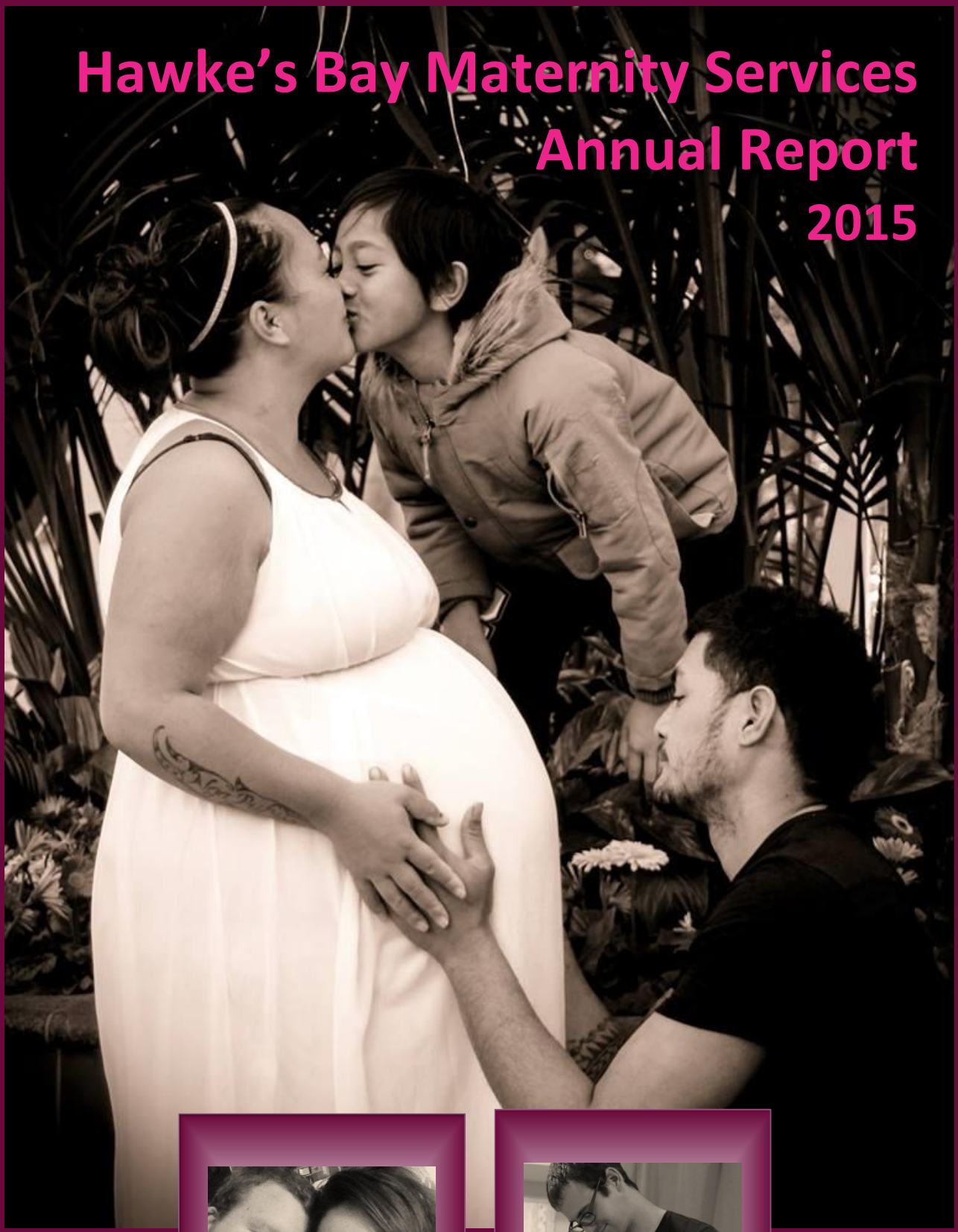
Hawke's Bay Maternity Services Annual Report 2015



HAWKE'S BAY
District Health Board
Whakawāteatia

Hawke's Bay Maternity
Whare Kōhanga o Te Matau a Maui

ACKNOWLEDGEMENTS

The Maternity Governance Co-ordinator would like to sincerely acknowledge the following people for their contributions to the content of this report:

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The photographs published throughout this report have been provided by members of the Hawke's Bay community. **The Maternity Governance Team would like to express their appreciation to all the parents who have granted permission for us to share these special images from 2015.**

Lastly, the Maternity Governance Co-ordinator would like to express sincere gratitude to the ten Hawke's Bay mothers who have provided their personal maternity journey for publication within this report.

Thank you all,

Emma Mumford, Maternity Governance Co-ordinator

FORWARD

It is with great pleasure that the fourth annual clinical report for Hawke's Bay Maternity Services is presented. This year has seen changes, progress and new ventures involving all areas of our service. There has been a collaborative approach for driving quality improvement and ensuring consumer feedback and involvement is part of our everyday business throughout our initiatives and projects.

The Maternity Quality and Safety Programme has and is an exciting and proactive framework that our District Health Board has embraced enthusiastically. It provides the ability to focus on our services in a new and meaningful way. The progress that we continue to make working as a multi professional and consumer driven service is changing the shape of what we do, how we do it and how it looks.

This report is demonstrating significant inroads into some challenging clinical and non-clinical areas; improving care provision, initiating new services and embedding quality changes that are improving the health outcomes of our mothers, their babies, and whānau.

It is the whole of team approach across the health care continuum, with a focus on relationship building with our primary care partners, joining up our services and smoothing the woman's journey that is demonstrating a noticeable difference in engagement, proactive responses to need and a change in how we are thinking and doing.

The integration of our consumer perspective is significantly influencing the shape of maternity care, what is meaningful and what is needed to truly provide a service that is centred around women, their babies and becoming a family.

What is very evident is the inequity in the health of our population that we serve. Our quality initiatives are very focused on removing this inequality and striving to ensure that our services are equitable, accessible and engaging.

This report provides you with a comprehensive review of our Maternity Services, our achievements and ongoing opportunities to continue to improve the quality and safety of our Hawke's Bay Maternity Services. It reflects the importance of working together to make meaningful change and difference to those whom we serve.

Jules Arthur, Midwifery Director

EXECUTIVE SUMMARY

The 2015 Maternity Services Annual Clinical Report examines the data and outcomes of the 1858 women who birthed and their 1877 babies born within the Hawke's Bay District Health Board Maternity Services between 1st January and the 31st December 2015. The report also presents the range of services provided across the pregnancy continuum and demonstrates the quality initiatives that the service has implemented during 2015, along with the expected actions for 2016 and beyond.

During 2015, 50.4% of the 1858 women birthing within the service were of European ethnicity followed by 37% Māori, 5.6% Asian, 4.8% Pacific Peoples and 1.6% identifying as Other. Nearly two thirds (64.9%) of the women resided in the most deprived areas of our region; deciles eight, nine and ten. This equates to 1207 women and their families. Approximately one quarter of the total number of women had a body mass index (BMI) classification of over 35 (obese or morbidly obese) and 502 women were not smokefree during their pregnancies.

2015 saw a further decline in birth rate with a decrease of 107 fewer women birthing within HBDHB Maternity Services compared to 2014. The service had a spontaneous vaginal birth rate of 66%, a Caesarean Section rate of 25.4%, an instrumental rate of 7.9% and a 0.8% vaginal breech birth rate. 98.1% of the births occurred within our Hasting site whilst 1.9% of women birthed at our primary birthing centre in Wairoa. These statistics are expected to be impacted greatly from July 2016 onwards, when our purpose built along-side primary birthing centre "'Waioha'" opens for our low-risk birthing community.

We experienced high numbers of complex pregnancies and outcomes that required specialist management relative to our high needs population. Amongst our 2015 birthing population were 87 grande multiparous women, twenty multiple pregnancies, 303 women requiring induction of labour, 483 women requiring or requesting a Caesarean Section and 167 babies born prematurely.

Further complexities occurred for 46 women requiring a Caesarean Section under general anaesthetic, a further 46 women sustaining a third or fourth degree perineal tear, 453 women experiencing a post-partum haemorrhage of some degree, 45 women requiring a blood transfusion and nine women requiring admission to the intensive care unit for maternal related complications.

The 1877 babies born within the service during 2015 had a mean gestational age of 39 weeks. 167 babies were born prematurely before 36 completed week's gestation. 293 of all the babies born in Hawke's Bay DHB were admitted to the SCBU during 2015. There were six cases of neonatal encephalopathy and a total of 15 infants requiring a transfer from the Special Care Baby Unit to either Wellington or Auckland hospitals in order to receive tertiary level care.

In addition to the women that birthed under the DHB Maternity Services, we are able to report that 79 women experienced a planned homebirth, providing Hawke's Bay with a 4.0% homebirth rate, 20.2% of which were primiparous women.

In relation to service provision, our antenatal services carried out over 3300 specialist clinic appointments for women requiring secondary consultations. Additionally, our diabetes specialist services managed the diabetic needs of over 100 diabetic pregnant women, our Day Assessment Unit undertook over 850 episodes of care provision for women experiencing high-risk pregnancies

and our Maternal Wellbeing and Child Protection Multi-Agency Group monitored and collegially managed the complex pregnancies of 215 high-risk and vulnerable women. Postnatally, our exclusive breastfeeding rate was an extremely positive 88.1%, over 93% of our babies completed the Newborn Hearing Screening pathway and our postnatal midwifery team provided over 2100 postnatal home visits.

During 2015 the Hawke's Bay Maternity Quality and Safety Programme was led by the Maternity Governance Coordinator and the Maternity Clinical Governance Group (MCGG). The MCGG is a multidisciplinary group of professional, consumer, administration and management representations whose remit is to oversee the implementation of maternity quality and safety activities and ensure consistency and quality across Hawke's Bay DHB Maternity Services. Their achievements included reviewing over twenty clinical guidelines and six clinical audits, overseeing fifteen adverse event review reports and their recommendations, implementing documentation tools and patient information leaflets, the ongoing monitoring of all unit wide event report actions and our status against The National Maternity Clinical Indicators statistics.

Complimentary to the work of the MCGG, implementing quality initiatives to improve health outcomes for all of our mothers and their babies has been a significant focus for the Maternity Service during 2015. In addition to the creation and establishment of 'Waioha', there has been collaboration with the Smokefree Cessation Team, the Immunisation Service, the Family Violence Intervention Programme, the Maternal Mental Health Service, and the Specimen Labelling Error Working Group. Maternity specific initiatives have included the continuation of the Safe Sleep programme, the establishment of the Napier Maternity Resource Centre, development of the Pregnancy and Parenting Programme, evolvement of the Vaginal Birth After Caesarean clinic, the establishment of the Maternity Service Facebook Page, and expansion of our consumer member project, across the service.

Clinical audits, managed under the Maternity Governance Team, are a key part of maintaining quality and safety for the maternity service. 2015 has seen initiation and completion of numerous audits, all of which will bring positive change through robust actions and amendments to policies, services and practice.

Along with clinical audits, establishing and monitoring how Hawke's Bay reports against the National Maternity Clinical Indicators is key to the success of our service. The latest clinical indicator data published by the Ministry of Health for 2014, indicates that we are doing well with intact lower genital tract among standard primiparae giving birth vaginally, preterm birth rate and small babies born at term. However, significant work needs to continue to improve around increasing vaginal birth rate whilst reducing our instrumental and Caesarean Section rate. Progress is expected to occur once the primary birthing centre is an option for place of birth for our low risk women. Additionally, reducing our induction, blood transfusion and Caesarean Section under general anaesthetic rates need to occur going forward.

Finally, this report demonstrates how Hawke's Bay Maternity Services have responded to national Initiatives and requests from professional bodies during 2015 such as the National Maternity Monitoring Group and the Perinatal Mortality and Morbidity Review Committee.

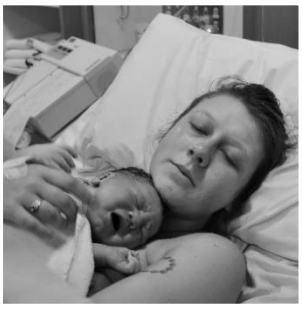
TABLE OF CONTENTS

TABLE OF CONTENTS

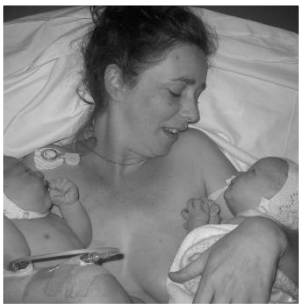
TABLE OF CONTENTS

TABLE OF CONTENTS

Part One



SERVICE DELIVERY & STATISTICS



CHAPTER ONE: INTRODUCTION

1.1 Purpose of this report

The purpose of the Hawke's Bay Maternity Services Annual Clinical Report is to demonstrate the implementations and outcomes of the Hawke's Bay District Health Board's (HBDHB) Maternity Quality and Safety Programme, as required under section 2.2c of the Maternity Quality & Safety Programme Crown Funding Agreement (CFA) Variation (Schedule B42) to:

- demonstrate the alignment of the HBDHB's vision and values, the New Zealand Maternity Standards and the HBDHB Maternity Quality and Safety Programme
- demonstrate HBDHB's delivery of expected outcomes as laid out in section two of the Maternity Quality and Safety Programme CFA Variation
- outline the progress towards HBDHB'S Maternity Quality and Safety Programme Strategic Plan deliverables in 2015/16
- determine the planning undertaken to improve the quality and safety of the HBDHB Maternity Services from 2016 onwards

This is the fourth Maternity Services annual clinical report from Hawke's Bay District Health Board (HBDHB) following the introduction of the Ministry of Health's Maternity Quality and Safety Programme (MQSP) in March 2012. Hawke's Bay Maternity Services were delighted to be recognised as a DHB delivering the MQSP at an 'established' level at the end of the first contract and embraced the opportunity to deliver a further two years of the MQSP commencing in July 2015 whilst working towards embedding the programme into business as usual and gaining 'excelling' DHB status.

This year's report sees an adjustment to the interval of data presented from a June to May period to the more workable calendar year of 1st January 2015 to 31st December 2015. This modification has allowed us to align our data analysis with the National Maternity Clinical Indicators which are reported against the calendar year as well as several other local maternity related reports.

The initial objectives of the Maternity Quality and Safety Programme of appointing a programme co-ordinator, establishing consumer representation and to implementing a multidisciplinary governance group to have the overview of the quality of the Maternity Services and identify areas for improvement have all been achieved.

The Ministry of Health have recently re-evaluated their high level priorities moving the focus for our MQSP to:

- Strengthening Maternity Services to ensure equity of access to a sustainable model of community based continuity of care, to strengthen multidisciplinary collaboration for good outcomes and to promote and protect normal birth.
- Better support for women and families that need it most, including better specialist support for women and families with additional needs and better health literacy and engagement of vulnerable population groups.
- Embedding maternity quality and safety to meet the National Maternity Standards commitments and to ensure continued growth of local quality and safety activity.
- Improving integration of maternity and child health services to reduce access barriers and promote seamless care for women and their families during pregnancy and beyond.

These four new priorities build on the goals set out in original Maternity Action Plan and align with our ongoing objectives to maintain the three New Zealand Standards of Maternity Care:

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

1.2 Report Structure

The report is divided into three parts. Part One provides information of maternity service delivery, configuration, and data analysis of the outcomes of our population in a chronological order. Part Two, demonstrates the MQSP activities, our quality initiatives and collaborations, clinical audits and our consumer collaboration. Part Three includes our performance and evaluation against the National Maternity Clinical Indicators, our actions and achievements during 2015, our quality improvement intention for the future, and our response to national maternity related Initiatives.

Part One: Service Delivery & Data Analysis

Chapter 1: Introduction

An introduction and background to the report and the data it contains.

Chapter 2: Service Provision

Hawke's Bay Maternity Services care provision including maternity facilities, service provision, and the maternity workforce.

Chapter 3: Population Demographics and Analysis

The demographics of our maternal population are discussed in this chapter with ethnicity, domicile, body mass index (BMI), age, parity, and smokefree status statistics being analysed.

Chapter 4: Birth Statistics Synopsis

The principle birth outcomes of the maternal population that birthed between 1st January and the 31st December 2015 are presented in this chapter. Outcomes for the primary Maternity Services provided in our rural community of Wairoa, with analysis around the birth outcomes of the women that domicile there also included. Additionally, data around planned and unplanned homebirth is discussed here, along with personal contributions from LMC's and consumers.

Chapter 5: Antenatal Services and Initiatives

An overview of our antenatal care provision including information of our high-risk antenatal outpatients' clinics, our diabetes in pregnancy service, the Pregnancy and Parenting Education Programme, the Day Assessment Unit, the Napier Maternity Resource Centre, our Maternal Wellbeing and Child Protection Multi-Agency Group and all other antenatal service provision.

Chapter 6: Antenatal Complications

Chapter six explores a range of complications that affect women during pregnancy and examines the available data surrounding these. Premature birth, raised body mass index, grande multiparity, twin pregnancies, intrauterine growth restriction and identified large and small for gestational age pregnancies are all discussed.

Chapter 7: Labour and Birth

Care provision and analysis of outcomes from our labour and birthing facility is outlined in this chapter, with Induction of labour and Caesarean Section being the focus. Contributions from consumers can also be viewed in this chapter.

Chapter 8: Labour and Birth Outcomes

Statistics on complications of adverse outcomes following birth are covered in chapter eight which includes perineal trauma, postpartum haemorrhage rates, blood transfusions and Intensive Care admissions.

Chapter 9: Newborn Services

The provision of care from our paediatric and Special Care Baby Unit (SCBU) is covered in this chapter. Neonatal outcomes including complexities at birth are discussed as well as admission rates to SCBU and tertiary transfers.

Chapter 10: Postnatal Care and Services

An overview of our postnatal care and services, with a focus on infant feeding outcomes and length of stay.

Part Two: Maternity Quality Safety Programme and Quality Improvement

Chapter 11: Maternity Quality and Safety Programme Governance and Operations

The Maternity Quality and Safety Programme governance, co-ordination and operations within the Maternity Services, its team members and its role.

Chapter 12: Quality Initiatives and Collaborations

An in-depth chapter demonstrating the full spectrum of our quality initiatives including ongoing collaborative projects, internal service-wide implementations and the Maternity Quality and Safety Programme initiatives that have been driven by the Maternity Governance Team over the last twelve months.

Chapter 13: Consumer Collaboration

The role of our consumers in shaping our service is demonstrated in this chapter which includes our consumer members, online survey results, our consumer feedback processes and consumer written stories of personal pregnancy journeys.

Chapter 14: Clinical Audit

This chapter provides an overview of the clinical audit work directed by the Maternity Clinical Governance Group undertaken or commenced during 2015 and examines outcomes, recommendations and actions that have been established.

Part Three: Hawke's Bay Maternity Service Responses & Actions to National Expectations

Chapter 15: New Zealand Maternity Clinical Indicators

How HBDHB rates against the New Zealand Maternity Clinical Indicators is examined in this chapter, with both the Ministry of Health targets and statistics and our current in-house data against the same indicators being presented.

Chapter 16: Hawke's Bay Maternity Services Actions

This chapter presents the achieved actions within the Maternity Services over the last twelve months and provides a summary of the actions and initiatives for the coming year and beyond.

Chapter 17: Hawke's Bay Maternity Service's Response to National Initiatives

The final chapter of this report provides an overview of the work that Hawke's Bay Maternity Services have undertaken in response to the recommendations of the National Maternity Monitoring Group and the Perinatal Mortality and Morbidity Review Committee.

1.3 Data Correlation

The report includes data relating to women who have birthed babies that were twenty weeks gestation or more at HBDHB, between 1st January 2015 and 31st December 2015. The majority of the data correlation does not include those women who birthed at home, either intentionally or unintentionally, nor those that birthed en route to the maternity unit, however, these statistics are discussed individually within chapter four of this report. The neonatal data included in chapter nine relates to neonates admitted to the SCBU during the same twelve-month period and includes neonates that may have transferred in from home or other neonatal units.

The statistics and data included in this report have been provided by the Business Intelligence Unit of HBDHB and is compiled of data extracted from two datasets; the majority from Healthware (maternity data set) and the remainder from the patient management dataset using National Health Index numbers. On occasions variations exist between totals from the two datasets; this is due to numbers of mothers that did not birth within the hospital, unplanned home births and births en-route not recorded in the patient management system. Additionally, the data presented in the report generated from our Healthware system calculated one woman who birthed twins on two different consecutive days twice within the mother count due to her babies having two different date of births. This is a flaw in the system that cannot be rectified due to the limitations of the software.

Although storage and reporting of our local data is robust, challenges are present in relation to the quality of the data itself. Work is ongoing in improving the provision of data from the main care provider, however, monitoring and auditing the accuracy of the data content requires significant input going forward.

As part of the Maternity Quality and Safety Programme, data cleansing was performed on a daily basis, where omissions were completed, errors corrected and inconsistencies amended until late 2015. Unfortunately, this role has ceased and is currently under review.

CHAPTER TWO: SERVICE PROVISION

2.1 Our Region

The Hawke's Bay Region sits on the East coast of the North Island of New Zealand and 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 14,000km^2 of beautiful landscape.

The region hosts an estimated population of 160,000, approximately 80% of which reside in Napier or Hastings, the two most urban areas located within 20 kilometres of one another. Smaller communities such as Wairoa and Waipukurau 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, and including the regional Intensive Care Unit.

2.2 Our Services

The Hawke's Bay Maternity Services are guided by local documents 'Working in Partnership for Quality in Hawke's Bay – A Quality Improvement and Safety Framework', 'Transform and Sustain' which is the Hawke's Bay health sector's five-year strategy and the Women Children and Youth Service Strategic Framework 2015-2018. All of these frameworks have an overarching aim of working in partnership to achieve the healthiest possible outcomes for our community. All the above documents and the Hawke's Bay Maternity Services are underpinned by the collaboratively agreed vision and values of the Hawke's Bay Health System Strategic Framework. The vision, values, and behaviours guide the way we deliver services to the people of Hawke's Bay.

Te hauora o te Matau-ā-Māui: Healthy Hawke's Bay

Excellent health services working in partnership to improve the health and wellbeing of our people and to reduce health inequities within our community.

HE KAUANUANU RESPECT
ĀKINA IMPROVEMENT
RĀRANGA TE TIRA PARTNERSHIP
TAUWHIRO CARE

HE KAUANUANU RESPECT

Showing ***respect*** for each other, our staff, patients and consumers. This means I actively seek to understand what matters to you.

RĀRANGA TE TIRA PARTNERSHIP

Working together in ***partnership*** across the community. This means I will work with you and your whānau on what matters to you.

ĀKINA IMPROVEMENT

Continuous ***improvement*** in everything we do. This means that I actively seek to improve my service.

TAUWHIRO CARE

Delivering high quality ***care*** to patients and consumers. This means I show empathy and treat you with care, compassion and dignity.

2.3 The Maternity Facilities

HBDHB provides a range of Maternity Services for approximately 1900 women and their families every year across our two birth centres and from our Napier located Maternity Resource Centre. 2015 will be the final complete year that our primary and secondary services are located within the walls of 'Ata Rangi', our combined primary/secondary care birthing facility based within Hawke's Bay Fallen Soldiers' Memorial Hospital, as we transition into a new phase of service provision with the introduction of our along-side primary birthing facility ''Waioha'' from July 2016.

At the time of writing this report, strategies and processes for the successful enabling and facilitating of normal birth within 'Waioha' are reaching their final phase, with the excitement amongst clinicians and the community increasing as the vision becomes a reality. 'Waioha' is discussed in more detail in section 2.3.1 of this chapter.

The realisation of 'Waioha' will mean new objectives for Ata Rangi as it moves its focus from an all-encompassing maternity unit to a multifaceted environment with a purpose of secondary or complex care provision. Over the last twelve months, the footprint of the unit has been adjusted to accommodate the addition of both 'Waioha' and the Day Assessment Unit (DAU). Ata Rangi is now made up of eight labour and birthing suites, four assessment rooms and twelve antenatal and postnatal individual bedrooms.

The co-located Special Care Baby Unit which is contracted to provide level 2A neonatal care in the Hawke's Bay Region with twelve resourced cots has not been affected by the construction of 'Waioha'. Babies requiring tertiary level care are transferred to the Wellington Neonatal Unit.

Our daily high-risk antenatal and weekly multi-disciplinary clinics were relocated early in 2015 to 'Te Kākano', a cottage environment within the grounds of the Hawke's Bay Fallen Soldiers' Memorial Hospital that encompasses four consultations rooms and one assessment room.

The Napier Maternity Resource Centre (NMRC) which opened in November 2014 is evolving into a well-known and well utilised resource and will be discussed in greater depth in chapter five of this report.

Hawke's Bay women who develop complications requiring tertiary level care are seen by our tertiary colleagues at Wellington Hospital.

2.3.1 'Waioha' - The Primary Birthing Facility

The development of 'Waioha', an along-side primary birthing unit has been in response to extensive key stakeholder and community feedback during a 2012 Maternity Services review. Evaluation of our birth outcomes revealed a higher level of intervention for our low risk population and a slow rise in inductions of labour, use of epidurals and Caesarean Sections.

Historically, utilisation of our primary maternity facilities has been very low and a significant rise in birthing at our base hospital in Hastings led to increasing acuity and complexity. Women have chosen to birth in Hastings due to anxiety, the need to feel 'safe' and access to pain relief, specialists, theatre, and paediatricians.

The inequity of access to a primary birthing environment for all was also a driver in considering the development of an along-side birthing centre for low risk women. The business case was approved by the HBDHB board in February 2013 with a number of other changes to service delivery as part of the redevelopment. The HBDH Board chose to invest in primary Maternity Services and building of the facility commenced in March 2015 with a completion date of June 2016.

This investment will improve health outcomes for mothers and babies, by enabling and encouraging primary births. The establishment of a maternity hub at Hawke's Bay Fallen Soldiers' Memorial Hospital, with close proximity to surgical theatres and good access to specialist support, when required, is in response to our consumer feedback and the need of increasing mothers' confidence to commence and complete labour in the primary birthing centre. Reducing births in our secondary care birthing suite will significantly lessen the likelihood of intervention during labour as care will be provided in a midwifery-led primary birth environment, rather than within a medically-focused setting.

The findings from the ethnographic organisational study of along-side midwifery units (2014) in the UK is influencing the design and development of the environment. It was clearly evident from this research that women and their families valued along-side maternity centres for the relaxed and comfortable environment, they felt cared for, valued and supported for normal birth. Midwives practising in this environment also highly valued it, the approach and the opportunity for greater autonomy, and empowerment to make a difference. Studies show environment as being very influential on the birth outcome, with those women birthing in the along-side unit demonstrating significantly less intervention: normal births increased, reduction in epidurals, and reduction in Caesarean Sections. Neonatal outcomes remained the same as birthing in a secondary facility, however, with improved exclusive breastfeeding, mother and baby skin to skin contact and a reduction in Special Care Baby Unit admissions.

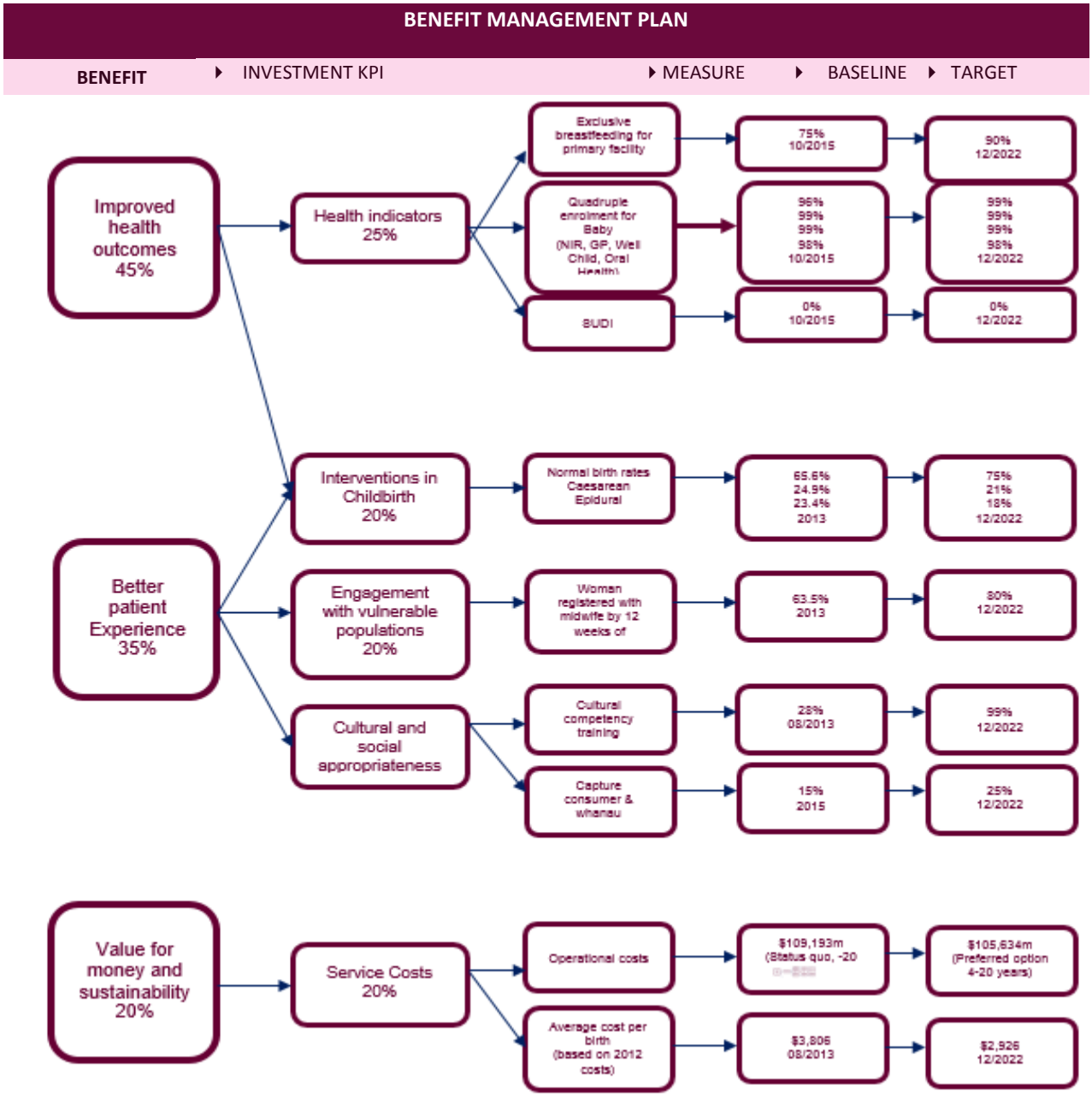
Overall the investment in our primary birthing centre aims to achieve the potential of the findings from this large study where women, their partners, families and professionals enable normal birth; facilitation of appropriate care pathways, professional roles and skills, providing safe and cost effective care.

The journey of the build has established a network of professional partnerships and teams across those who provide maternity care and our facilities team. The journey commenced with the establishment of our shared vision and logo and the Great Expectations stakeholder group. Different members of this stakeholder group took ownership of the different work-streams working towards

a shared understanding of the social model of care within 'Waioha' and the operationalising of this facility alongside Ata Rangi.

2015 saw the laying of a Mauri stone as part of the recognition and acknowledgement of the new build and blessing the establishment of a new facility on site. This ceremony was significant in acknowledging our cultural heritage and the importance of welcoming new life in an environment that is culturally meaningful. The partnership with our Maori Health team continues to enrich this journey and ensures a birthing centre that will be owned by our community and our women and their whānau.

2016 will see our new centre completed and the provision of our services changing shape and offering true choice in place of birth, supporting the best birth environment to influence and support best outcomes.



2.3.2 Wairoa Maternity Services

Wairoa Maternity Unit is our rural birthing and postnatal facility located within Wairoa Hospital, 133kms from our base hospital in Hastings. The small facility encompasses three combined birthing and postnatal rooms, to accommodate labour, birth and postnatal inpatient stay with antenatal clinics occurring in the integrated family health centre within the same Wairoa Hospital building. The Wairoa maternity service has a team of four midwives who provide case-loading midwifery care to approximately 120 women per year throughout the pregnancy, intrapartum and postpartum continuum.

Wairoa itself has a 77% Māori population with a significant percentage of people living in deciles 8 - 10. The challenges and complexities associated with this are often evident in the health histories of women presenting to Maternity Services, however, the establishment of the integrated health centre has seen an improvement in integrated approaches to care with good communication between the midwives and GPs.

Wairoa Maternity Services are discussed in greater depth within chapter four of this report.

2.4 The Maternity Workforce

The Hastings site is currently utilised by approximately 45 Lead Maternity Carers[1] who access the facilities to provide primary care. Additionally, a team of over 90 clinicians and ten care associates provide in-patient and out-patient care to the Hawke's Bay maternal population. As Hawke's Bay Fallen Soldiers' Memorial Hospital is a training facility, midwifery students and medical trainee interns are supported throughout our service on a regular basis.

Amongst the 62 midwives and nurses currently employed by Maternity Services, there are numerous clinicians that embrace additional clinical roles. A team of two DHB midwives provide specific daily outpatient care to our non-acute secondary or shared care women attending our Day Assessment Unit (DAU). Three experienced midwives share the fundamental role of Clinical Midwife Co-ordinator and a collaborative team of five DHB midwives provide antenatal and postnatal care to women with complex medical or social problems, in addition to supporting our high-risk antenatal clinics and undertaking community primary care visits for women who do not have a lead maternity carer. Further specialist roles fulfilled by HBDHB midwives and nurses are Infant Safe Sleep Co-ordinator, IV Resource Representative, Maternal and Child Health Smokefree Co-ordinator**,** Pregnancy and Parenting Education Co-ordinator, and the Maternity Guidelines Co-ordinator.

There are now seven obstetricians providing secondary care services, all of whom are 0.8FTE. One of the newest additions to this team has a speciality interest in maternal fetal medicine, an area already evolving since her arrival in mid-2015. The senior leadership team consists of four practising midwives and one Registered Nurse/Lactation Consultant in the roles of Midwifery Director, Midwifery Educator, Clinical Midwife Manager, Maternity Governance Co-ordinator and Breastfeeding Advisor. The service is additionally supported by our Women, Children and Youth Social Workers, a Diabetic Nurse Specialist and a Diabetes Dietician, maternal physiotherapists, our Immunisation Nurse Specialist, our Maternal Mental Health Nurse as well as several lactation consultants.

[1] In Hawke's Bay there are no GP or private obstetrician Lead Maternity Carers.

