenatal and postnatal classes and breastfeeding services. Local Māori health providers have now established weekend programmes to attract these mothers. A community initiative is also funding an in-home breast feeding service for infants from 6 weeks to 3 months.

Baby café and support on discharge:

- The Hastings Baby Café is presently running on Mondays and Fridays, between 1 – 3 pm, located at Little Elms, Orchard Road Hastings. The Napier Baby Café operates at the Napier Maternity Resource Centre, on Wednesday afternoons, between 1-3 pm. Numbers are consistent with regular attendance each week. Ongoing issues for the continuation of this service include funding and ability to staff the sessions with qualified Lactation Consultants.
- Wairoa has established a drop in Breastfeeding Clinic run out of Kahungunu Executive (KE). At present the only Lactation Consultant in Wairoa is a DHB Core Midwife. Wairoa now has several La Leche League peer support workers trained as a result of previous Breast Feeding Community Initiative (BFCI).
- Central Hawke's Bay has a Peer Support group of volunteers that visit mothers in their home for free. There is also a Lactation Consultant (paid by Parent Centre) who will do free home visits for women with more complex breastfeeding issues.
- Choices (HB Kahungunu Health Services) in Hastings has a Hapu Mama antenatal class that includes all aspects of antenatal education and breastfeeding.
- Several Hawke's Bay providers achieved BFCI in 2013. This has improved opportunities to educate

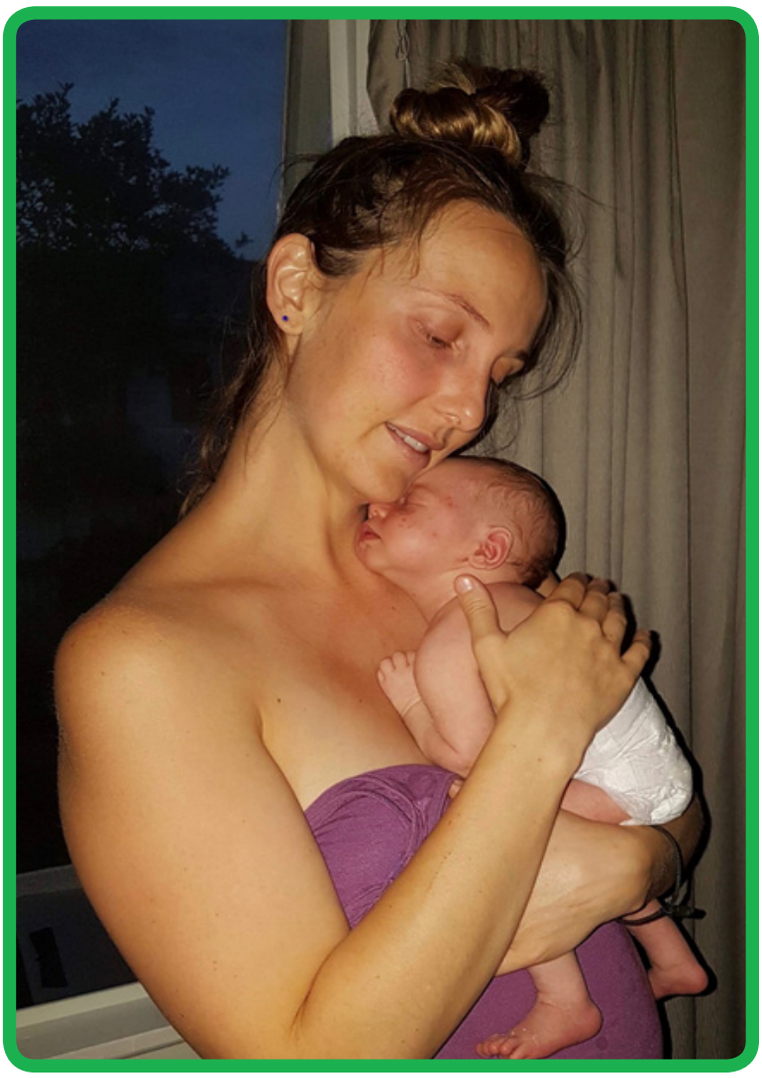
and inform employees and other contacts in the community, unfortunately this quality initiative has not continued due to lack of funding for any prospective audit.

Attendance at Baby Café

The number of women who registered at Baby Café in 2017 was 402, this does not include support people, casual drop ins or phone consults with Lactation Consultants. The numbers of Māori women attending remain steady at 13-15%, with the majority of women predominately NZ European. Napier Baby Café demonstrates a higher number of Māori and Pacific women attending. This is possibly the geographical location, being in the middle of a suburban community, opposite a Primary School, and held in a busy LMC practice (now the Napier Maternity Resource Centre). Baby Café is well utilised and promoted by Napier Midwives. Napier LMCs also make use of the resource centre, with many clients attending for ante and postnatal appointments.

Attendance at Baby Café fluctuates and we are unsure as to the reasons for this. Baby Café is a well-established community based resource for women needing further support and lactation consultant advice. There is a shift in the initial purpose of the establishment of baby Café. It has now changed from a resource for all breastfeeding women looking for company or casual support to those experiencing significant difficulties either mum or baby related.

The service is invaluable as it provides free access to lactation consultant support and feedback received from the women reflects the difference this community based service provides.



Clinical Education

By Sara Paley - Midwifery Educator

Recertification requirements for Midwives changed with the start of the new triennium in April 2016 and our planned education programme adjusted accordingly with Hawke's Bay DHB becoming an approved provider of Midwifery Education by the Midwifery Council early in 2017.

Under the new requirements midwives must attend a Combined Emergencies skills day annually, and demonstrate participation in ongoing education with a minimum of 8 hours elective education annually. The mandate for educators then was to meet the compulsory needs of midwives as well as offering a variety of optional education to stimulate and inform.

Emergencies Training

Participation in an annual combined emergencies skills day has been mandated by the Midwifery Council for a number of years. This day offers midwives the opportunity to refresh skills in midwifery emergencies, share knowledge and practice tips with colleagues, and update on new guidelines. In Hawke's Bay in 2017 we ran six combined emergencies skills days, meeting the recertification requirements of seventy two midwives. Topics for 2017 included maternal resuscitation, newborn resuscitation, management of shoulder dystocia, unplanned breech birth, and bleeding emergencies.

As an alternative in Hawke's Bay, once in the three year recertification cycle, midwives are encouraged to complete a full day Newborn Life Support course and a PROMPT course to meet their emergencies training recertification. These courses differ from the emergencies day as they are multidisciplinary and develop different skill sets for participants. Our midwifery leadership team feel that completion of all three courses in the three year cycle provides a sound platform of knowledge and broader teamwork and communication skills for midwives to enhance clinical practice.

A total of four Newborn Life Support courses, including one in our rural primary centre, and four PROMPT courses were run over 2017.

Registered nurses working in maternity attend either the generic DHB CPR training, or PROMPT and newborn life support annually.

Midwifery Practice Day

Fifteen midwives attended the final Midwifery practice day of the triennium. This day was a mandatory part of the previous recertification cycle and included sessions on maternal mental health, the developing abnormal picture and supporting women in latent labour. Themes of communication and documentation are woven throughout the day.

Feedback on this day has been consistently positive with midwives relishing the opportunity to reflect on practice and discuss challenges and opportunities in a safe environment.

Elective Education

Refresher Training

Each year the midwifery leadership team identifies topics for refresher training based on consumer feedback, adverse clinical events, or changes in practice. All midwives and nurses employed in maternity attend this day annually and it is offered to LMC midwives and SCBU nurses to attend if interested. Four hours of breastfeeding education is included in the morning and in 2017 the focus for the afternoon was Well Baby checks, including listening to lung and heart sounds, assessing red eye reflex and newborn hip checks.

Pathway to a Healthy Birth Workshop

In November we were excited to welcome Robyn Maude, PhD, MA (Midwifery), BN, RM, RN, PGCHLT, Senior Lecturer at the Graduate School of Nursing, Midwifery and Health, Victoria University as guest speaker at our Pathway to a Healthy Birth Workshop. Robyn presented research around water birth and assessing foetal well being in labour which was enthusiastically received. Other sessions explored building and supporting a cohesive midwifery/maternity culture, protecting the hormonal physiology of childbirth, creating a healthy birth environment, and active birth for women with identified risk. This was a stimulating day with great presentations from local and visiting speakers.

Stillbirth and Foetal Loss Workshop

Caring for women and whānau experiencing stillbirth or foetal loss can be challenging both mentally and emotionally for staff. Facilitating optimal investigations and care can be confusing and complex. To try and address some of the issues a multidisciplinary workshop focussing on this topic was developed. As well as local expertise from obstetricians and senior midwives, we were blessed to have support from Dr Jane Zuccollo, perinatal pathologist, providing lectures and a practical skill station around obtaining placental samples for histology.

As well as increasing the knowledge and confidence of participants around this topic, this workshop has led to the development of a pictorial guide to placental sampling and a review of our stillbirth guideline.

Dr Jane Zuccollo with Midwives Sue Boake and Angelika Mollmann at the placental sampling station.

Dr Kirsten Gaerty with Midwife Emma Mumford, examining and taking clinical photographs of a baby.

Collaboration with other teams

Family Violence Intervention Programme

Routine questioning and intervention around family violence is a priority for our maternity service as our regional statistics reflect the prevalence of this issue. In 2017 several maternity specific training days were offered in collaboration with our family violence intervention/child protection team. Thirty two midwives attended this targeted education including both LMCs and core staff.

Immunisation Update

Thirteen midwives attended a half day workshop run by the Immunisation Team, updating their knowledge around infant and maternal immunisations so they can offer the most up to date and factual information to families.

Developing the Next Generation
Student Midwives
For the past seven years Wintec has offered a satellite training hub for Midwifery students in Hawke's Bay in collaboration with Hawke's Bay DHB and this continues to grow in our community. The students bring energy and enthusiasm as well as fresh perspectives for our team. HBDHB and LMC midwives continue to give the students great support and learning opportunities in their clinical education, growing our midwifery workforce for the future.

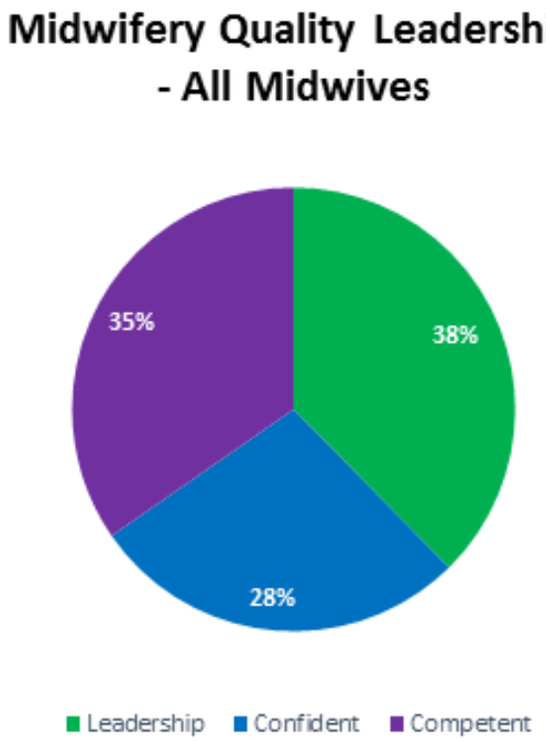
In 2017 we had an intake of eight students - with five successfully completing year 1. There were nine students in Year 2 and two in Year 3. The two third year students have now completed their studies and begun their first year of Midwifery practice; one in Hawke's Bay and one in Auckland.

Health Careers Expo
Before we can train our new midwives they must first have the desire to become midwives. As part of the HBDHB Incubator programme a Health Careers Expo was run in June. This provided the opportunity for secondary school students to talk with health professionals about careers in health, the pathway of study and the reality of the work. Wintec and Maternity services shared a display table which included several interactive elements. Reactions were mixed, largely depending on gender, but some genuine interest was expressed so we are hopeful of reaping the fruits of our labour.

Ann Taiapa Johnson, Sara Paley, and Judy Emmett with the Midwifery display at the DHB Health Expo.

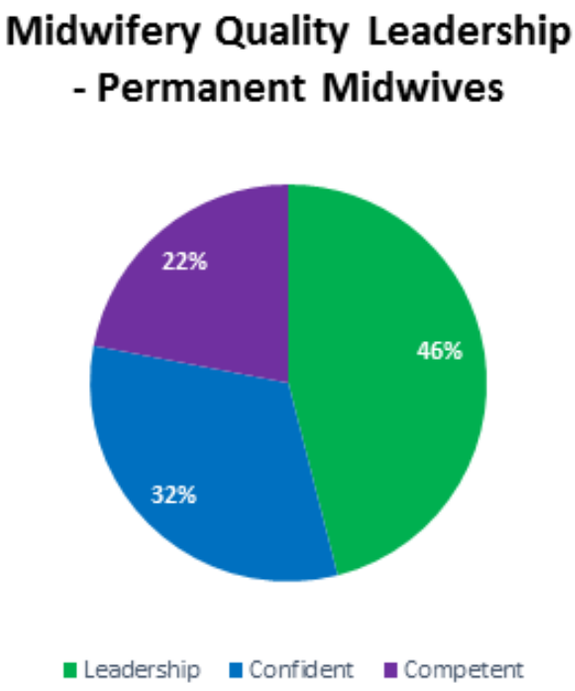
Developing Expert Practice
Complex Care
Four local midwives enrolled in the Postgraduate Certificate in Complex Care through Victoria University and AUT. This certificate is funded by Health Workforce New Zealand and aims to develop the midwife's practice in caring for women with complexity in their maternity experience. Two midwives were hospital employed and two were Lead Maternity Carers and all successfully completed the certificate.

Midwifery Quality Leadership
As at December 2017 maternity services employed 58 clinical midwives either permanently or on the casual pool. Of these, 22 (38%) had attained Leadership on the Midwifery Quality Leadership framework, and 16 (28%) Confident. This reflects the movement of midwives both in and out of our service since 2016, with Hawke's Bay maintaining a third of our workforce at leadership level with an increase in midwives at Confident level.



If midwives employed on the casual pool are excluded, the picture changes somewhat with 21 (46%) of midwives on the Leadership level and 15 (32%) on Confident.

In summary, permanently employed midwives are utilising the Midwifery QLP to recognise the added value they bring to the profession but there is work to do to encourage our midwives employed on the casual pool to access this allowance as they bring a wealth of experience to their role and are often working as Lead Maternity Carers congruently.



Registered Nurse PDRP

Although the nursing workforce within maternity is small, our nurses are an integral part of our service. Of the six nurses employed within maternity, three have achieved Level 4 on the nursing PDRP programme and one has achieved Level 3.

Your Birth, Your Power

By Donna Foote - Maternity Quality and Safety Programme Project Midwife

The Maternity Quality and Safety Programme Project Midwife role was developed to assist the Midwifery Director in the initiation of the Your Birth, Your Power project, and has been a busy role with lots achieved.

This project was initiated to continue the focus on achieving improved outcomes for our low risk women, in particular our standard primiparae. The other intent was to support a focus on positive birth experiences across our whole service and for our secondary service to benefit from the identified improvements that would come out of this project.

We started the project with a timeline to guide us, and on reflection, we have achieved most of these goals.

Key Activities

- Environmental audit conducted for positive birth outcomes
- Development of a Healthy Birth Pathway app
- Ongoing education and professional development opportunities

Environmental Audit

An environmental audit of Ata Rangi and Wairoa labour and birthing facilities, postnatal ward, and also the Waioha primary birthing centre was undertaken to determine short term easy improvements that may have a positive impact on the birthing outcomes for women. The Wairoa audit outcome is documented in their feedback.

It was apparent from the Hastings based audit that we could indeed improve the environment to create a more calming, welcoming space with recommendations socialised with the senior midwifery team and then throughout the units for feedback and actions. It was agreed that we could start with adding birth appropriate art, new curtains, and a comfortable chair (a lazy boy) for a support person in all rooms. Providing a vending machine for food in the whānau room on the postnatal ward was another agreed objective. A quote and placement plan for art is underway and should be in the unit in January of 2018. The plan for new curtains will be submitted to the Clinical Midwife Manager for consideration in the budgeted facilities improvements maintenance plan. Fundraising requests for lazy boys for support people will be explored early 2018. A vending machine for snacks has arrived and is in use by inpatients, family, and staff. Other improvements suggested will be reconsidered as we make small gains throughout 2018.

Creating a Better Birth Environment

Area / room / ward:

Audit completed by: Date:

Aspect	Standards	Score 2	Score 1	Score 0	Total score	Comments
Cleanliness	Clean	Completely clean. Bins empty	Reasonably clean. Bins empty	Dirt / waste / blood stains visible		
Decoration	Nicely decorated	High standard, well coordinated	Attractive, some wear and tear	Unattractive, shabby, or not coordinated		
Room quality	Homely looking Drink and snack facilities	Furnishing to good domestic standard, tea making facilities in room	Some institutional furniture, some visual interest, shared kitchen	Institutional furniture, dreary looking, vending machine in corridor		
Furnishing	Comfortable bed Comfortable chair	Comfortable, adjustable wide bed, plus at least one good armchair	An adjustable bed and upholstered chair	High or narrow bed that is not comfortable. Hard chair or no chair		
Space	Able to move / walk Able to move the furniture Pleasant place to walk	Good-sized individual room; bed at one side, or moved out if not required. Easy access to pleasant place to walk	Space not dominated by bed. Bed removed or pushed to one side. A place to walk about.	Limited space with bed(s) taking up most of the available room. Nowhere to walk about.		
Toilet	Easy access to a toilet	Sole use of en suite toilet	Toilet shared with one other room	Toilet shared and accessed via corridor		
Water	Easy access to: - shower - bath - pool	Birthing pool in room or en suite	Large bath or shower in room or en suite	No direct access to shower, bath, or pool		
Privacy	Not overlooked Not overheard No uninvited guests	Private space. Good sound insulation. Full respect for privacy	Not over-looked, but screening of door / window / guests could be improved	Sharing with others. Many people enter room. Could be overheard		
Control	Lighting Heating	Adjustable low level lighting and heating. Airy	Either heat or lighting adjustable, but not both	Overhead lighting / no control over heating		
Labour aids	Pillows, mats, bean bags	Pillows, mats birth ball, shelves beanbags	Pillows, plus some other comfort aids	Not enough pillows. No comfort aids visible		
				Total Points (maximum 20)		

The National Childbirth Trust Better Birth Environment Audit Checklist © 2003

The tool used to conduct the Hastings based Enviromental Audit

Healthy Birth Pathway Tool

The Healthy Birth Pathway Tool from Childbirth Connection.org was explored as a tool that could be adapted to our service and used to educate women and clinicians about the hormonal physiology of normal birth and how to keep on a normal birth pathway. Some time was spent changing the language to reflect our consumers and model of care in New Zealand. The art work was sent to our Communications design team and we had a trial document that we then socialised with lead maternity carer (LMC) midwives, the Obstetrics and Gynaecology team, consumer representatives, and our Wairoa team. After receiving much feedback and redesigning, it was eventually agreed that the document was unwieldy and unusable in that format and that the Healthy Birth Pathway would be more effective if developed as an app. This app could be designed specifically for our maternal population's demographics and would be a valuable tool for women to navigate their pregnancy care, education, and preparation for birth in collaboration with their LMC/clinician. It is with much excitement that we plan to investigate how we can fund and develop this for our women and this will be the focus of 2018.