CHAPTER THREE: POPULATION DEMOGRAPHICS & ANALYSIS

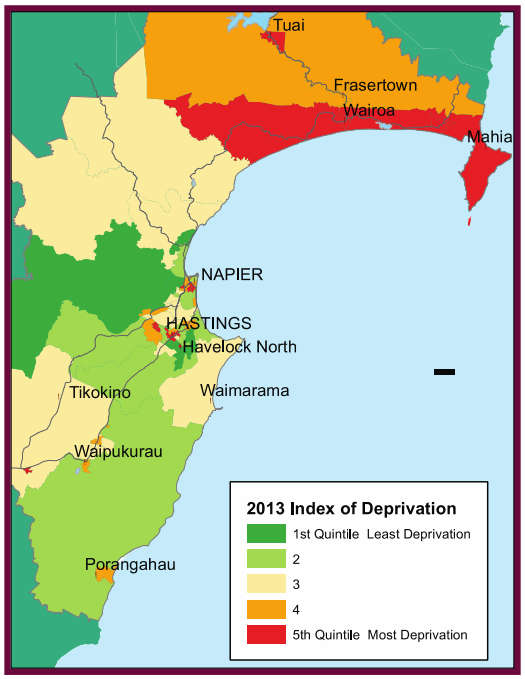
The demographical features of the Hawke's Bay maternal population that birthed during 2015 within either of our two maternity units are depicted in this chapter. Data on ethnicity, maternal age, parity, decile, domicile, Body Mass Index (BMI) at booking and Smokefree status at booking are all demonstrated. Planned and unplanned homebirths, babies born before arrival (BBA's) and the births of Hawke's Bay women who birthed in other hospitals outside of Hawke's Bay are not included in this chapter of data, or remaining chapters, unless otherwise stated.

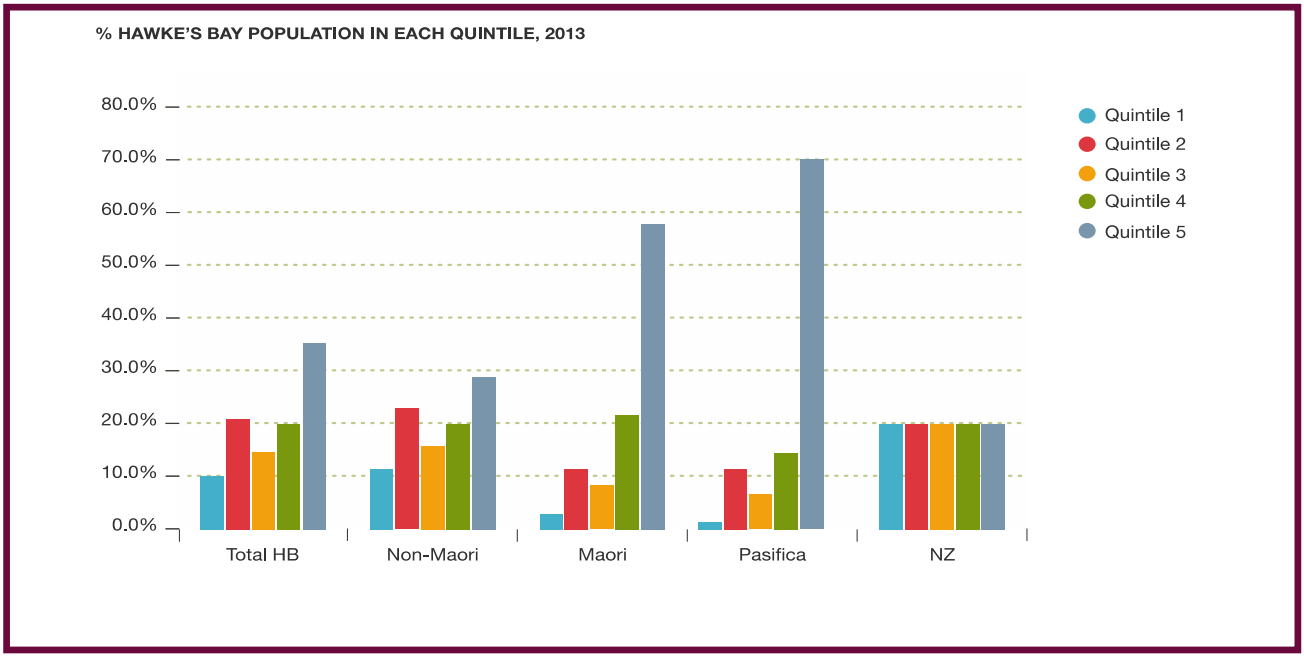
3.1 Background

The HBDHB region covers urban, semi-rural, rural and remote rural communities and encompasses a geographical area of 14,111 km^2. The maternity service caters for a child bearing population of 28,500 aged between 15 - 44 years old.

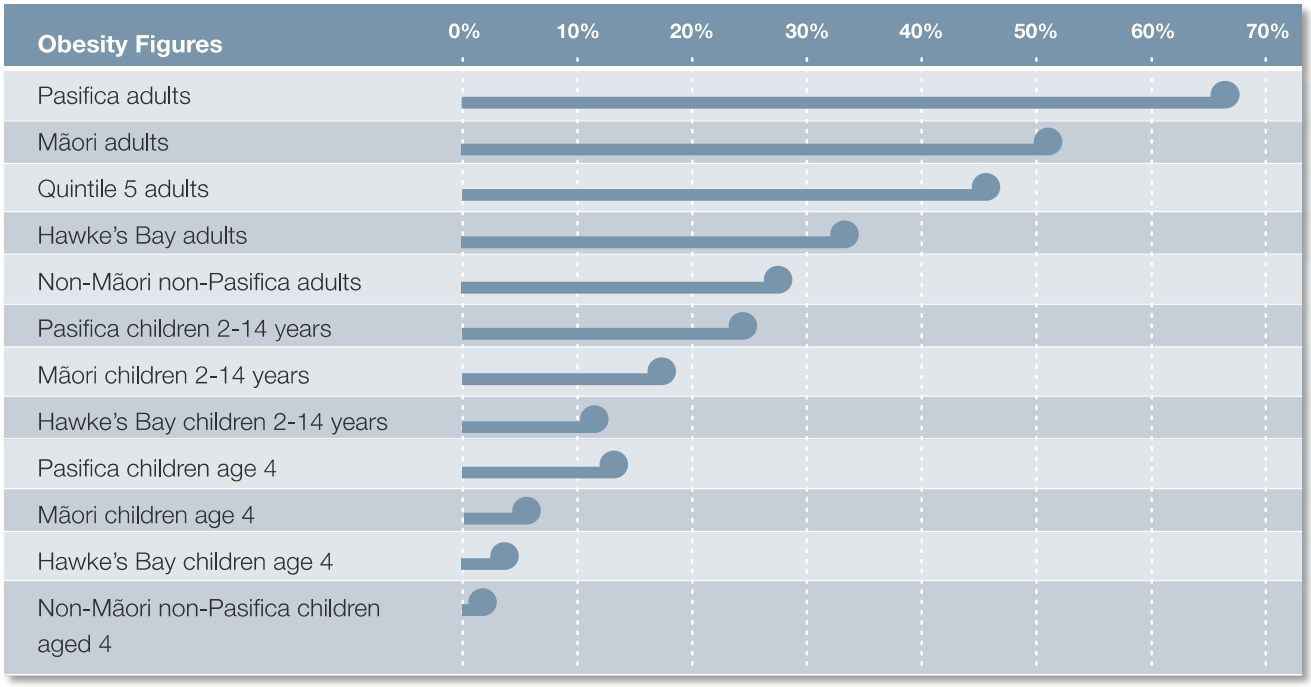
When compared to other areas of New Zealand, Hawke's Bay is a region with significant health inequalities and a higher than average Māori population (25%). The map of the 'Hawke's Bay Health District Index of Deprivation' on the right demonstrates the quintiles in which our population resides.

Overall, 35% of our population are living in quintile 5 (deciles 9 and 10), including 57% of our Māori population and 70% of our Pasifica population as demonstrated in the graph below.

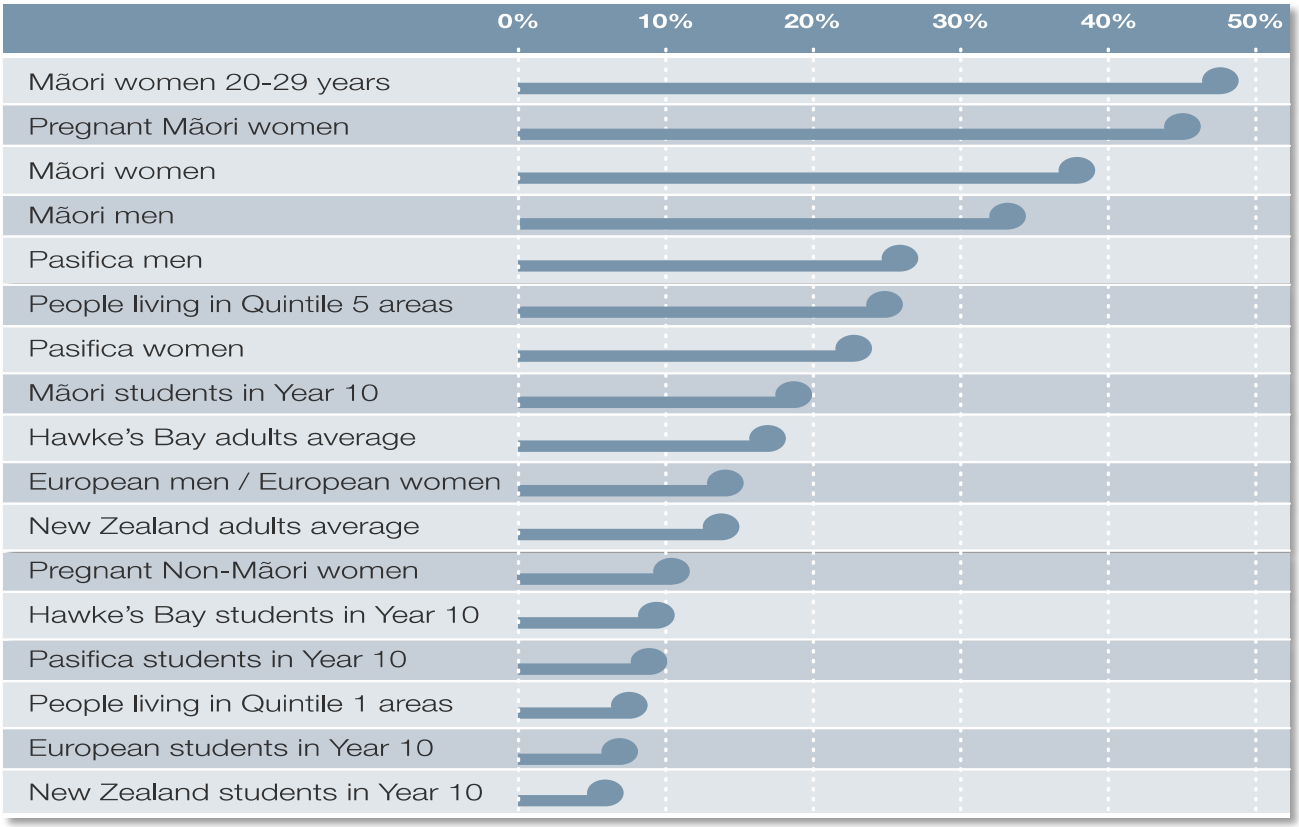




An additional challenge present when caring for our population is the high obesity rates across the district, with one in three of our adult population determined as obese, primarily Pacifica and Māori adults as depicted in the table below.



Furthermore, our smoking rates are extremely high with one in five residents recognised as not smokefree, the highest prevalence being amongst Māori women aged 20-29 followed closely by pregnant Māori women.

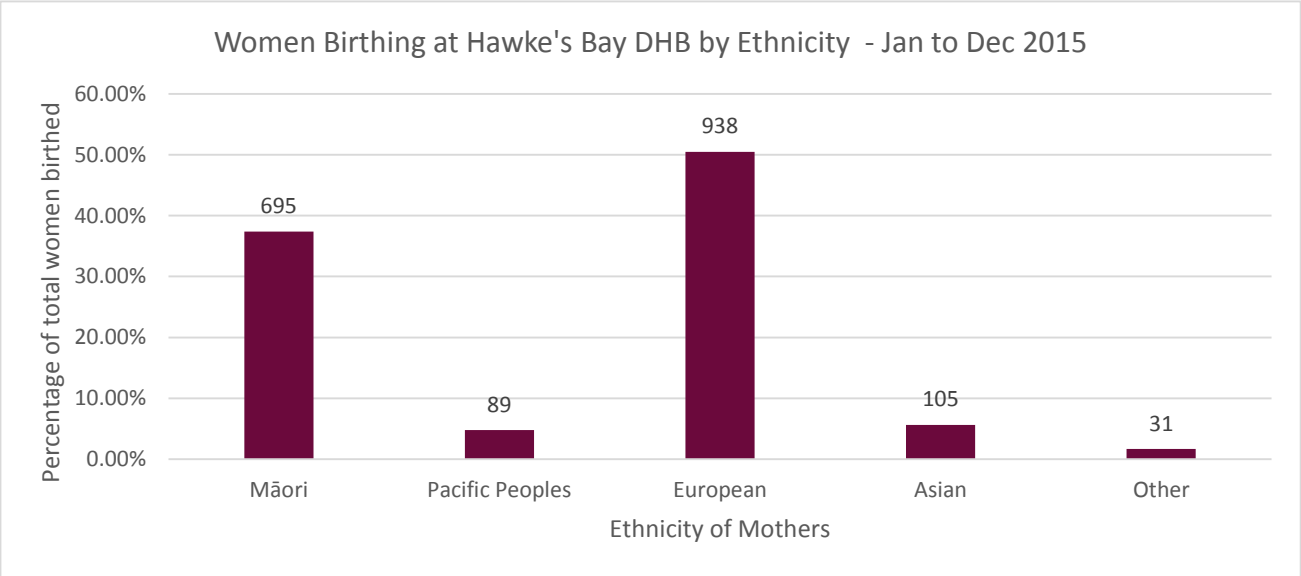


Equally, challenges are evident within the Hawke's Bay population where one in every four adults are classed as a hazardous drinker and one third of all Hawke's Bay adults have difficulty accessing primary care when required with the financial cost being stated as the main contributing factor.

These, along with numerous other factors relating to the significant health inequalities experienced across our region lead to high numbers of complex pregnancies and multifaceted social situations for Hawke's Bay Maternity Services to manage.

3.2 Ethnicity Analysis

For the twelve-month period from the 1st January to the 31st December 2015, 1877 babies were born to 1858 mothers. The ethnicity of the 1858 women who birthed during the year is demonstrated in the graph below.

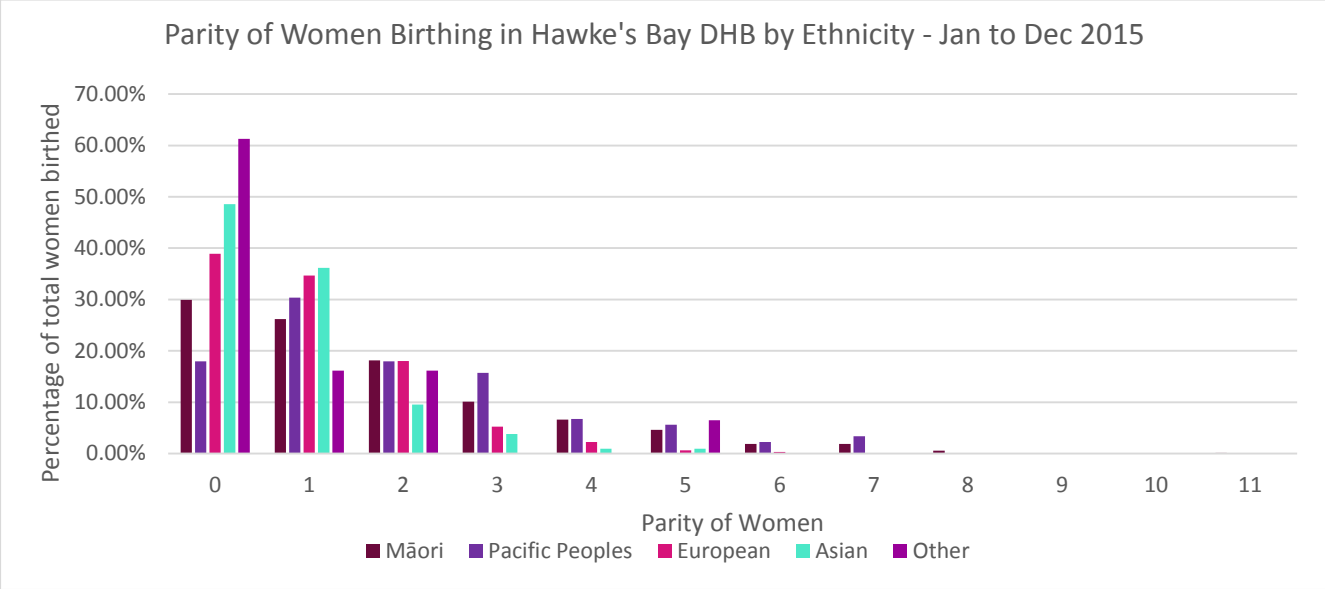


Over half (50.4%) of the 1858 women giving birth were European whilst 37.4% (695 women) were of Māori ethnicity. These figures, when compared to those reported in the previous annual report, indicate a small shift in our birthing population with a drop of 1.6% of European women birthing against an increase of 1.4% Māori women. The rise in the percentage of Māori women birthing within Hawke's Bay to 37.4% demonstrates an increasing disparity against the national average of 14.9% as reported in the 2013 census.

4.8% (89) of births were women of Pacific ethnicity, similar to the percentage of women of Asian ethnicity (5.6%). The remaining 1.6% of women (31) were of Other ethnicity which includes African, Latin American/Hispanic, Middle Eastern or those whose ethnicity was not stated.

The demographics of each ethnic group are explored in detail in the remainder of this chapter.

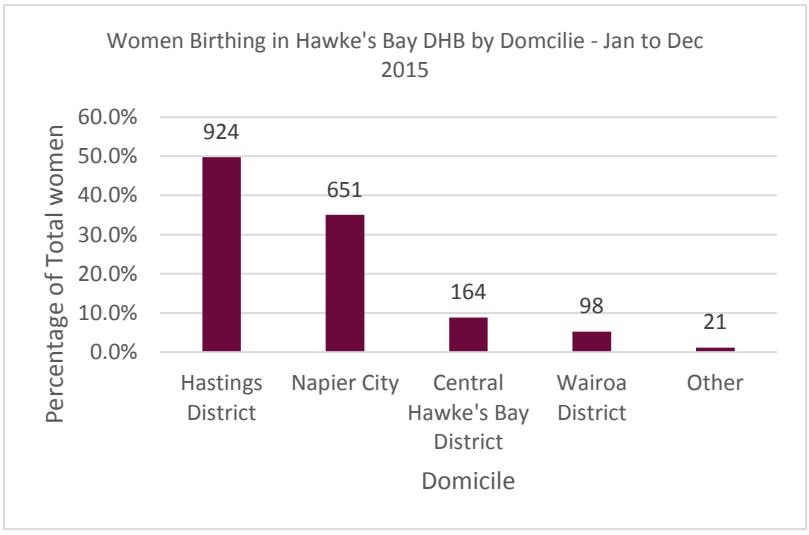
3.3 Parity by Ethnicity



The above graph depicts the representation of parity within each ethnic group. The ethnicity with the highest percentage of primiparous women amongst themselves is the 'Other' ethnic group (61%), however, the majority of primiparous women birthing this year from the overall total of 1858 women were of European origin (55.4%). Only 29% of Māori women were in their first pregnancy with the remainder having good representation across subsequent parities through to eight and then at eleven.

The ethnic group with the highest number of para one and para two women amongst them were Europeans (52.8%) followed by Māori women (44.2%). From para four onwards the overall totals of women birthing this year reveal that Māori women have the highest representation at 68.5%. There is minimal representation from Asian, Other and European groups from para five onwards depicting that the significant majority of these high risk women are of Māori and Pacific ethnicity.

3.4 Maternal Domicile

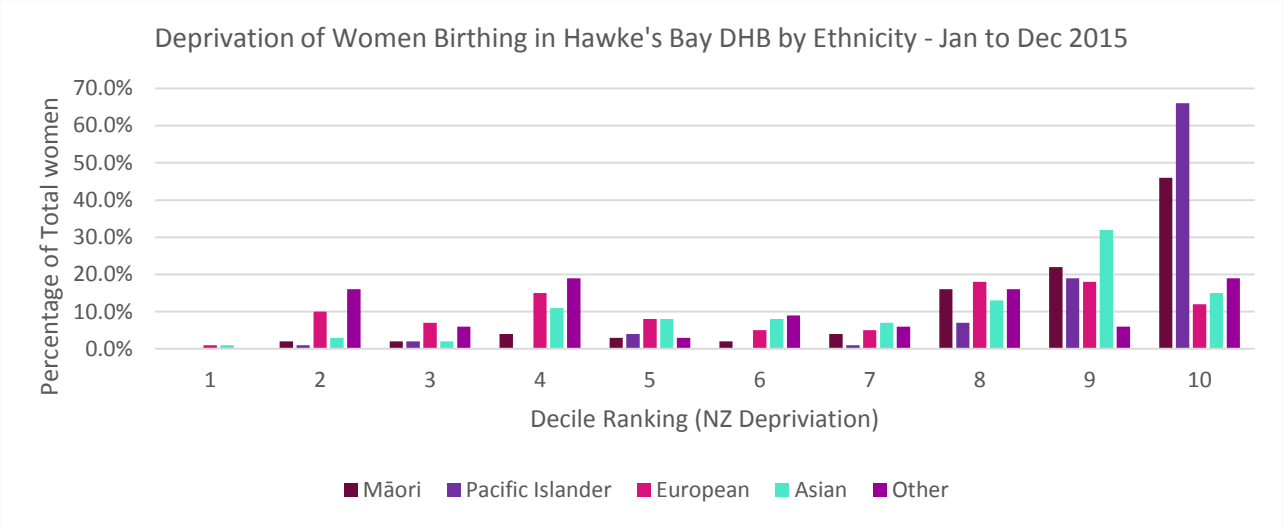


The domicile of the 1858 women that birthed within the two maternity units during 2015 can be seen in the graph to the left. 99% of the women who birthed at the Hastings or Wairoa sites were residents of the Hawke's Bay Region with 49.7% residing in Hastings, 35% in Napier, 8.8% in Central Hawke's Bay and 5.3% in Wairoa. The remaining 21 women (1%) indicated in the 'other category' resided in a variety of regions outside of the Hawke's Bay.

3.5 Decile by Ethnicity

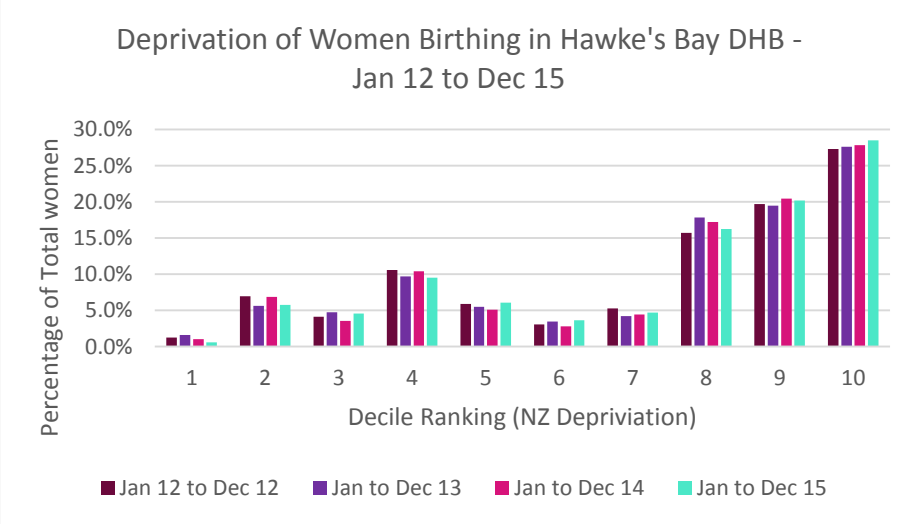
The following graph depicts the decile ranking for our population and shows a very clear weighting towards women residing in the higher, more deprived areas of residence. It is evident that nearly two thirds (64.9%) of the women using HBDHB Maternity Service live in these areas, deciles 8-10. This equates to 1207 women and their families, an increase from the previous report where this figure was 62%.

It is apparent that 50.7% (612) of the 1207 of women living in areas designated Decile 8-10 are of Māori ethnicity and 6.9% (84) are Pacific Women. This year's data indicates that well over one quarter (28.4%) of the women accessing our service reside in decile 10. Again this is a significant increase from the last report which presented 24.2% of women living in this most deprived area. HBDHB remains very aware of the health inequalities that our region presents and are continuously working towards reducing these inequalities sector wide.



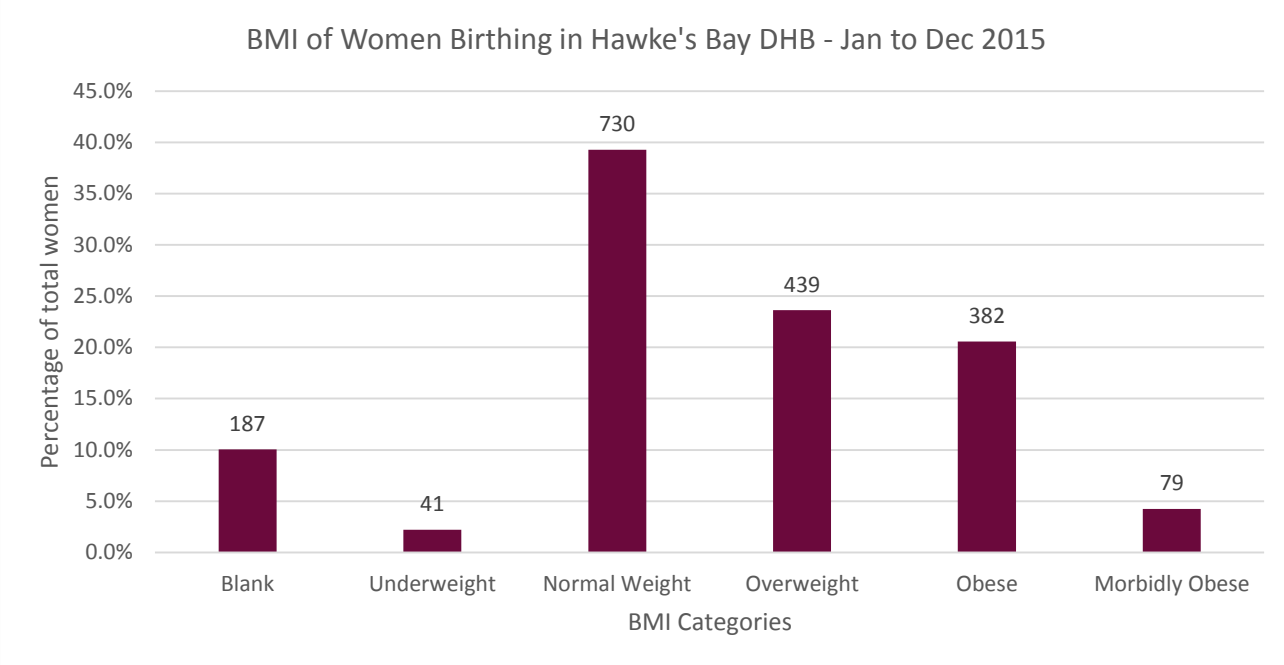
3.5.1 Decile Trends

The graph below depicts the decile residence of women who birthed within Hawke's Bay Maternity Services over the last four years. The most evident movement amongst decile occupancy is the prominent decline in women residing in decile eight and the corresponding increasing trend of women residing in decile ten, i.e. a negative shift to the areas of greatest poverty. The two most affluent decile areas have seen a decline in occupancy over the last twelve months, whilst the middle ground deciles, on the whole, have seen a slight increase.



3.6 Body Mass Index by Ethnicity

Body Mass Index (BMI) is a simple index of weight-for-height commonly used to classify underweight, overweight, and obesity in adults. BMI is derived from the weight and height of an individual and is universally expressed in units of kg/m^2 resulting from weight in kilograms and height in meters. The BMI is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, then categorize that person as underweight (<18.5), normal weight (18.5 - 25), overweight (25 – 30), obese (>30), or morbidly obese (>40), based on that value.

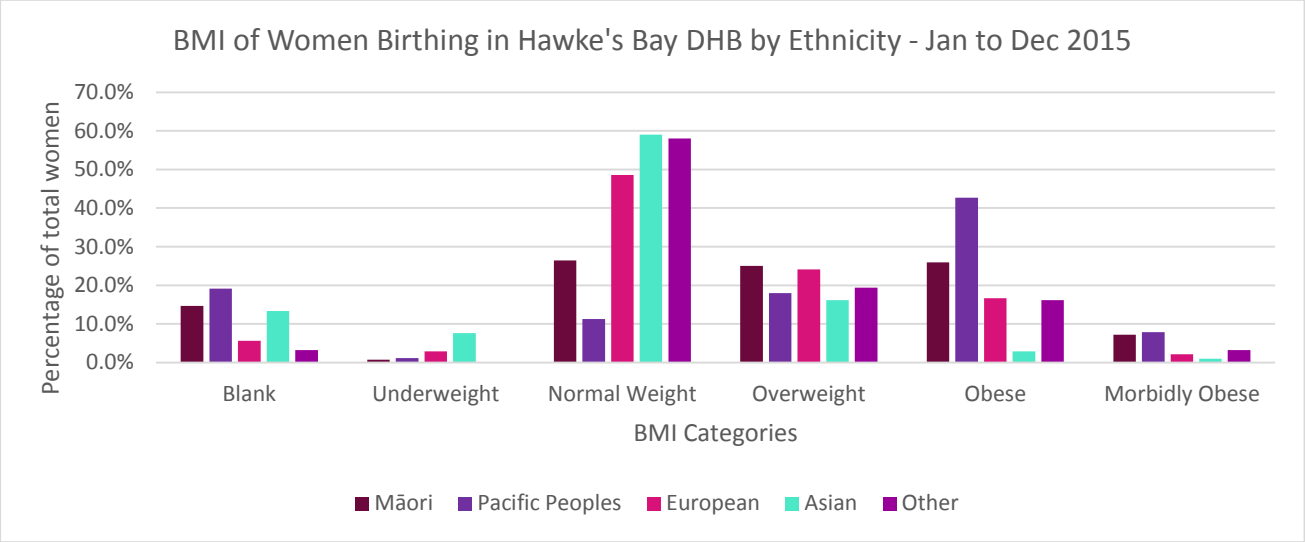


Of the women who birthed this year, 2.2% were underweight, 39.3% were normal weight, 23.6% were overweight, 20.6% were obese and 4.3% were morbidly obese. The remaining 10.1 % were uncategorised. This is an area that continues to need work as, despite a 1.3% decrease in this statistic, obesity has significant health implications in pregnancy. It remains disappointing to see 187 out of 1858 women did not have a calculated BMI recorded at booking during 2015.

When reviewing the extremities of the BMI classifications our birthing population of 2015 represented, the ethnicity with the most underweight women were Europeans with 65.8% of the total. Europeans also represent the greatest number of women in the overweight category, 53.9% of the total women birthing. Māori women make up the highest percentage of obese women (47.0%) and morbidly obese women (63.2%).

Over all, the quantities of obese and morbidly obese women accessing the Maternity Service in pregnancy equate to 24.9% of our overall birthing population this year. With the significant number of associated increases in both maternal and neonatal morbidity, these statistics are of continual concern.

The graph below goes on to demonstrate the percentages of how each ethnic group falls into each BMI classification.



When examining BMI by individual ethnicity, Māori women demonstrate an even representation across the normal weight, overweight and obese categories, with 77.4% of Māori women being recorded with these BMI's. 7.2% of Māori were morbidly obese which demonstrates a 2% increase from the previous annual clinical report and less than 1% were underweight. The Pacific Peoples group had the greatest deviation from the optimum BMI, with 68.6% of their population being either overweight, obese or morbidly obese. When this figure is considered in conjunction with over 85% of Pacific birthing mothers living in the two most deprived deciles of our region, the disparity is significantly magnified.

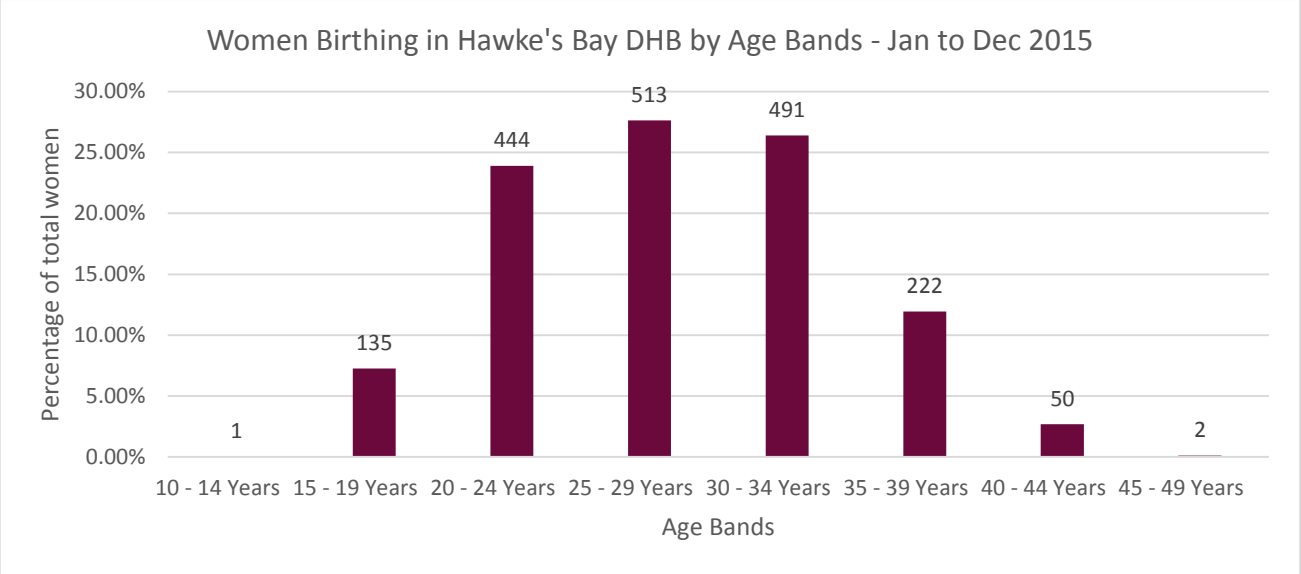
As already stated, the majority of European women were of normal weight (48.6%), with a further quarter being overweight. There is a considerable representation in the obese grouping (16.6%) but only comparatively small numbers in the morbidly obese and underweight categories (under 3% each). Over half of the Asian women (59%) had a normal range BMI. The remainder were made up of 16.2% overweight, 7.6% underweight, 3.9% obese and morbidly obese and 13.4% not categorised. The Other ethnic classification only had small representation, however, these women ranged from normal, overweight, obese to morbidly obese (58.1%, 19.4%, 16.1% and 3.2% respectively).