Professional Development

A study day for the Pathway to a Healthy Birth was facilitated on November 20th 2017. We focused on all things that impact on birth outcomes and how to improve normal healthy birth. The start of the day was dedicated to "Building a supportive cohesive midwifery/maternity culture." We started by asking about our role models in maternity care, what we admired about them, and how we assimilate this into our own practice. This was a powerful session that evoked a lot of emotion and took us all on a journey. There were stories of inspiration and aspirations that raised awareness amongst us, as a group, who have worked together without knowing about our role models. The session ran well overtime, but was considered so valuable that we continued. This led to discussion about organisational behaviour, how we change how we practise dependent on our setting and colleagues: primary versus secondary care, LMC versus District Health Board (DHB) midwives, and home versus hospital. Language we use and the influences of the environment were also explored. Feedback from this session was overwhelmingly positive and was requested to be repeated on a frequent basis.

The Healthy Birth Pathway was presented and feedback collected. The plans to develop an app were met with strong support to see this through to fulfilment.

We were lucky to have as our guest speaker Dr Robyn Maude, a Senior Lecturer at Victoria University, who led a session on water birth. We benefited from the robust research presented that demonstrates positive outcomes for all women to use water in labour and most to birth in water. Continuous fetal monitoring being the only barrier to water births, water telemetry being available should support this, but often poor cardiotocography (CTG) contact restricts choices. There are no findings to support preventing women from water birth in the secondary setting.

We enjoyed a session presented by DHB Midwife Aisling Armenanzas-Crowley on the support person's role and how to assist the support person. Education antenatally was the key message here, with suggestions of creating the environment to encourage physiological birth running concurrently; low lights, comfortable seating, warm facecloths with refreshing aromatherapy, a vaporiser running, and back, neck and shoulder massage. All of these suggestions highlight the small things that can be done to improve the environment and provide comfort.

We then had Dr Maude share her research on assessing fetal wellbeing with intermittent auscultation. Admission CTGs on low risk women have been reducing with the advent of Waioha, but it was good for practitioners to be reminded of the research that supports intermittent auscultation and for some to hear it for the first time. Feedback states that they will feel more supported with intermittent auscultation in their practice.

Our secondary midwives talked about active birth with identified risks. Robust discussion in the room generated lots of thoughts around how we support women to labour and birth with continuous CTG and intravenous (IV) infusions. It was agreed that we do some of reassuring actions, but often forget to offer alternative comfort measures. Changing the environment and assisting the support person was weaved into this discussion.

Our Midwifery Director, Jules Arthur, and I then presented the research paper from Dr Sarah Buckley around protecting the hormonal physiology of childbirth. We focused on epidurals and syntocinon infusion, and short term benefits versus long term effects. This was a power point presentation with a question session at the end asking what this meant for women and what this meant for us. Feedback included "Encouragement of women to avoid epidural where possible". True informed consent around epidural administration and syntocinon infusion is not truly obtained, if we are not educating women about the fetal effects of an epidural and the long term effects on the women, as suggested in Dr Buckley's research.

We had then run over time, so ended the day with a pelvic floor dance to remind us about this important education for women. Overall, this was a successful day with robust feedback wanting more days like this to keep our Healthy Birth Pathway forefront to our practice.

Throughout this project role we continued to run weekly breakfast club meetings to provide robust discussion and critical thinking, and share stories and practice wisdom between LMC and DHB midwives, all helping to improve the interface between us. This breakfast club is attended with variable numbers and mix; it has been interesting to note that more DHB midwives are attending. There is a clear difference in how we practise, but the feedback is that we can hear each other's stories and weave these into our culture and build a supportive cohesive workforce. After our study day, when a request for more story telling time was provided, it was reinforced that one of the purposes of this breakfast club is to have this time of shared experiences and learning from each other.

A Hawke's Bay Consumer Story

My journey started in May 2017 when we found out we were expecting #2. My lovely partner (Jared) and I were surprised but excited for the future.

From the beginning I knew something was different about this pregnancy as I was so unwell before we received the news we were expecting. It wasn't long before I had to leave work and start medication to help with nausea. Fast forward to 30 weeks my sickness got so bad I couldn't eat, drink, or look after my 2 year old daughter. I soon realised something was different and I went to Rangi to receive treatment for hyperemesis gravidarum. I was severely dehydrated, fainting, vomiting, the list goes on.

The staff in Ata Rangi were all so caring, kind and supportive as it was a mentally and physically hard time for us.

Countless hospital visits, medication changes and fluids later it was time for our little girl to make her entrance. At 38+3 weeks I had a terrible night of sickness and woke up feeling exhausted and emotional feeling like this will never end. Jared decided to call his work and have the day off to help me get through this hard time. 1 minute later at 7.30am my waters broke. Jared and I jumped for joy knowing this hard time in our life is almost over!

1 and a half hours later we went over to Waioha and prepared for our little girl to come. Once my midwife arrived she filled a lovely deep warm bath that instantly provided relief. It was a quick progressing labour but I knew it was a blessing. 10.41am I gave birth to Frankie Mabel in the pool. Tears of relief and happiness flooded out of our eyes and the first thing we could say was "we did it, she's perfect!" We are incredibly blessed.

Instantly I feel 100% better!

We stayed in Waioha for 1 night in the beautiful new and improved rooms. I love how spacious and 'homely' it felt. The staff were all very helpful and supportive in all ways after the birth. Breastfeeding was a challenge for me but the staff did all they could to help.

I thoroughly enjoyed my birth experience and we are currently enjoying our time with Frankie, she has completed our family. Thanks to all the staff at HBDHB for great antenatal and postnatal care. We are truly blessed to live in a place with such great care available.

Clinical Research

By Dr Kirsten Gaerty - Obstetrician and Gynaecologist

Hawke's Bay is part of the ON TRACK NETWORK, a national network to improved engagement with clinical research and I am the local site coordinator.

The network provides a monthly update featuring trials happening around NZ and bite sized updates highlighting important research papers, which may influence our practice. It has been really pleasing to see that most of these evidence based practice points we had already adopted by the time they featured in the newsletter, or were able to make successful changes to practice within a short time frame.

We successfully recruited four mums and five babies to the MAGENTA (Magnesium Sulphate at 30-34 weeks – neuroprotection) trial which has now completed recruitment. We will await with interest the results of this trial to see if the use of magnesium sulphate at later gestations will become part of our routine practice. Participating in this trial was an exciting start for us, as it was the first multicentre trial we have participated in which was driven by Obstetrics.

As a unit, we have also participated in the HPOD (Hypoglycemia Prevention with Oral dextrose) and TARGET (Optimal Glycemic Targets for Gestational Diabetes) trials, being led by the Neonatal team and Endocrine teams respectively.

Local site approval for the OBLIGE (Outpatient Balloon versus Inpatient Gel for starting Induction) trial was obtained with recruitment due to start in 2018. This a New Zealand based multicentre randomized controlled trial with the potential to change the way we manage induction of labour. As a DHB it is an exciting opportunity to develop our research culture further with support from a NZ team based in Auckland. Louise Gelling has taken on the role as research midwife on this project to work alongside me as the local principal investigator and we look forward to involving you all in this trial where possible.

For the best outcomes for mums and babies, and to ensure our practice is evidence based, we must include research as part of our everyday clinical practice and I will continue to work to encourage people to embrace this philosophy.

Cook Catheter Trial Evaluation Summary

By Dr Kirsten Gaerty - Obestetrician and Gynaecologist

Background

The Cook Cervical ripening balloon with stylet, which allows for cervical ripening in a 12 hour period, was approved for a trial via Production Evaluation Committee in 2017. The potential advantages over other forms of induction of labour (IOL) include:

- cost savings
- increased clinical options
- safety particularity in high risks cases
- improved patient satisfaction in the overall induction process.

The point of care feedback sheet was only occasionally completed, meaning notes had to be pulled to collect data, resulting in a considerable delay in evaluation of the product. (This issue needs to be considered in future product trials.)

Summary of findings

The first Catheter was used on the 10th of August 2017 and in nine months 52 were used, which equates to five or six per month. Based on 2016 numbers (405 IOL in 12 months), this equates to use in 17% of inductions.

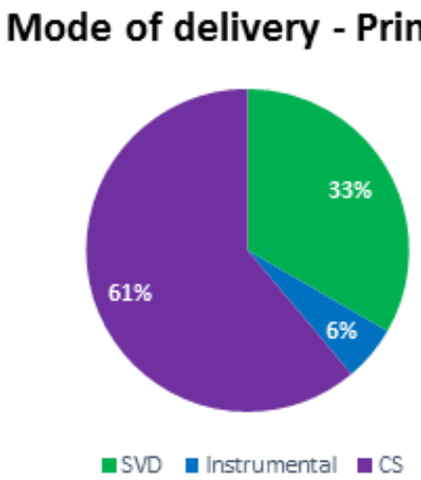
No significant adverse events were reported. The protocol put in place for the insertion and use of the catheter has been well utilised and followed, and appears to be suitable for ongoing use without amendment.

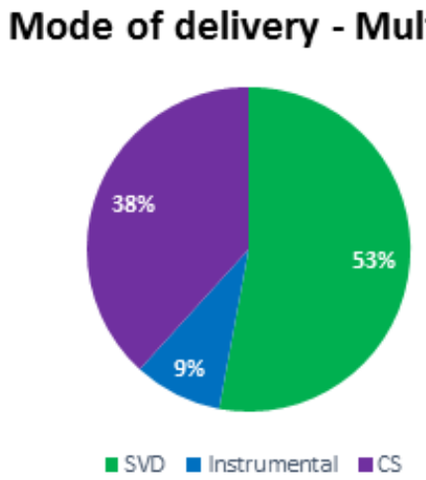
During the trial, the use of the balloon was available for induction of labour to any woman that the clinicians chose to discuss it with, although it was encouraged for women with a previous caesarean section (CS) or intrauterine growth restriction (IUGR). Of the 52 cases, 18 (35%) were primips and 34 were multips (65%). Eighteen (35%) cases had a previous CS, which is 53% of the multips. Twenty-one (40%) cases were induced due to IUGR (40%) and the remaining 13 (25%) were for indications other than previous CS or IUGR. It is important to note that both previous CS and IUGR (75% of cases) are high-risk indications for requiring a CS during the process of IOL and this must be considered when looking at the mode of birth outcomes from the trial.

The balloon was highly successful at achieving cervical ripening with 48/52 (92%) women being able to have an artificial rupture of membranes (ARM) following removal of the balloon. This included 3 cases where the balloon was used after a failed prostaglandin (PG) induction.

The average time from placing the balloon catheter to delivery was 23 hours, which includes the 12 hours for the balloon to effect cervical ripening. The time the syntocinon was required was only available in 41 (78%) cases at the time of this report. For these 41 women, the median time syntocinon was required was 6 hours, with a minimum of 75 minutes and maximum of 21 hours.

Mode of birth following the use of the balloon has been analysed by both indication and parity, and compared against the rates of delivery of IOL overall.





Higher proportions of multips (n=18, 53%) went on to have spontaneous vaginal births (SVB) and instrumental births (n=3, 9%) compared to primips (n=6, 33% and n=1, 6%, respectively).

Overall the vaginal birth rate after a Cook Catheter is lower than the general IOL numbers, however it has to be remembered the higher risk nature of the patients in whom 75% of the Cook Catheters were trialled. The following table compares prior IOL audit findings to the Cook Catheter data.

The rates of vaginal birth are 49% in women induced due to IUGR and 44% for women with previous CS. We do not have earlier rates to compare the outcome from IOL in these specific groups. We will aim to look at vaginal birth rates in these individual groups in our next IOL audit, with 2018 data, to have a more standardised comparison for the future.

	2015 IOL Audit	2016 IOL Audit	2017 Cook Catheter Trial
N	88	59	52
% IUGR	primips - not in 4 most common indications 11% multips	6% primips 32% multips	40% total 57% primips 26% multips
% previous CS	Unknown	Unknown	34%
Primiparous vaginal birth rate	44% SVB 12% Instrumental = 56% Vaginal	47% SVB 29% Instrumental = 76% Vaginal	33% SVB 6% Instrumental = 39% Vaginal
Multiparous vaginal birth rate	81% SVB 4% Instrumental = 85% Vaginal	88% SVB 0% Instrumental = 88% Vaginal	53% SVB 9% Instrumental = 62% Vaginal
Postpartum haemorrhage	23% 500-1000ml 14% >1000ml	12% 500-1000ml 5% >1000ml	10% 500-1000ml 0% >1000ml

Five patients had a postpartum haemorrhage (PPH) of more than 500ml, none of these were over 1000ml. This is less than the rates of PPHs in the prior IOL audits.

Twenty-nine (56%) patients used epidural for analgesia. In the 2016 IOL audit, which was the first to look at the rate of epidural use, this was 65% This is high compared to the rate of epidural use in the general population of only 15%, but the Cook process itself does not appear to increase the epidural rate.

The use of a balloon does change the timing for one-on-one care, but also allows some predictability and overall appears to have been received as a good option by the clinical midwifery co-ordinators that oversee the labour and birthing suite. At the start of the trial it was stipulated only one catheter would be booked on any one day, to allow for staffing planning, and this appears to have worked well.

The data set for patient satisfaction was very small, with only 12 (23%) replies out of 52 cases. The average pain score (where 0 = no pain, 10 = great pain) for these 12 women was 3.5, with a range from 0-8. Four (30%) women would choose a Cook Catheter again, while eight (60%) would prefer something less invasive. In retrospect, we should have asked about satisfaction with the whole process, rather than just the insertion, to be more clinically useful.

At the start of this trial, many of our registrars were not familiar with inserting Catheters for cervical ripening, as Foleys had been used very infrequently. Therefore, there has been a learning curve, following which patient satisfaction is likely to increase. It is also important that women's expectations are appropriate; the procedure needs to be explained well. We do not have satisfaction data to compare to PGs, which as a one off dose may be less invasive, but when multiple doses are required may not necessarily be seen as a less invasive option.

Conclusions

The Cook IOL has proved to be useful, in a select group of patients, to provide a safe option for IOL - especially those with a previous caesarean section and those with severe growth restriction, where there are concerns about the use of prostaglandin gel. The PPH rate was reduced and the epidural rate has not increased.

The need for the double balloon to only be insitu for 12 hours is a very clear advantage when we have run out of Cook catheters and had patients on the ward with a Foley in for 24 hours.

Vaginal birth rates are lower than previous local data for IOL, but this is a particularly high-risk group of patients and there is considerable fluctuation between rates for the two earlier local audits. The IOL audit will be repeated again for 2018 data. Clinical trials report vaginal birth rates as comparable between prostin and balloon when these trials use comparable groups for IOL. It is not surprising to see a lower vaginal birth rate and this was anticipated prior to starting the trial.

While staffing resource was a potential issue, the use of the catheters has been well received by the Clinical midwifery coordinators in the labour and birthing suite, especially as it is not used for all women to be induced. This was due to the staggering of the placement of the Cook Catheter to the evening, with most IOL started in the morning, and the predictability of timing for when one to one staffing will be required.,

Further information and care in counselling the patient prior to use of this product, is important to manage the expectations of the process and we will need to review the patient information sheet.

Following this trial, the Cook Catheter will only be offered for those high-risk patients with previous CS and IUGR , or at the discretion of the Obstetric consultant in selected cases, while we participate in the OBLIGE trial. (The OBLIGE trial is a national randomised controlled trial assessing outpatient prostaglandin versus inpatient PG gel for starting induction.) These high risk patients are not eligible for inclusion in the OBLIGE trial. Our use of balloon catheters will likely change again following the results of the OBLIGE trial, but as this trial is in the early stages of recruitment, it will likely be at least two years before this data is available.

Further analysis of the Cook data needs to be done to review the reasons for CS, particularly in the primips, and if the decision point to declare a lack of progress in labour needs to be different after a Balloon catheter.

Newborn Services

Newborn Services

By Dr Oliver Grupp - Consultant Paediatrician

SPECIAL CARE BABY UNIT
HAWKE'S BAY FALLEN SOLDIERS' MEMORIAL HOSPITAL
ANNUAL CLINICAL REPORT 2017

Dr Philip Moore, Clinical Director of Community, Women and Children Directorate
Dr Oliver Grupp, Paediatrician and Neonatal Lead
Michelle Robertson, Clinical Nurse Manager
Patrice Nicol, Associate Clinical Nurse Manager
Di O'Conner, Nurse Educator
Australian and New Zealand Neonatal Network data entry: Kay Hodson, Mercy Jenson

The Special Care Baby Unit is staffed with 19 registered nurses (13.7 FTE).
Five staff nurses have completed postgraduate papers in 2017.

Special care nursery (Level 2): 10 cots
High dependency care (Level 3): 2 cots
Transitional care/rooming in facilities: 3 rooms

Abbreviations:

ALOS	Average Length of Stay
EOS	Early Onset Sepsis
CPAP	Continuous Positive Airway Pressure
HB	Hawke's Bay
HBDHB	Hawke's Bay District Health Board
NE	Neonatal Encephalopathy
NEC	Necrotising Enterocolitis
PMMRC	Perinatal and Maternal Mortality Review Committee
ROP	Retinopathy of prematurity
SCBU	Special Care Baby Unit

Definitions:
Neonatal death is the death of any baby showing signs of life at 20 weeks' gestation or beyond, or weighing at least 400g if gestation is unknown, that occurs up until midnight of the 27th day of life. (PMMRC)

Summary

The number of live births in the Hawke's Bay region has gradually declined over the last ten years from over 2,300 live births annually, to about 2,100 per annum, but has been stable over recent years. The birth rate for Māori and Pacific Islanders has remained stable. The five year average shows a slightly higher admission rate to the Special Care Baby Unit (SCBU) for Māori (16.3%) and Pacific babies (15.6%) compared to babies of other ethnicity (15.1%). There is an ongoing trend of an increased rate of at risk pregnancies in Hawke's Bay including premature delivery, low birth weight, young maternal age, socioeconomic deprivation, and ethnic group (Māori and Pacific Islander) compared to the national average.

This report highlights admission data that is associated with potential risk factors for neonatal morbidity such as prematurity, low birth weight, male gender, assisted or planned delivery, multiple births, ethnicity, young mothers, and socioeconomic deprivation.

Hawke's Bay has seen a surge in birth rate in 2017 (2122 live births) compared to previous years, but a lower number of admissions to the SCBU (310 infants) compared to 2016 (363 infants). However, in 2017 the average occupancy rate in SCBU has increased to 85.1% and there were 224 days with an occupancy greater than 80% (the recommended average for high dependency units). While the average length of stay (ALOS) for term babies continues to decline (3.5 days per baby in 2017), the ALOS for premature babies has increased (21.9 days). This may highlight the increasing appreciation of the need for supported transitional care of at risk mothers and babies.

It appears that previously implemented strategies to reduce the length of stay remain effective for term infants, e.g. follow up by the neonatal homecare nursing service, guidelines for management of at risk infants in the postnatal ward, increased treatment thresholds for jaundice, and shortening the treatment interval for suspected early onset sepsis (EOS).

The number of admissions for treatment of suspected EOS remains high (174 babies), as does that for the management of hypoglycaemia (74 infants). The number of infants receiving phototherapy for jaundice in the SCBU has declined. The number of babies treated with non-invasive ventilation support (continuous positive airway pressure, CPAP) has increased (136 infants in 2017), but there were only seven babies needing mechanical ventilation. The SCBU in 2017 saw nine babies with pneumothoraces, ten babies with retinopathy of prematurity, and four babies with necrotising enterocolitis (NEC). There was a further increase of central venous access (20 neonates) and umbilical vein catheteristaion (26 neonates) compared to previous years.

New guidelines were implemented for minimally invasive surfactant therapy, chest drain insertion (Safe-T-Centesis) and prophylactic treatment with probiotics to prevent NEC.

The Maternity Service continued to screen newborn infants for critical congenital heart disease with the pulse oximetry assessment.

In 2017, the Newborn Service continued to contribute a number of babies to national studies, including the hPOD, Oxybaby and Magenta studies.

Service Specifications

The Hawke's Bay District Health Board (HBDHB) provides a special care baby nursery (Level 2+) to meet specific regional and geographical requirements. As per the Ministry of Health specifications, there is a link to the regional Neonatal Intensive Care Unit (NICU) in Wellington (Level 3).

The Special Care Baby Unit (SCBU) has twelve resourced neonatal cots, including two cots for high dependency care, and admits approximately 300-350 neonates annually. This is an approximate annual average of 15% of babies born in Hawke's Bay (HB).

The Newborn Service is prepared to treat unwell newborn infants, including babies who are born very premature (<32 weeks' gestation). The Unit can provide non-invasive respiratory support (high-flow oxygen, CPAP), mechanical ventilation, total parenteral nutrition via central lines, and passive cooling. Babies who need surgical treatment, or babies born extremely premature (<28 weeks' gestation or birth weight <1000g), are transferred to the NICU in Wellington. Babies who are born with severe congenital heart lesions are transferred to the Paediatric Cardiology Service at Starship Children's Hospital, in Auckland.

The Children and Youth Services at Hawke's Bay Fallen Soldiers' Memorial Hospital provide a structured follow up program for infants born very or extremely premature, and those who have other significant risk factors associated with impaired long-term outcomes. There is a dedicated Neonatal Home Care Nursing Team to support families after discharge and the Child Development Service provides an expert team of visiting neuro-developmental therapists for ongoing monitoring and treatment in the home.

Hawke's Bay Population

According to the 2015 report of the New Zealand Child and Youth Epidemiology Service (NZCYES), Hawke's Bay had a higher rate of babies born at moderate to late prematurity (32-36 week gestation), with low birth weight, and to mothers with diabetes in pregnancy compared to the national average, particularly for Māori, those living in the most deprived areas, and young mothers. The overall rate of premature delivery (8.4 per 1000 births) and teenage births (37.1 per 1000 births) was higher in Hawke's Bay than nationally (7.5 per 1000 births and 24.4 per 1000 births, respectively).

The 2017 report of the NZCYES provides an overview of the "Health and wellbeing of under-five year olds" indicators in HBDHB (Table 1). A number of risk factors are worse in HB compared to the New Zealand average. Indicators where HB is doing better than the national rate are highlighted.

TABLE 1: NZCYES report of 2017 – Health and wellbeing indicators in HBDHB

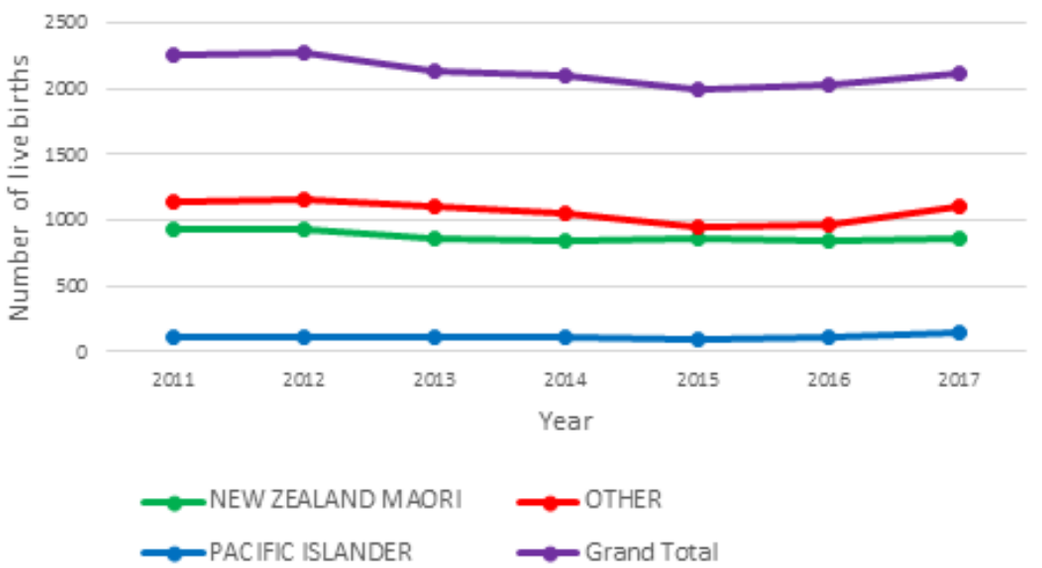
Indicator	Period	Hawke's Bay number	Hawke's Bay rate	NZ rate
Women not registered for antenatal care	2015	75	3.75	4.45
Maternal smoker registered for antenatal care	2015	521	27.04	15.52
Maternal BMI: obese (≥30.0 kg/m2)	2015	487	25.27	23.92
Preterm births (under 37 weeks gestation)	2015	160	7.96	7.32
Low birth weight live born babies	2015	122	6.07	5.72
Fetal death rate	2010–2014	84	7.47	6.87
Infant mortality	2010–2014	69	6.18	5.23
Infants exclusively or fully breastfed at 6 weeks	2015	1084	70.9	68.67
Infants exclusively or fully breastfed at 3 months	2015	981	54.9	57.61
4–5 year olds measured as obese at B4 School Check	2016	232	9.86	8.06
Immunisation coverage at milestone age: 24 months	Apr–Jun 2017	487	94.75	93.4
Proportion of 5 year old children free from dental decay	2015	1184	54.44	59.47

Neonatal Outcomes

In 2017, there were 2,122 live babies born in the HBDHB's area. The mothers of 862 (40.6%) infants identified as Māori, the mothers of 147 infants as Pacific Islander (6.9%) and 1,113 (52.5%) as other ethnicity.

While the overall birth rate in Hawke's Bay has declined from over 2,300 births in 2007 to about 2,000 births in 2015, there has been an increase over the last two years. The birth rate remains reasonably stable for Māori and Pacific peoples, in 2017, but there has been an increase for women of other ethnicities (Graph 1).

GRAPH 1: Live births at Hawke's Bay DHB, 2007-2017



Data published by the Ministry of Health, in 2017, demonstrates that national foetal and neonatal death rates remained largely unchanged between 1996 (3.9 per 1000 live births) and 2014 (4.1 per 1000 live births). There is no clear trend for neonatal mortality in Hawke's Bay over the same time period (Graph 2).

Independent risk factors for neonatal death are low birth weight, prematurity, Māori or Pacific ethnicity, socioeconomic deprivation, and maternal age <20 years or ≥40 years (Table 2).

TABLE 2: Neonatal death rate per 1000 live births, by sex, ethnic group, maternal age group, deprivation quintile of residence, gestational age, birth weight and district health board, 1996–2014

Year	96	97	98	99	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
HAWKE'S BAY																			
HB DHB Total	7	3.5	3.5	3.2	4.1	2.3	4.9	2.9	5.5	3.2	5	2.1	2.1	2.9	4.3	4.9	1.3	4.5	2.9
AVERAGE NEONATAL DEATH RATES FOR NEW ZEALAND																			
NZ average	3.9	3.6	3	3.2	3.8	3	4.1	3.3	3.4	3.1	2.7	2.5	2.9	3.1	3.6	3.2	3.1	3.3	4.1
Sex																			
Male	4.2	3.8	3.4	3.4	4	3.1	4.3	3.6	3.4	3.8	2.9	2.6	3.5	3.2	4.1	3.3	3.3	3.8	4.1
Female	3.5	3.5	2.5	2.9	3.5	3	3.7	2.9	3.3	2.4	2.6	2.5	2.2	3	3.1	3.1	3	2.9	4
Ethnic group																			
Māori	4.8	4.7	3.4	3.7	3.8	3.8	5.2	3.5	2.8	3.4	3.5	2.7	3.5	3.8	3.6	4	3.3	3.4	4
Pacific peoples	3.1	5.1	4.4	2.9	6.7	3.4	4.4	4.9	4.9	4.6	2.8	3.1	3.6	3.5	5.6	3.4	4.7	5.1	5
Asian	2.7	1.6	1.8	2.5	1.4	2.2	2.6	2.9	3.5	2.5	2.6	1.4	2	2.5	2.7	2.4	2.4	2.8	4.2
European or Other	3.7	3.1	2.7	3	3.5	2.6	3.6	2.8	3.3	2.8	2.3	2.5	2.5	2.7	3.3	2.8	2.8	3	3.9
Maternal age group (years)																			
<20	2.7	5.2	2.5	4.9	5	6.3	6.3	4.2	6.1	5.4	5.2	3.4	4.9	5.9	5.2	7.4	4.9	8.5	6.3
20–24	5.1	4.3	4.2	3.1	3.7	3.9	4.6	5.1	3.3	3.3	3.3	2.9	3.5	5.1	3.4	3.3	3.7	4.3	4.1
25–29	3.6	3.4	2	3.2	3.3	2.8	3.3	2.8	2.9	2.9	2.9	2.8	2.6	2.3	3.4	2.5	3.1	3.1	3.9
30–34	3.4	3.1	2.9	2.6	3.9	2.6	3.7	2.4	3.5	2.7	2	2.1	2.4	2.2	2.5	2.5	2	1.9	3.9
35–39	3.9	2.8	2.8	3	3.8	1.6	4.5	3.1	2.5	2.1	1.7	2.1	2.5	2.4	4.4	3.4	3.2	2.6	3.5
≥40	7.1	5.6	4.8	4.8	3.8	3.6	3.8	3.8	3.8	7.5	4.1	2.5	1.2	2.4	5.3	3.5	4.5	5.3	4
Deprivation quintile																			
1 (least deprived)	2.1	2.9	1.8	2.6	2.9	1.7	3	1.9	3.5	2	1.7	1	2	1.6	2.5	1.4	2	2	2.4
2	4.5	2.8	3.1	3.5	3.7	1.9	4.6	2.3	3.1	2.7	2.2	2.8	1.8	2.4	2.8	2.7	2	2.4	3
3	2.3	3.4	2.9	2.1	3.8	1.9	4	3.5	2.8	2.1	2.3	2.1	2.7	2.5	3.3	2.8	2.7	3.1	4.1
4	5.1	4.5	3	3.9	3.6	3.7	3.1	3.9	2.9	3.6	2.9	2.9	3	3	3.6	3.3	2.9	3.8	3.7
5 (most deprived)	4.4	3.9	3.5	3.4	4.5	4.6	5.2	3.9	4.3	4.4	3.8	3.3	3.9	5	4.9	4.7	5	4.4	6.1
Gestation (weeks)																			
<28	393.7	406.5	308.9	353.4	364.8	364.4	398.8	324.1	358.6	333.3	327.1	279.7	301.9	365.6	414	397.8	390.8	401.3	459 .1
28-31	41.2	32.2	29.9	32.8	22	28.6	32.3	30.2	36.2	27.2	14.6	14.2	37.7	32.3	27.1	37.3	32.6	29	16.6
32–36	9.8	10.8	7.8	5.6	6.4	5.8	5.7	7.4	4.6	6.9	5.6	4.7	5.2	6.4	6.7	6.4	3.8	6.7	5.5
37–41	1.2	1	1	0.9	1.1	0.8	1	0.9	1	0.9	0.7	0.7	0.8	0.9	0.8	0.7	0.8	0.7	0.9
≥42	2.6	1.2	1.2	0.5	1.1	1.7	3.7	0.6	1.8	0.5	1.1	1.6	0.5	0	1.1	3.1	0.7	0.9	0
Birth weight (grams)																			
<500g	977.3	-	848.5	888.9	830.8	826.1	820.9	770.8	800	673.9	750	693.9	630.8	716.7	869.6	936.5	680.6	907.7	821.1
500-999g	285	220.8	225.1	246.8	259.6	253.4	273.1	240.5	266.1	258.6	201	217.6	226	270.4	287	244	305.9	273.1	297.7
1000g–1499g	41	53.8	28.3	45.1	38.4	23.3	42	36.8	33.3	27.7	43.8	17.7	46.2	26.4	29.2	39.8	39.3	28.4	28.8
1500g–2499g	13.4	9.4	8.1	8.3	5.4	7.7	5.6	9	6.7	9.8	5.6	5.4	6.6	6.9	7.7	8.7	6	8.1	9.3
2500g–4499g	1.2	1.2	1.1	0.7	1.2	0.8	1.1	0.9	1.1	0.9	0.9	0.8	0.8	1	1	0.8	0.7	0.7	0.8
≥4500g	2.2	5.9	1.5	2.7	5.3	0	1.5	1.9	0	1.2	0.6	1.1	1.1	1.8	0	1.2	0.6	1.3	0.7

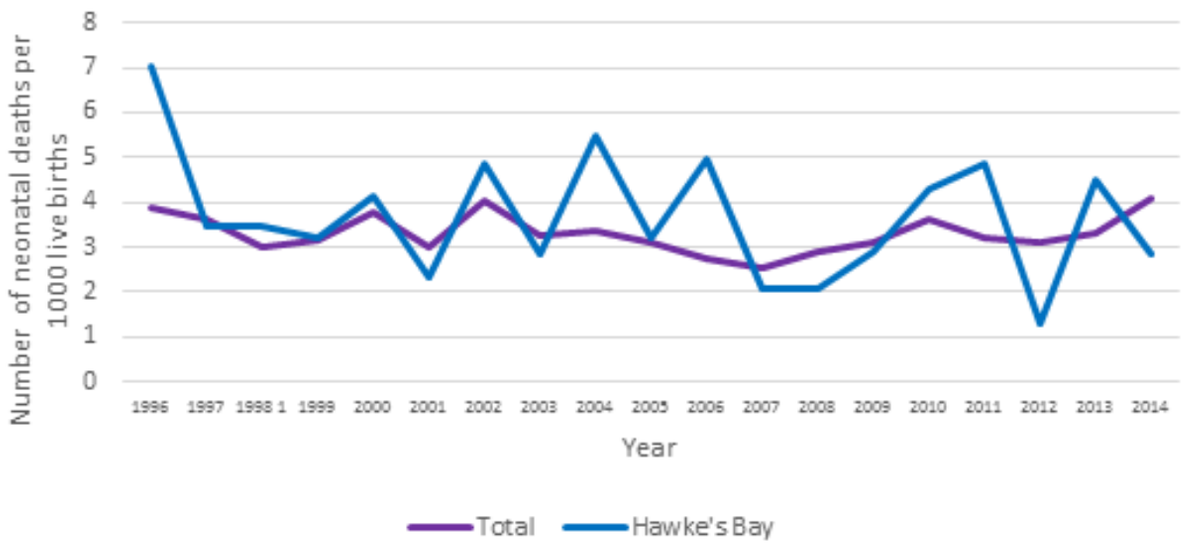
Fetal and Infant Deaths 2014. Analytical Services Ministry of Health, published on 31 October 2017. Data from the Ministry of Health's Mortality Collection.

The 12th annual report of the Perinatal and Maternal Mortality Review Committee (PMMRC), published in 2018 on outcomes of 2016, states:
Neonatal mortality has not reduced in New Zealand in the last 10 years, as it has in other countries we compare our outcomes to, such as the UK and Australia. The neonatal death rate was 2.6/1000 live births in 2007 and 2.5/1000 live births in 2016.

Survival of live born babies from 23 to 26 weeks' gestation was statistically significantly higher for babies born at tertiary units than babies born at secondary units.

There were significantly higher neonatal death rates for babies without congenital anomalies of Māori, Pacifica, and Indian mothers compared to mothers of other ethnic groupings.

GRAPH 2: Neonatal Death Rates in Hawke's Bay versus New Zealand (1996-2014)
Fetal and Infant Deaths 2014, Analytical Services Ministry of Health, published on 31 October 2017. Data from the Ministry of Health's Mortality Collection.



Neonatal Condition at Birth

The Apgar score (devised by Dr Virginia Apgar, 1952) gives a clinical indication of a baby's condition immediately after birth. It is a numerical score based on five characteristics: heart rate, respiratory condition, muscle tone, reflexes, and colour with a maximum possible score of 10. A low score (<4) at one minute of age indicates a baby is considerably compromised and requires specialised resuscitation.

Table 3 demonstrates poor Apgar outcomes by ethnicity in 2017. Of 20 Pacifica babies admitted to the SCBU, four (20.0%) had an Apgar of <4 at one minute of age and three (15.0%) had an Apgar of <7 at five minutes of age, significantly higher than those seen for Māori (n=10, 7.6% and n=11, 8.3%, respectively) and babies of other ethnicity (n=14, 8.8% and n=10, 6.3%, respectively) admitted to the SCBU.

TABLE 3: Apgar by Ethnicity of SCBU admissions in 2017

	Apgar 1 min < 4	Per admissions of ethnic group	Apgar 1 min < 7	Per admissions of ethnic group	5 min Apgar < 7	Per admissions of ethnic group
Māori	10	7.6%	22	16.7%	11	8.3%
Other	14	8.8%	43	27.2%	10	6.3%
Pacific Peoples	4	20.0%	8	40.0%	3	15.0%
Grand Total	**28**	**9.0%**	**73**	**23.5%**	**24**	**7.7%**

Admissions to the Special Care Baby Unit

In 2017 there were 310 new admissions to the Special Care Baby Unit (SCBU) of babies born in Hawke's Bay. This is 14.6% of the 2,122 infants born in HBDHB's territory.

The rate of babies admitted to SCBU was lower in 2017 (14.6%) than it was in 2016 (17.8%) (Table 4). However, the average of the occupancy rate had increased from 78.0% in 2016 to 85.1% in 2017 and the average length of stay for premature babies had also increased (17.5 days in 2016 to 21.9 days in 2017), both adding to workload and acuity.

Baby gender

There continues to be an increased admission rate for male infants. The 5-year trend (2013–2017) for infant gender is represented in Table 4. Male gender is also associated with a higher risk of neonatal death (Table 2).

TABLE 4: Transfers to SCBU by Gender - Discharge Year

	2013	2014	2015	2016	2017	5y Total
Female	148	122	147	151	131	699
Male	164	149	181	212	179	885
Total SCBU admissions	**312**	**271**	**328**	**363**	**310**	**1584**
Total births at HBDHB	2137	2098	1995	2037	2122	10389
Per cent admitted	**14.6%**	**12.9%**	**16.4%**	**17.8%**	**14.6%**	**15.2%**

Method of birth

Method of birth can be dependent upon gestational age, presenting part of the baby, and maternal factors. Of the babies born via caesarean section in 2017, 24.2% were admitted to SCBU (comprising of a 13.6% admission rate for those caesarean sections occurring before the onset of labour [e.g. planned] and 31.3% for unplanned caesarean sections.) In contrast, only 10.4% of all babies born via spontaneous vaginal birth were admitted. The total rate of birth by caesarean section across HB was 23.5% in 2017, which had mildly decreased from 25.0% in 2016. Of all the caesarean sections performed in 2017, 39.9% were planned.