3.7 Maternal Age

The proportion of women in each age bracket is depicted in the following graph with the most common age of women giving birth being 25 and 29 years (27.6 %) followed by women aged between 30 and 34 years (26.3%) and 20 and 24 years (24%).

There were a total of 274 birthing women aged over 35 years which made up 14.7% of the total 1858 women. 52 of these women were aged over 40 years, collectively representing 2.8% of the total women birthing. These higher risk women crossed over all ethnicities, with the highest proportion being European.

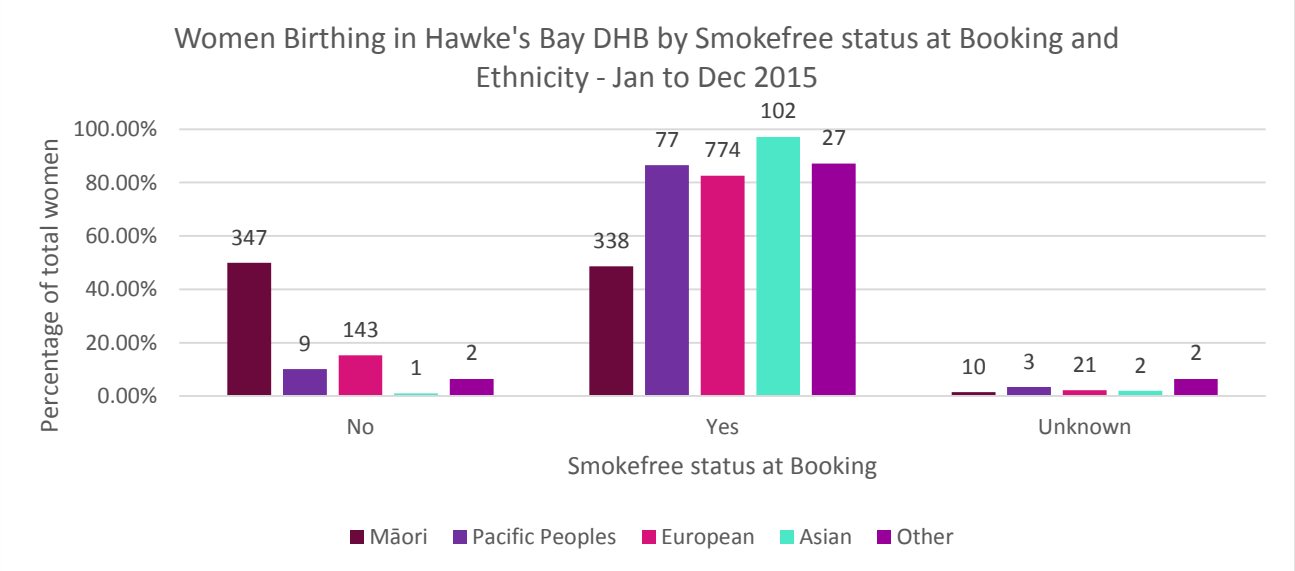
The percentage of teenage women birthing in 2015 is much lower, just above the national average of 7.1 % at 7.3%.



136 women were under twenty years of age at the time of giving birth, 102 of these women were of Māori ethnicity and three were Pacific Peoples, thus increasing the likelihood of social complexities for these young women. This statistic is consistent with previous years, however this year has seen the Teen Parent Unit at Flaxmere College, Hastings, become established in providing service and support to under 20 year olds in addition to the DHB funded 'Young Mum's group' facilitated at William Colenso School, Napier, where one of our childbirth educators provides group specific and individualised antenatal and parenting education to young women falling into this high-risk vulnerable category.

3.8 Smokefree Status at Booking

The final element of demographic breakdown is around smokefree status at booking of the women that birth during 2015.



This graph above demonstrates that at least 502 (27%) of the women that birthed during this year were not smokefree when they registered their pregnancy with an LMC. Unfortunately, the

Smokefree status of 38 additional women was not identified, creating indefinite Smokefree status statistics for our service. It can be identified, however, that just over 70.9% of women (1318) were Smokefree at booking.

347 of the 502 (69%) non-smokefree women were of Māori ethnicity, with European women also having a significant representation of 28% of this non-smokefree cohort. Nine of the 92 Pacific Peoples women were smokers when they booked into the service. Asian and Other women made up the remaining three women who were not smokefree at booking. The graph clearly indicates that all ethnicities except Māori have significantly more smokefree women amongst them than non smokefree, however, it is also evident that equal numbers of Māori women are not smokefree compared to those that are.

There is an ongoing multifaceted focus in establishing smokefree pregnancies for all women who accessing HBDHB Maternity Services, with initiatives currently driving this expectation demonstrating a decrease in smoke exposed pregnancies. These initiatives and the statistical data around them are discussed in depth in chapter twelve of this report.

CHAPTER FOUR: BIRTH STATISTICS

This chapter outlines the care provision and organisation of our labour and birthing facilities and provides a detailed analysis of our birth statistics in relation to the demographics of the women who birthed within the two sites at HBDHB.

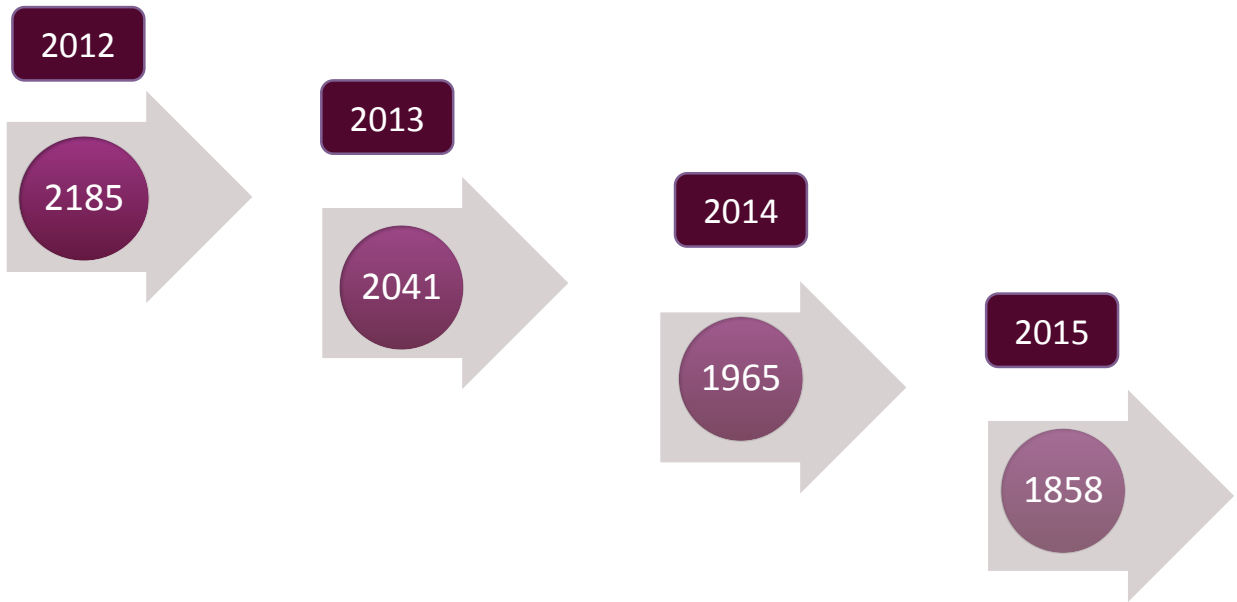
As already stated in the previous chapter, statistics analysed in this report are based on a twelve-month period of data from 1st January 2015 to 31st December 2015. The majority of our data is centred around the 1877 babies that were born to 1858 mothers within the two hospital sites during that time frame, with planned and unplanned homebirths, born before arrivals and births occurring outside of Hawke's Bay excluded from these statistics due to limited data available and the ways in which our data is extracted from our current electronic databases. The women who did not birth within the two maternity units that are excluded from the main data are discussed collectively later in this chapter.

Of the 1858 mothers who birthed during 2015, 35.4% were primiparous whilst 64.6% were multiparous. This is a similar statistic to the previous annual clinical report.

It should also be noted at this point that of the 1877 babies born, 1868 were live births whilst the remaining nine were still births. Where possible the still births have been identified amongst the data in order to clarify the statistics.

4.1 Annual Birth Rate

The number of women birthing at Hawke's Bay DHB is currently on the decline. Over the last four years, the annual number of women birthing has reduced by over 300. On average 2015 saw 155 women birth each month compared to an average of 182 in 2012.

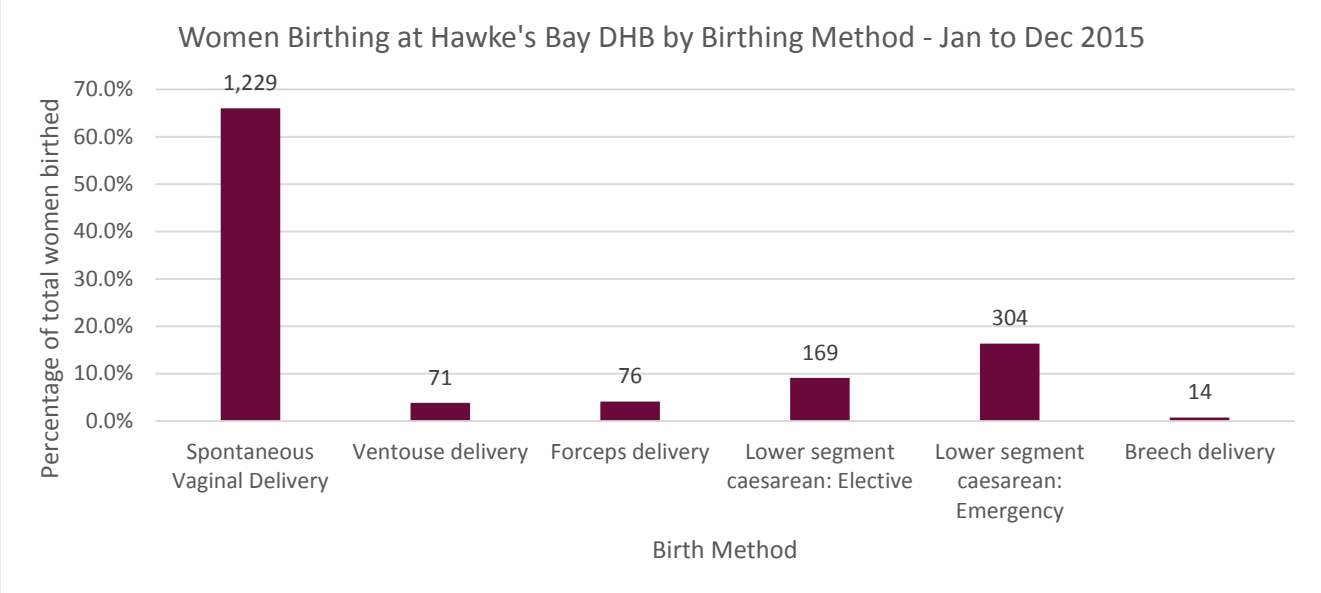


4.2 Birth Locations

1823 (98.1%) of women birthing within our services during 2015 did so at the secondary facility based at the Hastings site, with the remaining 1.9% (32 women) birthing at our primary birthing centre in Wairoa. These statistics are expected to be impacted greatly from July 2016 onwards, when a significant proportion of our population will be provided the opportunity to birth in ‘‘Waioha’’, our purpose built along-side primary birthing centre based at the Hawke's Bay Fallen Soldiers' Memorial Hospital.

4.3 Birth Outcomes

The birth outcomes of the 1858 mothers who birthed within our two sites are demonstrated in the graph below. There is a total of 1863 births demonstrated as five women birthed twins by different birth methods.



The graph demonstrates a spontaneous vaginal birth rate of 66%, a caesarean rate of 25.4%, an instrumental rate of 7.9% with the remaining 0.8% of this year’s population consisting of the vaginal breech births. In comparison to the same data from the previous report, analysing data from 1st June 2014 to 31st May 2015, spontaneous birth and caesarean rates are static, whilst a notable decrease of 0.8% apparent in the instrumental birth rate.

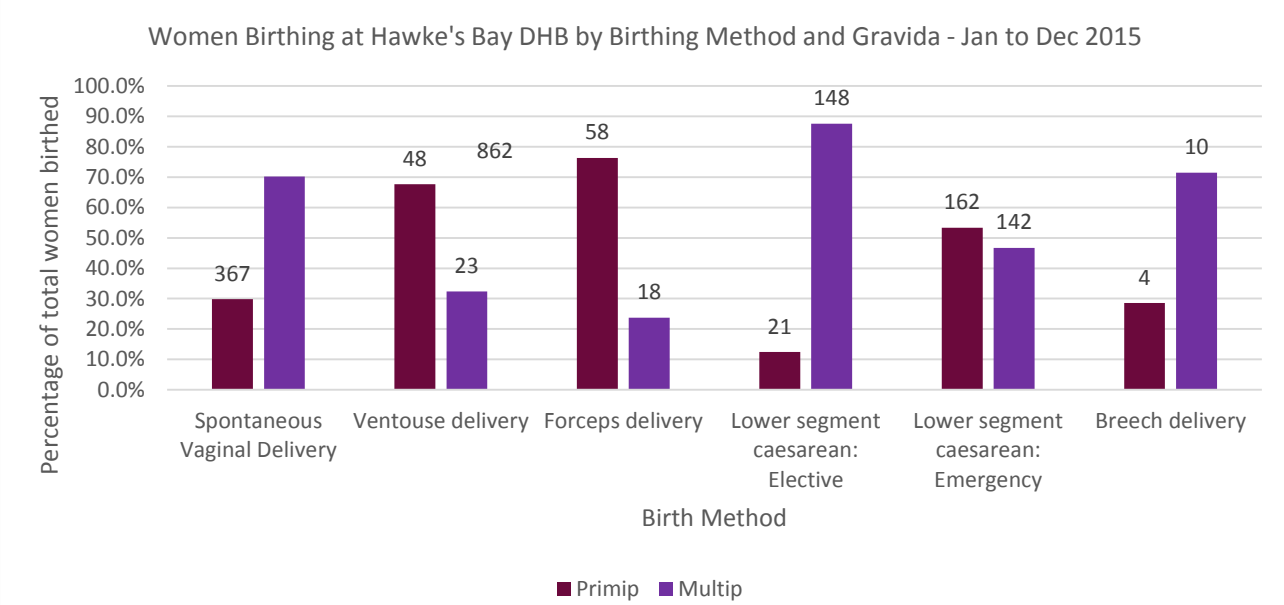
Increasing the spontaneous vaginal birth rate is an area where considerable work is being undertaken, not least with the opening of our primary birthing centre ‘‘Waioha’’. Discussion around clinical and community cultures, changes in practice and new implementations are all occurring throughout HBDHB Maternity Services.

Our midwifery community remains proactive in looking for ways to increase normal physiological birth outcomes and there has been significant focus on education and normal birth workshops during 2015. The importance of providing primary care in the community, place of birth choices, the education women receive antenatally around their expectations of labour, birth and pain management, and keeping healthy women out of hospital by ensuring early labour is assessed in the community, have all been explored at length. There has also been significant refocusing of peer to peer consultation and good communication amongst midwives prior to secondary consultation, in co-ordination with inviting a second midwife into the room during the second stage of labour, without surrendering autonomy.

The development of our purpose built primary birthing centre and ongoing initiatives to increase normal birth and reduce both our caesarean and instrumental rates are discussed further in chapters two and fifteen. Further analysis and the indications for the Caesarean Sections are discussed in detail in chapter seven of this report.

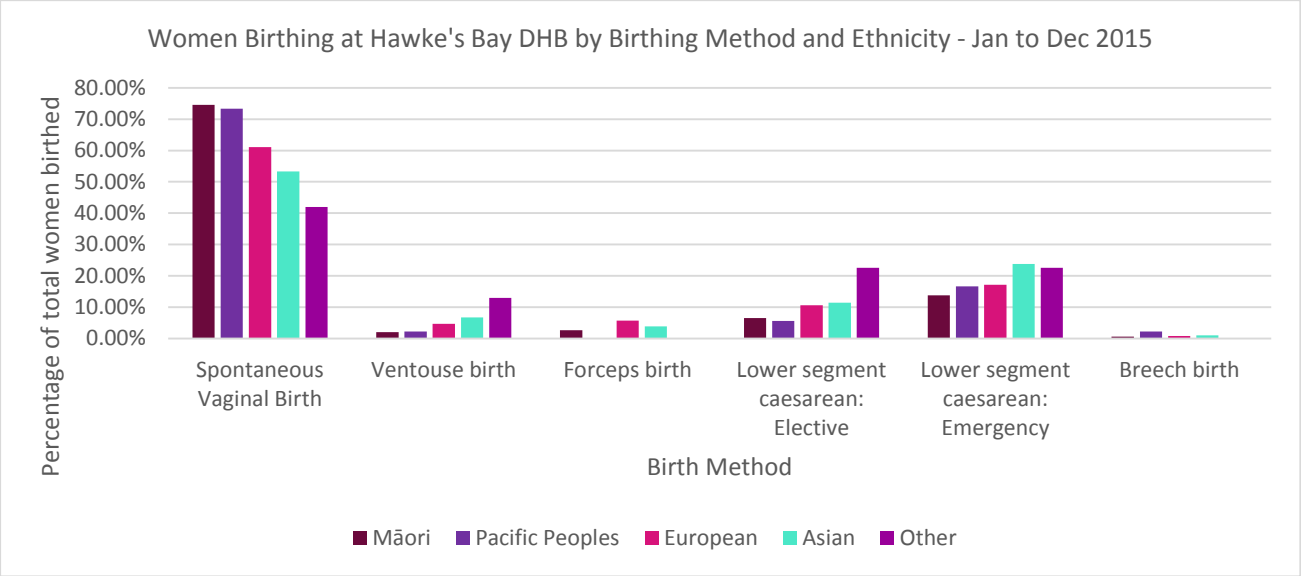
4.3.1 Birth Outcomes by Parity

The breakdown of birth outcomes between primiparous and multiparous women is presented in the graph below.



As one would expect, a higher number of multiparous women (862) achieved a spontaneous vaginal birth, more than double the 367 primiparous women. More than seven times as many elective Caesarean Sections were scheduled for multiparous women (148) compared to the 21 for primiparous women. The emergency Caesarean Section rate for both gravidae was similar. Twice as many primiparous births resulted in a ventouse birth compared to multiparous and consistently, over three times the number of forceps births were undertaken on primiparous women compared to multiparous. Of the fourteen vaginal breech births recorded as having occurred during 2015, three were still births, one was an extremely premature birth that became an early neonatal death, two were one half of a multiple pregnancy and the remaining eight were spontaneous breech births at term.

4.4 Birth Method by Ethnicity



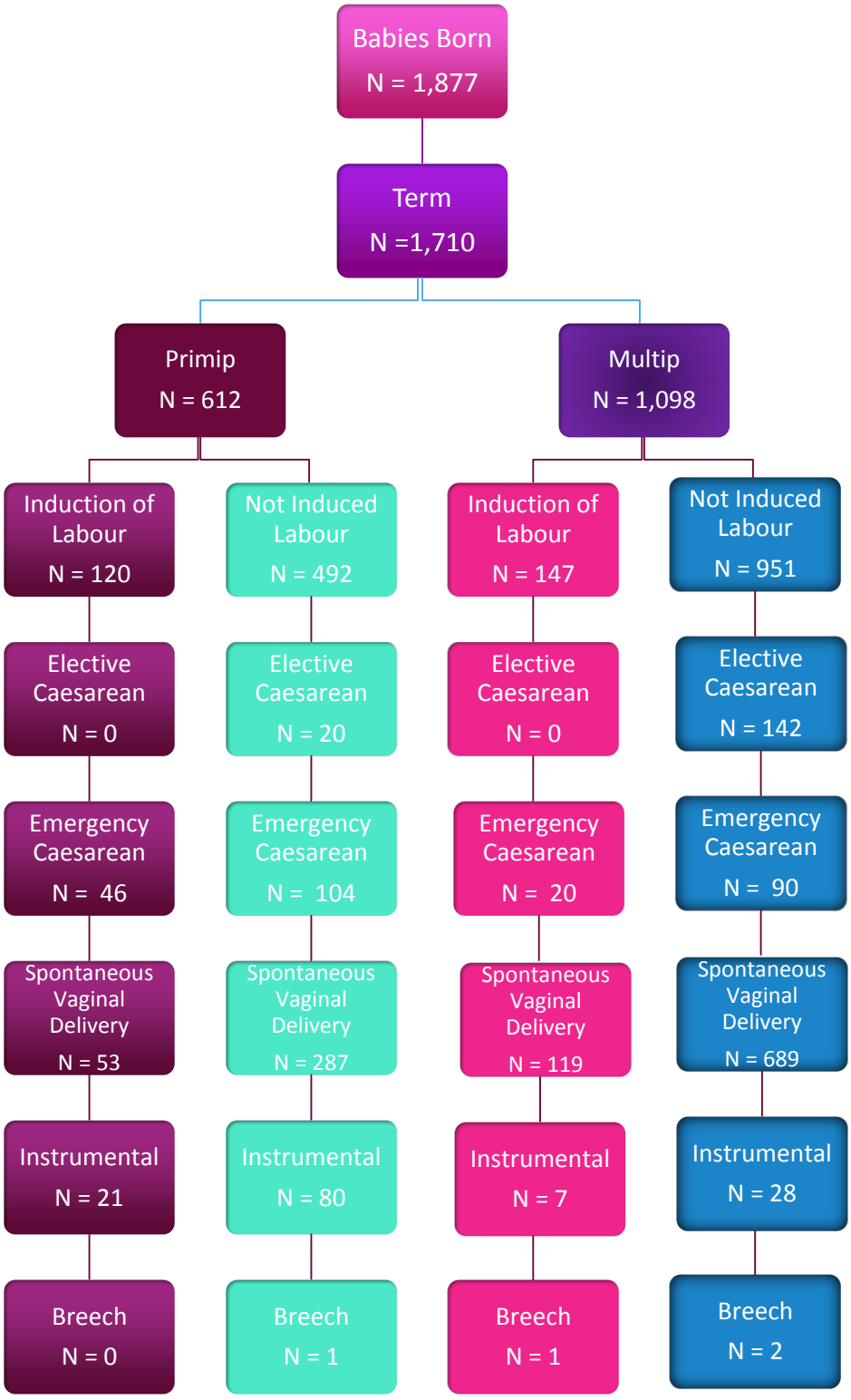
This graph above depicts how each ethnic group birthed their babies by percentage. Not surprisingly each ethnic group had more spontaneous vaginal births than any other method, however when the remaining modes of birth are analysed it is evident that a smaller percentage of Asian and Other ethnicities have spontaneous vaginal births when compared to the other three ethnic groups and that again Asian and Other ethnic groups have a larger proportion of women birthing by ventouse and Caesarean Section than the other three ethnicities.

Both Māori and Pacific Peoples groups boast a high percentage of spontaneous vaginal births and a reasonably low percentage of elective Caesareans Sections, which is interesting as these two groups represent our hardest to reach and highest risks groups based on decile rating. It is also interesting to note the comparison between the ethnicities of women requiring an elective Caesarean Section, 100 European women compared to 45 Māori women and that this discrepancy increases even further when compared to Pacific Peoples women of which just five women underwent an elective Caesarean Section.

4.5 Pathways to Birth

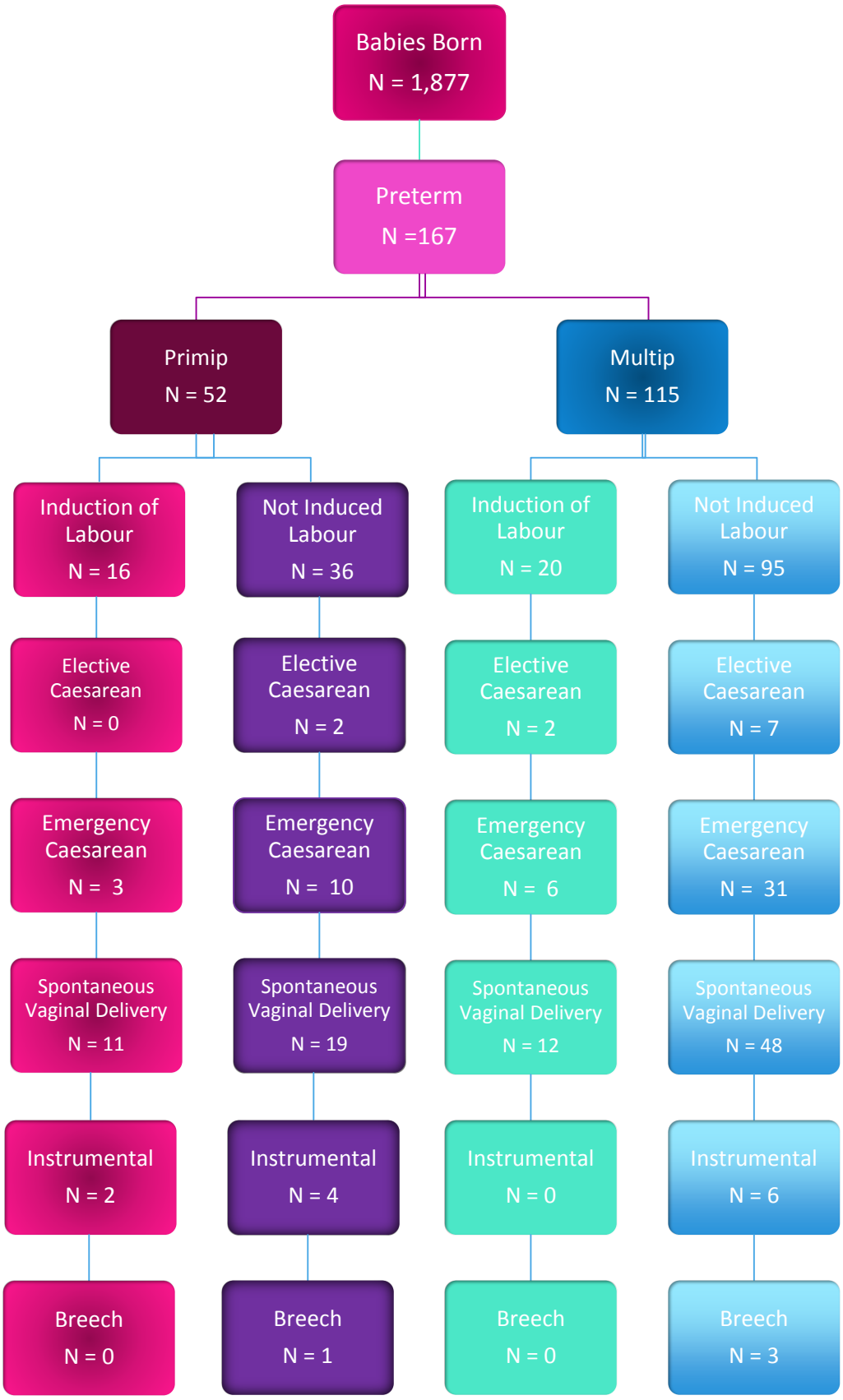
4.5.1 Pathways to Birth – Term Babies

1710 of the 1877 babies born during 2015 were born at term. The diagram below depicts the pathways to birth that each baby followed.



4.5.2 Pathways to Birth – Preterm Babies

167 babies were born before 36 completed week's gestation. The pathways to birth that these 167 preterm infants took is depicted in the diagram below.



4.6 Wairoa Maternity Services

As stated earlier in chapter two of this report, a proportion of our Maternity Services is provided out of the rural Wairoa Maternity Unit, located within Wairoa Hospital, 133 kilometres from our base hospital in Hastings. It is important to note that the population in Wairoa is 77% Māori with a significant percentage of people living in deciles 8 - 10. The challenges and complexities associated with this are often evident in the health histories of the women presenting to Maternity Services with obesity, smoking, drug and alcohol use, gang membership, family violence, sexual abuse and poverty all being issues affecting a percentage of the birthing population. Additionally, geographical elements of the area create a further significant challenge in relation to travelling long distances to remote rural townships to visit women and babies and lack of engagement from women who reside in these areas.

The Wairoa maternity birthing unit is located within the integrated health centre and this continues to be of benefit with good communication between midwives and GP's. Midwives regularly attend weekly integrated health centre meetings which allows dissemination of information from obstetricians and endocrinologists to be effectively communicated. Issues can be addressed and areas for improvement can be initiated by discussion with this group. It is consistently well attended.

2015 has been a challenging year for Wairoa Maternity Services, with regular management meetings to address issues relating to service delivery. Initiatives have been undertaken, however, further improvement is required. Statistics in some areas are disappointing and the challenge for 2016 is to consolidate the initiatives to ensure that effective service delivery occurs, particularly for women that regularly fail to attend appointments.

Additionally, antenatal visits had historically been fragmented resulting in poor utilisation of midwifery time. To address this, a twice weekly antenatal clinic was implemented. Whilst this quality improvement took time to embed with the women, the clinic is now very effective and full on most days. The clinic is utilised to provide an undisturbed space, effective care and education provision, and direct access to the smokefree service support which is provided simultaneously next door.

The goal for 2015 was to provide a more effective and continuous care service, with less fragmented care provision by addressing missed appointments and following up of difficult to reach women. Raising the profile of the Wairoa Midwives was another important goal. The team feels that they have partially achieved this as they are seeing more people and are visiting more frequently. Work will continue in this area.

Wairoa Hospital received accreditation in 2015 for the Baby Friendly Hospital Initiative. Achieving this status involved considerable work by the lactation consultant as well as the other three team midwives. Challenges arise when breastfeeding is not always considered a high priority by the acute ward staff, so to attain BFHI accreditation is a fantastic achievement for Wairoa. The Wairoa Midwives also supported The Big Latch in 2015 and a wonderful painting by a local artist that depicts our connection and support of this great community event and to breastfeeding, now hangs within our health centre.

Recently the Wairoa team had an opportunity present itself when a breastfeeding mother approached them wanting to establish a peer support breastfeeding group. This developed into a community breastfeeding collective called Kia Mau Te U Working Group Wairoa. There is now

representation from midwives, Kahungunu Executive, a GP, a Practice nurse, Public health nurses and several breastfeeding mothers. We hope to develop the group further by inviting some of the Nannies to attend, as many of the breastfeeding challenges that the midwives experience originates from generations of formula feeding in pockets of the Wairoa community.

A continual challenge faced by the Wairoa team, are community perceptions of the maternity service, lack of understanding the need to transfer women to the secondary unit with high-risk pregnancies or labour and in relation to postnatal in-patient care provision by the nursing service after hours.

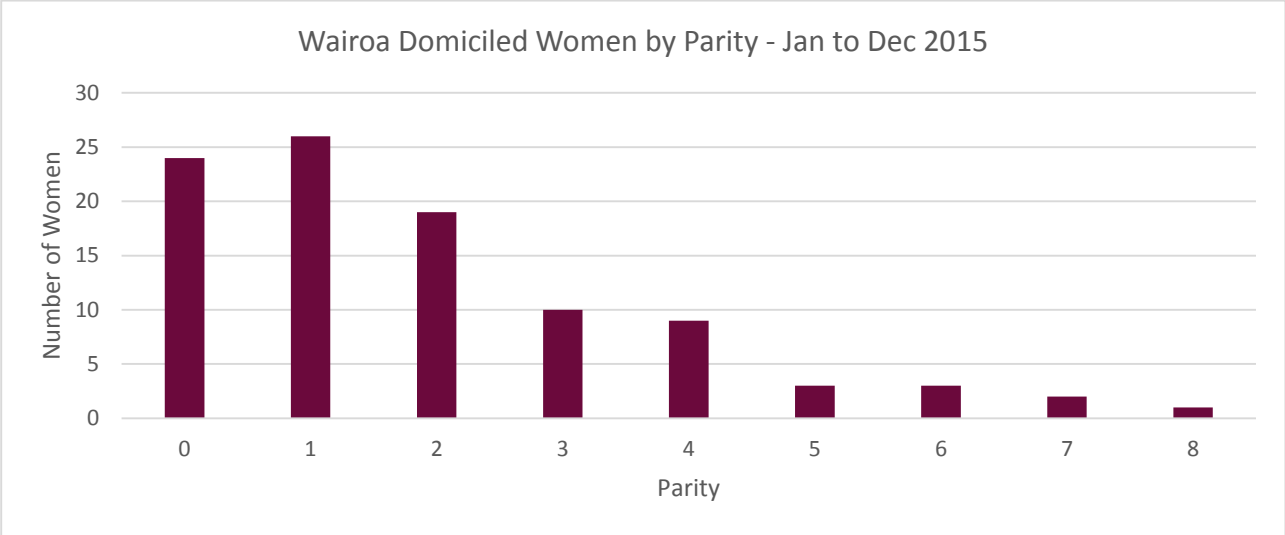
Going forward, 2016 is proving to be an exciting year for the Wairoa Midwifery Team. The recruitment of experienced midwife, Alison Williams who previously worked as a Plunket Nurse in Wairoa and a caseload midwife for Tairawhiti District Health Board, will bring a new level of initiative implementation as Alison has a strong passion for quality improvement and clinical audit. Collectively the midwifery team of four have many of their proposed initiatives for 2016 already underway. These, and initiatives planned for later in 2016 are listed in the table below.