The five year average of admission to SCBU shows that there is an increased risk for infants undergoing breech births (33.3%) and emergency caesarean sections (30.6%). Slightly more babies born via assisted vaginal delivery (18.3%) were admitted than those delivered by elective caesarean section (17.9%). Babies who were spontaneously and vaginally delivered were least likely to be admitted (11.0%). The five year trend (2013 – 2017) for admission to SCBU, for each method of birth, is presented in Table 5.

TABLE 5: Transfers to SCBU per total by Delivery method - Discharge Year

	2013	2014	2015	2016	2017	5year Total
	Number admitted versus total number by birth method					
Breech Delivery	4 / 12	2 / 16	5 /18	8 / 13	5 /13	24 / 72
Caesarean Elective	36 / 195	42 / 219	29 / 174	42 / 198	27 / 199	176 / 985
Caesarean Emergency	97 / 336	78 / 304	98 / 311	112 / 312	94 / 300	479 / 1563
Forceps Delivery	8 / 55	17 / 89	18 / 76	21 / 73	16 / 77	80 / 370
Not Applicable	0 / 7	0 / 48	0 / 69	15 / 73	4 / 0	19 / 197
Other	1 / 8	1 / 2	0 / 2	0 / 0	2 / 4	4 / 16
Spontaneous Vaginal Delivery	152 / 1453	122 / 1337	166 / 1272	156 / 1300	151 / 1457	747 / 6819
Ventouse Delivery	14 / 71	Sep-83	Dec-73	Sep-68	Nov-72	55 / 367
Grand Total	**312 / 2137**	**271 / 2098**	**328 / 1995**	**363 / 2037**	**310 / 2122**	**1485 / 10389**
	Percent admitted per method of birth					
Breech Delivery	33.3%	12.5%	27.8%	61.5%	38.5%	**33.3%**
Caesarean Elective	18.5%	19.2%	16.7%	21.2%	13.6%	**17.9%**
Caesarean Emergency	28.9%	25.7%	31.5%	35.9%	31.3%	**30.6%**
Forceps Delivery	14.5%	19.1%	23.7%	28.8%	20.8%	**21.6%**
Spontaneous Vaginal Delivery	10.5%	9.1%	13.1%	12.0%	10.4%	**11.0%**
Ventouse Delivery	19.7%	10.8%	16.4%	13.2%	15.3%	**15.0%**

Multiple births

Multiple birth pregnancies are often associated with complications during labour and delivery, such as an increased risk of premature birth, low birth weight, perinatal mortality, and perinatal morbidity. In 2017, 4.2% of all HB births were reported as being from a multiple pregnancy. Of the 90 infants born from multiple births, 20.0% were admitted to the SCBU. The five year trend (2013–2017) for multiple births is represented in Table 6.

TABLE 6: Transfers to SCBU for multiple births - Discharge Year

	2013	2014	2015	2016	2017
Multiple Births	67	75	42	70	90
Number of Mothers	34	37	21	35	45
Total Births	**2,115**	**2,078**	**1,974**	**2,017**	**2,122**
Percentage multiples	3.2%	3.6%	2.1%	3.5%	4.2%
Multiples that went to SCBU	**41**	**26**	**33**	**37**	**18**
% of multiples that went to SCBU	61.2%	34.7%	78.6%	52.9%	20.0%

Ethnicity

In 2017, the admission rate to SCBU for Māori infants was 15.3%, 13.6% for Pacifica infants, and 14.2% for infants of other ethnicity. The five year average shows a slightly increased rate of admission for Māori and Pacifica babies of 16.3% and 15.6%, respectively, compared to 15.1% for other ethnicities. The 5-year trend (2013–2017) is represented in Table 7.

TABLE 7: Transfers to SCBU by Ethnicity - Discharge Year

	2013	2014	2015	2016	2017	5year Total
			All births			
New Zealand Māori	856	852	858	850	862	4278
Not Stated	0	11	9	6	0	26
Other	1103	1050	944	963	1113	5173
Pacific Islander	117	120	101	119	147	604
Not Applicable	61	65	83	99		308
Grand Total	**2137**	**2098**	**1995**	**2037**	**2122**	**10389**
			Number admitted to SCBU			
New Zealand Māori	131	116	153	164	132	696
Not Stated		6	2	3		11
Other	167	141	150	167	158	783
Pacific Islander	14	8	23	29	20	94
Grand Total	**312**	**271**	**328**	**363**	**310**	**1584**
			Percent admitted to SCBU			
New Zealand Māori	15.3%	13.6%	17.8%	19.3%	15.3%	**16.3%**
Other	15.1%	13.4%	15.9%	17.3%	14.2%	**15.1%**
Pacific Islander	12.0%	6.7%	22.8%	24.4%	13.6%	**15.6%**

Teenage birth

While there are many determinants of perinatal outcome, an important one is maternal age. In 2017, the proportion of all babies born to teenage mothers was 6.4%, while the proportion of babies born to teenage mothers admitted to the SCBU was 16.4%. The five year average shows an increased risk of admission for babies of young mothers (19.2%) compared to older mothers (14.9%), as illustrated in Table 8.

TABLE 8: Transfers to SCBU by maternal age - Discharge Year

	2013	2014	2015	2016	2017	Total
			All births			
Teenage (<20 years)	182	179	138	139	134	772
Older (≥20 years)	1955	1919	1857	1898	1964	9593
Grand Total	**2137**	**2098**	**1995**	**2037**	**2098**	**10365**
			Number admitted to SCBU			
Teenage (<20 years)	32	26	32	36	22	148
Older (≥20 years)	280	245	296	327	288	1436
Grand Total	**312**	**271**	**328**	**363**	**310**	**1584**
			Percent admitted to SCBU			
Teenage (<20 years)	17.6%	14.5%	23.2%	25.9%	16.4%	**19.2%**
Older (≥20 years)	14.3%	12.8%	15.9%	17.2%	14.7%	**14.9%**

Deprivation decile of residence

Socioeconomic deprivation is a risk factor for neonatal death (as shown in Table 2). However, surprisingly in 2017 infants who are registered at a residence of low (deciles 1-3) and high (deciles 8-10) deprivation appear to have a higher chance of being admitted to SCBU than babies born into medium deprivation (Table 9). The differences between the babies born into areas of varying deprivation are not as clear over a five year period (2013-2017).

TABLE 9: Transfers to SCBU by decile - Discharge Year

Decile	2013		2014		2015		2016		2017		5year Total	
	SCBU	Total	SCBU	Total	SCBU	Total	SCBU	Total	SCBU	Total	SCBU	Total
Not available	4	77	2	78	0	93	2	106	1	139	9	493
1	4	28	4	23	3	13	3	16	5	24	19	104
2	16	124	14	136	9	97	15	121	10	90	64	568
3	12	94	8	85	22	92	15	88	21	95	78	454
4	39	216	30	221	29	186	36	223	37	205	171	1051
5	14	111	16	116	20	135	21	139	8	112	79	613
6	10	72	6	54	11	75	14	70	10	70	51	341
7	18	88	12	86	16	82	15	94	14	105	75	455
8	49	350	37	338	45	277	55	307	43	296	229	1568
9	65	402	61	398	66	367	74	333	61	400	327	1900
10	81	575	81	563	107	578	113	540	100	586	482	2842
Grand Total	**312**	**2137**	**271**	**2098**	**328**	**1995**	**363**	**2037**	**310**	**2122**	**1584**	**10389**
					Percent admitted to SCBU							
1	14.3%		17.4%		23.1%		18.8%		20.8%		18.8%	
2	12.9%		10.3%		9.3%		12.4%		11.1%		11.2%	
3	12.8%		9.4%		23.9%		17.0%		22.1%		17.0%	
4	18.1%		13.6%		15.6%		16.1%		18.0%		16.2%	
5	12.6%		13.8%		14.8%		15.1%		7.1%		12.6%	
6	13.9%		11.1%		14.7%		20.0%		14.3%		14.8%	
7	20.5%		14.0%		19.5%		16.0%		13.3%		16.6%	
8	14.0%		10.9%		16.2%		17.9%		14.5%		14.7%	
9	16.2%		15.3%		18.0%		22.2%		15.3%		17.4%	
10	14.1%		14.4%		18.5%		20.9%		17.1%		17.0%	

Gestation at birth

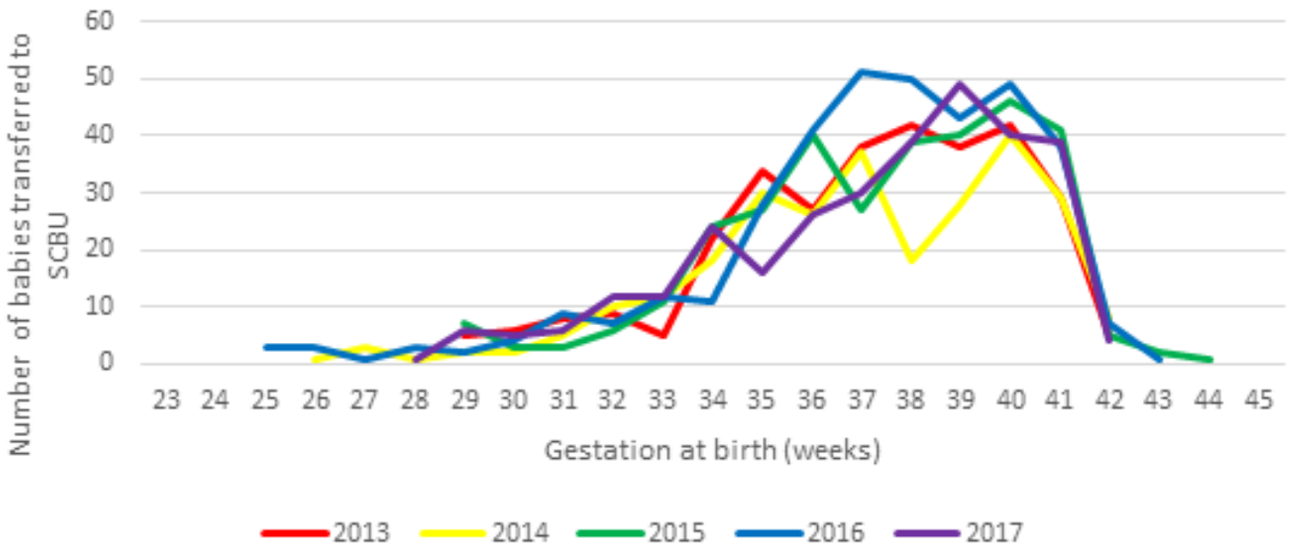
Of the 310 babies admitted to the SCBU in 2017, only one (0.3%) infant was <28 weeks' gestation, 18 (5.8%) were 28-31 weeks' gestation, 90 (29.0%) were 32-36 weeks' gestation and 201 (64.8%) were term or post-term (≥37 weeks' gestation).

In 2017, the proportion of infants admitted to SCBU who were term or post (64.8%) was slightly lower than in 2016 (65.8%), but still significantly higher than in the previous three years (approximately 60.9%, refer to Table 10). The increase of admissions of early term infants (37-38 weeks' gestation) seen in 2016 has dropped again, possibly reflecting the reduced rate of elective caesarean sections in 2017. Graph 3 demonstrates number of babies transferred to SCBU per year, by their gestation at birth, with a noticeable peak at 37-38 weeks' gestation in 2016.

TABLE 10: Gestation of babies born live in HB and transferred to SCBU - Discharge Year

Gestation	2013	2014	2015	2016	2017	5y Total
23		1				1
24						0
25				3		3
26		1	6	3	1	11
27	2	3		1		6
All babies <28 weeks	**2 (0.1%)**	**5 (0.2%)**	**6 (0.3%)**	**7 (0.3%)**	**1 (0.05%)**	**21 (0.2%)**
Percent of admitted babies	0.6%		1.8%	1.9%	0.3%	1.3%
28		1		3	1	5
29	5	2	7	2	6	22
30	6	2	3	4	5	20
31	8	5	3	9	6	31
All babies 28-31 weeks	**19 (0.9%)**	**10 (0.5%)**	**13 (0.7%)**	**18 (0.9%)**	**18 (0.8%)**	**78 (0.8%)**
Percent of admitted babies	6.1%	3.7%	4.0%	5.0%	5.8%	4.9%
32	9	10	6	7	12	44
33	5	12	11	12	12	52
34	22	18	24	11	24	99
35	34	30	27	28	16	135
36	27	26	40	41	26	160
All babies 32-36 weeks	**97 (4.5%)**	**96 (4.6%)**	**108 (5.4%)**	**99 (4.9%)**	**90 (4.2%)**	**490 (4.7%)**
Percent of admitted babies	31.1%	35.4%	32.9%	27.3%	29.0%	30.9%
37	38	37	27	51	30	183
38	42	18	39	50	39	188
39	38	28	40	43	49	198
40	42	40	46	49	40	217
41	29	29	41	38	39	176
>42	5	8	8	8	4	33
All term babies	**194 (9.1%)**	**160 (7.6%)**	**201 (10.1%)**	**239 (11.7%)**	**201 (9.5%)**	**995 (9.6%)**
Percent of admitted babies	62.1%	59.0%	61.3%	65.8%	64.8%	62.8%
All admitted babies	**312**	**271**	**328**	**363**	**310**	**1584**
All live births	**2137**	**2098**	**1995**	**2037**	**2122**	**10389**

GRAPH 3: Babies transferred to SCBU by Gestation - 2012 to 2017



Birth weight

Low birth weight is an important risk factor for neonatal death, as seen in Table 2. There was only 1 (0.3% of admissions) baby admitted with a birth weight less than 1000g in 2017, 6 (1.9%) babies with a birth weight of 1000-1499g, 74 (23.8%) babies with a birth weight of 1500-2500g and 226 (72.9%) babies with a birth weight >2500g. The five-year trend (2013-2017) is displayed in Table 11.

TABLE 11: Transfers to SCBU by Birth weight - Discharge Year

Birth weight (grams)	2013	2014	2015	2016	2017	5y Total
Not applicable					3	3
<1000g		2		8	1	11
1000-1499g	9	11	12	9	6	47
1500-1999g	30	32	27	27	29	145
2000-2500g	68	58	63	55	45	289
>2500g	205	168	226	264	226	1089
Grand Total	**312**	**271**	**328**	**363**	**310**	**1584**

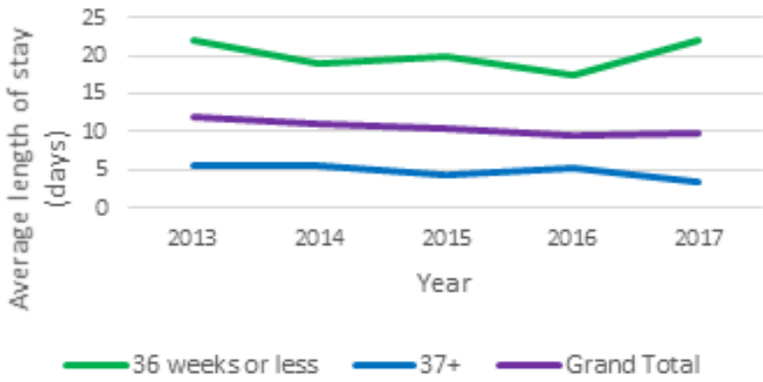
Occupancy

In 2017, 35.2% of all admissions to the SCBU (109 infants) were premature babies (<37 weeks' gestation). Premature infants had a significantly longer (21.9 days) average length of stay (ALOS) than term infants (3.5 days), as shown in Table 12 and Graph 4. The accumulated total length of stay (LOS) for all neonates admitted was 3079 days. The majority (n=2384 days, 77.4%) of these days were for preterm admissions compared to 695 days (22.6%) for term infants. It is apparent that prematurity contributes considerably to the overall occupancy and acuity. The average length of stay for all babies admitted to the SCBU has declined over the last five years from 12.2 day in 2012 to 9.9 days in 2017.

TABLE 12: Total and average length of stay of babies admitted to SCBU by Gestation - Discharge Year

Gestation	2012	2013	2014	2015	2016	2017
	Total SCBU LOS (days of admission)					
36 weeks or less	3110	2556	2026	2503	2113	2384
37+ weeks	785	727	585	586	800	695
	SCBU ALOS					
36 weeks or less	20.3	21.9	18.9	20	17.5	21.9
37+ weeks	6.1	5.6	5.6	4.4	5.2	3.5
Grand Total	**12.2**	**11.8**	**11.1**	**10.5**	**9.4**	**9.9**

GRAPH 4: SCBU Average length of stay, preterm versus term infants - 2013 to 2017

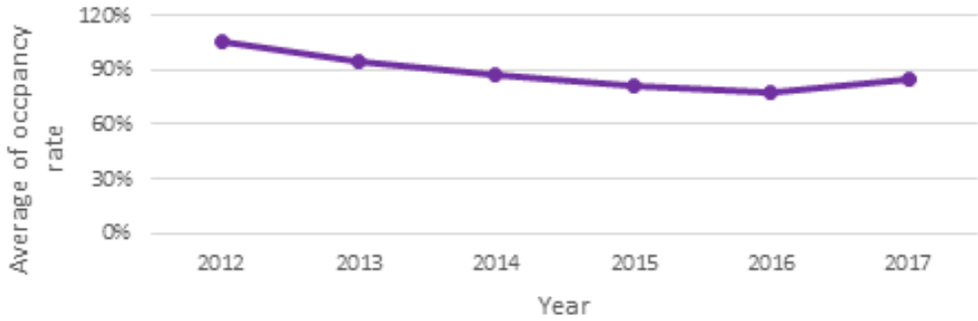


The average occupancy and the number of days with occupancy greater than the recommended 80% is demonstrated in Table 13. The change of average of occupancy over six years (2012-2017) is shown in Graph 5. Having peaked in 2012 at 105.6%, the average occupancy rate steadily decreased to 78.0% by 2016. Unfortunately, 2017 saw an increase to 85.1%.

TABLE 13: Average occupancy per year

Year	Average of Occupancy Rate	Days greater than 80% occupancy
2012	105.6%	316
2013	94.8%	266
2014	86.8%	228
2015	81.0%	174
2016	78.0%	181
2017	85.1%	224

GRAPH 5: Average of Occupancy Rate - 2012 to 2017



Morbidities

Analysing the reason for admission by way of interpreting diagnoses as per ICD-10 coding at the time of discharge from SCBU, has its limitations, but allows an estimated overview of service provision. Observation and treatment of infants for suspected sepsis remained one of the main reasons for admission to the SCBU in 2017. This is illustrated by a high rate of intravenous anti-infective treatment (n=174 babies, 56.1% of admissions), but a relatively low number of confirmed bacterial sepsis (n=29 babies, 9.4% of admissions). Clinical indicators of infection may include signs of respiratory distress [respiratory distress syndrome (n=112, 36.1%), transient tachypnoea (n=65, 23.9%), and grunting (n=6, 1.9%)] and hypothermia (n=32, 10.3%). Other ICD-10 codes that appear frequently include phototherapy (n=69, 22.3%), low birth weight (n=64, 20.6%) and hypoglycaemia (n=32, 10.3%). Some of the most common ICD-10 codes at the time of discharge from the SCBU are shown in Table 14.

TABLE 14: Numbers of ICD discharge code by year (2012-2016)

ICD Discharge Code - Description	2012	2013	2014	2015	2016 (Percent of all admission)	2017 (Percent of all admission)	Total
IV admin of pharmac agent anti-infective	158	123	96	142	166 (45.7%)	174 (56.1%)	685
Respiratory distress of newborn	95	95	91	119	98 (27.0%)	112 (36.1%)	498
Other phototherapy, skin	118	118	92	93	82 (22.6%)	69 (22.3%)	503
Other low birth weight 1500 - 2499g	107	90	73	79	65 (17.9%)	64 (20.6%)	414
Other neonatal hypoglycaemia	36	44	43	55	98 (27.0%)	74 (23.9%)	276
Transient tachypnoea of newborn	57	56	38	57	86 (23.7%)	65 (21.0%)	294
Hypothermia of newborn unspecified	6	13	31	20	43 (11.8%)	32 (10.3%)	113
Grunting in newborn	7	11	2	17	17 (4.7%)	6 (1.9%)	54
Bacterial sepsis of newborn	20	20	33	33	22 (6.1%)	29 (9.4%)	128

(Please note that an infant may have more than one ICD discharge code.)

Respiratory support

Clinical signs of respiratory distress may indicate significant underlying pathology and are a common cause for admission of babies to the SCBU.

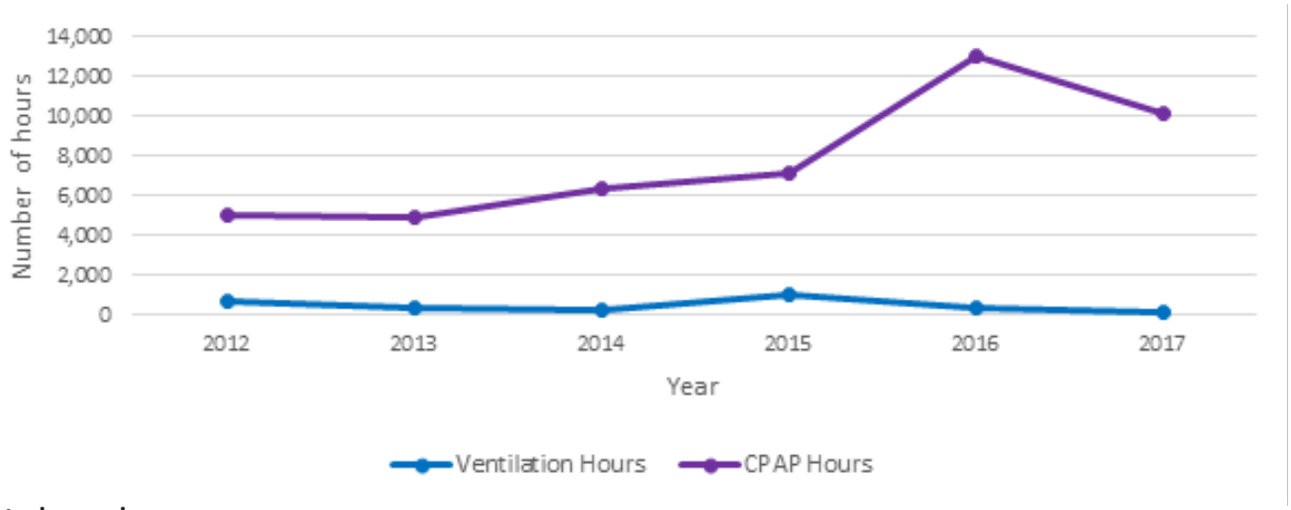
In 2017, there were nine (2.9% of admissions) infants with pneumothoraces and seven (2.3%) infants with meconium aspiration syndrome. Non-invasive ventilation support (CPAP) was given to 82 (26.5%) babies for <1 day, to 31 (10%) babies for 1-4 days (inclusive) and to 21 (6.8%) babies for >4 days. Seven (2.2%) babies received mechanical ventilation. The six-year trend (2012-2017) is displayed in Table 15. While there is a significant fluctuation of ventilation hours per year, CPAP hours have increased over the six-year period (Graph 6) and reflect a growing level of acuity.

Guidelines for minimally-invasive surfactant therapy were introduced to the SCBU in late 2016. In 2017, there were a number of babies who received endotracheal exogenous surfactant, using a semi-rigid narrow-bore vascular catheter, while breathing spontaneously.

TABLE 15: Respiratory support and complications of babies admitted to SCBU per discharge year

ICD Discharge Code - Description	2012	2013	2014	2015	2016	2017
Pneumothorax in perinatal period	4	7	5	7	6	9
Pneumothorax unspecified	0	0	0	0	5	0
Neonatal aspiration of meconium	8	4	6	6	11	7
Management NIV support ≤ 24 hours	69	59	45	67	64	82
24 hours < Management NIV support < 96 hours	29	27	14	18	25	31
Management NIV support ≥ 96 hours	15	11	14	12	26	21
MV vs. NIV support						
Ventilation Hours	637	314	236	1,070	365	84
Babies on Ventilation	12	7	9	15	13	7
CPAP Hours	4,981	4,870	6,360	7,147	13,007	10,092
Babies on CPAP	113	98	73	97	114	136

GRAPH 6: Hawke's Bay SCBU Ventilation Hours and CPAP hours - 2012 to 2017



Central vascular access

Early nutritional support from the first day of life is advocated in very low birth weight (<1500g) infants, if there is an expected delay to establishing enteral feeding. The standard solution for neonatal parenteral nutrition at HBDHB can be given via peripheral venous access, however, central venous access should be considered if the need of parenteral nutrition is anticipated to exceed 48 hours. Parenteral nutrition is preferably infused via peripherally inserted central catheter. Umbilical catheters (arterial and venous) are often required in the management of critically ill neonates. The six-year trend for numbers of central access per annum is shown in Table 16. Central vascular access is also a marker of acuity.

TABLE 16: Numbers of central vascular access per year – 2012 to 2017

	2012	2013	2014	2015	2016	2017
Umbilical vein cath/cannuln in neonate	6	11	10	11	14	26
Umbilical artery cath/cannuln in neonate	5	4	6	8	8	5
Central vein catheterisation in neonate	1	5	0	2	5	20

Complications of prematurity

What is perhaps of most importance to families of very preterm infants, beyond survival, is the quality of longer-term outcomes. Past studies have shown that, although very low birth weight graduates had lower educational achievements and were more socially isolated than term born controls, they rated their quality of life no differently.

Table 17 demonstrates the number of babies born in HB who were very or extremely (<28 weeks' gestation) premature and admitted to the SCBU. It also shows the number of admitted babies diagnosed with common complications of extreme prematurity. However, these numbers include extremely premature babies who were born in Wellington and transferred to HB at a later stage.

TABLE 17: Complications of prematurity per year – 2012-2017

	2012	2013	2014	2015	2016	2017
23-24	1	0	4	1	2	0
25-27	9	7	8	7	7	1
All babies <28 weeks	10	7	12	8	9	1
28-30	12	14	7	15	9	12
All babies <31 weeks	**22**	**21**	**19**	**23**	**18**	**14**
Retinopathy of prematurity	6	3	5	7	11	10
Necrotising enterocolitis	1	0	1	2	4	4
Chronic neonatal lung disease	9	15	7	12	9	7

Neonatal Encephalopathy

Neonatal encephalopathy (NE) is a clinically defined syndrome of disturbed neurological function in the earliest days of life in the term infant, manifested by difficulty with initiating and maintaining respiration, depression of tone and reflexes, sub normal level of consciousness, and often seizures. NE occurs in approximately 3.5 - 6/1000 live births.

Clinical staging as by the Sarnat criteria allows differentiating mild, moderate and severe presentations. Therapeutic hypothermia is indicated for moderate and severe cases, and has shown to improve long-term outcomes. The terminology NE is preferred to Hypoxic Ischemic Encephalopathy as it is not always possible to document a significant hypoxic-ischemic insult and there are a number of other potential aetiologies.

The PMMRC has been reporting data related to babies with moderate and severe NE since 2010. The 12th report of the PMMRC states that there have been 482 cases reported from 2010 to 2016, of which 479 cases were for babies born at 37+ weeks' gestation at birth. Given that 394,712 term births occurred in this time period, this makes the NE rate for 2010–2016 1.21/1000 term births (95% CI 1.10–1.32). The NE rate in HB for 2010-2016 was approximately 1.5/1000 term births.

There was an increase in risk of NE with increasing maternal BMI. Babies born small for their gestational age, as measured by customised birth weight centile, were twice as likely to be diagnosed with NE compared to babies born with an appropriate birth weight for their gestational age.

Neonatal observation is required for neonates with risk factors for NE and regular assessment of Sarnat stage (hourly until the baby is six hours old) is required for neonates identified with probable asphyxia, to ensure cooling is not delayed for babies who deteriorate after their initial assessment (Battin 2015).

In 2017, there were four cases of moderate to severe neonatal encephalopathy. This is a rate of 1.9 per 1000 babies born in Hawke's Bay and 1.3% of admitted infants. All four infants received therapeutic cooling and were transferred to Wellington NICU for ongoing care and continuous EEG monitoring. Furthermore, three infants were transferred to Wellington for assessment of seizures. Of these, one had withdrawal from the maternal anxiolytic, one was diagnosed with hyperekplexia and one had apnoeic spells of unknown cause. Two infants were prophylactically treated with hypothermia in the SCBU because of mild encephalopathy, but recovered spontaneously.

Neonatal Transfers

In 2017, there were 21 babies born in Hawke's Bay (1.0% of all babies) who needed transfer to a tertiary NICU for ongoing care. Two babies were born in Wellington, but after return to HB needed transfer back to Wellington for hernia repair. The number of transfers in 2017 (23) is slightly lower than the 27 transfers to NICU's in 2016, but remains considerably higher than the approximate 14 transfers per annum in previous years.

The individual cases are listed in Table 18. Almost all babies were flown to the NICU in Wellington. Three babies required EEG monitoring for suspected seizures due to withdrawal, apnoeic spells, and hyperekplexia. Four infants required EEG monitoring and therapeutic hypothermia for moderate to severe neonatal encephalopathy. One baby needed ongoing management of extreme prematurity and four babies needed ongoing mechanical ventilation complicated by pneumothorax. The other babies were referred for surgical review and management (suspected necrotising enterocolitis, anal atresia, and inguinal hernia).

One infant was referred to the respiratory service at Starship Children's Hospital, in Auckland, for assessment and management of congenital interstitial lung disease.

TABLE 18: Transfers to other DHB in 2017

Transfer to	Gestation (weeks)	Birth weight (grams)	Reason for transfer	Procedures
1. Wellington NICU	32+6	1976	Seizures, othtahara syndrome (died)	
2. Auckland	39+6	4125	Congenital interstitial lung disease	
3. Wellington NICU	40	3420	Seizures due to withdrawal	
4. Wellington NICU	35+2	2670	Pneumothorax	MV
5. Wellington NICU	40+5	3801	Hyperekplexia	
6. Wellington NICU	41+5	2700	Meconium aspiration and pneumothorax	MV
7. Wellington NICU	39+5	3152	Neonatal encephalopathy grade 2	MV, cooling
8. Wellington NICU	41+3	3955	Imperforate anus	
9. Wellington NICU	26+6	960	Prematurity	MV
10. Wellington NICU	29+6(w)	1310	Inguinal hernia	
11. Wellington NICU	29+2	1505	SCBU full	MV
12. Wellington NICU	26(w)	646	Inguinal hernia	
13. Wellington NICU	39+4	3180	Apnoeic spells of unknown cause	
14. Wellington NICU	31+5	1055	Abdominal distention	
15. Wellington NICU	36+2	3220	Border baby, twin	
16. Wellington NICU	36+2	2451	Suspected NEC, Turner mosaic, twin	
17. Wellington NICU	29+3	880	Suspected NEC (RV+AV positive)	
18. Wellington NICU	30+3	1430	Pneumothorax	MV
19. Wellington NICU	41	2805	Neonatal encephalopathy grade 2	cooling
20. Wellington NICU	40+6	3000	Hypoglycaemia	
21. Wellington NICU	39+5	4130	Neonatal encephalopathy grade 2	MV, cooling
22. Wellington NICU	40	3500	Neonatal encephalopathy grade 2	MV, cooling
23. Wellington NICU	32+5	1874	Pneumothorax	MV

A Hawke's Bay Consumer Story

In February 2017 I realised I was "late" so I spoke to J and we decided that we should take a pregnancy test. Before I had even finished doing my business the test showed positive, so here I am sitting on the toilet freaking out. I anxiously took the test out to J and showed him... he was just as shocked as me. For about the next hour we both sat there and would each occasionally say OMG we were SO not prepared for this. J was separated and already had two children and I was a nursing student living with my mum. At approximately 10 weeks we broke the news to J's two kids, they didn't quite understand what me being pregnant meant at that stage. We took them to our 12 week scan which they thought was pretty cool and the lovely lady gave them each a photo to take home. Every now and then J's four year old would ask me if I had had my baby yet lol... We found out that we were expecting a healthy baby boy at our 20 week scan, J was ecstatic!

In June we moved J in to my mum's house with me so that we could save some money. I was very spoilt and received two surprise baby showers, one from my friends and family and one from all my nursing class mates. I definitely struggled to stay focused and motivated with my nursing study whilst pregnant, my grades took a major dive but hey C's get degrees right?? At approximately 30 weeks I had fluid retention and elevated BP which actually wasn't that bad however I was due to fly to the Gold Coast to be the Maid of Honour for my best friend in 3 weeks' time. This definitely caused me some stress and anxiety, I so couldn't miss her wedding!! Thankfully it remained steady and I got the go ahead from my LMC.

Upon returning from the Gold Coast J and his mum had found us a rental so at 36 weeks we were finally moving in to our own place, YAY! At 40 weeks it was back to EIT for our last few classes. J and I also had a photo shoot during this week. Let me tell you when you are feeling so fat and ugly and just want your baby out and you receive these amazing photos it's like an all new confidence boost. Our photographer was amazing! At 8 days overdue I had a stretch and sweep, I was quite disappointed when it got to the following night and still nothing! We always have the children on a Wednesday for dinner and that particular night I was overly emotional so I was relaxing in our room and the children came to say goodbye, they were both rubbing my belly and all of a sudden I had this slightly painful but more weird feeling in my stomach. I was very naive and thought this was braxton hicks contractions so I was texting my friends asking them questions and they informed me that it was actually a real contraction about half an hour later my mucus plug came out so I started getting all excited. 😅

I decided to try and get some sleep and ended up sleeping until midnight. J had woken me up when he came to bed and I had an odd feeling so went to the toilet. I was losing a bit of fluid and it felt incredibly weird. Back to bed I went and two hours later I had the same feeling, woohoo waters breaking... just a little though. I woke J as I had been timing the contractions and they were 3 minutes apart, no one told me they get to about 1 minute apart and then end up getting further apart again (or maybe they did and I was just too tired to take it in) we called J's mum and told her it was happening so she came over about 4am. We were sitting in the lounge talking and all of a sudden I felt like I was wetting myself and I couldn't control it, I jumped up and all we could hear was this sloshing noise. I ran to the bathroom (really it was a waddle run) and there was literally a puddle in my pants, I was sooo embarrassed that this happened in front of my mother-in-law however I was more thankful that I wasn't in public.

By 8am we decided it was time to go to the hospital. When they tell you in antenatal classes to go to the back entrance during after hours I'm not actually sure what those times are, I had assumed after hours was any time from 8pm-1pm. Upon arrival we went to the back entrance, I had what I thought at the time was an incredibly painful contraction in the middle of the carpark, we buzzed and the lady on reception told us we had to come to the front. Boy was I angry...another incredibly painful contraction in the middle of the car park and then we finally made it to the main entrance. She told us to go through the doors to Waioha, once we found where we were going the midwife on duty was absolutely amazing and made me feel more relaxed instantly.

My LMC arrived about 5 minutes after us and after checking me over she told me I was only 5cms dilated. I was devastated! I had said to her during our planning of my birth that I didn't want any of the drugs if I could handle it, luckily she was on to it and brought in the gas. I spent about 3 hours in the birthing pool with J holding the gas tube whilst rubbing my hair or holding my hand or giving me water. You really have no idea what to do when you're in so much pain, I was writhing around in that bath trying to escape the pain, definitely didn't work. Ended up having to pee, contractions on the toilet felt a little bit better, but boy was I exhausted. At the same time I realised the tank of gas wasn't working properly because it felt blocked, turned out the tank was empty! I couldn't take the pain anymore, I looked at J and told him I wanted an epidural. He just flat out said no lol cue the glare. My student midwife popped up out of nowhere and reminded me that you're usually close to the end when you're feeling that way, must be magic cause she was right!! My LMC checked me and said "you're nearly there" I wasn't having that answer. I think I asked her three times what that meant before I was satisfied with her answer, 8cms, I just wanted it to be over. I had two more contractions after that and then it was time to push, which actually meant no more gas!!

Man pushing is hard work! My LMC was giving me instructions and I had no idea what she meant however when I somehow did what she wanted me to the lightbulb went on lol. Heard of the ring of Fire? I had forgotten about it until baby's head was half way out and I had to stop pushing and wait for another contraction. Pretty sure my contractions were still 3 minutes apart too. That position burns and burns!! My LMC told me to reach down and feel baby's head, boy is that a weird but incredibly amazing thing to experience. J was all gloved up and ready to catch baby's body but as soon as I started pushing they all realised that the cord was wrapped around his neck. My LMC and student midwife were amazing, the tube was wrapped too tightly for them to pull it over his head so they had to spin him to remove it. It was wrapped three times and they acted incredibly fast. Next thing I know I had my baby boy in my arms and he was grizzling and breathing perfectly fine. He was born at 11:57am and weighed 7lbs 6oz, and was 10 days overdue. What an amazing feeling it is when you get to hold your baby for the first time after having him kick you nonstop in the womb.

Everyone you see makes breastfeeding look so easy, my goodness it was such a challenge. You kind of expect your baby to just latch and that be that. My boy did not latch at all, I spent 3 days hand expressing and feeding him with a spoon or a syringe or even a feeding cup. It wasn't until the third day that one of the midwives requested for one of the Ata Rangi midwives who was actually a trained lactation consultant too to come and see us. Straight away she put her finger in his mouth and found that his tongue didn't even go past his gum, luckily the paediatrician who cut tongue ties was working that day so an hour later baby had his tongue tie snipped and was feeding for the first time!!! Not being able to feed your baby properly is so incredibly stressful and disappointing, I spent a lot of time crying when we were in the hospital. The next day we were free to go home.

The thought of leaving the hospital with this tiny little human is so incredibly daunting, I was secretly having a major freak out. When baby was two and a half weeks old I had two exams to sit. The first one I was semi confident that I would be able to get at least 50% on and the second one I hadn't even thought about until the night before. That same night baby started getting sick, of course I didn't know this at the time. He fed for approximately 5 hours straight and I of course had a bit of a breakdown because I hadn't studied and I didn't know what was going on with my baby. The next morning I rushed to write out a template essay ready for my exam and tried to memorise the main points. Basically I winged my exam and thankfully passed. The following day baby was starting to get a temp so when my LMC visited I told her what had been going on and she advised me that if he was getting up to 38 degrees that I should take him to the doctor. That night he got up to 37.9 so J went to the chemist and got some pamol and we tried cooling him with a flannel, it worked and baby had a good sleep. The following day I called the doctors and told the receptionist what had been happening and she said there were no appointments but that I could go to the doctor and wait in line. I asked when the off peak times were cause I didn't want to have to wait a couple of hours with a newborn. I text J and decided that I would go at about 7pm however before he could reply baby's temp had gotten up to 38.3 so I quickly got in the car and went.