Service Improvement Actions for 2016
Develop the trust of the community and address the inaccurate and negative views of the service provision held by some. Reduce the number of low risk primary women who chose to register with an LMC in Hastings or Gisborne
Undertake a robust clinical audit on the transfers of low risk women to the secondary care facility in Hastings
The development of a guideline for care of a sick neonate awaiting transfer to a secondary facility
Promote the need for registration with a midwife within the first twelve weeks of pregnancy using media coverage and integration of GP services.
Continue to increase the newly established networks with the community practitioners and other health professionals that are helping us to provide more effective care to our most vulnerable women, by attending the weekly doctors' meetings, participating in the multidisciplinary team sessions and the monthly Well Child Meetings.
Develop a postnatal document that will identify missed visits
Establish a system that will ensure monthly statistics and KPI's are captured for quarterly reporting
Develop a handover book that will identify high risk women, improve follow up of results, collection of statistics and actioning of notifications of un-booked women.
The creation of an orientation manual
Establishing a rural service specific appendix to the iron infusion protocol
Transferring the Pregnancy and Parenting education classes to a Sunday after surveying of the community and establishing this would be a positive change.
The trailing of an alternative format of Pregnancy and Parenting education classes later in 2016
Participation by all four midwives in the health expo put on by the rotary club – fabulous opportunity for networking and team building
Facilitating mums and whānau to watch educational DVD's around breastfeeding, CPR, never shake a baby etc. by securing a DVD player for the facilitate to utilise
Commence an audit on the maternity related Smokefree statistics
Continue to participate in and promote the Smokefree service nappy initiative
Fulfil the team goal of working more effectively as a team and raising the profile of Wairoa Maternity
Continue to demonstrate our wonderful team vision; Protectors of normal birth for women by women with a Whānau Ora approach that develops self-determination, empowering and supporting women and their whānau in a flexible, creative women centred service.

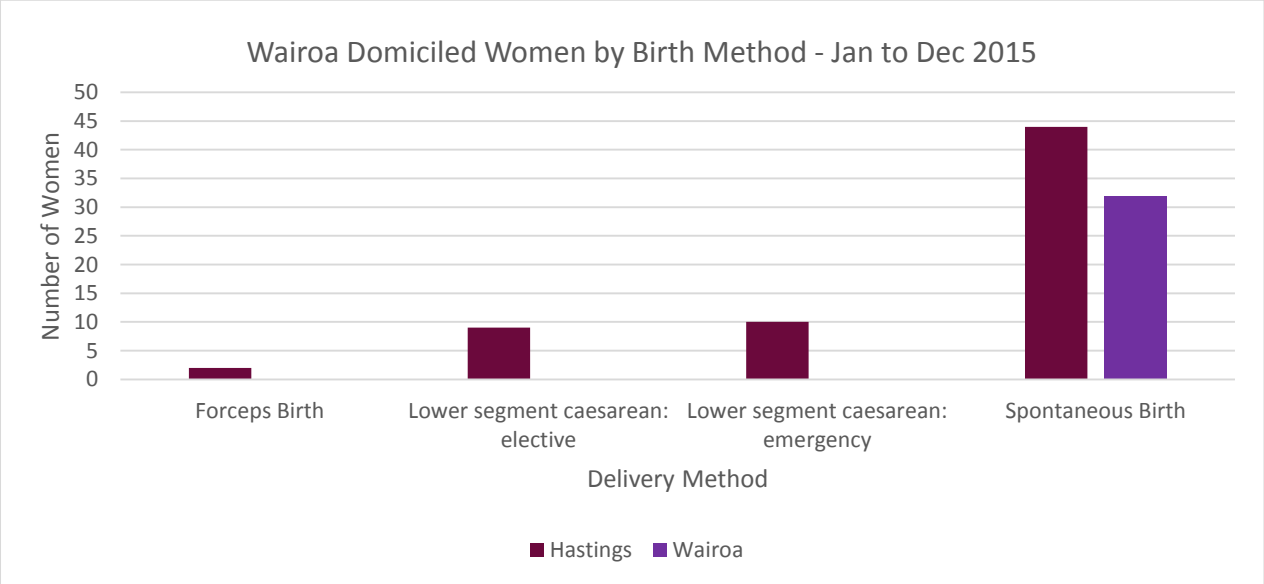
4.7 Birth Outcomes for Wairoa Domiciled Women

Caveat Note: Interruptions to our coding department productivity led to six women not being coded at the time of the report data reconciliation. This means that six women, who were domiciled in Wairoa and birthed in Wairoa have had to be omitted from the following statistics. It can be reported though, that these six women all had a primary led pregnancy, were of either New Zealand Māori or European ethnicity, were 50% primiparous, 50% multiparous and four out of the six not having a smokefree pregnancy.

The graph demonstrates the parity of the 97 women domiciled in Wairoa that birthed within either site during 2015. As demonstrated, grande multiparty is present in almost 20% of the women presenting to Maternity Services.

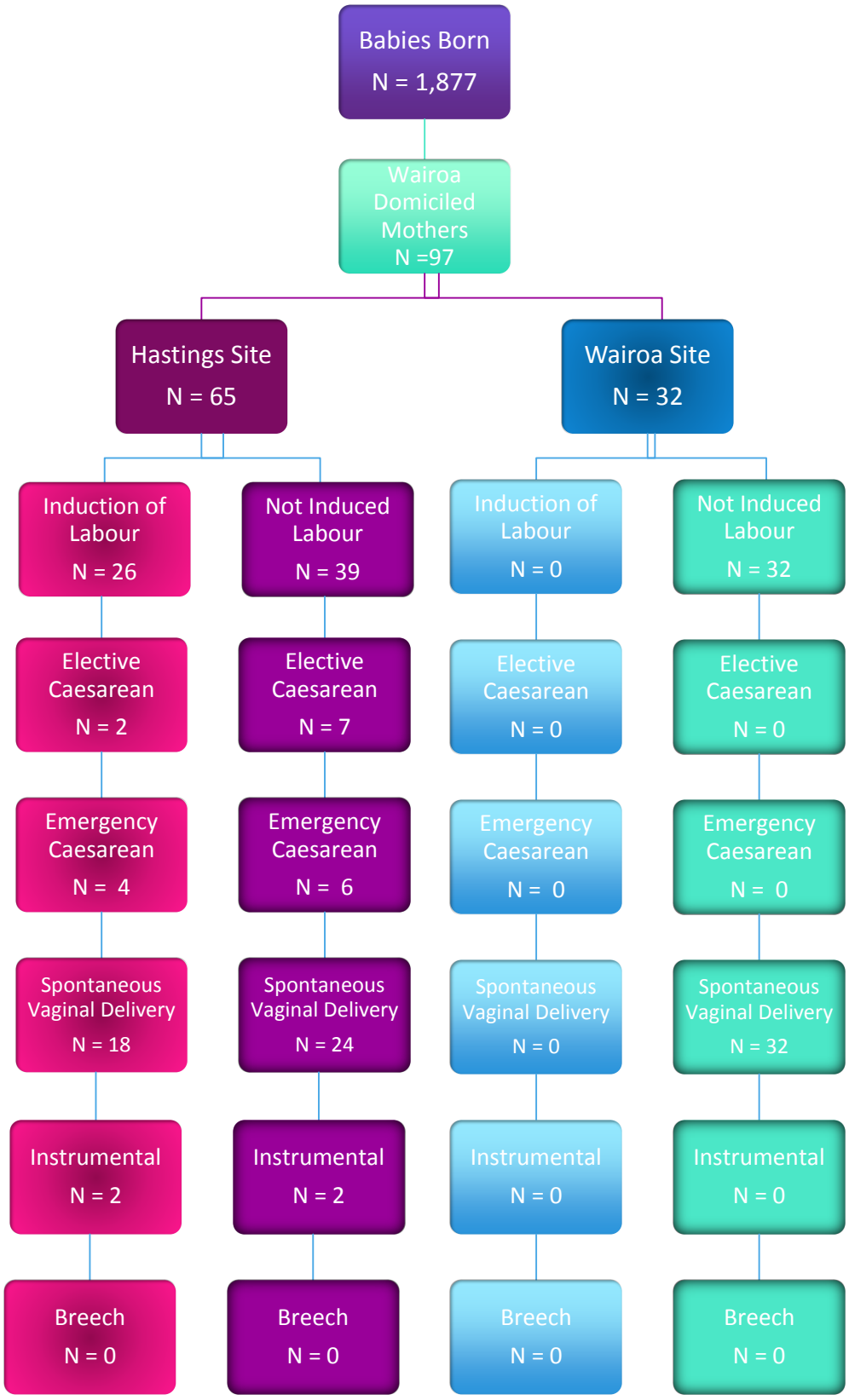


32 of the total 97 women domiciled in Wairoa had a spontaneous vaginal birth within the rural based birthing unit. 44 of the remaining 65 women had a spontaneous vaginal birth at our hasting secondary site whilst nineteen underwent a Caesarean Section and two an instrumental vaginal birth.



4.7.1 Pathways to Birth – Wairoa Domicile Babies

The pathways to birth that the 97 women with a Wairoa domicile address at booking are visualised in the diagram below.



4.7.2 Wairoa Key Performance Indicators

Data collection has remained challenging for the Wairoa Maternity Service during 2015, with several key performance indicators not captured in a meaningful way or as monthly figures in order to identify trends. The data available is presented in overall annual figures below. Going forward, work will commence to ensure adequate data collection on a monthly basis.

number of transfers	22 of women booked to birth in Wairoa birthing centre required a transfer to Hastings either in labour or during the immediate postnatal period. Transfers comprised of a combination of intra-partum clinical complications requiring obstetric input, neonatal complications requiring paediatric or SCBU care or inability to provide safe labour and birth care due to reduced staffing. A prospective audit of cases transferred from the Wairoa primary birthing unit to the secondary care service will be commenced during 2016 in order to establish the indications and rate of transfer of low risk women and whether any transfers could have been avoided with revised management**.**
80% of women book by 12/40 (All)	**67.3%** 29.3% were multiparous with most registering by 20 weeks Many visited the GP first but were not referred to the Midwife following this first contact. Work to continue around this as stated in Actions for 2016 to Improve Service Delivery table.
60% exclusively breastfeeding at 6-week discharge	82.7% over all exclusive for all Wairoa domiciled women. 70.3% exclusively BF rate for women that birthed in Wairoa at 2 weeks PN 51.2% exclusively BF rate for women that birthed in Wairoa at 6 weeks PN 60.7% exclusively BF rate for women that birthed in the secondary facility at 2 weeks PN 50.9% exclusively BF rate for women that birthed in the secondary facility at 6 weeks PN
100% GP registration	100% of women who birthed in Wairoa were registered with a GP prior to discharge from the service.
All 1st time parents complete PPE 12hrs	13 sets of primiparae attended pregnancy and parenting classes during 2015. The first classes were well attended, however, by the end of the six weeks the numbers dropped off. Following a consumer survey of potential recipients of the Pregnancy and Parenting education classes, plans to include transfer of the classes to a Sunday are expected to significantly increase attendance for 2016.
100% women receive Safe Sleep conversation and develop safe sleep plan	Challenges have occurred around collection of statistics for safe sleep education and provision of an agreed safety plan. Despite documented evidence in all of the hospital notes of the women who birthed in Wairoa, compliance of completion of the official safe sleep document and obtaining a signature against the agreed family plan has been poor. The midwives will need to address this omission going forward.
100% women receive ABC Smoke free advice	53.8% of women were Smokefree at booking. 30.7% were not Smokefree and received ABC but declined at booking. 3.2% had an unknown Smokefree status and were not offered ABC 2% who were not Smokefree at booking became Smokefree by discharge

4.8 Measurable Outcomes for 2015 data

Spontaneous Vaginal Birth Rate • 66%	Instrumental Birth Rate • 7.9%	Elective Caesarean Section Rate • 9.0%
Emergency Caesarean Section Rate • 16.0%	Total Caesarean Rate • 25.0%	Caesarean Section Under General Anaesthetic Rate • 3.0%
Induction of labour Rate • 16.3%	Episiotomy Rate Rate • 7.0%	
3rd / 4th Degree Tear Rate • 2.4%	Postpartum Haemorrhage Rate • 24.6%	Postnatal Blood Transfusion Rate • 2.4%
ICU Admission Rate • 0.4%	Premature Birth Rate (32-36 weeks Gestation) • 8.9%	Neonatal SCBU admission Rate • 15.6%
Exclusive Breastfeeding Rate • 88.1%	Planned Homebirth Rate • 4.07%	
Registration with an LMC in 1st Trimenster Rate • 58.0%	BMI> 35 at booking • 11.3%	Women living in Deciles 8-10 • 64.9%

4.9 Hawke's Bay Homebirths

As already indicated, homebirth data is not included in the majority of the statistics in this report. However, data provided by the Business Intelligence Unit of HBDHB, which is extracted from Healthware and the patient management dataset using NHI numbers, would indicate there were 79 successful planned homebirths in Hawke's Bay in 2015. This figure demonstrates a pleasing rise from the 62 planned homebirths reported in the 2015 clinical report based on the twelve months between 1st June and the 31st May 2015 and gives an overall rate of 4.07% when taking into account all women who birthed in all locations across Hawke's bay.

Discussion around the reasons behind this positive increase would suggest it is due to homebirths becoming more widely accepted as media coverage of celebrities opting for homebirth increases and more locally, due to women choosing homebirth as an alternative to birthing in the secondary care unit during a time when community wide discussion and education around the optimum place of birth for low risk women is commonly occurring in preparation for our along-side primary birthing centre ''Waioha''.

Many members of our LMC midwifery community offer homebirth services to the low risk women of Hawke's Bay. Two of those LMC's, both of whom have a very strong passion for this aspect of midwifery care, describe what facilitating homebirth means to them and their practice in the following extracts.

"My goal as a midwife is to work in partnership with women and whānau to achieve the safest possible outcome in pregnancy and childbirth. With evidence based information about birthing at home or hospital, my normal, healthy clients are overwhelmingly choosing to birth at home. The research supports my belief that, for normal healthy women, home birth provides the optimal environment for women to labour normally and birth well. Home birth reduces the need for interventions because the hormonal drivers of labour can be undisturbed and functional.

As a midwife, it is incredibly rewarding to see woman after woman labour without the need for anaesthesia, because the unhindered release of endorphins makes the pain bearable, powerful and coordinated contractions and rapid progress because of the unhindered release of oxytocin, watching women move and lean and grasp in a familiar environment with soft floors, soft pools, comfy couches and beds, partners supporting instinctively, without awkwardness or prompting, because they are in their space not ours.

We all know that our leading causes of intervention in labour are failure to progress, which is often followed by fetal distress. Home birth gives women the choice to maximise their ability to birth normally, and greatly reduces the risk of needing intervention and the immediate and long term risks associated with those interventions. It helps us all understand that women's' bodies are designed to birth, and that by allowing labour and birth to happen in a safe and familiar environment, the vast majority will labour powerfully, birth gently and with the woman in control of her own birthing experience."

Sarah Glass RM

"Birth should happen where women and their family feel safe and secure. Often in our current society, because of fear/risk discourse that is associated with pregnancy and birth, women often choose hospital births. As a midwife I believe and attempt to instil into my clients, the understanding that birth is a normal event. I help them to understand that with the support of a midwife to ensure that everything is going as it should, women can have faith in themselves that their births will be normal life events. I often discuss this with my clients and how important environment is to where they choose to given birth. Babies should be born with the same love and security around as where they were made.

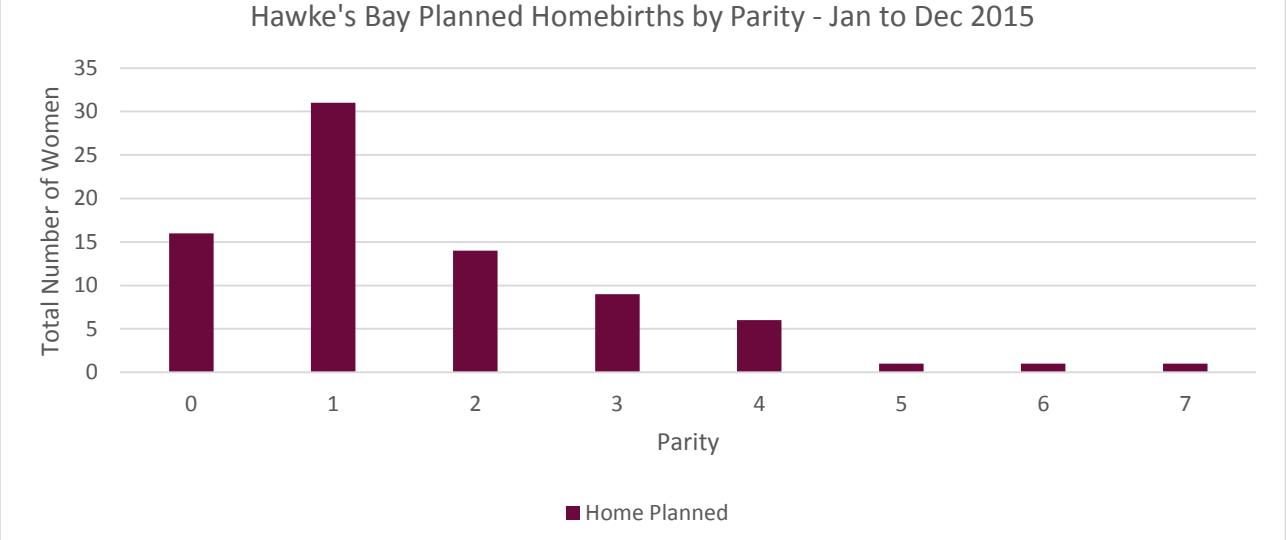
Homebirth is part of my practice so that women can make decisions about their families that are right for them. Whether they don't like hospitals, or they want the comfort of their own environment around while they are birthing, my support of women to birth at home enhances my belief that birthing is a normal life event for women. As a midwife I am able to protect this normal life event, often just by being present and monitoring normal progress.

Families, particularly fathers often feel helpless during labour. However, being in their own home gives them a sense of ownership of the birth process. This is from their knowledge of the physical environment, and knowing where things are. Also men are more comfortable to support their partners in their own homes, as this is where they have built their relationships and where they know how to be with each other in the intimate moments – of which birth is one of the most intimate a couple will experience together."

Bec Heyward, Midwife

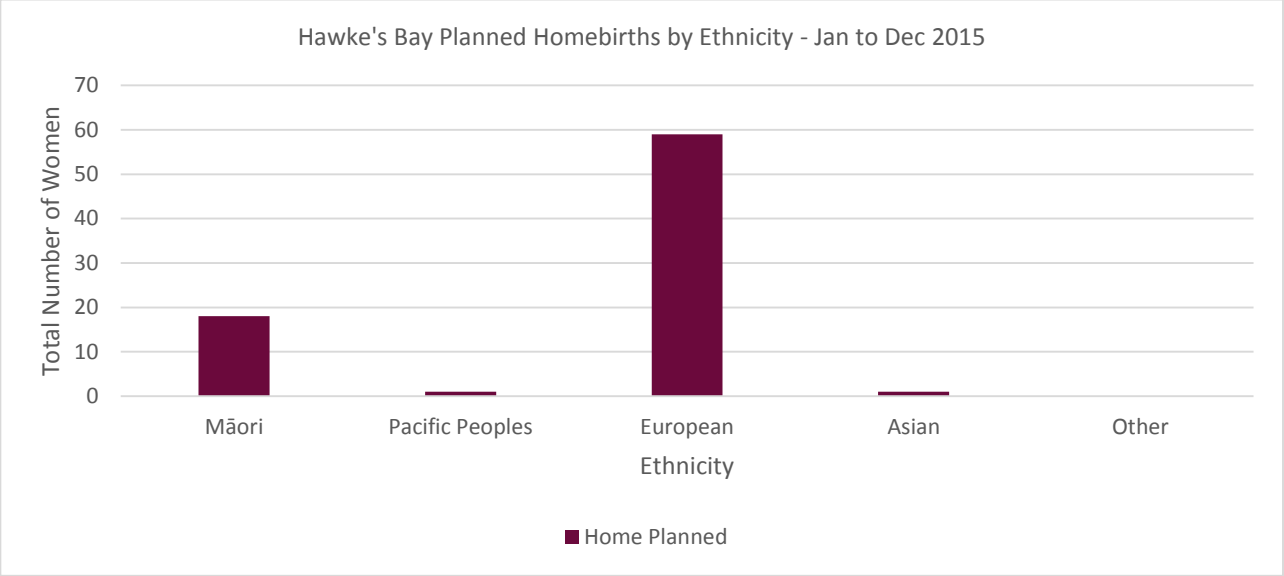
4.9.1 Planned Homebirths by Parity

16 (20.2%) of the planned homebirths were primiparous women and 31 (39.2%) the highest percentage, were second time mothers. 36% of planned homebirths were made up of 29 para two, three and four women collectively. Three women having planned homebirths were grande multiparous women



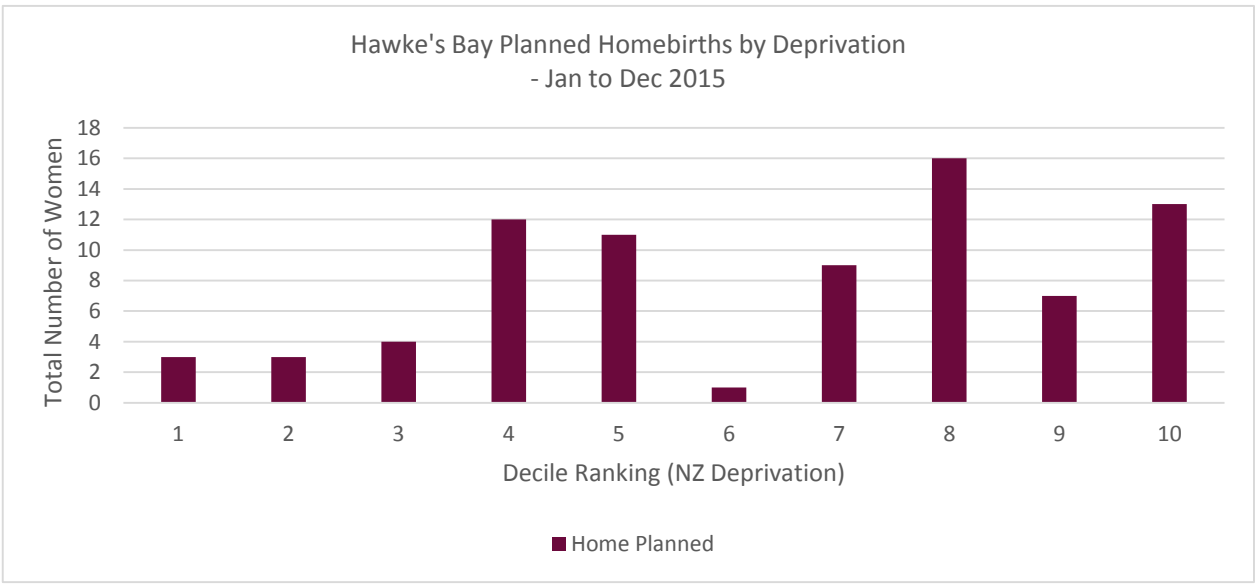
4.9.2 Planned Homebirths by Ethnicity

This following graph demonstrates a clear trend of women opting to have a homebirth being of European ethnicity (74.6%) whilst 18 women of the 79 (22.7%) were Māori. Pacific and Asian women had equal representation in this classification with 1.2% of the homebirths each.



4.9.3 Planned Homebirths by Deprivation

There is a representation of women choosing to have a planned homebirth from each decile ranking across Hawke's Bay, however almost half, 36 of the 79 women (47%) reside in the three most deprived areas of our region, in contrast to just ten women from our three most affluent areas.



4.9.4 A Hawke's Bay Consumer Story - The Birth Story of 'M'

"Around 3:30pm on 18 September 2015, 39 weeks and 6 days, I was thinking about how labour is kinda like a predicted storm or tsunami warning (both of which we had on this day), you just accept that it will come when it comes and there's nothing you can do but wait patiently……

Then I felt a little pop and the warm gush of water. Just a bit but enough to make me think my water's had broken. Then another wee gush, and then more. Yip, something would be happening soon. No contractions, just the knowledge I had time to prepare for the event. I tidied and vacuumed the house, cleaned the kitchen, got some washing done, cleared surfaces and made a Shepard's pie and chocolate cake... a birthday cake. I let dad know he should make his way home when he can and to text the midwife.

Dad and O played outside in the sunshine while I got small jobs sorted. Their laughter warmed my heart as I thought this was the last day of our old normal. We got through the night routine and put O to bed. Lit the candles, put the oils on and watched a documentary. I even had a glass of wine; this would probably be our last night with life as we knew it.

We went to bed at 9pm to try and get as much sleep as possible and I listened to my hypnobirthing meditation. O was quite restless so we embraced being in bed together. Around 11pm I woke up with surges. Manageable and nothing special. By midnight I thought having some alone time might be a good idea so I came into the lounge and lay on the couch with the blanket on me. I surrendered. Something I hadn't been able to do with O. I put on my music; can't remember which.

Then at 1am I got dad to help me through them. I started to get hot during contractions then chills afterward, and then I threw up. O stirred and got upset wanting me. So I had to go down and lay with him and breastfed while having contractions. And then dad got a bowl and I threw up again over him. Multitasking to the extreme.

I wanted the pool NOW so I stayed down with O while dad got it sorted. Contractions were intense now so I started making noises... low moans and 'mooing' and getting louder. All while holding O's hand as he slept. He was like my little doula, without even knowing it. Dad kept coming in to check on me and then said the pool was ready. I crawled down the hallway, having a few contractions on the way and vomiting just before the lounge. I then found myself at the fire guard and pressing my head against it, liking how cool it felt on my head... I was obviously in transition, although I didn't know it at the time!

It took a few contractions for me to get to the pool and climb into it. It felt a bit too cool and shallow but it was still better than not having it. Dad continued to fill it and I got use to riding the waves in a different space. I mentioned things were getting a bit 'pushy'. The contractions were changing into something else. Dad hadn't called the midwife yet as we were wary of having her here too early; I still thought my labour would be 6 hours so in my mind we still had around 3 hours to go. But the pushy feeling was getting stronger and I told dad he REALLY needed to call her.

I was keen to let my body do the work and not push, but this feeling was making it hard to keep the push in... kinda like trying to hold in a dry retch; your body is overtaken without having a say. It felt like I had to poo so I felt down and could feel the round of your head under my butt. 'I feel her head!' I could feel the bud of the top of your head through a contraction and then it would go back up. And it really burnt! An absolute ring of fire and I thought of Ina May's advice of thinking I'm big and stretchy. Not to fight it. So I held around your head and panted until it came out! And casually mentioning to dad 'her heads out'

We knew underwater there was no rush, so we waited for the next wave to help your body out. 'She's nearly here, our baby is nearly here!!' I told dad. Dad said he watched as you rotated around during the next contraction! And then your body was out. I gently moved to the side of the pool and dad slowly lifted you out of the water on to me. Before he even had a chance to take the cord off from around your neck, I looked between your legs and you were a girl!! It was you!! Then placed on my chest we sat and took you in. And how beautiful you were.

About 15 minutes later at around 3:45am the midwife and student midwife arrived. I couldn't believe your brother was still asleep! After making sure we were ok and giving us the space we wanted, your cord was tied and dad cut it. The midwife helped birth the placenta gently as it had already come away, and I wanted to get out of the pool and lay with you. I was propped on the couch while tea and toast were made and then O woke up and walked down the hallway to dad. Brought over to us, he met you for the first time. His words to you 'Babies are so cute, aren't they?!' We were now a family of four. "

4.9.5 A Hawke's Bay Consumer Story - My Homebirth Story

"From the moment I saw the two lines on the pregnancy test I felt a sense of guilt. Guilty that our two beautiful girls had to share us with another little person and guilty that couples close to us were having trouble conceiving. It took me 18 weeks to share our news with close friends because of it.

At the 20 week scan I was feeling excited. Everything would be right with the world when I found out we were having a boy. That news never came. We were having a healthy baby girl. I struggled with the news. All I ever wanted was my baby boy. I couldn't focus on the positives of having a healthy baby inside me. I felt ripped off for not getting my "perfect family" I had always dreamt of. Again the guilt came flooding back because I knew I was being selfish with my thoughts, but I just couldn't shake them.

The following months were tough on my relationship with my husband and close friends. I pushed everyone away and often just wanted to be alone. I had an amazing midwife that let me express just how I was feeling and most of my visits consisted of me breaking down and crying. Her reassurance and guidance left me with hope that everything would be OK once I had her in my arms and my hormones had calmed down. I was never this emotional with my other two so couldn't wrap my head around my thought process in this pregnancy. I had my second baby at home. It was a wonderful experience so was set to do it all again for my third. Being in my own environment with home comforts was bliss.

Labour started and it was time to ring my midwife. I was in a positive mind set and excited to meet our baby in a few hours. My midwife had the weekend off and wasn't on call for another two hours so we had to ring her back up. This threw my positive vibes. I climbed back into bed and sobbed. In my head I couldn't do this without MY midwife. Her back up arrived and my husband warned her of my mood. She was lovely. Came in, gave me a big cuddle and said my actual midwife was on her way too. My smile returned and I was ready to get this all under way.

It got to a point where I begged to have my waters broken because I knew once that was done I could start pushing. They were soon broken and I started pushing. I pushed and pushed. Nothing was happening. I pushed twice with my second and she was here. There must be something wrong. My baby just wasn't moving down. I had tried every position and nothing was working. I had given up, turned to my midwife and pleaded with my eyes to let me stop trying. My contractions then stopped. I lay there thinking I am done. I literally cannot do this and I have now put my baby in danger, but I give up. I was reassured that this happens sometimes and the contractions would start up again soon. They were the longest 10 minutes of waiting and praying that my baby was going to be ok. It was time to get in the zone and do what needed to be done. I focused and pushed like I never had before.

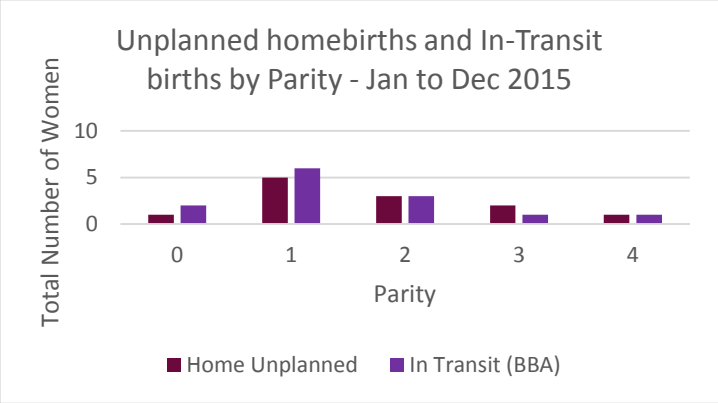
After an hour and a half of pushing I finally had my precious baby girl in my arms. She came out posterior (face first). That's why it was more painful and harder to push. My midwives stayed calm throughout the whole thing and never once gave a hint that it wasn't a straightforward birth. All they offered were encouraging words and support. That's all I needed. I didn't need details. I needed to feel safe and cared for. I will never forget how important they both were in the delivery of my baby. They never left my side and kept me as comfortable as possible. I take my hat off to these incredible women who nurture us when we need it most.

After baby was born I didn't like to talk about the birth. I didn't want anyone knowing how weak I had been throughout it and now how much I was struggling to keep a family of five ticking along. I knew my mind and body still weren't right. However, I knew I could turn to my Midwife and she would know what direction to point me in. I wasn't depressed and didn't feel like I needed to talk to someone but there was something out of place. She put me on to a body work practitioner who worked with both me and my baby. I cannot put into words what she did for my mind and body but I tell you this. Without her and the amazing care of my midwife I would not be writing this story today. I now feel proud of everything I experienced and learnt during this pregnancy and the birth of our baby girl."

4.10 Hawke's Bay Births Outside of the Maternity Units

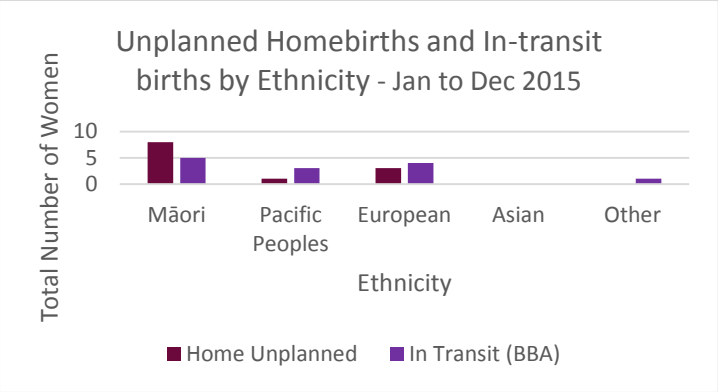
A total of 123 births to mothers that normally reside in Hawke's Bay occurred outside of the HBDHB Maternity Services. As discussed in section 4.9, 79 of these were planned homebirths. The remaining 44 births were made up of twelve unplanned homebirths, 13 babies born en route to hospital (BBA) and 19 births undertaken in other New Zealand hospitals. The unplanned homebirths and births that occurred en-route are presented in the following graphs.

4.10.1 Unplanned Homebirths and BBA's by Parity



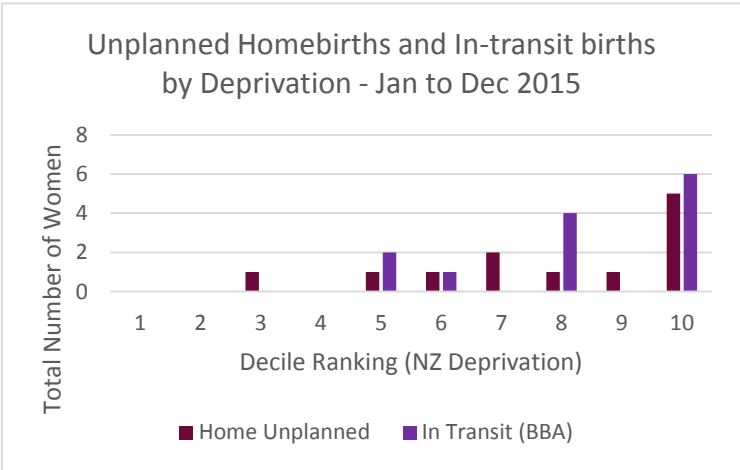
A total of 25 women birthed their baby unexpectedly at home or in transit to the Maternity Unit, this is a total of 1.3% of all births occurring in the Hawke's Bay region in 2015. The women ranged from primiparous to para four, with para ones being the most prevalent.

4.10.2 Unplanned Homebirths and BBA's by Ethnicity



An overwhelming 52% of women who birthed unexpectedly at home or en route to the maternity unit were of Māori ethnicity, with the remainder being made up of 28% European, 16% Pacific Peoples and 4% Other Ethnicity.