Upon arrival another receptionist asked me if my medical problem was anything on a list and high temperature was on there, so we got whisked to the back and checked out by a nurse right away. We waited about 15 minutes to see the doctor who called the paediatric team and they advised that we needed to go to the hospital right away. We had been up in the children's ward for less than 5 minutes when they whisked my 3 week old baby away to have a lumbar puncture, an IV placed for bloods and antibiotics and a catheter inserted to take a urine sample. When you can hear your baby screaming and literally cannot do anything about it, it breaks your heart. I was standing in the window just balling my eyes out. Poor J was stuck at home waiting for me to tell him what was happening, he felt more helpless than I did. My boy was so incredibly brave, as soon as I could I was in there giving him kisses and trying to soothe him. That night after J and his mum had visited it finally hit me that I might actually lose my baby and boy did I have a break down. The worst part about it all is that you just don't know what is wrong. He was placed on broad spectrum antibiotics just to cover the basics until the results came back. His IV line blew three times over the 4 days that we were in the hospital. The staff in the children's ward were amazing and that includes all the nursing students and all the med students, there was alot of them! On our 4th day the paediatrician told me that he had viral meningitis and that all the antibiotics they were giving him were pointless, my little baby boy had fought a potentially life threatening illness. That night we got to go home. Being able to take your baby home after such a terrifying time is an absolutely amazing feeling. Our boy is now 11 weeks old and is growing and developing amazingly, every day I am overwhelmed with the amount of love I have for him and amazed with myself for bringing him in to this world. Parenthood is the most amazing feeling in the world, especially once all the pain of giving birth has subsided!!

Summary of Audits

Post-Emergency Caesarean Section Re-Admission

By Drs Andrew Abbot and Aofáine Mullins - Relief House Officers

Emergency Caesarean Sections increase the risk of women returning to hospital post-operatively due to infectious complications. These complications are most commonly post-partum sepsis, wound infection, or endometritis. Of the 307 women who underwent emergency Caesarean Sections in 2016, thirty-one re-presented post-operatively (a readmission rate of 10%), though none of these women were coded as endometritis, the most common clinical reason women represent. The primary goal of this retrospective cohort audit was to assess the accuracy of the computer system in the Hawke's Bay DHB (ECA) capturing the number of presentations and the diagnoses for those women who re-presented after an emergency Caesarean Section. Concomitantly, the secondary audit goals include assessing protective factors and risk factors, identifying bacterial causes of their infections, and comparing the corresponding antibiotic regimens used to treat their infective complications.

ECA initially captured 35 re-presentations with 31 readmissions for these 31 women who presented post-partum with infective complications. On reviewing these women's notes, there were 51 total re-presentations with 42 readmissions. Likewise, the breakdown of the diagnoses for these readmissions were not accurately captured, underestimating the actual rates of post-partum sepsis, wound infection and endometritis. Instead of eight post-partum sepsis diagnoses, there were 12; instead of zero endometritis diagnoses, four. The wound infection diagnoses number on re-admission were accurately caught. ECA, nevertheless, missed re-presentation rates for all infectious complications. Wound infection readmissions returned earlier, on Day 11 post-partum, versus puerperal sepsis and endometritis readmissions, which returned on Day 16 and 17, respectively. The length of stay for all infectious complications was the same, lasting 3 to 3.5 days.

In assessing risk and protective factors for each post-partum infectious complication, there were no differences between the groups. Women readmitted with post-partum sepsis grew a mixture of aerobic and anaerobic bacteria. In contrast, women readmitted with a wound infection primarily grew Staphylococcus species, followed by a mixture of anaerobes and coliform bacteria. Unlike post-partum sepsis and wound infections, women readmitted with endometritis most commonly had no identifiable bacterial cause; those with identified bacteria came from a high vaginal swab which was most likely to be Group A Streptococcus. Initial IV antibiotic regimens for any post-partum infectious complication were not consistent, and length of IV antibiotics regimens varied greatly. Lack of uniformity for antibiotic treatment continued with oral antibiotics, though the length of time placed on oral medication was approximately seven days for all groups.

Based on the findings of this audit, it is clear ECA does not accurately capture the number of re-admissions or re-presentations after an emergency Caesarean Section, nor are these women given accurate diagnoses on ECA. To better capture the true number of people presenting to the Obstetrics department, there is a need to implement an Emergency Department-style admission system that accurately records the numbers of patients seen. Likewise, proper discharge training for junior doctors would also minimize errors in diagnosis categories for discharge summaries. As for the risk and protective factors, there is room for improvement by using protective measures, such as Chlorhexidine skin wipes. Additionally, the lack of uniformity of initial IV antibiotic regimens should be addressed. A guideline, similar to the one recently published by the Society of Obstetric Medicine for Australia and New Zealand for post-partum sepsis, could be used to provide initial, standardized antibiotic treatment for these women.

Induction of Labour in the Standard Primiparous Patient

By Dr Kirsten Gaerty - Obstetrician and Gynaecologist

An audit of Induction of Labour (IOL) for standard primiparous women occurring at Hawke's Bay Fallen Soldiers' Memorial Hospital during the year 2016 was undertaken. This audit was performed after the HBDHB Maternity Services Annual Clinical Report 2016 was published, reporting an increase in the number of IOLs among standard primiparous women with a resulting percentage well above the national average. Induction of labour in the standard primiparae is used as a bench mark across hospitals for the rate of intervention in "low risk" women. The national average is 7.2% and the report identified the HB rate as 9.2%.

This audit aimed to assess if this perceived increase was in fact true, and to gain a more accurate understanding of the reasons and timing of induction, the demographics and risk factors of the group of women affected, and the outcomes of these inductions.

Twenty-eight women were initially included in this audit. Data was collected from a review of clinical documentation in the patients' hospital notes. Three women were excluded from the audit as they did not fit the definition of a standard primiparae, thus resulting in a total of 25 inductions and a total percentage of 8.2% of standard primiparaes (25/305). This is a marginal improvement on the 2015 rate of 8.6%.

On review of the demographics and other risk factors, it was found that a great number of the women induced were overweight or obese (36% and 16% respectively), with 8% being morbidly obese (BMI≥40). A great number were also found to be from highly deprived areas of residence – 60% were from areas with a New Zealand deprivation decile of 8-10, with 20% from the most deprived areas (New Zealand deprivation decile of 10). Unfortunately the data to compare the demographics make-up of standard primiparaes across different DHBs was unable to be obtained. However, as both high deprivation and obesity are significant obstetric risk factors, this could account for Hawke's Bay increased rate of inductions relative to the national average.

Fifty-six percent of the standard primiparaes induced in 2016 were induced according to standard indications. (From the Auckland consensus IOL guideline) The remaining 44% of cases have been reviewed, and all have clinically appropriate reasons for induction – these included three women induced for oligo/anhydramnios at term, four with recurrent or otherwise complicated decreased fetal movements, two with increased risk factors for stillbirths, and two with coagulation disorders requiring a planned time of delivery.

The rate of normal vaginal deliveries for standard primiparaes induced in 2016 was 52% (11/25). A further 16% (4/25) were instrumental deliveries via Ventouse, resulting in a total of 68% vaginal deliveries. The remaining 8 women (32%) were delivered by Caesarean section. This is in comparison to the rates for all standard primiparaes, of which 67% had spontaneous vaginal deliveries, 16% required instrumentals, and 17% were delivered by Caesarean section.

Of the 25 standard primiparaes induced in 2016, two suffered third-degree perineal tears (8%), five had a post-partum haemorrhage (20%) and two had significant post-op wound infections (8%). This incidence of post-partum haemorrhage (20%) is higher than the rate previously noted for IOLs at HBDHB (17%).

This audit is reassuring that the rate of inductions among standard primiparaes at HBDHB did not increase between the years of 2015 and 2016 (8.6% in 2015 to 8.2% in 2016). Despite this, our rate of inductions in standard primiparaes is still significantly higher than the national rate of 5.7% in 2016. There are reasons identified within this audit which may account for some of this increased rate relative to the national average including increased BMI, deprivation, and other medical complexities in this assumed to be "low risk" group.

Recommendations from this audit include improving the accuracy of the data/coding, increased use of the IOL booking tool, and a review of our IOL protocols at HBDHB.

Documentation Discharge Notes Wairoa Women

By Sarah Howard - Staff Midwife

The following audit has been done to review the postnatal discharge documentation in the notes of women who have delivered in Ata Rangi from Wairoa. The case of Mrs A and her baby showed that there had been poor documentation regarding her discharge. Conversations held between the patient, whānau and staff were not documented, nor was a discharge plan written. The baby, as a result of poor discharge planning, was readmitted to the Emergency Department unwell.

Notes from the first and second quarter of 2017 were assessed. In total there were 15 deliveries, but only nine sets of notes were available. Seven of the nine women were discharged back to home in Wairoa with their babies and two were discharged without their babies, as they remained in SCBU. These women remained in the Hastings area until their babies were discharged from SCBU and were cared for by the DHB Team Midwives.

Findings

In total eight of these women's notes contained appropriate documentation in regards to discharge planning (89%).

These notes contained where the woman was going, whether to Wairoa or the Hastings/Napier area and for how long. It was recorded that the appropriate phones calls were made to the midwives who would need to follow up care, either our Team Midwives (if remaining in the local area) or the Wairoa Midwives if heading straight back to Wairoa. Also was included any special instructions or plans for feeding that were set in place. One would also hope that when phone contact was made any special needs would have been verbally discussed.

In the situation of the two women who remained in the local area until their babies were satisfactory for discharge from SCBU our Team Midwives visited them. On their ongoing discharge to Wairoa with their babies the Team Midwives also documented appropriately their conversations and discharge information were written clearly.

The one set of notes that had inadequate documentation was a woman who discharged less than 48 hours following caesarean section. The last documentation was by the House Surgeon at 1435hrs. The woman was cleared for discharge back to her primary carer, Wairoa Midwives, this included a phone call by the House Surgeon to the Wairoa Midwives. But there is no further documentation from the doctor or postnatal staff to state that the woman wished to discharge back to Wairoa Hospital or to her home. No discharge plan or even a time as to when the woman left Ata Rangi was written in the notes. The documentation to follow was that of the Wairoa Midwife when she visited the woman for her first visit (at home). No postnatal discharge form filled out by staff was found, although a computer generated discharge form was available with some information on it, but not the complete information that is required. It is unknown whether this form was filled out by staff and not filed in the notes once the discharge data was entered. One could note that the discharge probably occurred directly on the handover for the morning to afternoon shift, thus who needed to take responsibility for the documentation and appropriate discharge to be done was unclear.

Summary

On the whole the discharge planning and documentation for the women who deliver here from Wairoa is clear and appropriate. Unfortunately there have been situations where documentation has been lacking and there is always the potential for this to have ramifications for these women and their babies.

Recommendations

Already in place on our discharge forms for mothers and babies are prompts to write the appropriate information and contact LMCs regarding discharge. E.g. On the maternal discharge form a tick box asks "Is the LMC aware of discharge?" This would be a prompt that the LMC has been made aware of discharge and any special requirements.

Any staff where documentation concerns are apparent are talked to and suggestion made to attend the NZNO study day on documentation and the legal requirements.

Producing a discharge form specifically for Wairoa women which will document the specifics of where they will be going (local area first, to Wairoa Hospital, or home), tick boxes to show that the appropriate individuals have been contacted (Team Midwives Hastings, Wairoa Midwives, District Nurses, and so on) is recommended.

Emergency Caesarean Section

By Drs Fiona Stark and Eliidh Stewart O'Conner -
Obstetrics and Gynacology Senior House Officers
Supervisor: Dr Kirsten Gaerty - Obstetrician and Gynaecologist

This audit asked the question: Are the clinical reasons for an emergency caesarean section (CS) and advice regarding a subsequent birth and suitability for a vaginal birth after caesarean (VBAC) all clearly documented?

Method

This audit was completed using the operation notes on ECA to provide up to date information about the indications and documentation around emergency caesarean sections. Specific areas of interest in the documentation were the use of the specific CS operation note code '55', which prompts specific data to be entered. Further aims were to assess if the timing of an elective CS was having an impact on the caesareans done as an emergency, with variable accessibility and timing of elective CS lists, and to review the stage of labour to generate the data set for the second stage CS audit, as there was no way to identify this patient cohort other than manually.

The six months from 11th December 2016 to 12th June 2017 were included in this audit. One hundred and thirty-three cases were identified and reviewed. Data overall was reviewed by parity, although this was not documented in 21 cases.

Stages of labour were divided into:
1. not in labour
2. early labour
3. established labour (> 4cm and contracting regularly)
4. second stage

Findings

The majority of emergency CSs occurred between 39 weeks and 40 weeks plus six days' of gestation.

Most occurred in established labour, with 64% for primiparae (primips) and 45% multiparous (multips) women.

Sixteen percent of CSs overall were performed in the second stage of labour. An indication was documented in 100% of cases. Eighty-eight percent were performed either for fetal distress or failure to progress, but minimal clinical details were given in some cases.

Twelve multips with an elective CS booked laboured before their CS date, but only three were more than 39 weeks when a CS could have been planned.

Suitability for VBAC was documented in 89% of primips, 81% of multips, and only 78% of those with unclear parity.

Documentation was considerably better when the dictating code '55' with prompts was used, as illustrated by the documentation for suitability for VBAC. Overall the CS operation note '55' was used in 72% of cases. When the CS operation note was not used parity was unclear in 90% of cases, which illustrates the benefits of a structured operation note template.

Recommendations

1. Increase the use of the CS specific operation note for better recording of parity and gestation and add the suitability for VBAC to this.
2. Ensure orientation for both registrars/consultants that are on staff and locums includes knowledge of the code '55' for dictation of CS operation notes.
3. Documentation for the indication for emergency caesarean section can still be improved and requires the documentation group to review current recording of this and how it might be improved.
4. This data does not support an additional elective CS list, but only captures those that labour prior to their allocated date and not those that had to go on the acute list due to lack of capacity.

Second Stage Caesarean Section

By Dr Ikhwan Yusoff - Obstetrics and Gynacology Registrar
Supervisor: Dr Kirsten Gaerty - Obstetrician and Gynaecologist

This audit is yet to be reviewed by the Maternal Clinical Governance Group or published. A short summary has been constructed for this annual clinical report. Wider dissemination and formal recommendations will follow, as the audit goes through the usual process.

Second stage cesarean sections (CSs) can be difficult and are associated with increased maternal and fetal morbidity. In order to try and mitigate the associated risks we have made a number of changes in this area over the last five years:

- The introduction of the fetal pillow was carried out in 2014, to make the birth easier and reduce maternal trauma.
- A process where clear guidelines for consultation with, and the attendance of, the Consultant Obstetrician was put in place was in 2016. This includes consultation and consideration of attendance for a second stage CS or trial of an instrumental birth to aid with decision making. The consultant is required to be present for the CS after a failed instrumental birth, regardless of the seniority of the registrar. It was thought that more direct consultant input and presence may reduce the CS rate. This audit aimed to look at the processes around, and outcomes of, second stage CS.

This audit identified all the women that had a second stage CS in the six month period between December 2016 and June 2017. In total 21 women had a second stage CS, which accounts for 12% of the emergency CS, or 8% of the total CS, performed in this time frame.

The demographics show the majority (57%) of second stage CSs were conducted in women aged 20-30 years, 28% in women aged 30-40 years, and 15% in the remaining ages. Fifty-seven percent of the women were New Zealand European, 33% Māori, and 10% of other ethnicities. The majority (76%) were nulliparous women. Gestation of delivery was 37-40 weeks for 57% women, 40-42 weeks for 38%, with 5% at other gestations.

Labour was initiated by induction of labour for 52% women and was spontaneous in the other 48%. Nineteen percent of the second stage CS were peformed for women who had a previous caesarean section.

A trial of an instrumental birth was attempted for 24% women and not attempted for 76% women. For the women that a trial was not attempted, 62% did not have a clearly documented explanation of exactly why a trial was not considered. However, for 62% of those cases with no clear explanation, the fetal head was documented to be at the spines or above, which would make a trial of instrumental birth unsafe. This illustrates that the assessment for a trial instrumental birth is being undertaken, but that the documentation in this area needs to be substainatally improved to ensure clarity for everyone and not just for those individuals that attended the birth.

For those women with a documented reason a trial of an instrumental birth was not conducted, the justifications were a high head (69%), malpresentation (19%), and failed rotation (12%).

The presentation was occiput posterior in 57%, occiput transverse in 24%, and occiput anterior in only 14%. In 86% of cases the consultant was present for the CS and involved in the decision making.

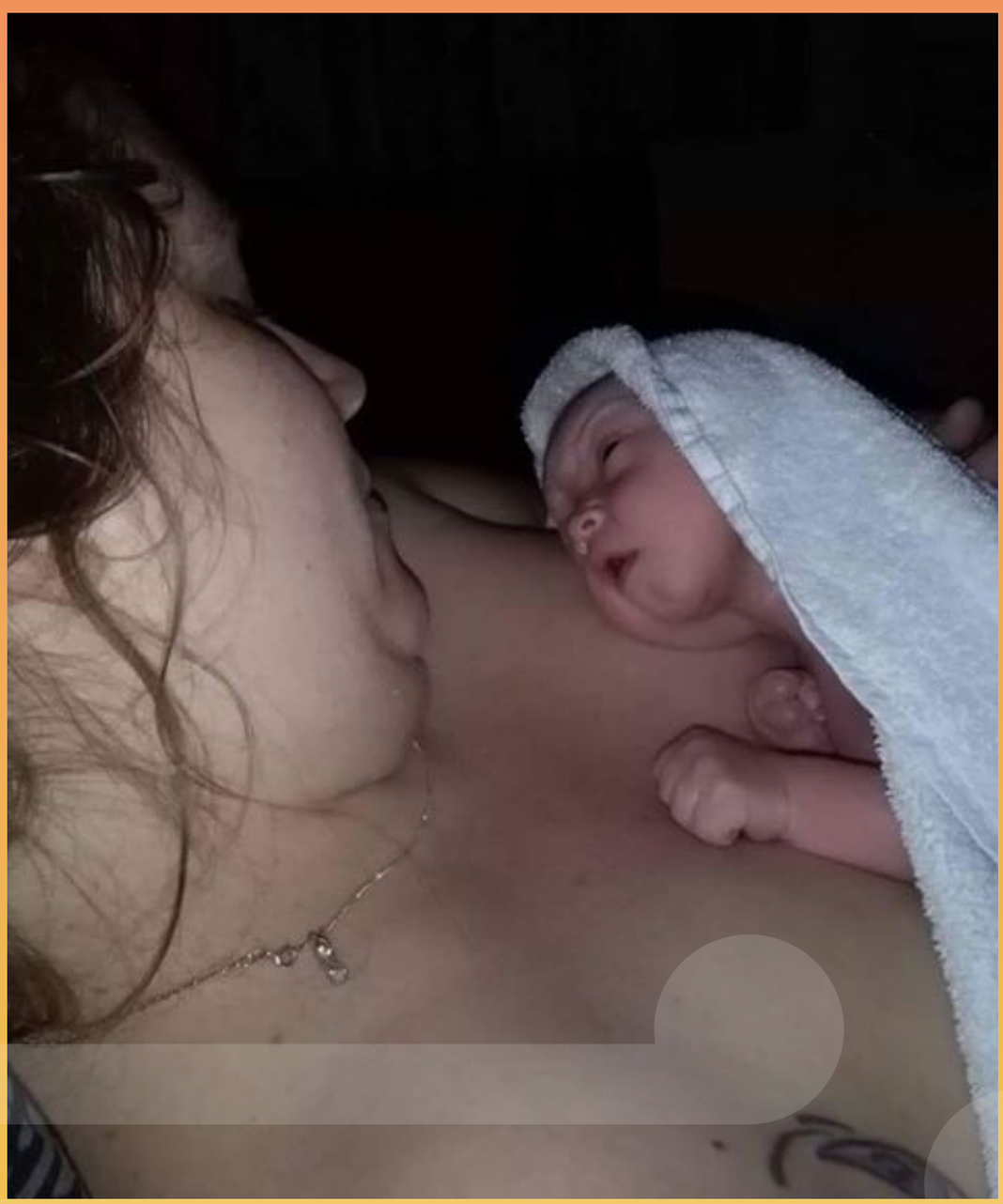
The morbidity of second stage ceasarean section is demonstrated with 24% of women having a length of stay of four days and a further 33% staying longer than four days. One (5%) woman required a blood transfusion and 3 (14%) were readmitted for wound infection.