4.10.3 Unplanned Homebirths and BBA's by Deprivation



Data in relation to deciles reveals that 68% of unplanned homebirths or in-transit births occurred for women that reside in the three most deprived areas of our region. Of the remaining eight women, seven (87.5%) lived in areas with decile rankings of five or above, demonstrating that women from the lowest social economic circumstances are more likely to have an unplanned homebirth or birth en-route to the hospital than those from more affluent areas.

CHAPTER FIVE: ANTENATAL SERVICES AND INITIATIVES

The majority of antenatal care for women of Hawke's Bay is provided by LMC midwifery colleagues as per the antenatal visit schedule below

Antenatal Visit Schedule													
Booking 6 – 10 weeks	Around 12 weeks	16 -18 weeks	20 -24 weeks	26 - 28 weeks	30 weeks	32 weeks	34 weeks	36 weeks	37 weeks	38 weeks	39 weeks	40 weeks	41 weeks	42 weeks

Those women who require specialist input as per the referral guidelines are referred to Antenatal clinic as outpatients. This chapter provides information related to the range of outpatient services that HBDHB Maternity Services provide to these women and their families.

5.1 Antenatal Care

A team of five experienced HBDHB midwives provide the midwifery antenatal service to women requiring secondary consultation with an obstetric specialist. These same five midwives also provide postnatal care for those women for whom the DHB is the lead maternity carer.

The midwife role in the antenatal clinic is extensive and encompasses initial antenatal assessments to ensure the wellbeing of the pregnant woman and her unborn baby, screening and interventions for smokefree, family violence, addictions and safe sleep risk factors, support of the obstetric specialist and provision of education on health, wellbeing and lifestyle choices.

An average antenatal clinic will see approximately 17 women, equating to over 3,300 visits to the clinic per year, with all woman undergoing assessment from the midwife at every consultation. Hastings clinics are held at Te Kakano, Monday to Friday, whilst Wairoa hosts an equivalent clinic at their site once a month. The specialist clinics are multidisciplinary and cater for women with medical conditions, high risk pregnancies or complex circumstances. Additionally, there is a weekly combined clinic which incorporates a Consultant physician, a Consultant obstetrician, a diabetes nurse specialist, a midwife and a diabetes dietician, in order to provide streamlined care for women who require multifaceted input.

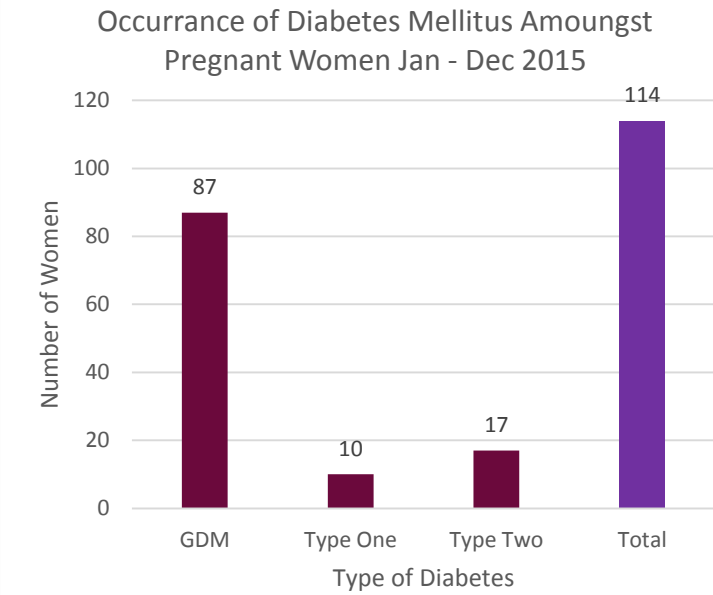
Our Midwifery antenatal service also extends provision of care for a number of women in their homes. These women are often challenged by transport and their circumstances to attend the antenatal clinic. The women who require this support are often from lower socio-economic circumstances, living in poverty with additional stressors which may include family violence, addictions, alcohol dependence or other social complexities. A small number of women are referred to the team midwives by our LMC midwifery colleagues due to poor engagement of women with high risk pregnancies. Facilitating care for these women is paramount and the DHB team midwives have established community networks that support their ability to locate these women and engage them in antenatal care. They will provide transport for the women if that is the need.

Finally, our antenatal service ensures that women with significant antenatal complications unable to be managed in the community or via the Day Assessment Unit are admitted into Ata Rangi for ongoing inpatient care.

5.2 Diabetes Specialist Service

During 2015 there have been 114 pregnant women referred to the diabetes service for shared care. The graph indicates that three quarters of these women (76.3%) have been diagnosed with gestational diabetes mellitus (GDM), whilst 14.9% presented with type two and 8.7% with type one.

The rate of Type one diabetes mellitus presentations has been reasonably static over the last three years with approximately ten women presenting to our service each year; however, 2015 sees a rise in type two presentations from eleven to seventeen. Our service has also seen the continual rise of GDM diagnosis which has increased from 50 in the 2013/14 year to 66 in the 2014/15 year to 87 in the 2015 calendar year. This reflects both national and international data. This rising trend of gestational diabetes will evidently have an impact on services and service provision.



The implementation of the Ministry of Health's National GDM guidelines published in 2014 has had major implications around screening for diabetes at the time of confirmation of pregnancy with the HbA1c test. Co-ordination of care remains a challenge for this service with key issues being increasing demand for the services with the evident upward trend, avoidable delays between a positive screen and receipt of referral, sufficient resources to respond to referrals in a timely manner and ensuring ongoing postnatal screening for diabetes mellitus in primary care occurs.

5.2.1 Diabetes Clinical Nurse Specialist

The Diabetes Service has a team of nurses, who are integral in managing the case load of pregnant women with diabetes. This team are predominantly Clinical Nurse Specialists (CNS) who are designated prescribers in Diabetes Health. Referral is received directly from either a Lead Maternity Carer (LMC) or from the Antenatal Clinic and contact with the patient is attempted on the day, or within 48 hours, of receipt of referral. LMC's are encouraged to initiate blood glucose monitoring at the time of diagnosis so that treatment can be initiated, if required, at first contact by a CNS. Ideally, these women should be seen at Antenatal Clinic within one to two weeks of diagnosis, but with this system, the woman may already be on treatment by the time she attends clinic. Outside of regular Antenatal Clinic appointments, the majority of the CNS care provision for these women is via phone calls and emails with the woman or the LMC. Ideally, contact is made once to twice weekly to review blood glucose control and ensure prompt treatment or titration of medication.

At Antenatal Clinic, women are seen collaboratively by the medical specialist, CNS and a diabetes dietician. Women with pre-existing diabetes (Type 1 or 2) are seen from when confirmation of pregnancy through duration of their pregnancy. Women with gestational diabetes, are seen in clinic at diagnosis and then until delivery (usually the third trimester). The frequency of review at Antenatal Clinic is determined by a combination of factors. Clinics are held weekly, and following each clinic, the Diabetes and Obstetric teams meet to discuss concerns and plans for shared patients.

Following delivery, the Diabetes Service receives a copy of the Obstetric discharge summary. Women with gestational diabetes receive a letter and laboratory request form at three months post-birth, as a reminder to have a screening test for diabetes. GPs receive a copy of this letter and results of the screening test to ensure ongoing care or screening is put in place. Women with pre-existing diabetes often require ongoing monitoring by a CNS following delivery.

5.2.2 Dietician for Maternity Services

Two dieticians, Kirsten Crawford and Ingrid Perols have continued to support the multidisciplinary antenatal clinic team during 2015 as a result of the Maternal, Child Nutrition and Physical Activity Program and the implementation of the Gestational Diabetes Mellitus (GDM) guidelines stipulating treatment should include specialised dietary and lifestyle advice. All newly diagnosed GDM patients are seen by the dietician at the multidisciplinary clinic and receive dietary advice, a practice which improves patient accessibility to services, and aligns team goals for each individual. Each patient is followed through to four months' post-partum with continued support in maintaining the healthy lifestyle adopted during pregnancy.

In 2015 a total of 72 women diagnosed with GDM were seen during pregnancy and 30 women at four months post-partum, for healthy lifestyle support and advice. Kirsten and Ingrid have also presented a number of workforce development sessions to LMC's and General Practitioners highlighting the main points of the new Ministry of Health guidelines titled *Screening, Diagnosis and Management of Gestational Diabetes in New Zealand* launched in November 2014. The dieticians developed a new nutrition resource for women with GDM which has been made available for other diabetes dieticians to use nationally and presented a poster of the project at the Australasian Diabetes in Pregnancy Annual Scientific Meeting held in Australia.

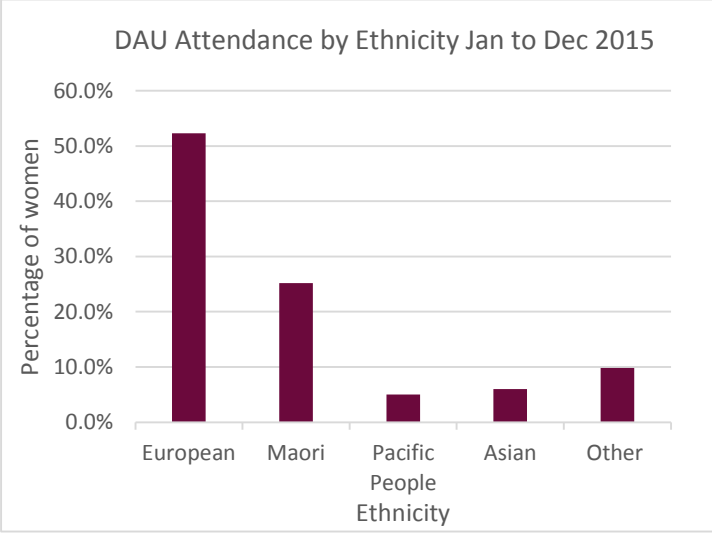
5.3 Day Assessment Unit (DAU)

The 2015 establishment of a Day Assessment Unit (DAU) and the employment of two dedicated DAU midwives, has enabled a more organized and structured format to the DHB's antenatal outpatient service. The DAU operates Monday to Friday within the main Ata Rangi maternity unit. The purpose of the service is to provide individualized, specific, professional, non-acute midwifery care for women experiencing high-risk pregnancies in a format that maximises midwife-patient contact, care provision and education. The care provision encompasses appointment-led monitoring, reviews, assessments and medication provision. The referral comes via the secondary care obstetric team. Consumer feedback indicates a high level of satisfaction from women accessing the DAU with an appreciation of continuity of care, individual history awareness and comprehensive usage of appointment time regularly being cited as the service's most positives assets.

5.3.1 Attendance at DAU

Rudimentary data collection was commenced at the beginning of 2015. From 1st May 2015, more comprehensive data was collated. During the 2015 calendar year, 337 women attended the DAU and collectively received 855 episodes of care. 40% (134/337) of women attending DAU attended on a one off basis, whilst 50% (168 women) attended on two or three occasions. 35 women (10%) attended DAU four or more times.

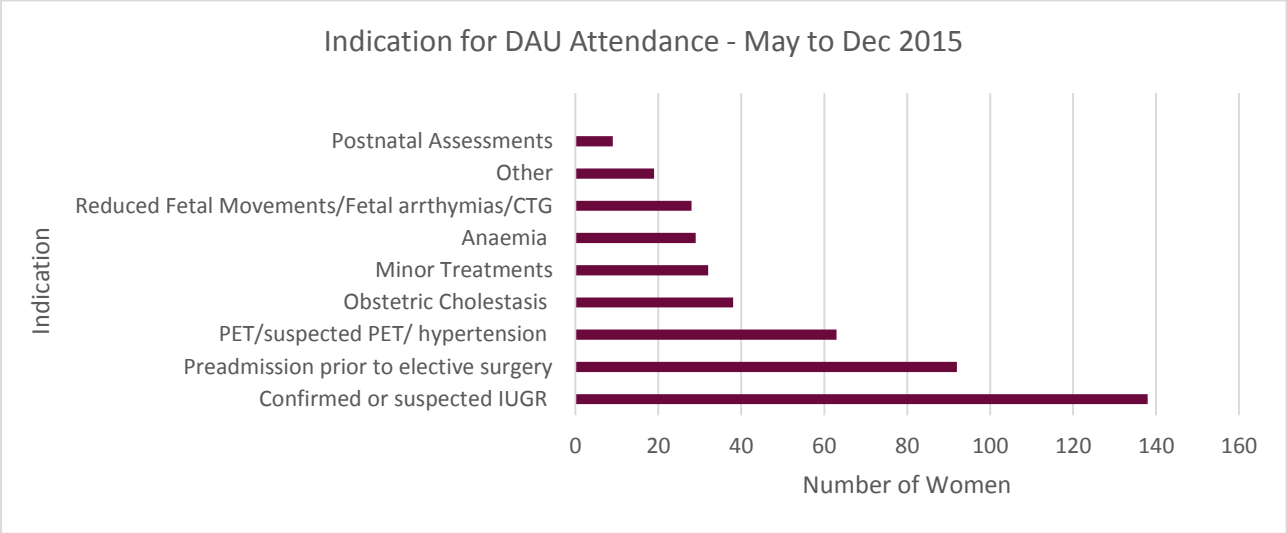
5.3.2 Attendance at DAU by Ethnicity



Of the 337 women that attended DAU, 53% were of European ethnicity. The remaining 47% were made up of 25.2% Māori, 9.8% Other, 6% Asian and 5% Pacific Peoples. When calculating the care episodes per ethnicity, European women remained the largest percentage of attendees at 52%, however, Māori women are over represented at 30.4% when compared to the actual numbers of women attending (25.2%.) This statistic correlates with the number of Māori women who attended DAU on multiple occasions to receive additional care and surveillance of high-risk complex pregnancies. There is minimal under representation of Pacific People (4%), Asian (5.3%) and Other (7.4%) ethnic groups when care episodes versus number of women were analysed.

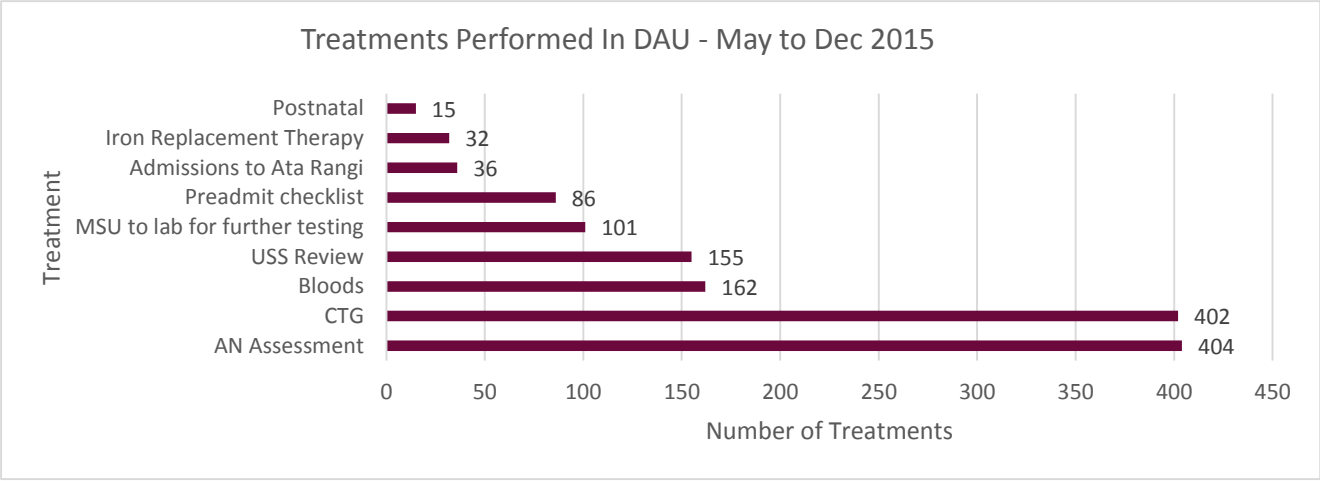
5.3.3 Indication for Attendance at DAU

Data collection between January and 31st April 2015 did not differentiate the indications for attending DAU. The following data is from the 1st May 2015 to 31st December 2015 and identifies the indications for attending DAU. During this time 107 women attended the DAU and 457 care episodes were performed.



The 138 confirmed or suspected IUGR pregnancies indications for attendance includes 16 care episodes where there was another risk factor in addition to IUGR, such as twin pregnancy, anaemia, oligohydramnios, or Pre-Eclampsia. The 'Other' category includes women who attended DAU for assessments or treatment of postdates pregnancies, spontaneous rupture of membranes, scan reviews, antepartum bleeding, intravenous rehydration and urinary infections. The 'Minor Treatment' category includes women who attended DAU for injections, CTG monitoring, ECG's, presentation queries and bedside ultrasounds performance. Postnatal women attending DAU were for reviews of blood pressure, Caesarean Section wound or perineal trauma.

5.3.4 Treatments Provided at DAU



From the comprehensive data collected between 1st May and December 31st, 2015, it is evident that almost all antenatal women who were assessed in the DAU had a standard midwifery antenatal assessment performed. This includes urinalysis, blood pressure check, abdominal palpation and fetal heart check. Most (91%) antenatal women had a CTG performed. 36 women (34%) out of 107 women were admitted as inpatients following a DAU assessment.

5.4 Napier Maternity Resource Centre

November 2014 saw the establishment of Napier Maternity Resource Centre (NMRC) in response to our Maternity Services review in 2012 and the reshaping of our Maternity Services for our Hawke's Bay population. With a growing vulnerable population residing in the Napier suburbs there was a need to implement a way for families to access information and services more easily, plus facilitate engagement with our Maternity Services at the earliest opportunity and ensure registration occurs, particularly for those with high needs such as teen parents, Māori, Pacific and immigrant families.

The resource centre was set up within 'The Midwifery Centre', an LMC practice with a long history of providing independent maternity care to the Napier Community. The vision was to provide a drop-in centre for women to access maternity care and advice within their own community and to provide midwives with a venue for out-of-hours or urgent assessments for their Napier based clients.

Throughout 2015 the centre has evolved into a known local access point for ante and postnatal information, assistance in registering with a midwife, and general support and advice according to each individual woman's needs. The centre is open each week day with a midwife in attendance. In order to meet the directive of being open for drop-in clients five hours per day, five days per week, seven midwives now hold routine clinics at the resource centre. During 2015, the seven midwives were able to open the centre over 90% of the required time. The NMRC midwives facilitate their clinics side by side so that the centre can remain open if one midwife is called away to a birth.

The two primary objectives for the NMRC are:

- Establish engagement of all women with an LMC by twelve weeks of pregnancy
- Provide an out-of-hours and urgent assessment facility for Napier women and their midwives

The first primary objective for establishing the NMRC was to increase early engagement with an LMC, as directed by the MOH in the Clinical Indicators for Maternity, 2013. With seven midwives holding regular clinics at the NMRC, the number of women visiting each month for their routine appointment has increased. Each month, over 150 women attend a planned appointment with a midwife. These women already have a relationship with a midwife but will be able to spread the word about the free pregnancy testing, midwifery advice and engagement with maternity care.

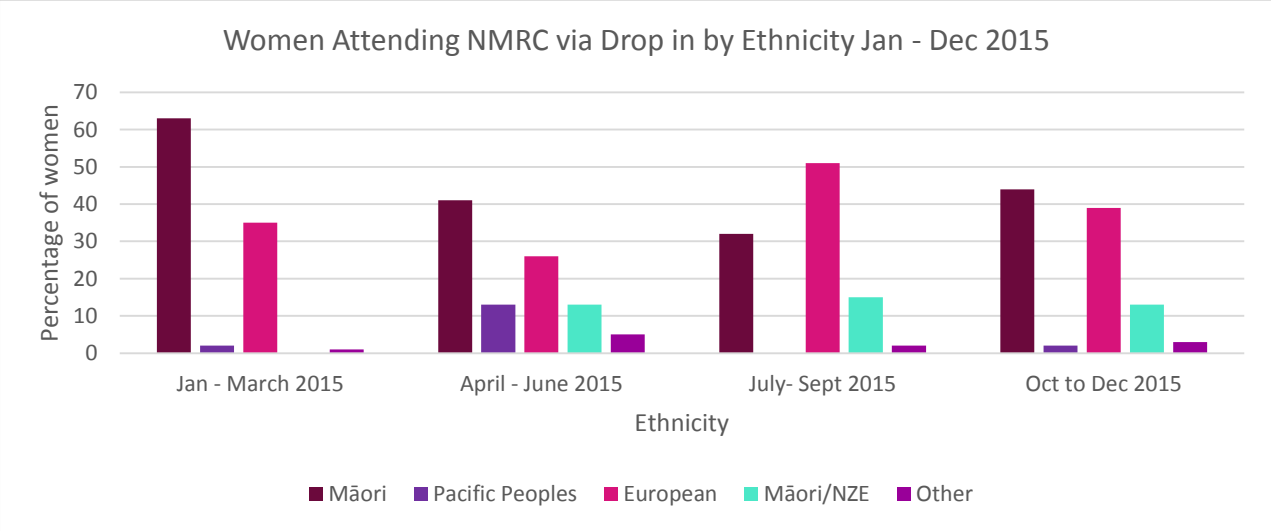
Free pregnancy testing is one of the main indications for women presenting at the centre. General practitioners can charge up to $15.00 for a negative test. This is a deterrent to recognising early pregnancy and one of the reasons women do not engage early with maternity care. At NMRC each drop-in client provides details of their ethnicity, age, reason for the visit and contact details. As well as collecting statistics this information is used to follow up with the woman, ensuring she has engaged with an LMC midwife, thus closing the loop. The yearly total of drop-in women at the NMRC

was 282. Of these, 279 (98%) were requesting a free pregnancy test and 96 (34%) received a positive result.

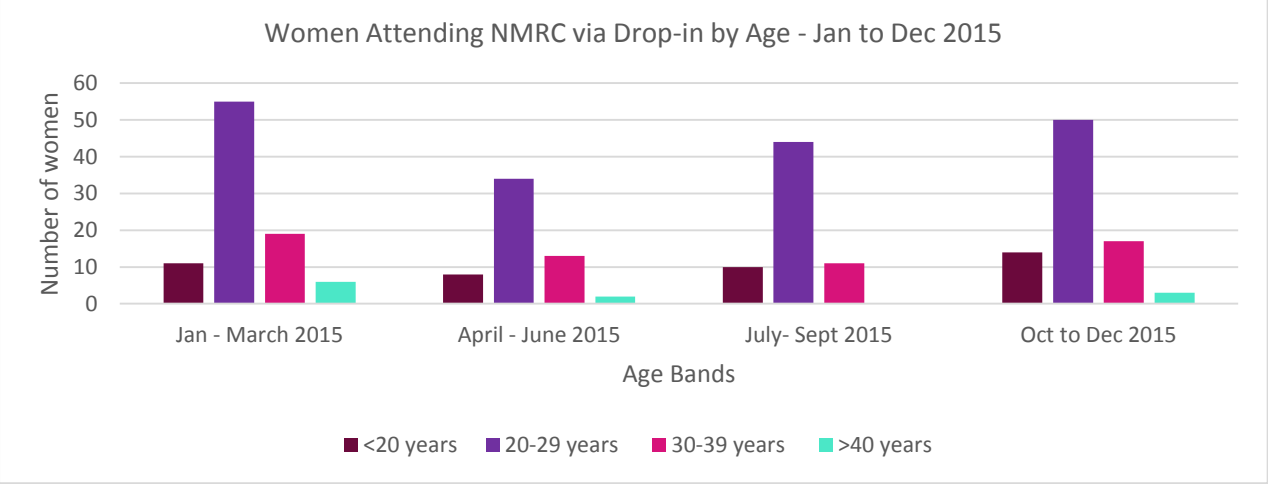
The second indication for women dropping into the centre was to find a midwife. In total 37% of women accessing the centre via drop in were requiring midwifery care.

The final reason for women visiting the NMRC is for pre-conception advice. Opportunities were taken during all of the 2015 pre-conception related drop-ins to discuss healthy lifestyles for pregnancy such as being smoke and alcohol free, keeping fit, healthy eating and managing weight.

The ethnicity of the drop-in clientele for 2015 is demonstrated in the graph below. It is positive to note that between 45 and 60% of the drop-in clients at the NMRC identified as Māori or part Māori.

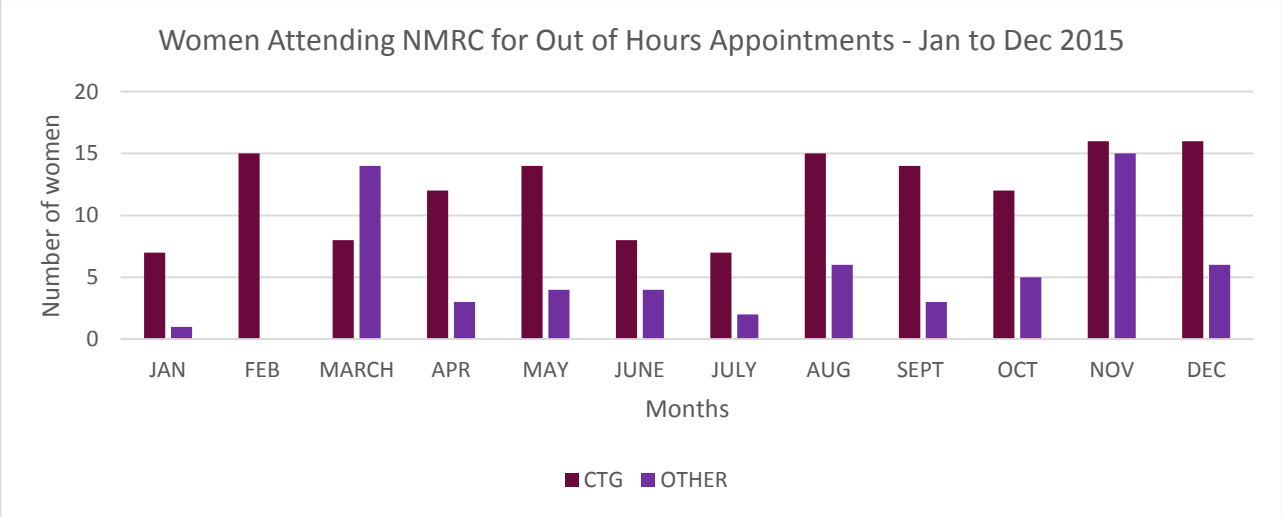


It is important that the under twenty year olds are accessing The NMRC as this age group is known to have difficulty engaging early with midwifery care. It is positive to see that 16.0% of women who utilized the drop-in clinic during their first trimester were younger than 20 years of age. 65.0% of women were between the ages of 20 and 29 years. Due to the ability to increase opening hours over the course of 2015, more young women were able to access a midwife. Those young women found to have a negative pregnancy test were still educated around the service and gained information about contraception, midwifery, and early pregnancy care. This means that NMRC is reaching the target age-group not only in pregnancy but also prior to conception.



The second primary objective for the NMRC over the 2015 year was to establish a fully equipped, well lit, safe clinic facility available for midwives, and their Napier clients, to utilise at any time of the day or night. The number of LMC's visiting these premises has grown over the year, with at least eighteen different midwives having utilized the resources at the NMRC.

A total of 207 visits to the NMRC took place out-of-hours. Nearly 70% of these occurred for cardiotocograph monitoring due to women reporting concern around their baby's movements. Postdates check-up have been another reason for midwives to utilise the NMRC as well as queries over the rupturing of membranes. The opportunity to perform these types of antenatal assessments outside of the hospital environment is beneficial in reducing infection and intervention rates.



Additionally, midwives with rurally based clients have been encouraged to utilise the resource centre to undertake appointments for rural women coming into town. As midwives are not always in clinic when women wish to come into town the ability to utilise NMRC out of hours has proven to be very beneficial.

The transfer rate from the out-of-hours appointments to Ata Rangi for further care by the DHB is 13%, meaning the midwives are assessing, treating and returning most women home, reducing unnecessary travelling to Hastings, disruption to family life and supporting local midwifery care provision 24/7. This is supportive of the model of Midwifery Care in New Zealand with assessment, advice and referral to a specialist as required.

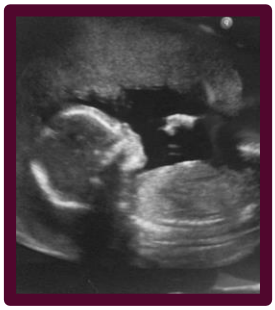
Actions for 2016	
Napier Maternity Resource Centre	Maintain and extend contact with Pasifika Community.
	Consult with Napier Health Centre and the City Council about Emergency Planning
	Prepare to become A Baby Friendly Community Facility
	Investigate a pathway for providing early pregnancy supplements to all drop-in pregnant clients, along with those planning a pregnancy

5.5 Pregnancy and Parenting Education

We currently provide a comprehensive programme of Pregnancy and Parenting Education (PPE) under the name of Bump, Birth and Baby. This education is in line with Ministry of Health requirements and comprises of pregnancy and parenting education for prospective parents, covering an extensive range of topics from well-being in pregnancy through care of the newborn.

Classes primarily run for a six-week programme, with several sets running simultaneously throughout the week. Additionally, there are monthly sessions for our more geographically widespread Wairoa community. HBDHB also co-ordinates teen pregnancy Bump, Birth and Baby classes at both teen pregnancy specific units in Hawke's Bay, plus specific breastfeeding, newborn care and multiple pregnancy classes. The feedback from attendees is generally positive. As numerous initiatives have been implemented this year to increase attendance at our antenatal education sessions, this service is discussed in greater depth in chapter twelve.

5.6 Ultrasound Service



Obstetric Ultrasound services are provided by our hospital radiology department and two private providers, Onsite Ultrasound and Hawke's Bay Radiology, both situated in different locations across Hawke's Bay. The private providers undertake most of the primary scans and a considerable number of secondary scans. There is ongoing work looking into where our secondary scans are being undertaken and why they are being outsourced in such quantities.

Hawke's Bay Maternity Services has been fortunate to employ obstetric consultant, Kirsten Gaerty, with an interest in obstetric ultrasound, and who holds a post graduate diploma in obstetrics and gynaecology ultrasound (DDU), in July 2015. This expansion to the obstetric team has facilitated the ability to provide a local assessment of fetal ultrasound abnormalities where possible and to allow local ongoing follow-up after tertiary assessment where appropriate. Initially, it was hoped that this service could be run in conjunction with the radiology department which had an ultrasound machine suited to obstetric scanning. Unfortunately, the radiology department no longer have the Phillips IU22 machine and are also running at capacity with all three ultrasound machines in full time use, as such, there is no capacity to run a specialised obstetric ultrasound service from the radiology department.

At present, second opinion and follow-up scans are being undertaken on an ad-hoc basis by Dr. Gaerty within the woman's existing scan appointment time; however, this leaves limited time for review of complex abnormalities and often requires counselling at an appointment subsequent to the scan. A capital business application for an obstetric ultrasound machine will be submitted in 2016, along with a business plan for a fetal medicine service.

A clear flow chart to 'which Doppler when' has been presented to the radiology services providers in order to get a consistent measurement of Doppler's in the context of fetal growth restriction, as per the national Fetal Medicine Network Guideline by all ultrasound providers. 2016 will see further efforts to co-ordinate a fetal medicine service within existing resources while the business plan is in progress and further co-ordinate services across all three ultrasound providers.

5.7 Maternal Social Worker Service

Our Maternal Social Worker is available to provide support five days per week to both the maternity unit and in the community. She provides care for women and their partners who have complex issues of concern such as family violence histories, child protection concerns, mental health risks, and addiction issues. She also provides her expertise for women who are considering adoption (formal and whangai), women and families who have experienced grief following fetal loss and mothers whose babies have been admitted to the Special Care Baby Unit.

The Maternity Services social worker works closely with the paediatric social worker, as their care provisions complement each other, for many women who are supported by the Maternal Well Being and Child Protection Group (MWCP). This service is a multi-agency family violence and child protection forum, where a multidisciplinary group of health professionals talk about women that may have high risk social situations and complex issues of concern, such as family violence histories, child protection concerns or mental health and addictions histories. The MWCP group is discussed in more depth in section 5.8.

The Maternal Social Worker carries an average caseload of approximately 20 women per month, her role encompassing assessments, safety discharge planning, instigating community support and resources, providing interventions for problem solving, and mediation in assisting families to resolve disputes between themselves and third parties. Our Maternity Social Worker provides an indispensable and highly valuable service to clinicians, women, and families alike.

5.8 Maternal Wellbeing and Child Protection Multi-Agency Group

The MWCP Group is a multi-agency, multi-disciplinary team where representatives from Midwifery, Social Work, Child Youth and Family (CYF), Mental Health, Addiction Services, Maori Health, Well Child Providers and support agencies work together with the LMC midwives weekly to identify, support and plan care for women and families deemed at-risk during pregnancy and within the newborn's first few weeks of life.

Reasons for referral can include family violence, alcohol and substance abuse, mental health concerns, poor engagement with medical care, child protection concerns or other issues that put the family at risk. Focus is on supporting parents to care effectively for their children by wrapping appropriate supports around the family.

In 2015, attention was placed on improving information sharing with GP's, which has met with variable success. Dedicated funding was put in place for the co-ordination of this group with an administrator appointed, followed by an MWCP co-ordinator to be appointed in early 2016.

The MWCP group works closely with the Wairoa Family Whānau at Risk Group, with referrals exchanged between them and other similar groups around New Zealand, as women move between areas. Antenatal alerts are considered by a separate panel for women who have Reports of Concern to CYF done by the DHB or families already involved with CYF. An antenatal alert provides an alert to all DHBs in New Zealand around Child Protection Concerns, if women present in their DHB.

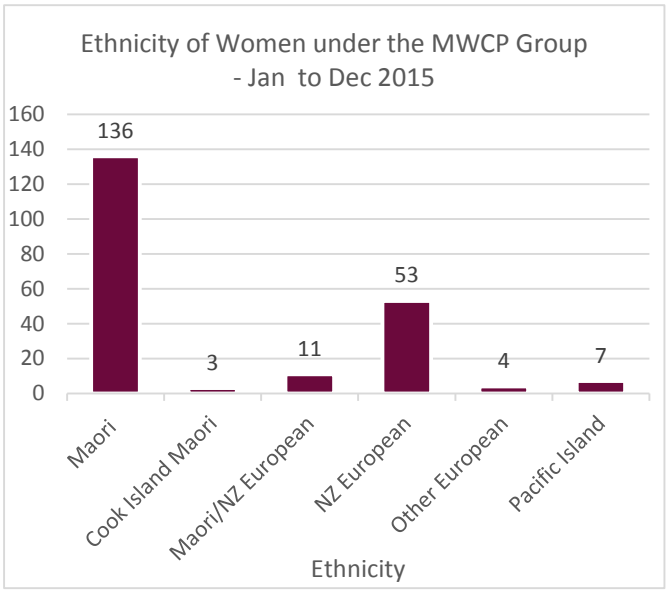
In 2015, Litmus interviewed members of the MWCP group, collectively and individually, with the aim of identifying key indicators to measure the success of the MWCP group in meeting the needs

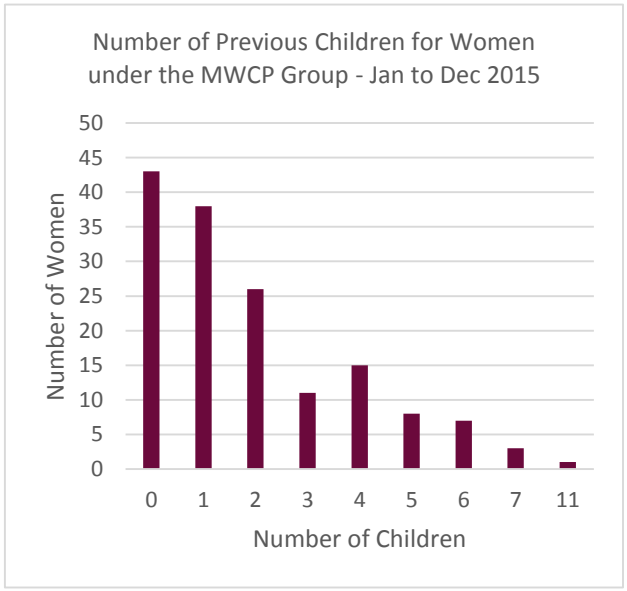
of the population we serve and improving the health and social outcomes of whānau and Tamariki involved in the MWCP group both short and long term.

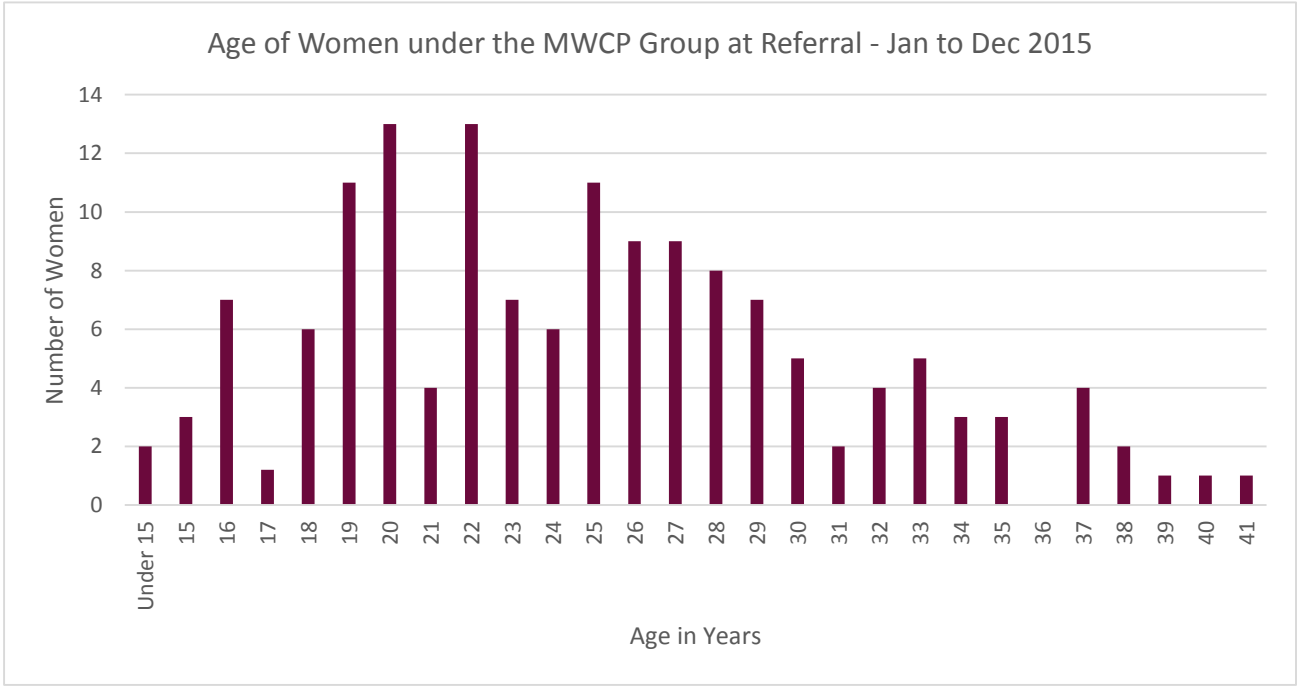
Some of the indicators from the Outcomes Framework have been adopted with an aim to increase the numbers of outcomes we are reporting on in 2016, with the appointment of a 0.8 FTE MWCP co-ordinator in 2016.

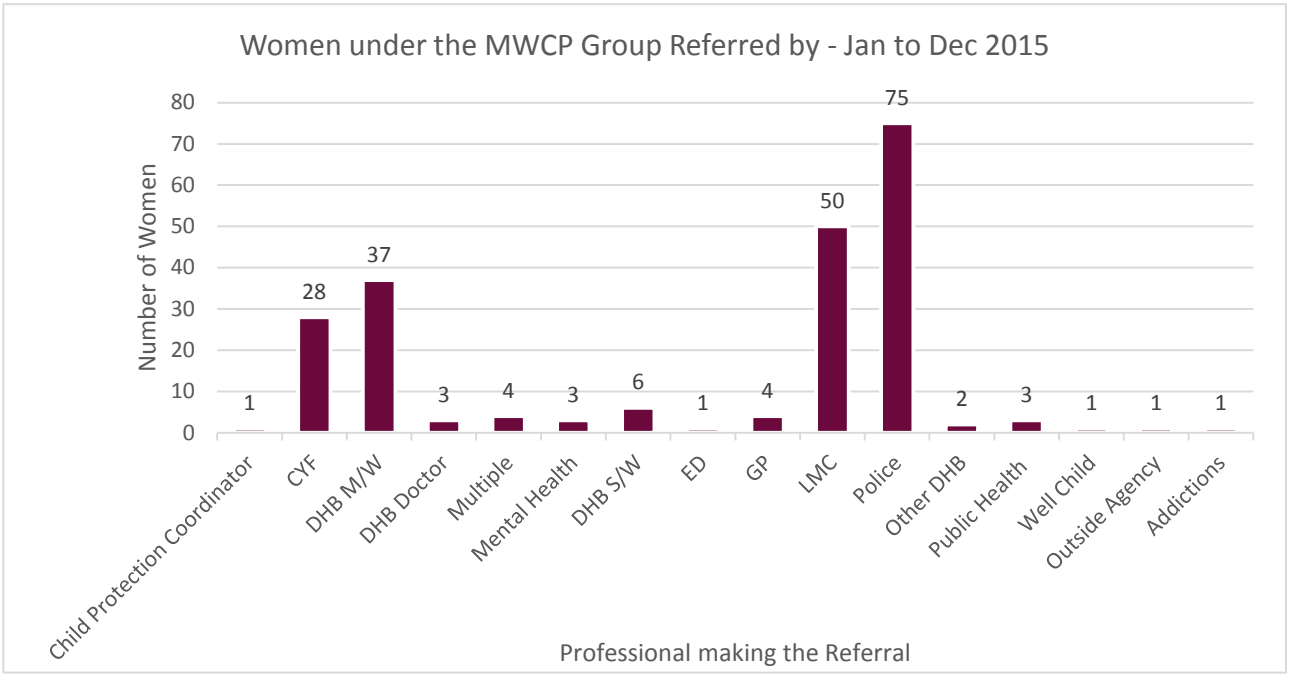
In 2015 calendar year, 215 families were open to the MWCP group. During this time period, 158 referrals were received and 157 cases closed off. Two families were on the group twice, with one mother delivering 2 babies within the 2015 year. Four of the referrals were found not to be pregnant and 3 women miscarried or terminated their pregnancy.

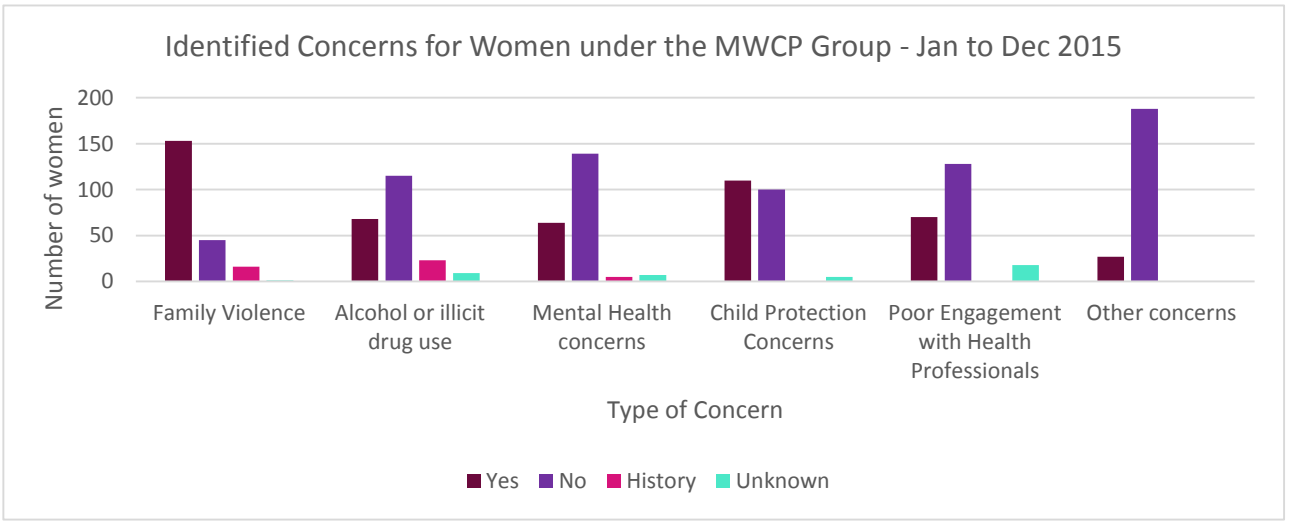
The Demographics of the 2015 families are presented in the following graphs.

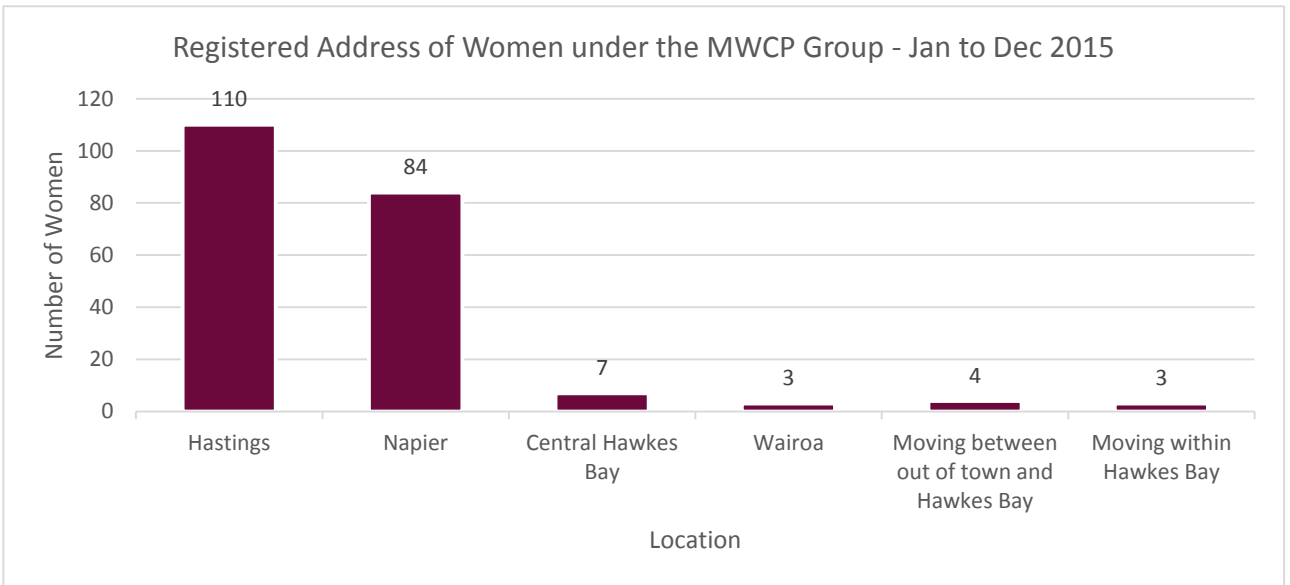




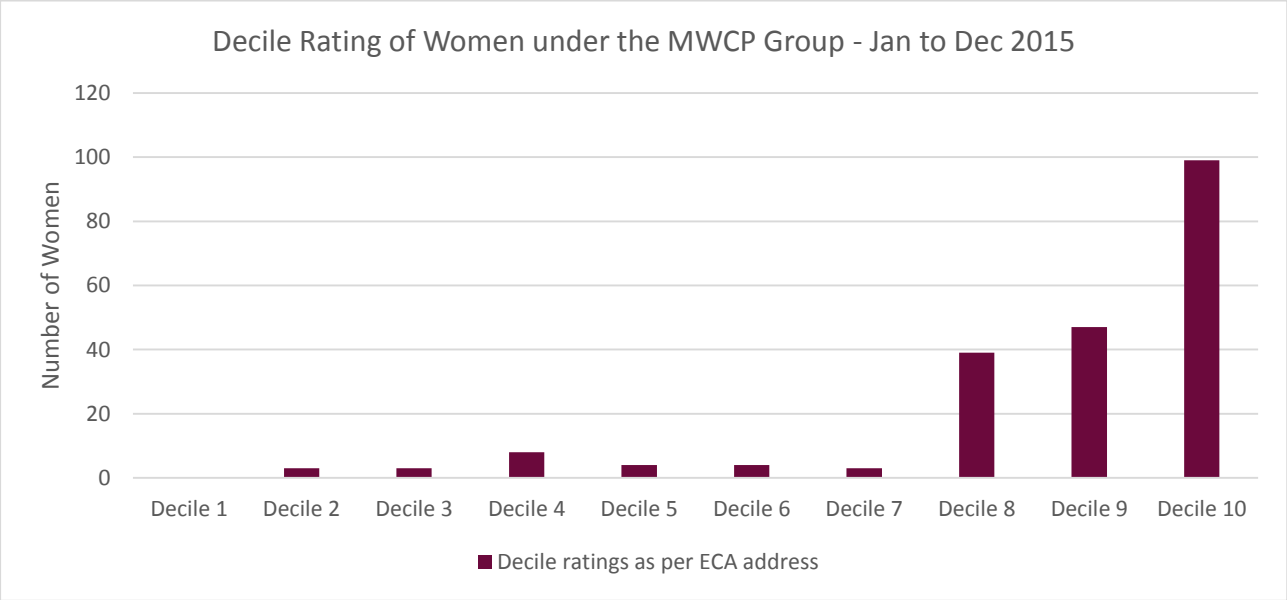



Women under the MWCP Group Referred by - Jan to Dec 2015
Number of Women
80
70
60
50
40
30
20
10
0
1
28
37
3
4
3
6
1
4
50
75
2
3
1
1
1
Child Protection Coordinator
CYF
DHB M/W
DHB Doctor
Multiple
Mental Health
DHB S/W
ED
GP
LMC
Police
Other DHB
Public Health
Well Child
Outside Agency
Addictions
Professional making the Referral


Identified Concerns for Women under the MWCP Group - Jan to Dec 2015
Number of women
200
150
100
50
0
Family Violence
Alcohol or illicit drug use
Mental Health concerns
Child Protection Concerns
Poor Engagement with Health Professionals
Other concerns
Type of Concern
Yes
No
History
Unknown


Registered Address of Women under the MWCP Group - Jan to Dec 2015
Number of Women
120
100
80
60
40
20
0
110
84
7
3
4
3
Hastings
Napier
Central Hawkes Bay
Wairoa
Moving between out of town and Hawkes Bay
Moving within Hawkes Bay
Location

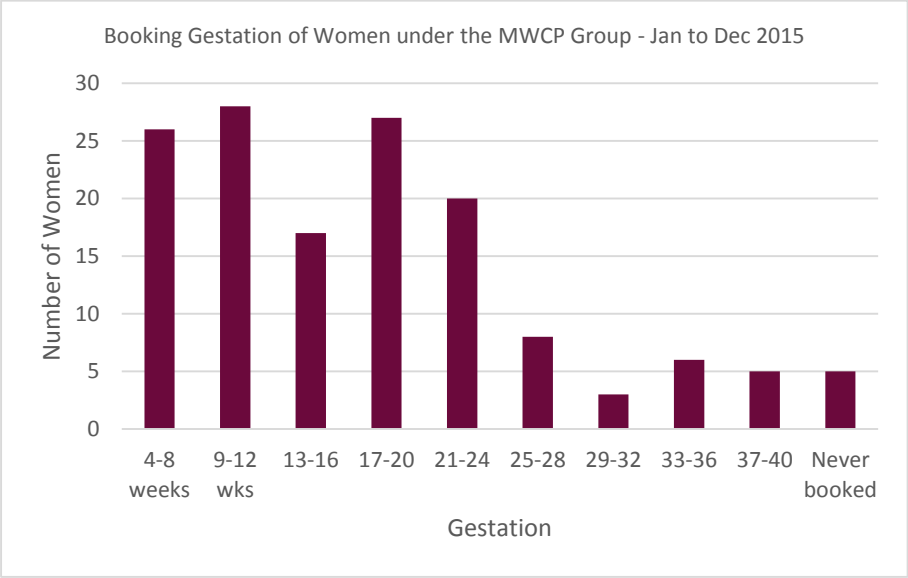
The New Zealand Deprivation Index describes New Zealand's most deprived residential areas, which was produced using 2013 census data. The index is comprised of a scale beginning at decile one, which describes the least deprived areas, through decile ten, which describes the most deprived areas. 46% of women referred to the MWCP group lived in the most deprived areas of Hawke's Bay (decile ten). 40% of women lived in the two next most deprived areas, deciles eight and nine. The remaining 12% of women came from other areas with a deprivation index score of one to seven.



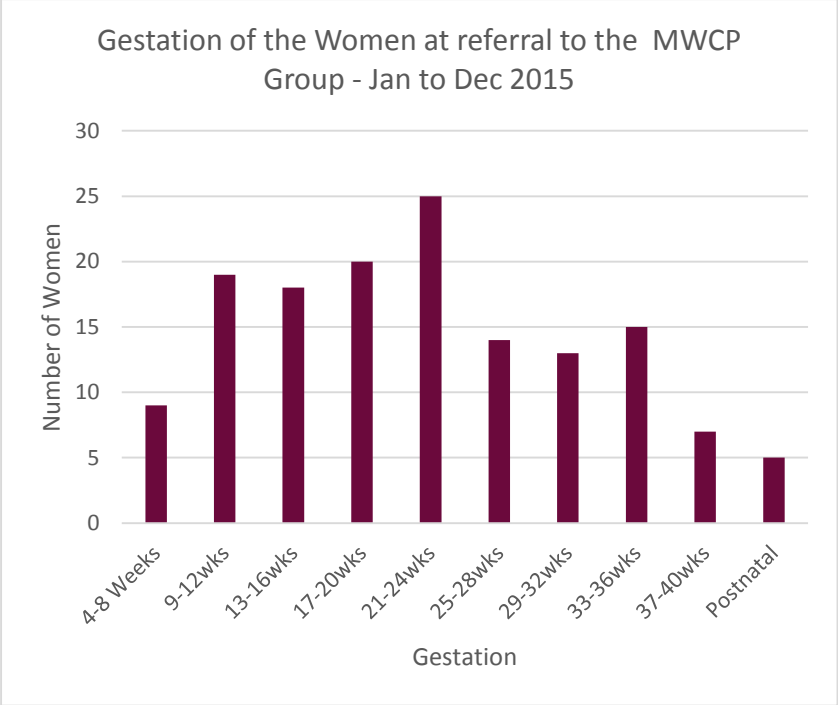
In 2015, 151 babies were born to 145 mothers with five sets of twins and one mother delivering two singleton babies during the same year.

Two babies were stillborn. One baby died of undiagnosed congenital defect on day two of life. 15 babies were placed with carers other than their parents by CYF, either by agreement or uplift and three babies were placed in the care of others at the choice of their parents. 13 babies were born outside Hawke's Bay. 88 of these families had CYF involvement during the pregnancy.

Data from these 151 babies is demonstrated more closely in the following graphs to determine trends.



37% of women who delivered in 2015 had engaged in antenatal care by twelve weeks of pregnancy with 68% engaged by 20 weeks of pregnancy.



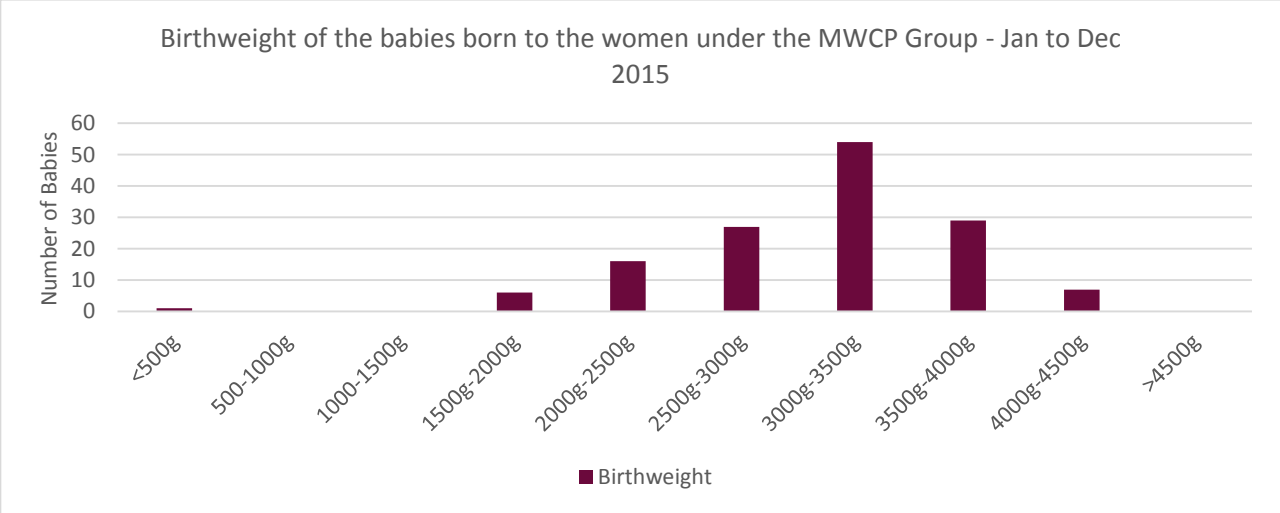
Despite 68% of MWCP women being engaged with antenatal care prior to 20 weeks of pregnancy, only 46% of women had been referred by this point. 66% of women were not smokefree at the time of booking.

28 babies were born preterm (18%) with one baby born at 21 weeks, a set of twins at 30 weeks and 15 babies between 32 and 35 weeks. Ten babies were born between 36 and 37 weeks of pregnancy. The remaining 122 babies were born at term. Only three live born babies had APGARS <7 at 5 minutes of age.

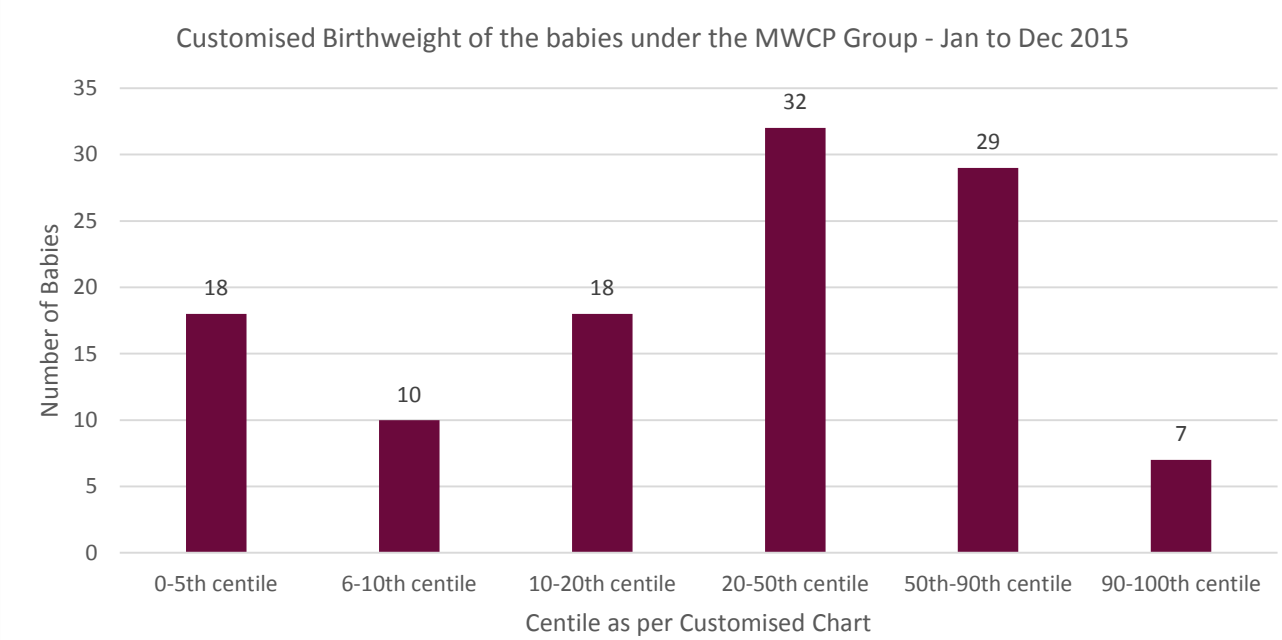
The type of birth for each 2015 baby under the MWCP group is presented in the following table.

Birth Method	Number of Women
Spontaneous Vaginal Birth	93
Ventouse	4
Forceps	3
Emergency Caesarean	19
Elective Caesarean	13
Caesarean Type undefined	2
Vaginal Breech	4
Birthed Elsewhere	9

The majority of the MWCP babies were born within the “normal” birth weight range of 2500-4000g as shown.



For 114 of the babies, sufficient data was available to generate customised birth weight data based on the GROW calculator. This is presented on in the following graph.



The graph demonstrates that 28 (25%) of our MWCP babies were below the 10th centile at birth based on customised data. 22 (79%) of these babies were born over 37 weeks of pregnancy. This compares to 1.88% of the babies in Hawke's Bay identified as being born small for gestational age at over 37 weeks based on non-customised data.

Of the 25 mothers with babies which have been identified as being under the 10th centile at birth: 20% engaged with a health professional prior to 12 weeks of pregnancy, 28% between 12 and 20 weeks with the remaining 52% engaging between 21 and 39 weeks of pregnancy. 80% of these women were not smokefree during pregnancy and 52% lived in a decile ten area. There was only one woman in this cohort that did not reside in our most deprived areas of deciles eight, nine or ten.

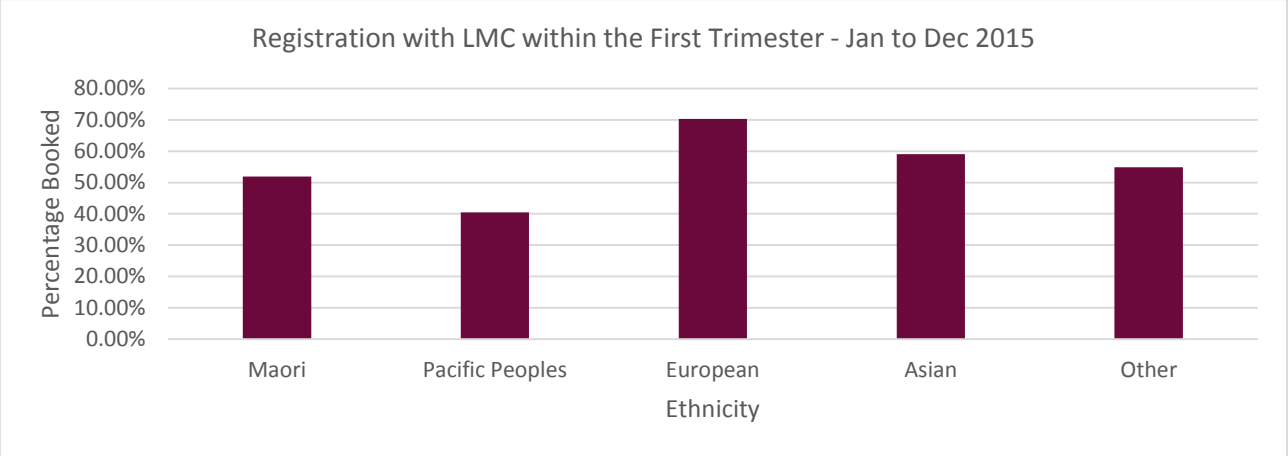
Actions for 2016
Appointment of 0.8 FTE MWCP Coordinator
Planning around progressing age of discharge from MWCP group from 6 weeks to 2 years after birth for identified high risk families
Implementation of recommended Outcomes Framework Measures to allow for a measure of success to MWCP interventions

5.9 Early Engagement with a Lead Maternity Carer

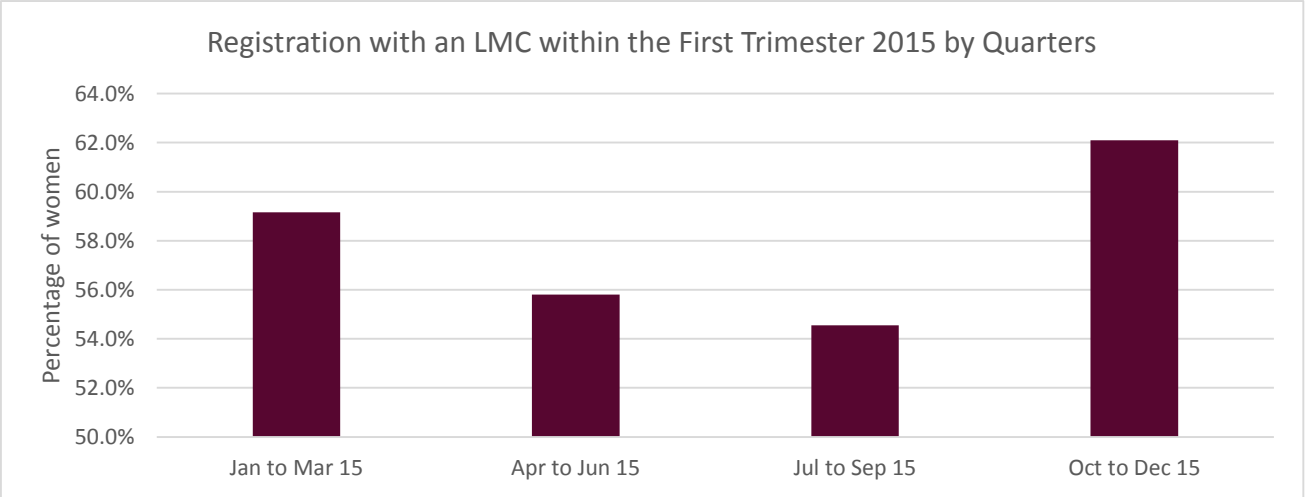
Over the last two to three years there has been a significant focus on how we can improve the quantity of pregnant women engaging with a Lead Maternity Carer during the first trimester in order to increase positive outcomes for Hawke's Bay mothers and babies. Early engagement enables opportunities for screening, education and appropriate referral and extending the opportunity to build a strong and meaningful relationship between the woman and her LMC.

The MOH has an expectation that 80% of pregnant women are booked with an LMC during the first trimester period. Over the last three years, we have seen little improvement in our ability to reach this target, with just 56% of women being registered in the first trimester in 2013, 54% in 2014 and 58% overall in 2015. The figures for 2015 demonstrate only a small increase in overall engagement rates, indicating that significant work in this area needs to continue throughout 2016 and beyond.

Women that did register with an LMC during their first trimester of pregnancy are presented against their ethnicity in the graph below. The largest disparity is between Pacific and European women; just over one third of Pacific women registered with an LMC during the first trimester of pregnancy compared to almost three quarters of European women. The individual percentages are Māori 51.9% (increase of nearly 4% from the last clinical report) European 70.2%, Pacific Peoples 40.4% (decrease from the 46% demonstrated in the last clinical report), Asian 59% and Other 54.8%.



Despite only a small rise in overall registration in the first trimester percentages, what is significantly encouraging to see is the quarterly breakdown of 2015, where a clear increase in compliance is evident for the October, November December 2015 quarter, a period of time where specific focus was put into ensuring the correct date of registration being recorded into our electronic system.



Engagement with an LMC in the first trimester of pregnancy is also one of the New Zealand Maternity Clinical Indicators as set by the MOH. A detailed breakdown of this clinical indicator by ethnicity can be found in Chapter fifteen.

5.9.1 Current implementations to increase early engagement rates:

Work in this area has remained paramount as women need to understand the importance of early registration so that vital first trimester screening and the best possible pregnancy outcomes can occur. Efforts to address this dissatisfying statistic during the latter part of 2015 have included:

- The Proof of Concept Early Engagement Project – a pilot development project to improve early engagement with an LMC in the first trimester and to improve communication between GP's and LMC's is conducted over twelve weeks, in collaboration with three local GP practices. A summary of the project report can be found at Appendix 1.
- Amendments to registration documentation to assist the midwife with capturing the correct registration date.
- Work undertaken during 2015 ensuring that data sourced from LMC's in relation to date and gestation they engage with the pregnant woman, is completely accurate. Communication to ensure this occurs is ongoing, as is the recent implementation of the booking form triage system where incomplete or incorrect bookings are returned for completion. This implementation is discussed in greater depth in Chapter twelve.
- Individual checking by a senior midwife, of every registration date annotated into our electronic data system has occurred to ensure the accuracy of data.
- Efforts to increase awareness of the Maternity Consumer Online Survey that identifies barriers to engagement.
- Continued development of the Napier Maternity Resource Centre whose main objective is to increase Early Engagement with a Midwife rates. One of the many services the centre offers, is assistance in finding a midwife at the earliest opportunity and ensuring registration occurs.
- Continued promotion and usage of the Find Your Midwife (FYM) website have occurred, using our Facebook page, DHB website, posters, banners, flyers and other mediums.
- Improvement and development of the HBDHB consumer website to increase usage of this information platform – Maternity pages are now present with increased information regarding pregnancy available and direct links to the FYM website.
- PHO relationship building has a specific focus, particularly in working alongside their primary care partners, LMCs and GPs. This is being supported and facilitated by our Chief Nursing Officer, Midwifery Director and NZCOM local representatives.