The fetal pillow was used in 48% of cases. The use of the pillow is a Consultant led decision. When comparing cases where the pillow was used and not used, the outcomes were shown to be improved in the fetal pillow group and the length of the CS operation was reduced.

Measures of case difficulty	With fetal pillow	Without fetal pillow
Record of difficult delivery	10%	55%
Postpartum haemorrhage >100ml at surgery	0%	36%
Documented angle tears	30%	36%
Operation >60 minutes (used as a marker for a more complicated procedure)	20%	45%
Fetal head pushed up from below	10%	18%
Breech delivery	0%	5%

This audit demonstrates that second stage CS is only a small proportion of our overall CS rate. There is documented presence of a Consultant at the majority of second stage CSs, so there is experienced input into the decision making in this area, as would be an expected standard of care. Documentation needs to be improved, to ensure the reasons for not undertaking a trial of an instrumental birth are clearly stated, rather than. The use of the fetal pillow appears to have benefits in most areas of a second stage CS and the recommendation would be to continue to use the fetal pillow.

Maternity Clinical Governance Group



Maternity Clinical Governance Group 2017 Activities

During 2017 the Maternity Clinical Governance Group met on 6 occasions, during which time they:

- Welcomed the addition of the Māori Midwife Consultant
- Welcomed a new Wairoa midwife representative
- Held Expressions of Interest for SMOs, NZCOM, LMC and DHB midwives – see our current make up of our Governance group
- Farewelled our Māori midwife representative
- Reviewed and endorsed 6 full multidisciplinary case reviews with full reports published and 5 adverse event case reviews
- Endorsed 5 adverse event case reviews and supporting the implementation of recommendations
- Reviewed 4 clinical quality audits and monitoring of the audit recommendations
- Completed and published 1 Root cause analysis SAC 2 report and progressing through recommendations
- Discussed outcomes of quarterly reporting data and information against KPIs and System Level measures to the Ministry identifying responsive actions to continue to improve outcomes
- Reviewed 8 quarterly consumer reports for Waioha and Ata Rangi summarizing themes, trends and responses
- Responded to specific Antenatal Clinic (ANC) consumer feedback via representatives and carried out an ANC workshop to identify strengths, challenges, risks and opportunities for improvement – this is now in our workplan and progressing through the required actions with a plan to carry out a consumer survey once all actions are complete and embedded
- Reviewed 4 quarterly event reports for the maternity service, ascertained the most commonly reported events: Clinical, Equipment/Resource/Staffing and Security

Hawke's Bay Maternity Services Actions

Hawke's Bay Maternity Services Actions

This section highlights the work performed by the Maternity Quality and Safety Programme to improve the Maternity Services provided by the Hawke's Bay District Health Board. Two tables are provided. The first table presents the deliverables that were planned to be achieved in 2017, as previously detailed in the 2016 Annual Clinical Report. Progress made towards to completing each planned action and whether any ongoing efforts continue are described. The second table depicts the actions or deliverables that we wish to achieve in 2018 and how we intend to meet these expectations.

Actions for Completion in 2017 and Their Current Status

Planned Actions for 2017	Progress in 2017	Status at the end of 2017
Early Engagement with a Midwife Campaign	• The public campaign of "top 5 for my baby to thrive" has been rolled out across the community and primary sector with visual advertising both billboard, back of bus and permanent signage outside maternity and Te Kākano – Antenatal Clinic	• The key messaging is now embedded across the maternity, LMC and primary services as well as referenced and visible on social media and the DHB/ PHO websites
	• Continued working in partnership with GP, LMCs and Smokefree team to ensure message received and responded to by key primary practitioners involved in confirming pregnancy – Health centres have all been visited twice over the year to provide resources, affirm messaging and offer ongoing support	• Monitoring of early engagement identified an initial increasing percentage of women booking by 12 weeks however ongoing evidence of ethnicity related inequity continues
	• Provision of pull up banners at CHB, Napier and Wairoa Health Centres with resources was initiated in March and remain in situ to support awareness and knowledge of how to access a midwife.	• Visibility of the messaging is there
	• Visibility and support of Napier Maternity Resource Centre as drop in for pregnancy testing and finding a midwife.	• The CHB maternity resource centre discussions are now on the table and progressing
	• Plan to establish a maternity resource centre in Central Hawke's Bay (presentation to Health and Social Care Localities group 5/9/17).	• Specific focus on addressing the inequities and continuing to work in partnership with Te Wāhanga Hauora Maori, and our Smokefree team Te Haa Matea is planned for 2018/19
Re-development of a women centric maternal mental health pathway across primary/ secondary landscape	• The establishment of a key stakeholder group inclusive of community based agencies, primary and secondary MH services, WCPs, LMC, NZCOM, Consumers, Quality improvement and advisor, GPs and O&G commenced in February led by Nurse Director Mental Health Peta Rowden and the Midwifery Director Jules Arthur.	• This project progressed well during 2017 at by the end of this year clearly identified workstreams were progressing: Maternal mental health referral pathway, consumer engagement workstream, development of resources/directory and consumer workstream.

	• Use Taranaki diagnostic referral pathway as a tool to support and initiate discussion.	• Looking forward to completing this project in 2018 and launching the co-designed woman centric wellness pathway across the sector
	• Identify works streams, work plan and timeline	
Your Birth, Your Power – changing birth culture initiative	• The appointment of a project midwife was finalized and a workplan drawn up to action the objectives of this project	• The environmental audits were completed and actions to improve the environment have already progressed with wall decals throughout the Hastings based maternity services, in progress is changing the curtains
	• Key objectives included – an environmental audit of all maternity centres to indicate opportunities to better support positive birth outcomes, progression in the development of a healthy birth pathway app and ongoing professional development opportunities to support the maternity workforce in reducing intervention	• Purchase of new educational equipment to support active birth has occurred
		• A highly successful healthy birth study day was run with both doctors and DHB/LMC midwives participating
		• An internship was established with EIT IT department and collaborative working with third year IT students to conceptualise and develop a pilot healthy birth pathway app was completed by September. DHB mobility capability needs to catch up to support a pilot roll out of this app to support and empower women to choose wisely during their pregnancy journey
Introduction of Obstetric Anal Sphincter Injury Care Bundle	• Midwifery Educator to establish education plan to include 4 steps of OASI bundle.	• This clinical quality initiative has not progressed this year however remains on the 2018 workplan. Other key clinical initiatives took priority
	• Engagement and socialisation of OASI bundle to all maternity care professionals.	
	• Partnership with O&G, LMCs and DHB midwives as multi-disciplinary engagement required to support implementation.	

Planned Actions for 2018 Onwards

Planned Action 1

Continue the Early Engagement with a Midwife initiative with a targeted approach inclusive of smokefree and alcohol free messaging

Proposed Methods / Initiatives 1

- Work in collaboration with our whānau, Māori Health partners, primary care partners and other key community agencies to better support early booking with a midwife with a targeted approach for our Māori and Pacific Island women – refresh the framework and identify a workplan with measurable outputs and outcomes
- Continue the identified connections with Te Haa Matea programme and join up the messaging to support women to make informed healthy choices
- Work with our Alcohol free team to promote zero alcohol during pregnancy and join up the messaging

Planned Action 2

Involvement in a Kaupapa Māori maternal programme

Proposed Methods / Initiatives 2

- Work collaboratively to develop a programme that meets our young Māori pregnant women and mothers where they are, equity is paramount in making positive changes to health outcomes; bringing services to them in a known Kaupapa Māori model of care – this is being led by our Māori Health team in partnership with Maternity, Population Health, Māori Relationship Board, Iwi and Ngā Maia

Planned Action 3

Your Birth, Your power initiative continues

Proposed Methods / Initiatives 3

- Workplan is still current and being progressed to continue to empower and change our Hawke's Bay birth culture to improve pregnancy, birth and postpartum health outcomes by the project midwife

Planned Action 4

Embed newly launched Maternal wellness pathway and consumer resources

Proposed Methods / Initiatives 4

- Socialise across the sector the newly established maternal mental health pathway
- Ensure consumer resources are readily available and accessible to all who need them
- Develop a web page in the maternity services section of the HBDHB Our Health website called Maternal Wellness and have a one stop shop of FAQs, services available, referral forms and key national information sites for further information

Planned Action 5

Ensure a safe and sustainable workforce across maternity services

Proposed Methods / Initiatives 5

- National participation in identification and development of immediate/medium and long term strategies and actions to address workforce shortage
- Analysis and measurement of demand and acuity in DHB maternity services to support safe midwifery and maternity staffing levels using Trendcare and CCDM tools
- Present a maternity workforce paper to address the rising acuity and demand with proposed solutions to the Executive Leadership teams
- Elevate and support appropriate staffing where the paramountcy of safety principle is activated ensuring the escalation plan is responsive to the emergency nature of maternity services 24/7

Planned Action 6
Women are supported to disclose family harm and protected to be safe

Proposed Methods / Initiatives 6
- Active participation in the FV improvement group and member of the Family Harm steering group
- Continue to proactively support all of the maternity workforce to attend training and professional development
- Prioritise a focus on enabling screening to occur throughout the pregnancy/postpartum journey and the support pathway when disclosure is positive

Planned Action 7
National Project 1– to be identified

Proposed Methods / Initiatives 7
- These national projects have not been identified yet and will need to align with the development of the national maternal work programme being led by the Ministry of Health

Planned Action 8
National Project 2 – to be identified

Proposed Methods / Initiatives 8
- These national projects have not been identified yet and will need to align with the development of the national maternal work programme being led by the Ministry of Health

Our Response to the 5th Annual Report for the National Maternity Monitoring Group 2017

What follows is our response and actions to the National Maternity Monitoring Group's recommendations for 2017 and into 2018/19, published in their 5th Annual Report.

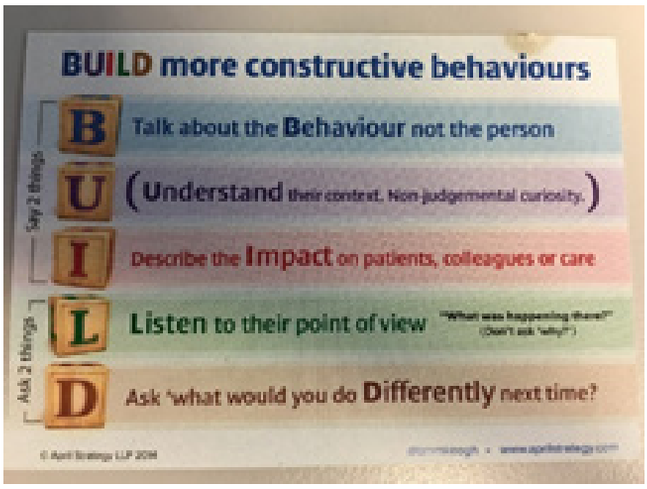
Response 1: Workforce

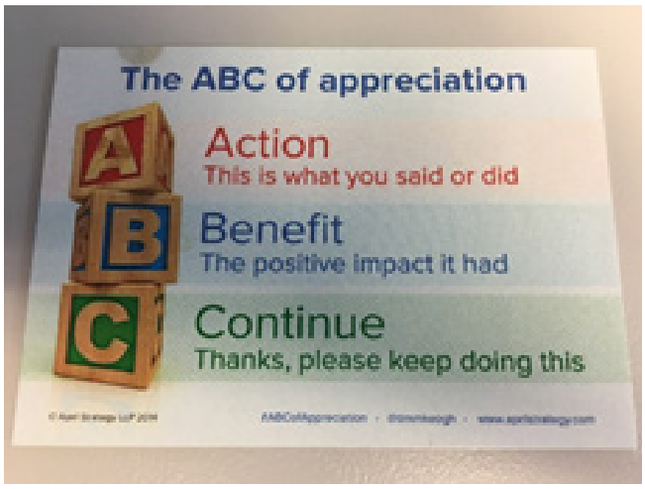
Over the last year and ongoing Hawke's Bay DHB has focused on identifying staff wellbeing and being proactive and developing a workplace culture that supports staff to work collaboratively and feel safe and supported.

Initiatives commenced:

The Big Listen was an across sector wide programme that had significant consultation with both consumers and all staff identifying current strengths, weaknesses and opportunities. This programme has led to a framework identifying the staff and workplace culture desired and the health care provision by both our consumers and our staff. Key shared expectations are: Respect, friendly, caring, supportive and listening

Workshops have been run to support learning of tools that positively support such as BUILD and the ABC of appreciation





These tools and key initiatives have been embedded in the how to of meetings, action plans and professional development to support improvement and sustainable change in our workplace culture

Wellness Baskets have been gifted to each area including Cafetiere, coffee, pampering products and 'treats'

Recognition of the current crisis in the midwifery workforce and the shortage being experienced in both our LMC workforce and DHB workforce has required innovation and significant resource to ensure responsiveness to demand, complexity and acuity across our DHB services – benchmarking nationally and utilization of the MERAS maternity safe staffing standards has identified the required midwifery staffing level with further shared agreements regarding how this is agreed and implemented to be made. Active participation in Care Capacity Demand Management roll out is to commence towards the end of this year (2018) with FTE calculation to commence with the roll out of the new Trendcare version 3.6.

Response 2: Maternity Quality and Safety Programme Annual Reports

The expectations outlined in the NMMG report are met in our previous reports from Hawke's Bay DHB and are identified in this current report with our actions identified to progress against each recommendation

Response 3: Place of birth

Evidence in our 2017 report is beginning to demonstrate the outcomes of the Hawke's Bay DHB investment in our alongside primary birthing centre Waioha and implementation of changes across the district to support improved birth outcomes.

In the Birth Outcomes chapter and in particular the Standard Primparae data there is evidence of commitment to improving outcomes for our low risk women. The last two years data demonstrates an ongoing gradual increase in Homebirths, a rise in women birthing in our rural primary birthing centre in Wairoa as well as significant change in the vaginal birth rate and decrease in emergency caesarean sections across the primary and secondary Hastings based services. The comparison between Standard primips starting spontaneous labour in Waioha versus the same group commencing spontaneous labour in Ata Rangi is significant and to be noted.

Our local based initiatives to challenge our birth culture and change using international research and evidence continues to drive our focus and vision to improve equity and support equitable outcomes for our childbearing women.

In our 2018 report further analysis of our birth outcome data for place of birth, ethnicity, mode of birth and maternal choice will be reported.

Response 4: Maternity clinical indicators

Our 2017 clinical indicator data is positive with continued improvement in the majority of the indicators for our low risk women. 14 out of 21 clinical indicators are Green meaning they are positive to the national benchmark data. Particular strengths identified are:

- Increase in spontaneous vaginal birth rate
- Decrease in emergency caesarean section rate
- Continued decline in 3/4th degree tears
- Decrease in preterm birth rate
- Significant decrease in postpartum haemorrhage
- Increase in women who are smokefree at 2 weeks post birth over the last 3 years however still an outlier compared to the national benchmark

Areas requiring further investigation and change include:

- Induction of labour for standard primips – albeit decreasing remains above national average
- Early engagement with an LMC
- Intact lower genital tract – a change in how the data has been collected has led to a significantly different figure this year

Response 5: Connecting sector leadership

Please see our response to the PMMRC recommendations below.
Responsiveness to the MWWG 2017 report and NE Taskforce includes:

- Development of an Implementation plan and roll out of Sepsis Bundles, participation in the development of the national guideline and inclusion in professional training and education programmes
- Awaiting the Recognition and response to maternal deterioration – the national MEWS programme
- Review of National Hypertension guideline with clear identification of any practice changes, consumer information and local application
- Roll out of professional and consumer resources regarding the purpose and work of MWWG
- Roll out of GAP training and the commencement of the GAP quality initiative
- Involvement in the Fetal surveillance workstream
- Awaiting outcomes from the development of the Neonatal Early Warning score tool

Response 6: Equity

Hawke's Bay DHB have a long history of recognition and analysis of health outcomes with an equity lens using the HEAT tool and ethnicity to clearly know where our inequitable outcomes are and have been developing targeted programmes and initiatives to make long term positive change.

Hawke's Bays Equity report is known nationally and pulls together equity data across the health sector and benchmarks against national information. It makes for stark reading as to the population here in Hawke's Bay and what it means for you and your health.

Maternity services were one of the first services to drill down their data by ethnicity and have evidence of the outcomes in relation to deprivation, age, ethnicity and social determinants throughout this report and the last two years reporting.

In the quality initiatives chapter the application of the equity lens is evident in the initiatives and targeted approaches to make the most significant difference to health and wellbeing.

In particular a business case was accepted to establish a LARC service by midwives in Wairoa – this has involved all maternity clinicians, GPs and practice nurses to support the proposed model and enable access to training, opportunities and supervision to support the midwives to have the skill set required to offer this service to women. This service is being rolled out in 2018 for our Wairoa women.

In Hastings a number of midwives and registrars and SHOs have attended Jadelle training and have training programmes in place to complete the required education and supervision. This will mean an increase in the ability to offer women long acting reversible contraception prior to discharge; particularly for our most at risk women where cost, access to family planning or GP and transport are barriers.

Response 7: Maternal mental health

Please see our initiative in the report as well as our action plan for the MQSP programme. A significant amount of work has occurred in this space and has been co-designed with our consumers and community.

Response 8: Ultrasounds

In response to the MUAG findings there is no current easy access to our local data in relation to our use of Ultrasound in the primary sector. Challenges also exist in separating our DHB ultrasound data for pregnancy related scanning only. Previously we have identified our over use of our primary based private providers for secondary level scanning as well as on average our low risk women experience 3-4 scans with an early dating scan prior to the MMS1 screening/nuchal scan.

The ability to make significant change in this space requires national guidelines/policy to reverse the increasing trend towards the use of the ultrasound tool as the sole diagnostic tool for fetal wellbeing.
Access to sufficient secondary/tertiary level scanning is a real issue for us as well as access to ultrasound for our rural communities Wairoa and Central Hawke's Bay.

The major safety issue is the ability for the DHB to have enough data repository space to store both the written report and the images of a scan along with the interface between primary private providers and our patient management system. Whilst some of this has been addressed, significant investment is required to support the data repository requirements as well as full implementation of the new clinical portal here in Hawke's Bay.