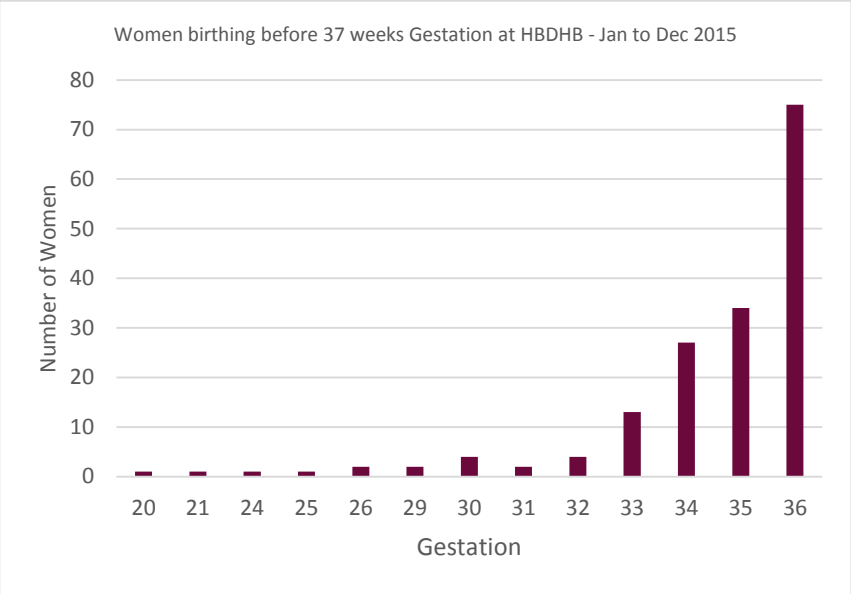
CHAPTER SIX: ANTENATAL COMPLICATIONS

This chapter explores a range of complications that affect pregnant women and their unborn infants. The data around women who birthed within HBDHB during 2015 in relation to premature birth, maternal obesity, small for gestational age, and large for gestational age are all discussed.

6.1 Premature Birth

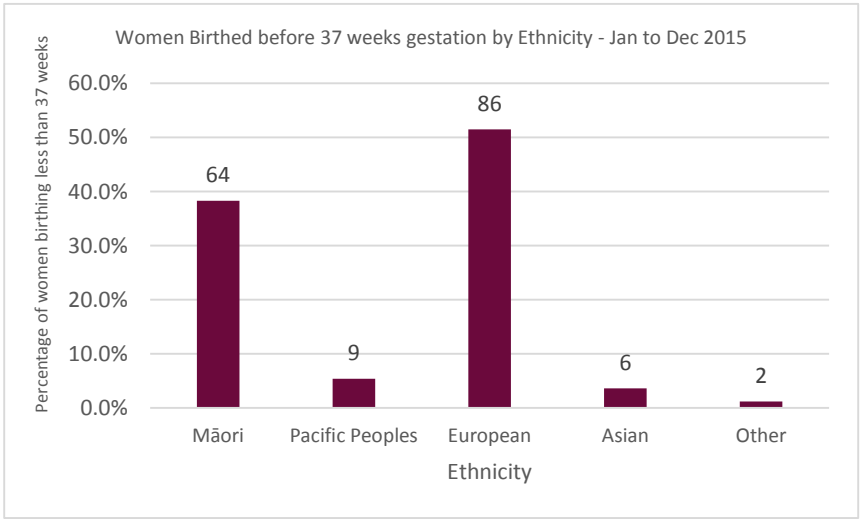
Premature birth is defined as birth prior to 37 completed week's gestation.

6.1.1 Premature births by Gestation



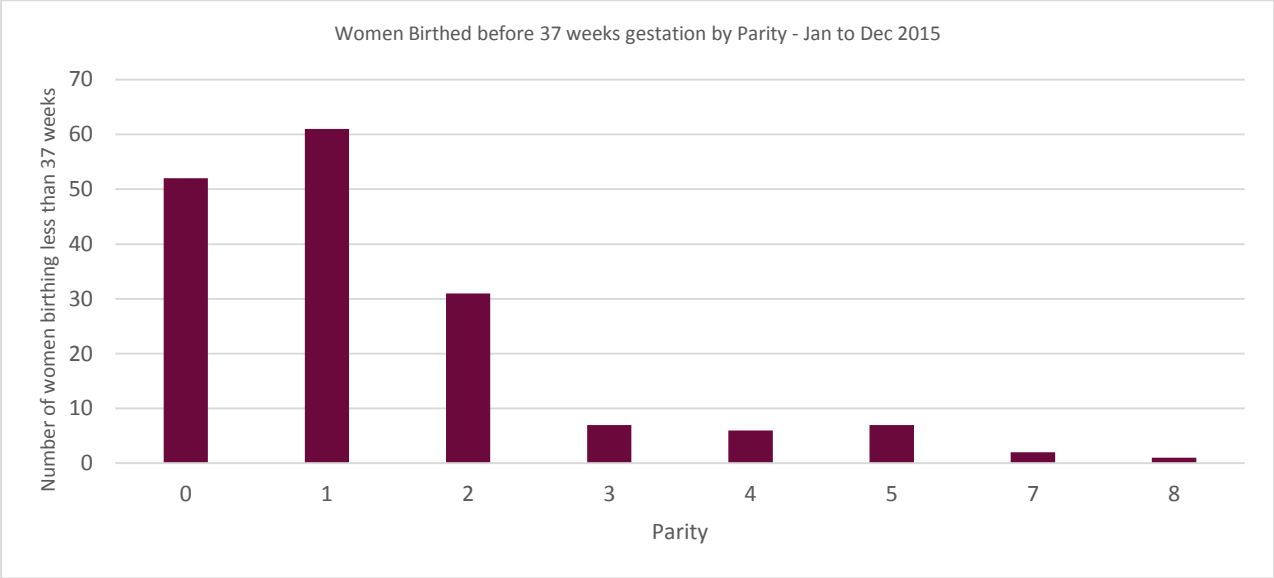
167 women birthed a live baby before 37 weeks. This equates to 8.9% of the total women birthing in 2015. The majority of women, 149 (89.2%), birthed between 33 to 37 weeks' gestation, establishing only a small proportion (0.9%) of extremely premature babies for our total births. Thirteen of the women experiencing premature births before 37 weeks had twin births. Those women experiencing stillbirths are included in this analysis.

6.1.2 Premature Births by Ethnicity



A predominance of European and Māori women is evident in this graph in relation to prematurity against ethnicity, however, these two ethnicities have the highest representation across the total group of women birthing in 2015 and therefore the highest overall occurrence of most suboptimal outcomes. If these statistics are calculated against individual populations of women birthing by ethnicity, it is apparent that there is little difference between Māori, Pacific People and Europeans in likelihood of having a premature birth (9.2%, 10.1% and 9.1% respectively). In comparison, there were two women from the 'Other' ethnic group out of their total 31, indicating a premature birth rate of 6.45%, followed by women identifying as Asian, who had a 5.7% occurrence.

6.1.3 Premature Births by Parity



Each parity, up to para eight, is represented amongst the women who birthed prematurely, with primiparous women and para one women constituting 67% of the total. Evidently, the occurrence of premature birth reduces with parity, however the numbers of women representing each of these groups reduces consistently also.

As preterm birth is a substantial contributing factor to perinatal and neonatal morbidity and mortality, the rates of premature births between 32 and 36 weeks gestation is monitored as part of the New Zealand Maternity Clinical Indicators. Details of how our DHB is performing against this indicator can be found in chapter fifteen.

6.1.4 Premature Births Causes and Outcomes Audit – 2015

An audit of preterm births occurring at Hawke's Bay DHB for the calendar year 2015 was undertaken in order to gain an understanding of the number of women and babies affected by preterm birth and to identify the most relevant risk factors for women in our region, in order to decrease the impact of preterm birth and its consequences. After excluding incorrectly coded data and medical terminations for fetal anomalies, a total of 148 women were included in this audit. Data was collected from prepopulated datasets and review of clinical documentation.

The majority of preterm births audited (93%) occurred in the moderate to late preterm period (32-36^{+6} weeks). Only 3% of preterm births were extremely preterm (<28 weeks). Māori women were overrepresented, with 41% of preterm births occurring among Māori women, compared to 51% in NZ Europeans. 66% of preterm births occurred in women residing in the area with the greatest deprivation (domiciles listed in areas with New Zealand Deprivation Scores of 8, 9 and 10).

Approximately half of the preterm births resulted from spontaneous labour, with other causes listed as: preterm, pre-labour rupture of membranes, IUGR with or without Doppler abnormalities, antepartum haemorrhage including abruption, and pre-eclampsia or HELLP syndrome. Steroid

administration occurred in 87% of women delivering prior to 34 weeks, with 71% of women actually completing steroids. 28% of parous women in this audit had previously had a preterm birth.

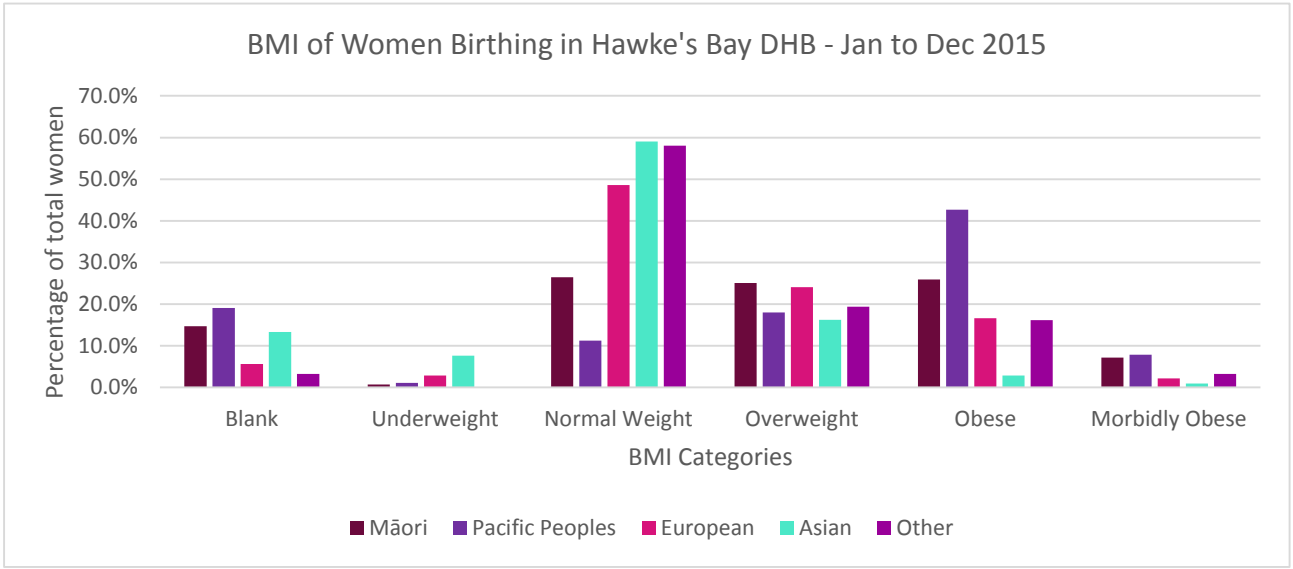
Despite low BMI being a risk factor for preterm delivery, overweight and obese women accounted for 44% of this audit population. This is likely secondary to the fact that 48.6% of our maternity population have a BMI greater than 25. 48% of women had a normal BMI and only 3% of women with preterm births were underweight. Women who were not smokefree during pregnancy were also overrepresented in this audit, accounting for 41%.

These results identify modifiable risk factors for preterm birth as well as women with a previous obstetric history indicating risk for recurrent preterm delivery. The audit identified room for improvement with history taking of women presenting in early pregnancy, investigations put in place for women with recognized risk factors, and compliance of referral for secondary consultation and management for these women, in order to prevent recurrent preterm births and optimize outcomes where preterm birth in unavoidable. Work around data collection and integrity was noted to be required in addition to a re-audit during early 2017 to establish the level of improved compliance against the audit recommendations.

6.2 Raised Body Mass Index (BMI)

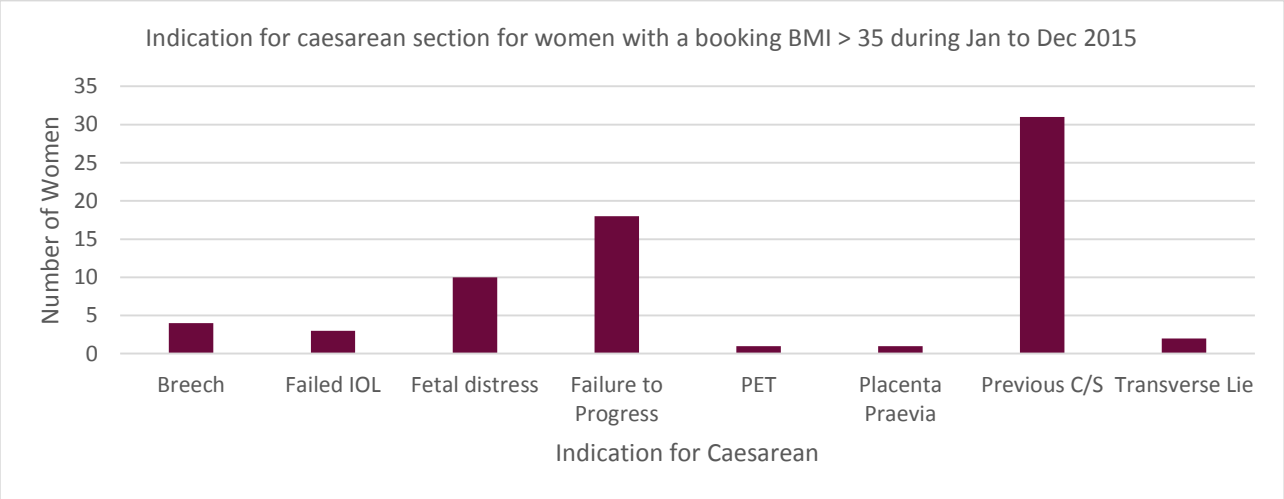
Body Mass index (BMI) is established and recorded at the beginning of pregnancy to assess for increased risk to the pregnancy. BMI is calculated by dividing the woman's weight in kilograms by her height in centimetres.

As demonstrated in Chapter three, the 1858 women that birthed during 2015 had the BMI classification as depicted in the following graph, with significant numbers falling into the high risk obese and morbidly obese categories.



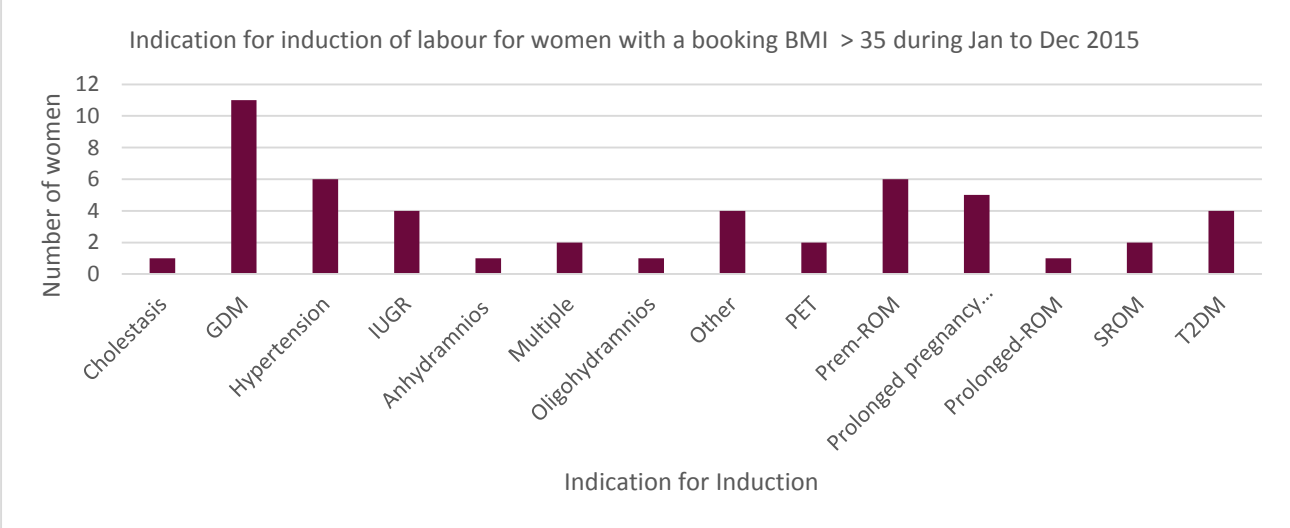
As maternal obesity is associated with pregnancy complications equating to negative outcomes for both mothers and babies, the BMI of the women presenting to our service is monitored under the New Zealand Maternity Clinical Indicators. A detailed breakdown of our current performance against this indicator can be found in chapter fifteen.

Evaluation of our generic statistics reveals that 210 women were recorded as having a BMI greater than 35 at booking. Three of these women had multiple pregnancies. Of the remaining 207, 126 (60.8%) had a spontaneous vaginal birth, 11 an instrumental birth and 70 (33.8%) a Caesarean Section birth. Four of the 70 Caesarean Sections required a general anaesthetic. The indication for Caesarean Section for these 70 women is demonstrated in the graph below.



Additionally, 21 of the 207 (10%) singleton women with a BMI greater than or equal to 35 had a premature birth whilst 44 (21%) experienced a postpartum haemorrhage.

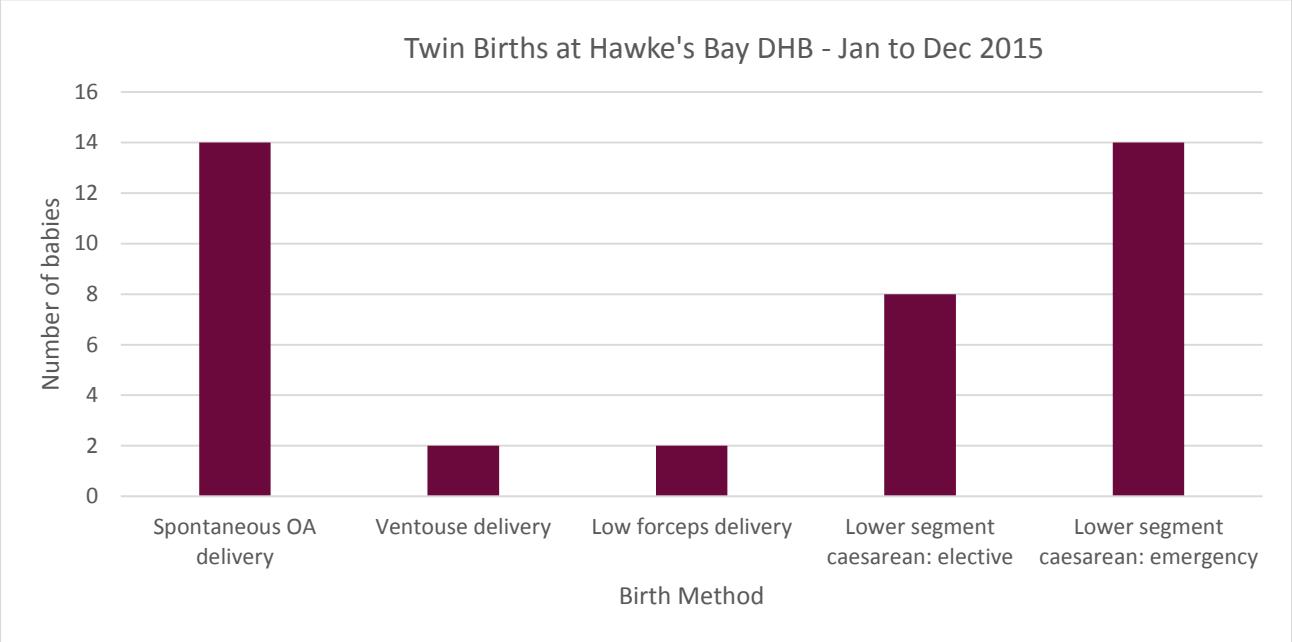
50 of the total 210 women (23.8%) with BMI recordings at booking greater than 35 required an induction of labour. The indications for these inductions is demonstared in the graph below.



Future Actions to improve outcomes for women with a raised BMI
Complete audit exploring the actions taken for women with a booking BMI >35 and implement recommendations accordingly
Establish a system that ensures recording a booking BMI as a mandatory requirement for all women booking into HBDHB Maternity Services
Improve the systems and processes for ensuring women with a BMI >35 are seen by an anaesthesiologist prior to birthing, ensuring a robust plan is in place for any required anaesthesia
Develop a guideline for women presenting to the Service with a BMI > 35

6.3 Multiple Pregnancies

There were twenty sets of twins born at HBDHB during 2015. There were no sets of triplets born in 2015. The graph below depicts how these forty babies were born.



Of the 20 mothers who gave birth to twins between the 1st January 2015 and the 31st December 2015, 14 mothers birthed both babies via the same birth method. Four mothers birthed both of their babies vaginally via cephalic and breech presentations, whilst two birthed the leading twin vaginally with the second twin requiring an Emergency Caesarean.

Four sets of twins were born via elective Caesarean Section. Of these planned procedures, three women had the leading twin in a breech position whilst one woman was an elective procedure for known IUGR twins. There were six sets of twins where both required birth via Emergency Section; these were for placental haemorrhage, failure to progress, premature labour with a known maternal condition, pre-eclampsia, premature rupture of membranes, and a planned elective for breech that presented in labour. Eight women with the leading twin in a cephalic position were induced into labour. Half of these inductions resulted in an Emergency Caesarean.

6.3.1 A Hawke's Bay Consumer Story – The Birth Story of our twins Jonah and Thomas

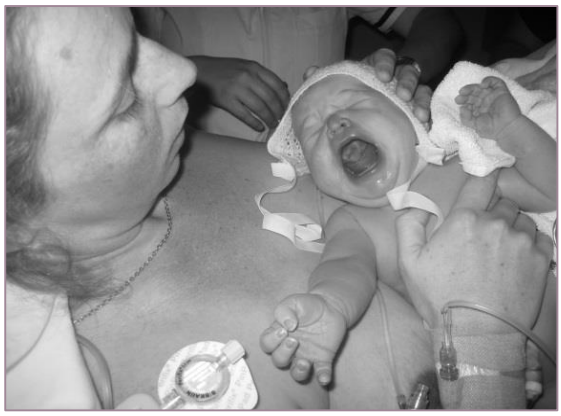
"James and I got married in September of 2014. I fell pregnant on our wedding night! I knew from the start, I could feel pains and twinges, unusual sensations and mild cramping. Then at about four weeks I started to feel sick. Sick at the smell of food, the thought of cooking, eating or anything with a strong smell. I felt sick for weeks. I'm sure I didn't cook a meal in 3 months. Poor James. I had never had morning sickness (or all day sickness) with my previous pregnancies, but just put it down to tiredness with having a toddler to run around after. We were also flat out trying to get our house ready to put on the market. Two bedrooms wasn't going to be big enough when the new baby arrived. Fast forward to 7 months pregnant.

Plans had been made, and discussions had with our lovely midwife for our peaceful home birth. However, I was increasingly getting the "You must be due any day? No? Is it twins then?" from anybody and everybody I met, coupled with the midwife's increasing doubt on how many heads/bums (poles) she could palpate, along with the niggling fact that at just 32 weeks I was growing out of the pregnancy clothes I had worn to full term in the previous pregnancy (42 weeks with an 11lb7 boy!) Off to get a scan. We had consciously chosen not to have scans with this pregnancy, as we believed them to be an unnecessary intervention. However, with the word 'twins' on the table, curiosity got the better of us. So, up we turned for our ultrasound. Nice Irish radiologist… "Well, there are two babies in there…" Silence. So, 33 weeks in, officially homeless as our house sold within a week of listing, and its twins. TWINS! We could not believe it. As far as we knew, there were no twins on either side of the family. Totally left field.

Back to the midwife, there followed many discussions in which our home birth plan was side-lined in favour of a natural hospital birth (partially because we were currently homeless!). Hospital protocols were read, negotiated and partly refused. Obstetricians were met, although we chose to stay with our wonderful midwife and her support team of other wonderful midwives. Deep breaths were had, and then the online research began. What are twins? What kind do we have? What are the twin 'norms', or expected norms? We began to negotiate our way through what felt like a bit of a battle field of assumed medicalization. "You want to do what? What for?!!! No!" So, a new birth plan was written, firm letters from both sides were exchanged with the DHB. Pressure was applied, from every angle, to ourselves and our midwives. We held strong. We negotiated. We kept our babies safe and healthy, and I carried them until 40 weeks to the day!

An induction had been booked for the following day, and I'm sure this 'threat' of an unwanted intervention was what sent me into labour naturally in the early hours of the morning. By 7am James was on the phone to the midwife, and I was breathing through painful contractions.

At 8.30am, after arranging care for the other two children, we set off for the hospital. We had use of the room with the pool, so this was filled upon our arrival. As I soaked up the lovely warm water, James popped out to the crematorium onsite to farewell his step dad who had passed away 3 days prior…..



…… A relatively short but painful labour of just over 7 hours and the twins were born at 2.26pm and 3.00pm. The back pain was caused by Jonah, first born, being posterior. After a failed epidural and with a few hard pushes, Jonah was born weighing in at 9lb.10. He came out screaming!

In between twins the 'team' were let in the door. This included the hospital midwives, obstetrician and registrar doctor who were on that day. They brought with them the mobile ultrasound scanner, and the position of twin 2 was checked. During the last few weeks of the pregnancy, twin 1 was head down, while twin two had remained transverse. Thomas was born about half an hour later, footling breech, and weighing 8lb10. Thomas' arrival was gently guided by the very respectful and calm obstetrician on that day. True to his nature, Tom was quiet and peaceful. Just looking up at me with those beautiful blue eyes.

The rest of the afternoon was spent breastfeeding, with a visit from the onsite and very helpful lactation consultant. Family came to meet the boys, and our other children came in and had dinner with us. After a hot shower and a bit of a wait for my legs to stop tingling from the strange epidural, we dressed our bonny boys and headed home for the night."

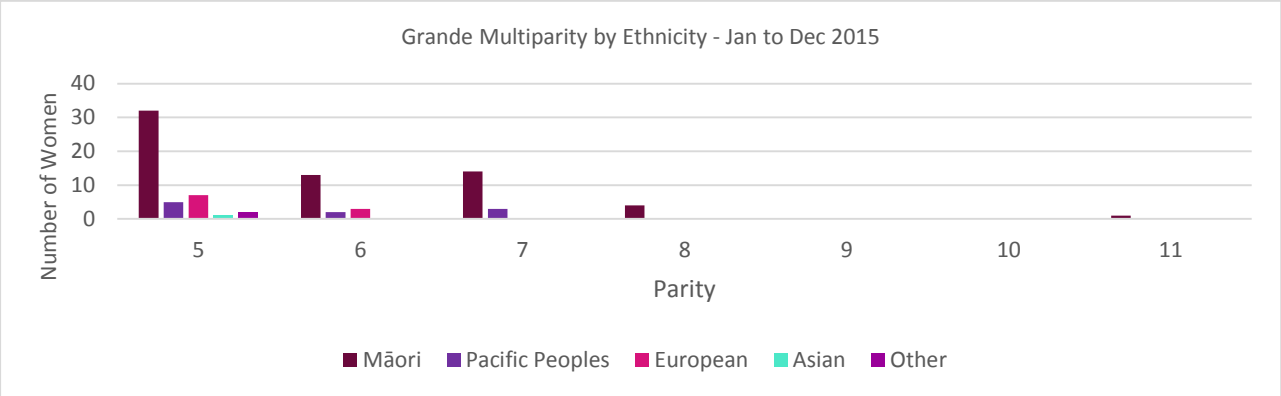
JONAH & THOMAS 4 MONTHS

JONAH & THOMAS 6 MONTHS

6.4 Grande Multiparity

87 (4.7%) of the 1858 women who birthed during 2015 were grande multiparous women, having previously birthed greater or equal to five babies. This is an increase from previous clinical reports, when this figure was 4.3% and 3%. As there is a rise in maternal mortality and stillbirth with each successive birth after the third, it is advised that grande multiparous women birth within a secondary care facility, due to increased likelihood of malpresentation, postpartum haemorrhage or rupture of the uterus.

6.4.1 Grande Multiparty by Ethnicity

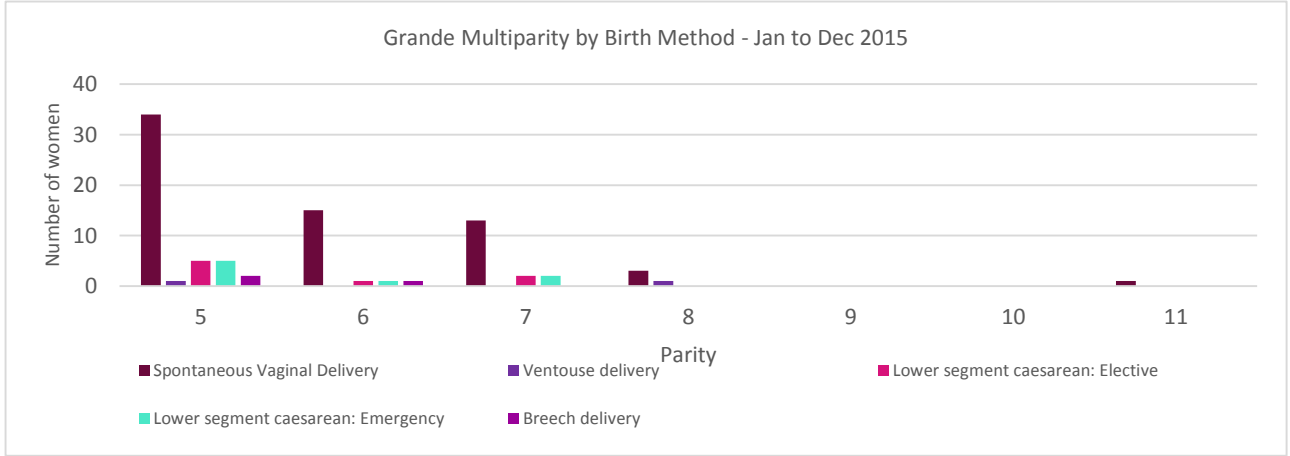


Similar to the Parity by Ethnicity analysis in section 3.3, the above graph identifies that grande multiparous women are more likely to be of Māori ethnicity (73.5%), with Pacific People and European women making up the majority of the remainder of this cohort with ten women each (11.4%).

When risks associated for pregnant women of Māori and Pacific Peoples ethnicities are combined with increased risks accompanying grande multiparity, we have a noteworthy proportion of particularly high risk pregnancies to manage within our DHB. The birth outcome of these grand multiparous women is depicted in the following graph.

6.4.2 Grande Multiparty by Birth Method

Despite the complexities that 87 grande multiparous women presented to our Maternity Services, the outcomes for 66 of the grande multips (75.8 %) was a spontaneous vaginal birth, with a further two (2.2%) achieving an assisted vaginal birth.



Of the remaining nineteen women, three had vaginal breech births, eight underwent a planned Caesarean Section with an indication of previous Caesarean Section, while eight had an emergency Caesarean Sections for indications comprising of failure to progress, fetal distress, history of previous Caesarean Section presenting in labour and a multiple pregnancy presenting in labour. Seven of the 87 (8.4%) grande multips had a postpartum blood loss greater than 500mls with these women having an even combination of spontaneous vaginal birth and Caesarean Section.

6.5 Abnormal Birth Weight Centiles

The introduction of customised birth weight centiles utilised to adjust the appropriate size of babies against gestation, gender, maternal ethnicity, height, booking weight and parity allows us to differentiate between the group of babies with low rates of morbidity born to small mothers from the group of babies with high morbidity and mortality who are born to overweight mothers. Those plotted at the extremes of the customised growth chart are classed as small or large for gestational age.

Small for gestational age (SGA) is defined as a baby born after 37 weeks with a birth weight less than the 10th customised centile.

Large for gestational age (LGA) is defined as a baby born after 37 weeks with a birth weight greater than the 90th customised centile.

6.5.1 Small for Gestational Age Births

1.88% of the babies born in Hawke's Bay during 2015 were small for gestational age. The mode of birth for these babies is shown in the table below.

Type of birth	37	38	39	Total
Spontaneous Vaginal Birth	10	8	3	21
Ventouse Birth	2			2
Lower segment caesarean: Elective	1			1
Lower segment caesarean: Emergency	4	5	2	11
Total	17	13	5	35

35 babies identified as being small for gestational age according to the criteria above, were born in 2015. There were three multiples included in this cohort, with all three having a twin sibling whose birth weight was greater than 2500g.

The increased risk of neonatal morbidity and mortality provide rational for the frequency of SGA babies to be monitored across each DHB. Statistics around babies that are small for gestational age at term are monitored under the New Zealand Maternity Clinical Indicators. A detailed breakdown of our current performance against this can be found in chapter fifteen.

6.5.2 Small for Gestational Age Dual Audit

Two audits looking at Small for Gestational Age (SGA) and Intrauterine Growth Restriction (IUGR) were conducted at the beginning of 2016. The cohort audited was selected based on the SGA population using a customised birth weight calculator to detect those singletons that were SGA and IUGR. (90% of the SGA population were also found to be IUGR.) This significant growth restriction population were then audited to establish compliance of the National Fetal Medicine Network Guideline in Clinical Practice against both detection and management of SGA/IUGR, with the aim to further standardise local management.

The first audit examined the 67% of the babies that were identified as IUGR antenatally. 44% were detected by scans requested against a small fundal height measurement and 28% were identified following investigation due to previous histories of IUGR. This finding suggests fundal height measurements are successfully being used to pick up growth restriction to some extent. GROW charts identify the customised centiles of prior pregnancies as well as giving customised growth curves, the use of both may increase detection of growth restriction. The audit identified that 88% of women with identified IUGR had delivery plans made on the basis of intrauterine growth restriction and 83% of these were delivered between 37 and 38 weeks suggesting good compliance with recommendations of the guideline for delivery planning.