Perinatal and Maternity Mortality Review Committee

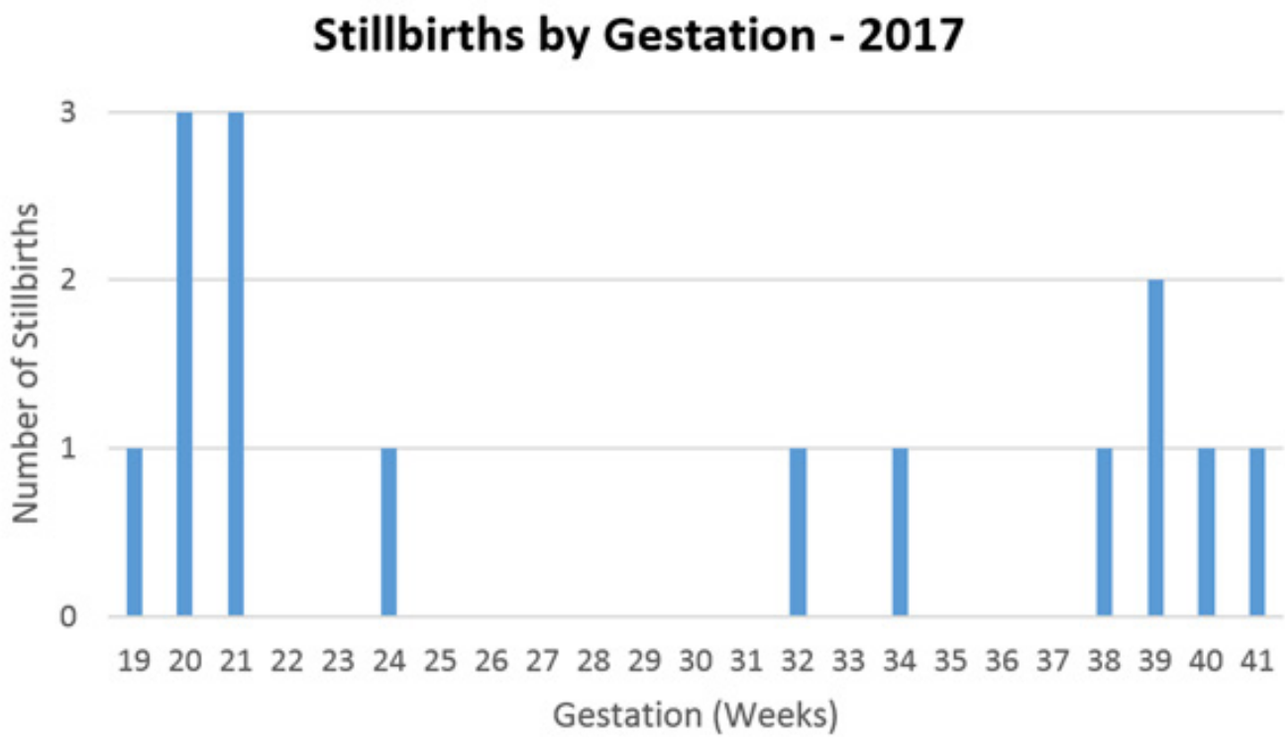
Hawke's Bay contributes to the national database providing information and influencing recommendations for practice through the yearly Perinatal and Maternity Mortality Review Committee (PMMRC) reports. The PMMRC is a forum for the combined Maternity and Paediatric service to review all of the stillbirths greater than 20 weeks and any neonatal deaths prior to 42 days within a multi professional forum. The forum held on a bi-monthly basis is led by Obstetrician Dr. Gaerty.

The Perinatal Education meeting has been well supported throughout 2017 with attendance from our LMC midwifery colleagues, DHB maternity staff, Radiographers both internal and external providers, Paediatricians, Well child providers, Paediatric nurses and our Wellington based Pathologist. Presentations in this protected quality assurance environment allows robust discussion around contributing factors to adverse outcome. Recommendations are made where possible regarding systems changes and plans for the woman and any future pregnancy which can then be discussed with her at her follow up appointment. The cases are classified after the meeting with a smaller sub group including obstetricians, neonatologist and midwives. The classifications and findings of case discussions are sent to the National Perinatal Maternal Research Committee.

This meeting has enjoyed the discussion of neonatal and maternal morbidity cases as an effective learning process and to create greater dissemination of recommendations and changes in practice that result from these case reviews.

These meetings have also been used to present the summary of recommendations from the 11th Annual PMMRC report and the recommendations from the Maternal morbidity working group.

Among the women who gave birth in Hawke's Bay in 2017, 15 stillbirths occurred (as depicted in the following graph). A third of these stillbirths (n=5) occurred beyond 37 weeks' gestation.



Our Response to the 12th Annual Report of the Perinatal and Maternal Mortality Review Committee Recommendations 2018

Neonatal Mortality Recommendations

Recommendation 1

The PMMRC recommends the Ministry of Health establish a multidisciplinary working group to review current evidence for implementation of a preterm birth prevention program such as that implemented in Western Australia.

Response 1

Consideration of the implementation of a preterm birth prevention program:

- Consideration of this program and local implications are being assessed through our Maternity Clinical Governance Group

Recommendation 2

Women with a previous preterm birth at less than 34 weeks are at increased risk of neonatal death. The PMMRC recommends that LMCs and DHBs employ strategies to reduce preterm birth by targeting this high risk group.

Response 2

Prevention of preterm birth < 34 weeks:

- Preterm birth guideline has been reviewed and continues
- Audit of the application of this guideline will be completed in 2018
- Continued strong focus on smoke free pregnancies and working collaboratively with Te Haa Matea and our smoke free partners to screen all women, offer brief intervention and refer to cessation support

Recommendation 3

Birth in a tertiary centre is associated with improved outcomes for preterm babies at the lower limits of viability (prior to 25 weeks gestation). The PMMRC recommends the Ministry of Health leads the development of a national consensus pathway for the care of women in preterm labour or requiring delivery prior to 25 weeks gestation.

Response 3

- Activation of appropriate transfer and access to tertiary providers (Wellington as first provider for Hawke's Bay):
- A lead Consultant with Fetal Medicine specialist qualifications and ultrasound is supporting a reduction in IDFs and supporting closer to home care provision with the adoption of telemedicine consultations between consultants
- The Fetal Medicine Specialist and Midwifery Director have been involved in the development of a pre-viability consensus statement and guideline
- Review of local SCBU capacity and resources to support neonates at an earlier gestation and weight are under consideration due to the national capacity challenge and the changes in neonatal medicine that support earlier viability

Recommendation 4

The PMMRC recommends DHBs make available appropriate information, including appropriate counselling, for parents and whānau about birth outcomes prior to 25 weeks gestation to enable shared decision making and planning of active care or palliative care options.

Response 4

- Resources being development by the national working group for pre-viability:
- Local paediatricians are available to provide advice and counselling to parents as required to enable shared decision making and care planning
- Implementation of any resources developed by the national group will be rolled out as per an identified plan

Recommendation 5
The PMMRC recommends that DHB maternity services audit the rates of antenatal corticosteroid administration, including repeat doses when indicated, to mothers of neonates live born at less than 34 weeks gestation, including auditing whether administration is equitable by ethnicity, DHB of residence, and maternal age.

Response 5
Audit of the use of AN corticosteroid administrations:
- This audit inclusive of the equitable measurements is planned to be carried out in early 2019

Recommendation 6
The PMMRC recommends that tertiary obstetric and neonatal intensive care units investigate and address the difference between units in survival rates amongst infants born at 23 to 26 weeks gestation as part of their benchmarking and quality and safety initiatives.

Response 6
Hawke's Bay DHB is a level 2a NICU facility

Recommendation 7
The PMMRC recommends that regulatory bodies require cultural competency training of all individuals working across all areas of the maternity and neonatal workforce. Training should address awareness of, and strategies to reduce and minimize the impact of, implicit bias and racism.

Response 7
Culturally responsive maternity workforce:
- Commencement of Maori Midwifery Consultant Nov 17
- Maternity Workforce strategy inclusive of the roll out of Turanga Kaupapa training for all maternity workforce colleagues to support cultural confidence and responsiveness to the community we serve – this has commenced in 2018 with a rolling education programme
- All DHB staff are required to complete an online Treaty of Waitangi Ko Awatea module – 84% of maternity staff have currently completed this
- All DHB staff are required to attend Engaging Effectively with Māori training – 90% of maternity staff have currently completed this
- Two other key workforce strategy workstreams being actioned by the Māori midwifery consultant in partnership with the Maternity team, Nga Maia, Wintec and Māori Health are: Building a sustainable Māori midwifery pipeline and Embedding the Māori consumer voice in all things Maternity. Reporting on this workforce strategy will be evident in the 2018 ACR

Recommendation 8
The PMMRC recommends that the Ministry of Health and DHBs have a responsibility to ensure that midwifery staffing ratios and staffing acuity tools:
a. Enable active observation of mothers and babies who are undertaking skin-to-skin contact in the postnatal inpatient period
b. Allow for the identification of, and additional needs of, mothers who have increased risk factors for sudden unexpected death in infancy (SUDI).

Response 8
Safe midwifery staffing levels to be responsive to both a and b:
- Participation in the use of Trendcare and recent commencement of CCDM
- Implementation of Version 3.6 of Trend care, IRR testing of all maternity staff and the resetting of midwifery related staffing levels in accordance with MERAS maternity staffing levels in underway
- Maternity workforce paper has been presented to the Executive Management team with options to support safe staffing levels to match demand, complexity and acuity across the service and inclusive of the community midwifery team

- In response to B – there is a comprehensive safe sleep programme that has been embedded in practice for the last 7 years with supporting documentation providing evidence of family participation and care planning and joint signatures on completion of the education. Auditing of this demonstrates a high level of compliance to this standard of care in the immediate postnatal period prior to discharge with access to wahakura and pepi-pods as required. Hawke's Bay has a significantly vulnerable newborn population with high levels of smoking in pregnancy and in the households of newborn infants

Recommendation 9

The PMMC recommends that lead maternity carers (LMCs) and DHBs ensure that every baby will have access to a safe sleep place on discharge from the hospital or birthing unit, or at home, that is their own place of sleep, on their back, and with no pillow. If they do not have access to a safe sleep place, then a wahakura or Pēpi-Pod® must be made available for the baby's use prior to discharge from hospital.

Response 9

Hawkes Bay DHB Safe Sleep Programme for neonates:

- As stated above this is a well established programme run across sector with LMCs, DHB maternity staff and Well Child providers supporting safe sleep conversations and access to wahakura and pepi-pods with a now identified Māori Health based safe sleep team.
- The national safe sleep programme is based on Hawke's Bay DHB and has both a local and regional safe sleep coordinator.

Neonatal Encephalopathy Recommendations

Recommendation 10

The PMMC recommends that the DHBs with rates of neonatal encephalopathy significantly higher than the national rate review, or continue to review, the higher rate of neonatal encephalopathy in their area and identify areas for improvement.

Response 10

NE and Hawkes Bay:

- NE rates in Hawke's Bay for 2010-2016 is approx. 1.5/1000 which is 0.3 higher than the national average of 1.2/1000 for the same time period.
- In 2017, 4 infants were identified with moderate to severe neonatal encephalopathy which equated to 1.3% of the SCBU admissions. All infants received cooling and were transferred to Wellington NICU for ongoing care and continuous EEG monitoring. All these infants have had case reviews with expected recommendations to be published shortly

Perinatal Mortality Recommendations

Recommendation 11

Maternity and primary care providers need to be aware of the increasing risk of perinatal mortality for mothers under 20 years of age in New Zealand. Inequity in perinatal mortality for babies born to mothers under 20 years of age needs to be actively addressed.

Response 11

Demographics of mothers under 20 years of age and responsiveness to inequity:

- 2017 demographic data identifies 134 teen mums (6%) of our birthing population; we also know that the majority of those young mums live in deciles 8-10, are not smokefree and are Māori. National data and local information clearly identifies that our young mums have increased risk in pregnancy with a recent pre-eclampsia case evidence of this.
- Local initiatives include:
- Teen parent units in both Flaxmere and Napier
- Young mums Kaupapa Māori pregnancy and parenting classes
- Currently there is development of a Mama Māori maternal wellness programme to better support access to maternity services and other wrap around supports

- In 2019 an audit is planned to drill down further into our data both from a social and medical view to clearly identify and analyse our young pregnant population further with an equity lens to address and improve the outcomes for these women and their babies.

Recommendation 12
The PMMRC recommends that DHBs with rates of perinatal related mortality significantly higher than the national rate review, or continue to review, the higher rate of mortality in their area and identify areas for improvement.

Response 12
Hawke's Bay DHB perinatal related mortality rate is the third lowest in the country at 5.74/1000 and below the national average of 10.2/1000:

- Whilst our rate is well below the national average current quality and risk management structures support timely event reporting and case reviews of all where death has occurred either through PMMRC or SAC1 and SAC2 procedures

Maternal Mortality Recommendations

Recommendation 13
The PMMRC recommends that a Maternal and Infant Mental Health Network is funded by the Ministry of Health and that the network then determine an achievable work stream by the end of 2018 detailing work to be completed by the end of 2020.

Response 13
Hawke's Bay DHB awaits the Mental Health Services review outcomes and looks forward to participating in the development of such a network nationally

Our Response to the Maternal Morbidity Working Group Annual Report 1 September 2016 to 31 August 2017

Two key recommendations were identified in the 2017 report from the Maternal Morbidity Working Group and are addressed below.

Recommendation	Response
Establish septic bundle kits to address human factor components, such as stress in high-acuity settings, within the next 18 months. The kit should included all requirements of the sepsis 6+2.	This information and discussion is with the Maternity Clinical Governance Group and an action plan and timeline is currently under development. Our DHB response to this will be presented in the 2018 report.
Consider establishing clinical pathways across primary and secondary/tertiary care to enable earlier recognition and treatment, while waiting for nationally consistent guidelines to be developed.	Hawke's Bay Maternity Services adhere to the NICE guidelines and the current sepsis bundle well established in the UK. We will ensure a review of the current clinica pathways across the health care continuum is conducted, whilst awaiting the national guideline.

Appendix

Maternity Clinical Governance Group Terms of Reference May 2017	
Purpose	The purpose of the Maternity Clinical Governance Group is to provide a consultative and directive forum, inform strategic direction, and contribute to the maternity annual plan for managing quality and safety across maternity services, and to ensure coherence across the quality activities. The delivery of healthcare will always involve a degree of risk. The Hawke's Bay District Health Board (HBDHB) recognises that it is necessary to identify, assess, prioritise, and manage risks appropriately. The maternity service is committed to being proactive to achieve an integrated system of governance focusing on continuous improvement in quality and in the control of risk. A transparent and effective shared communication and decision-making process will ensure an intentional and responsive approach to advancing maternity practice, to better meet the needs of the community we serve.
Functions	The Maternity Clinical Governance Group functions are to: • Align the maternity services with the needs of the community through consumer feedback and provide oversight to clinical quality and patient safety. • Ensure maternity services are culturally safe. • Ensure the National Maternity Standards are embedded in local practice. • Review clinical indicators data and identify quality improvement activities arising from local variances from the national average. • To promote and actively support risk management processes, procedures, and techniques across the maternity service. • To share the work of the Maternity Clinical Governance Group so individuals in the maternity service are aware of their responsibility for contributing to quality and safety, and to support them to work in a way that actively embraces that responsibility. • To review incident data via the HBDHB electronic incident reporting system and the maternity service incident trigger list and encourage an open and learning culture to support their use. • To identify trends and remedial actions highlighted from risk identification tools and ensure lessons are learned to prevent future occurrence. • To discuss and review significant incidents and near misses, identifying trends, and reviewing systems and practice where appropriate. • To examine antenatal, intrapartum, and postnatal care wherever this has an impact on quality and safety, including case reviews. • To ensure that explicit action plans are developed from investigations that are subject to ongoing review and ensure the improvement process is completed.
Level of Authority	The Maternity Clinical Governance Group level of authority is: • To approve all maternity service clinical guidelines and policies. • To govern clinical practice recommendations. • To govern the sharing of learning from adverse events.

Membership	**Core Members** • Midwifery Director (Chairperson) • Midwifery Educator (Deputy Chair) • Medical Director Community, Women and Children • Obstetrics and Gynaecology Consultants • Obstetric Anaesthetist Consultants • Māori representative/Nga Maia representatives • New Zealand College of Midwives representative • LMC representative • DHB core midwife representatives • Rural midwife representative (Virtual) • Maternity consumers **Co-opted Membership** Various individuals that are appropriate to the key items for discussion per agenda. Length of elected tenure is three yearly. The re-nomination and re-election process occurs two months before the end of tenure. Cover for extended leave is at the discretion of the group process. All members for re-election will receive notice and an opportunity to put forward further expressions of interest. A two week expressions of interest period will run with the Chair and Deputy Chair short listing and interviewing prospective new candidates. Where there is more than one nomination for a position an interview process will occur.
Operational Matters	**Meetings** Usual meeting procedure is to be followed for all meetings. • Agenda items are submitted one week prior to the meeting. • Minutes will record issues, decisions, and actions only. **Frequency** The Maternity Clinical Governance Group will meet bi-monthly with the frequency reviewed annually. The Maternity Clinical Governance Group will review the membership of the Group annually to ensure it best reflects the requirements for discussing clinical related risk issues. Individuals may be co-opted for specific projects or to provide specialist knowledge. **Apologies** Apologies must be communicated to the chair or the Maternity Clinical Governance Group administrative support in advance of the meeting. **Quorum** A quorum will consist of not less than seven members of the Group. **Conflicts of Interests** Conflicts of interests will be declared and discussed at the beginning of each meeting. **Decision Making** • Where possible, decisions will be made by consensus. • Where voting is required, decisions will require 70% agreement of the attendees. Each elected member has one vote. No proxy vote will be accepted. In the event of a hung vote, the Chair will have the casting vote. • Where decisions are required outside of meeting times this may occur via email, and/or additional meeting, and will still require 70% agreement for a decision to be made.

	Responsibilities of individuals of the Maternity Clinical Governance Group are to: • Prepare for meetings by reading papers/material sent in advance of meeting. • Actively engage in discussion and decision-making processes. • Contribute to the development of, and provide feedback on, documents received. • Role model the values of the HBDHB. • Abide by the decisions of the Maternity Clinical Governance Group. • Ensure confidentiality of information provided to the Maternity Clinical Governance Group, disseminate relevant information, and liaise with the work group the member is representing. • Fulfil the requirement to engage with subcommittees and relevant stakeholders, as and when necessary, with an expectation to provide feedback to the group. • Ensure all learning and opportunities for service wide improvement are shared through relevant meetings, forums, and emails. • Ensure that assigned actions are followed through and reported on in the time frame agreed to. • Members to attend at least 80% of meetings on an annual basis. An attendance record is to be maintained and presented to the group annually.
Agenda & Minutes	• An agenda will be sent out three working days prior to a meeting. • Minutes of each meeting shall be recorded and distributed promptly to each member of the team, within one week of the meeting. • The minutes are permanently retained on file in a secure location. • Administrative support will be made available for this purpose. • A summary of the agenda, recommendations, and actions from the meetings will be shared with the wider maternity provider community.
Communication & Reporting	• The Chair will send the six monthly report to the Clinical Council for their information. • Delegated authority will make recommendations on behalf of the maternity service. • An annual clinical report will be submitted to the Ministry of Health, as per requirements. • A response to National Maternity Monitoring Group requests will be made within the requested timeframe, with a copy provided to the Maternity Clinical Governance Group. • Feedback to, and from, other relevant committees will occur as required.
Review Period	The terms of reference will be reviewed every three years, or more frequently if required.

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District Health Board
Whakawāteatia