The audit found, however, that the 18 women audited had 116 scans between them which is an average of 6.4 scans per woman, (this includes all scans, not just growth scans). Some of the monitoring with Dopplers is excessive in the clinical context of late onset growth restriction and contrary to the guideline, with 22% of women receiving three times weekly Dopplers. A focus on revision of practice and better utilisation of our ultrasound resources is recommended.

The second audit examined the 33% of SGA babies that were not identified prior to birth. All of these babies had at least one risk factor and 50% had more than one. It could be determined via the audit that 83% of these babies were referred for a growth scan in the third trimester by their primary care provider, thus indicating an element of risk factor awareness, however these babies were not labelled or managed as growth restricted based on these scan according to what is documented in the clinical notes.

The reasons for this cannot be truly identified from the information available to the auditors, however possible factors could be scans being too early in the third trimester to detect the later drop-off in growth with practitioners being falsely reassured by a one-off scan which was reported as ‘normal growth’, there may be inaccuracy in the scan measurements themselves, GROW charts not being used to plot out scans will reduce the detection of growth restriction. These findings highlight the importance of being vigilant to clinical factors and risk factors even if there has been a normal scan and the importance of following up investigations as one scan was reported as suspected growth restriction but not acted upon.

These two audits will prompt the formulation of a comprehensive education session around the detection and management of growth restriction for all relevant clinicians in particular the use of Dopplers and GROW charts in keeping with the National Fetal Medicine Network Guideline.

6.5.3 Large for Gestational Age Births

Similar to the 35 small for gestational age babies, 34 babies were born greater than the 90th centile; 23 (70.5%), the majority of this cohort, were post term. 1.82% of the babies birthed in Hawke's Bay were born Large for Gestational Age or over 4500gms at term. The birth method of these babies is presented in the following table.

Type of birth	38	39	40	41	42	Total
Spontaneous Vaginal Birth	1	5	11	6	1	24
Ventouse birth			1			1
Forceps birth				2		2
Lower segment caesarean: Elective	1	1	1			3
Lower segment caesarean: Emergency	1	1		1		3
Total	3	7	13	9	2	34

It is encouraging to see that 24 of the large babies were born by spontaneous vaginal delivery. The maternal ethnicities of these births were 61.7% European, 32.3% Māori, 2.9% Pacific People and 2.9% Other.

The Booking BMI's for these women were varied with one being under 20, twelve in the 'normal' or 'overweight' range between 20 and 30, thirteen had a booking BMI in the 30 – 40 bracket, and one being morbidly obese with a BMI over 40. The remaining women did not have a booking BMI recorded. Only one of the mothers was diabetic.

Three of the women with LGA babies underwent an elective Caesarean Section, with the indication for all three being an obstetric history of previous Caesarean Section. The emergency Caesarean Sections were for fetal distress and failure to progress. None of the thirty-four women were induced for reasons of suspected macrosomia.

CHAPTER SEVEN: LABOUR AND BIRTH

A summary of the labour and birth related service provision is presented in this chapter, followed by statistics relating to outcomes and interventions for labour and birth. Gestation at birth for both live and still births are examined along with indications for induction of labour and Caesarean Sections.

7.1 Summary of Services

In Hawke's Bay, labour care is provided by either a Lead Maternity Carer or DHB midwife. Several LMC's are also employed on the casual pool for the DHB.

A number of the DHB midwifery workforce have completed the Complex Care Postgraduate Course through Victoria University and are experienced in provision of high-level care for women on the labour and birthing suite. Additionally, a significant proportion of our DHB midwives are recognised as practicing at the leadership level of the Midwifery Quality Leadership Programme (QLP) creating a significantly experienced, knowledgeable and skilled workforce. The Midwifery Quality Leadership Programme is discussed in greater depth in chapter twelve. This level of skill and experience enables many women to remain within the maternity unit for care rather than transferring to the High Dependency Unit.

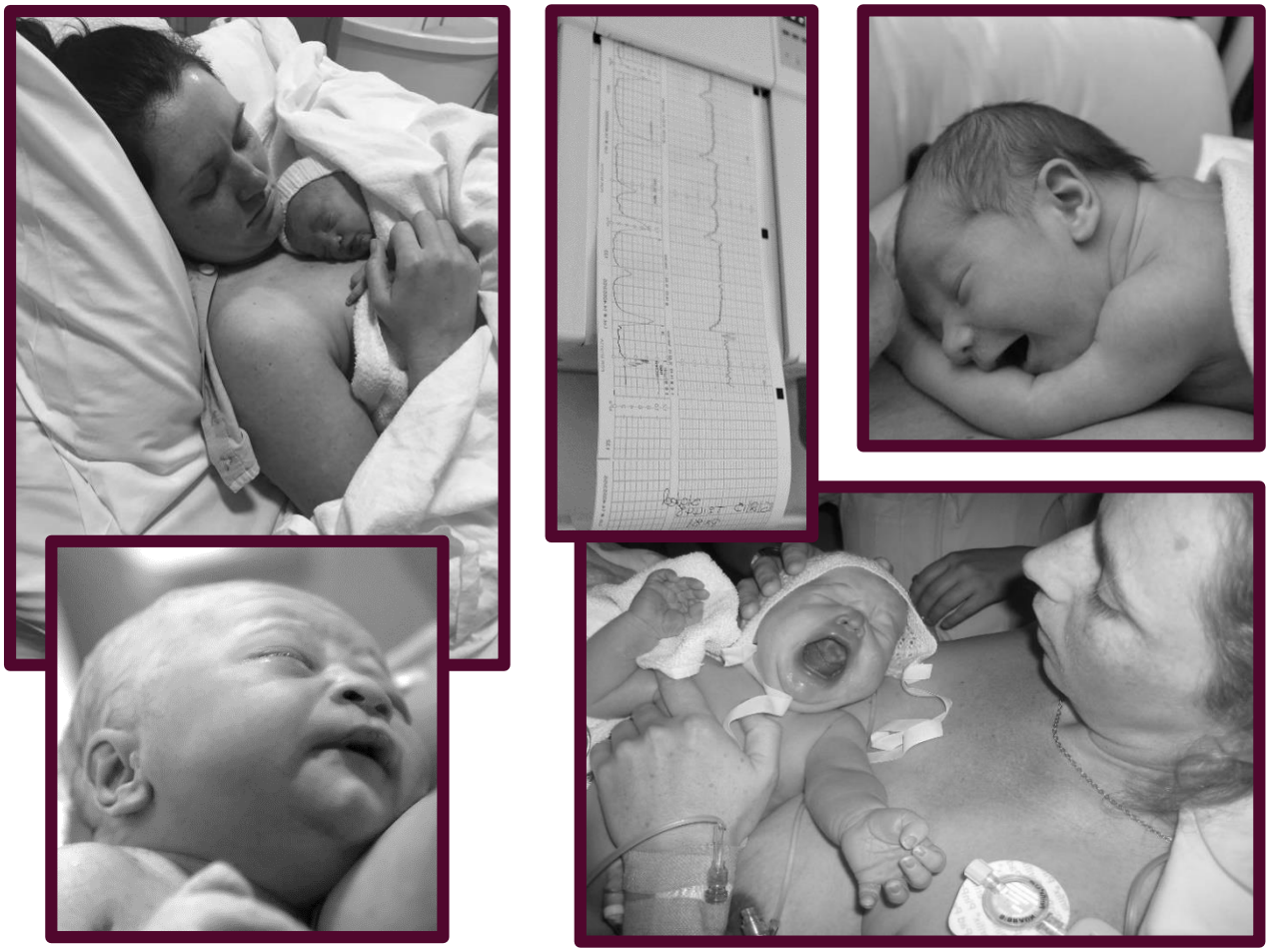
CHAPTER SEVEN: LABOUR & BIRTH

From July 2016, women with low risk pregnancies will have access 'Waioha', our along-side birthing centre. The 'Waioha' Birthing Centre will be focussed on supporting physiological labour and birth. Women will have the guaranteed provision of a birthing pool within their labour and birthing suite, a range of homeopathic therapies, labouring and birthing positional aids and pain relief options such as TENS and Entonox.

Wairoa women with low risk pregnancies are encouraged to birth in the Wairoa birthing unit, with the care and support of the primary focussed Wairoa caseload midwives. Women with complications in pregnancy or labour, transfer to Ata Rangi under the secondary care team of doctors and midwives. A small number of women who reside north of Wairoa will travel to the neighbouring region of Tairawhiti to receive their care from Tairawhiti District Health Services.

Hawke's Bay women who labour and birth in Ata Rangi, our secondary care facility, have a variety of options to manage labour pain including positional aids, still-water pools, opioid and epidural analgesia.

Ata Rangi labour and birthing suite, and the inpatient antenatal/ postnatal ward is managed daily by a Clinical Midwife Co-ordinator Monday to Friday. This role was permanently implemented during 2015, following a successful trial. The Clinical Midwife Co-ordinator role, working at the clinical floor level to support direct patient care, has proved to be invaluable; benefits include developing midwifery leadership, clinical co-ordination, patient safety, equity and quality service delivery.



7.1.2 A Hawke's Bay Consumer Story – The Birth Story of Baby Scarlett

"Our first baby boy wasn't quite seven months old when we found out we were expecting our second. We were very happy and thankful to be giving our son a sibling and we decided to keep the gender a surprise.

I was completely exhausted throughout the first trimester but once the terrible morning sickness subsided at 20 weeks I gained some energy back. With my first pregnancy & birth I struggled with a few things. I was induced because of increasing pain in a surgery scar on my abdomen. When I thought it was time to push I was told to stop as my cervix had become swollen. I had an epidural and had to wait patiently for the swelling to decrease.

Even though many parts were out of my control, I really wanted to have a better pregnancy & birth this time round. I had a hematoma bleed at about 7 weeks. I had regular growth scans in the third trimester to make sure the hematoma didn't damage the placenta and affect the baby's growth. My pregnancy went by quickly.

At 38.2 weeks I spent the day having irregular but strong contractions, my midwife visited us at home and confirmed I was fully effaced and four cm dilated. She suggested that I leave my son with my mother-in-law to allow my body to relax out of 'mum-mode' and hopefully kick into regular contractions quicker. I arrived at the maternity ward just before midnight, contractions were five minutes apart, strong but I knew they were about to get a whole lot worse! With my husband's support I was pacing around the room, bouncing on the Swiss ball, breathing through contractions. I wanted to avoid the birthing pool as I still had bad memories from my labour only fourteen months prior. I hopped in the shower for about an hour to help with the pain. My midwife was checking on us and the baby regularly and was also a great support.

At 8cm dilated I became very distressed, I remember feeling like I was going to pass out, almost like I wouldn't make it through the labour. My cervix became swollen again and I felt like that would be the end of my natural med-free birth. My midwife took some bloods and put in an IV line. Although I didn't know much about it, I was certain I'd be rushed for an emergency C-section. I was in panic mode; I couldn't stand the pain.

Only 10 minutes later I felt the uncontrollable urge to push and so I did! My midwife said that on my next contraction she would attempt to stretch the swelling out of the way. She did exactly that and I was able to push properly, fifteen minutes later our precious baby girl was born. 9lb2oz of Scarlett red skin, squished face, fat rolls, and a scream that could wake a sleeping giant.

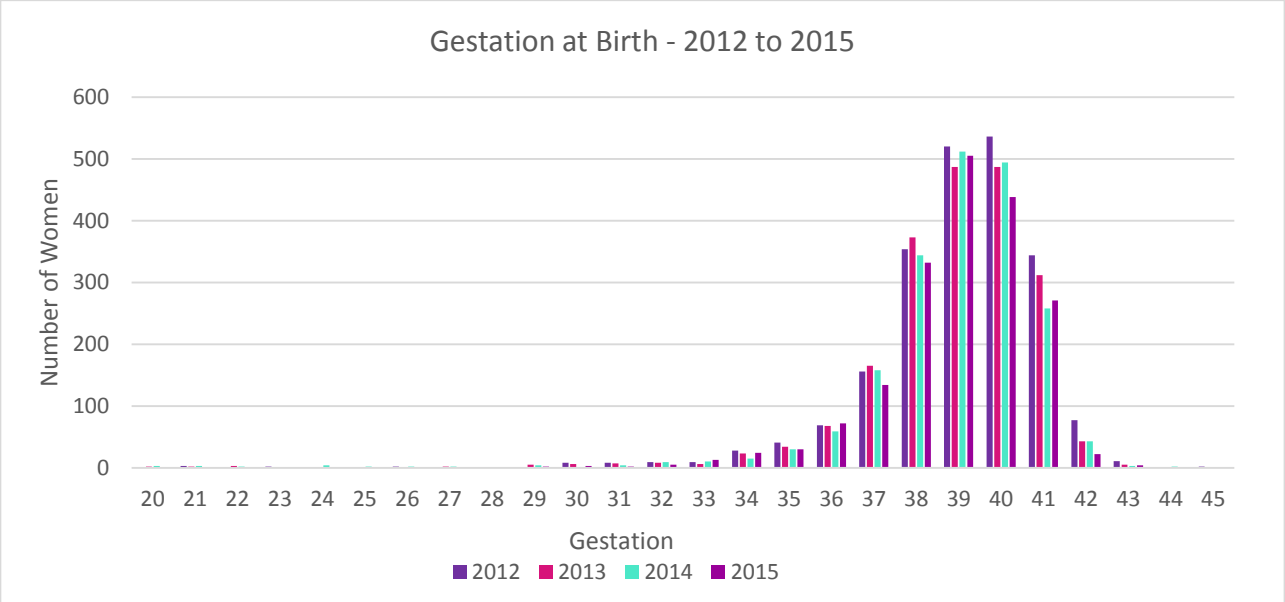
Five hours after the birth we were getting packed to go home, a nurse came in and said she wanted to check some stats again before we left so I kept packing up while she was checking on our sleeping baby. For some reason I looked over and I knew something wasn't right, she said we couldn't go home just yet. Next thing I knew; the nurse was taking our new baby around to SCBU. I felt so overwhelmed, so nauseous, I just wanted to keep my baby close to me. Her oxygen blood flow levels had caused concern. In the next six hours we had an X-ray, ECG, and ultrasound of her heart. All of the results came back clear. Even though we were only in for a short time, the nurses in SCBU were just amazing, so caring and supportive. We went home that evening and introduced our new baby to her older brother.

Although there were doubts and scares along the way, I felt happy and content after my daughter's birth. I loved my midwife's dedication and support. I always felt safe and looked after while in the maternity ward. Thank you for all of your hard work and everything you do for each individual patient and their families."

7.2 Gestational Trends

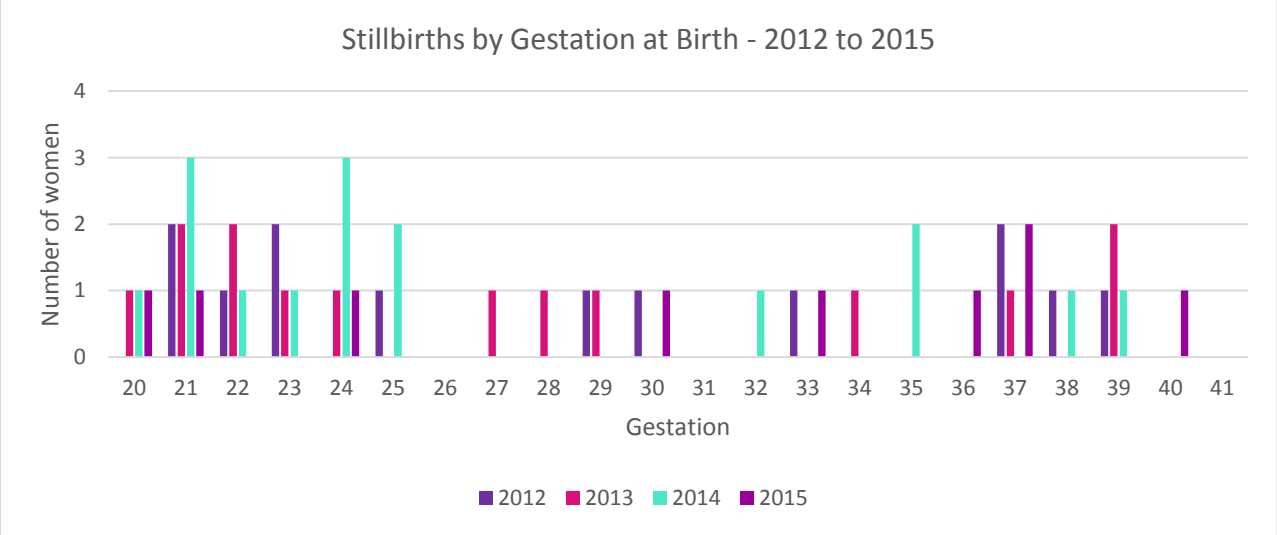
The graph below depicts gestation at time of birth for Hawke's Bay women over the last four years. It is evident that 736 of the 1858 women (39.5%) birthing did so at equal to or greater than 40 weeks gestation.

The peak gestation for birth for 2015 was 39 weeks, as it was in 2014, unlike 2012 when the most likely gestation of birth was 40 weeks. Although this decrease in maturity at birth is suboptimal, the evident decrease in term babies being born at 37 and 38 weeks gestation compared to 2014 is a positive statistic.



7.2.1 Stillbirths by Gestation

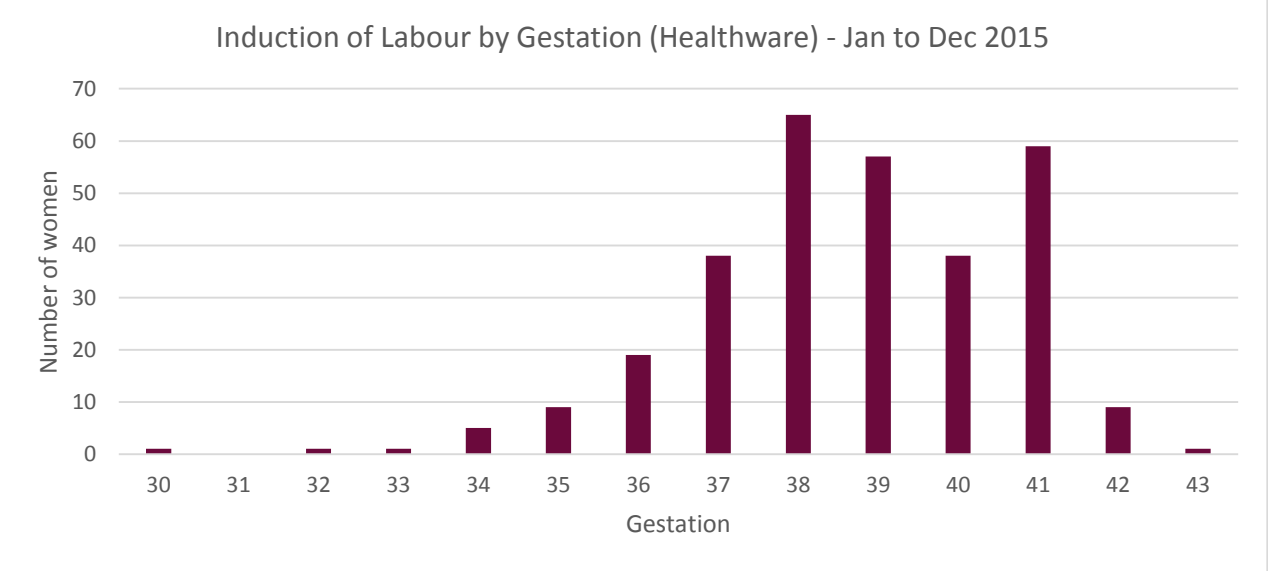
The following graph illustrates the gestation of stillborn babies born over the last three years. The total number of stillbirths for 2015 is nine, a decrease from the fifteen that occurred over the previous twelve months. There is little variation of numbers in stillbirths occurring after 32 weeks, with four or five of these births happening over the last four years. Although the number of stillbirths for our population is small (<0.4%), impact on individual families is significant. Each perinatal loss is reviewed and learnings discussed in our confidential bi-monthly Perinatal Mortality and Morbidity Review Committee meeting, with recommendations for future pregnancies made when appropriate.



7.3 Induction of Labour

An induction of labour occurs when labour is initiated using mechanical or pharmacological methods. Between 1st January 2015 and 31st December 2015, 303 inductions of labour took place which equates to 17.0% of our birthing population.

7.3.1 Gestation for Induction of Labour



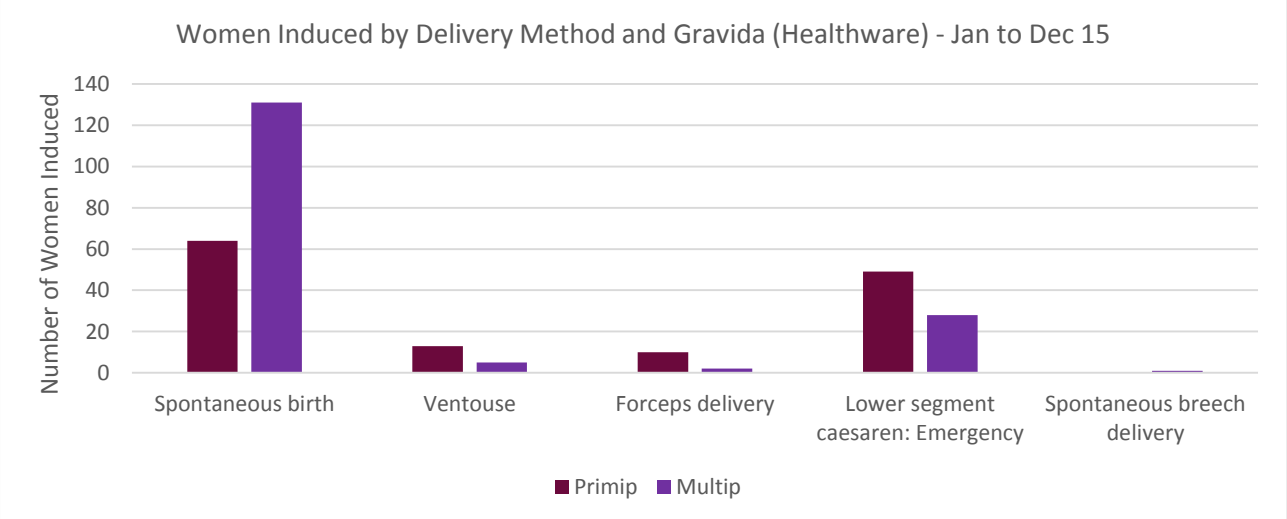
The gestation at which each induction occurred can be seen in the previous graph. 2015 reveals an average induction gestation of 38 weeks (65 women) followed closely by the number of postdates inductions at 41 weeks gestation (59). There has been no significant change to the induction of labour gestation statistics when compared to data reported in the previous annual maternity clinical report examining the 2014/2015 year.

Indications for the induction of labour for these women are listed in the table below.

Indication for Induction	number of mothers
Prolonged Pregnancy	69
IUGR	49
Prolonged Rupture of membranes	36
GDM	27
Hypertension	23
Other	20
Premature Rupture of Membranes	18
Multiple	14
PET	12
Diabetes	8
Oligohydramnios	8
Prolonged labour (>18 hours)	5
Cholestasis	5
HELLP	3
Reduced fetal movements	2
APH	2
Anhydramnios	2

7.3.2 Birth outcome for Induction of Labour

The birth outcome for the 303 induced labours are demonstrated in the following graph, with 75% of women achieving a vaginal delivery, 64% spontaneous and 11% instrumental. The breech birth was the second twin of a multiple pregnancy.



It is interesting to see that the numbers of primiparous and multiparous women requiring an induction of labour is reasonably similar (136 vs. 167 respectively), however the differences between these two groups is evident when birthing outcomes are considered. Twice as many multiparous women (131) achieved a spontaneous vaginal birth compared to primiparous (64), in contrast to almost twice as many primiparous women (49) requiring an emergency Caesarean Section compared to multiparous women (28). This equates to a 36% risk of emergency Caesarean Section for primiparous women being induced. Primiparous women are also more prevalent in both types of instrumental birth.

Further analysis of our induction of labour statistics can be found in chapter twelve where induction of labour amongst our low risk population is presented as one of the New Zealand Maternity Clinical Indicators as set out by the Ministry of Health.






7.3.3 Induction of Labour Audit

An audit of Induction of labour (IOL) occurring at Hawke's Bay DHB over the four-month period between 1st May and 31st August 2015 was undertaken in order to gain an understanding of the reasons and timing of induction of labour, methods used, and the processes and outcomes. The aim of the audit was to identify areas where change could be made to improve care and to establish a benchmark for which future changes to the IOL protocol can be measured. The clinical documentation of 88 women was reviewed for this audit.

The majority (77%) of IOL occurred at or after 38 weeks. For those inductions before 37 weeks, the indications were all deemed as clinically appropriate by the auditors. For primiparous women the three most common reasons for IOL were pre-eclamptic toxaemia (PET)/Hypertension (32%), prolonged pregnancy (22%) and premature prolonged rupture of membranes (PPROM)/ spontaneous rupture of membranes (SROM) (12%). For multiparous women the three most common reasons for IOL were diabetes (25%), PPROM/SROM (21%), and prolonged pregnancy (13%). All of these indications and their timings fell within standard practice. An individual break down of timing within specific indications was outside the scope of this audit.

The primary method of induction was with Prostaglandin (PG), which was utilised for 76% of inductions. For primiparous women commencing an IOL with PG, 41% delivered between 24 - 48 hours following the first dose. 47% of multiparous women who commenced an IOL with PG, delivered in the first 24 hours. 77% of primiparous women delivered within twelve hours of commencing a syntocinon infusion. 76% of multiparous women delivered within six hours and all delivered within twelve hours of starting syntocinon. These figures suggest the longer part of the induction process is priming the cervix with PG. While prostaglandin can be an effective way to start an IOL it can be time consuming and there is a risk of hyper-stimulation resulting in fetal distress. Mechanical options such as Foley catheter can be a good option particularly in women with a history of previous Caesarean Section, growth restriction or grand multiparity and this is not utilised in our population. The use of Cook cervical ripening balloons, which are easier to insert and effective within twelve hours, is also an area to be explored.

There appeared to be some delay in the commencement process of the Induction of labour, with 30% of first doses of PG not being administered until after 9am on the schedule day of induction. There are a number of different factors which could explain this. If an IOL has been deemed necessary for medical reasons, it should commence after the midwifery shift handover, with input from the night registrar. A proposed improvement in this area is to develop a tool or process where the IOL is confirmed the night before by the on-call consultant so that approved inductions can proceed in a timely manner the following morning. The audit also found that the Bishop Score was poorly documented with no score recorded in 30% of the hospital records prior to the first administration of PG and no score recorded in 80% of records prior to an Artificial Rupture of Membranes being performed. As the current policy is based on the Bishop Score, auditing compliance against the policy has proven to be extremely difficult. This identified lack of appropriate documentation will be fed back to all labour and birthing suite clinicians with an expectation of improvement going forward.

The audit will be repeated annually to monitor compliance against policy and to provide feedback around the methods, processes and outcomes of IOL.

7.3.4 A Hawke's Bay Consumer Story – The Birth Story of Ella Meyrick

"At 24 years old my partner and I were very excited to be expecting our first child. The pregnancy went smoothly with no complications. Throughout my pregnancy I aimed to prepare myself as much as possible by doing pregnancy yoga and positive birthing classes. I was determined to have a natural birth, without any analgesia and free from any unnecessary interventions.

My birth story began three days before due date, it was then my membranes spontaneously ruptured while I was in bed, followed by a mucus plug. Cramps then started one hour later. I decided not to call the midwife until the morning. I tried to go back to sleep but I couldn't as I was too excited and had some back pain. I did call my mum as she lives three hours away and we had planned for her to be present at the birth. My partner went to work as usual at 7am as the labour hadn't progressed much by then, I was having an increased number of contractions not consistently regular. I called the midwife around 0800 and she came around to check baby. Baby was good, coping well during the contractions and my blood pressure was just slightly elevated. My Mum arrived in the afternoon and the midwife called us into the hospital for a CTG at 7pm that night. The CTG showed everything was good with baby and to the midwife and doctors surprise I was 3 cm dilated when examined, more than they had expected.

Due to the risks associated with prolonged rupture of membranes the midwife discussed with us that if there was little change overnight we would need to start an induction in the morning. We discussed the options there were including the gel which could take a long time to work if at all, and the oxytocin drip. We decided, with the doctors input also, that oxytocin would be the best way to go as by the morning it would have been 30 hours since my waters broke and it would work faster. My main concern with this was that it meant the baby had to have constant monitoring and I was afraid this may interfere with my wishes to stay upright and mobile during the birth. The midwife assured me we would find ways around it using the wireless monitors. She was very good at supporting my needs. I had also hoped to try having a water birth but this was now not recommended due to the risk of infection.

We agreed to meet at Ata Rangi again at 0800 if nothing had changed. At this time, I was still hopeful it wouldn't come to that. That night I didn't get a lot of sleep again as although the contractions continued and were quite painful they were as frequent as three in every ten minutes that I had been told was established labour. So at 0800 I went into hospital with my partner and my mum. The drip was started and the dose was turned up every thirty minutes until the contractions were three to four minutes. This didn't take long, and at one point the drip had to be turned down as the contractions became too frequent. I progressed very quickly after the drip was started and labour was established at 1000. I tried to stay fully relaxed the entire time, consciously relaxing each part of my body and trying not to tense up down below or anywhere else. I focused on breathing slowly and calmly, trying to visualise the breath moving throughout my body.

I moved around into different upright positions as one became uncomfortable, leaning on things for support. I suddenly felt a strong urge to push but was asked not to until the midwife had dome an internal to make sure I was fully dilated. By this time there was also a registrar in the room as the midwife had noted some decelerations in the baby's heart rate. It was difficult for them to get an accurate reading with the CTG monitor because I was moving so much as the contractions were very intense. The internal was done when there was a break in contractions and my body actually just started involuntary contracting it felt like I was pushing but I wasn't.

I then started to push, it didn't take much until I needed to do the controlled pushing which I started. I think the baby was getting a bit stressed as the midwife told me I needed to get baby out now so I pushed a couple more big pushes and baby was born at 13.36. I just rested my head down on my partner as I was so tired and the baby was behind me, I was so happy it was over but also nervous to turn around. They told me it was a girl as we had kept the sex a surprise and handed her to me and this was the most amazing feeling. I was so proud of myself and she was just perfect. Turned out they had noted when baby Ella came out the umbilical cord was wrapped around her neck lightly and the midwife said there was basically no umbilical fluid left.

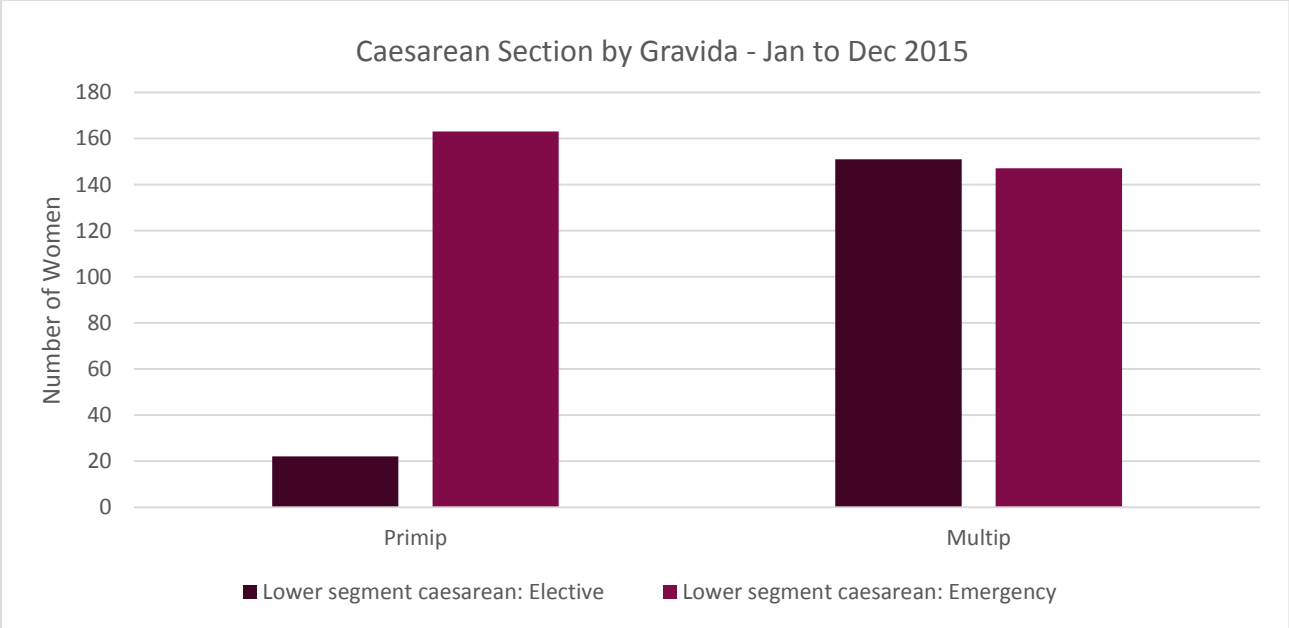
It wasn't until I got up onto my bed and had been lying there a while when the midwife checked her over that she said "well you did it, without any pain relief". It wasn't until she said those words that I actually thought about it, up until that point that option of no pain relief had not even crossed my mind as I had already decided it was not an option. I did get a tear which the midwife stitched up, during which I did try some gas. It took a while to heal but I felt good after the birth and was able to go home early the next morning.

I was determined to breastfeed so made use of the baby café often when I was struggling and this was great. My midwife's support was also great but it didn't seem long before she discharged me from her care a few weeks postnatal. I look back on it and am very pleased with how the birth went as most things went the way I wanted them to and I felt in control the whole time. I really believe the positive birthing classes helped me to develop my own coping strategies. I was also very lucky to have such an amazing midwife she was great in every way. Thanks!"

7.4 Caesarean Section

As presented in chapter four, there were 483 Caesarean Sections between 1st January 2015 and 31st December 2015, demonstrating a HBDHB section rate of 25.4%. Of these 483 births, 35.8% were elective procedures whilst 64.2% were categorised as an emergency.

It can be identified that of the 173 women that underwent an elective section, 22 were primigravida women whilst 151 were multigravida. Similarly, 163 of the emergency procedures were with first time mothers whilst 147 multiparous women underwent an emergency Caesarean Section during 2015.



7.4.1 Elective Caesarean Section

Fourteen of the 22 primigravida women requiring an elective Caesarean Section had the indication of breech presentation. The remaining eight had indications of multiple pregnancy, pre-eclampsia and complex medical histories.

It is expected there would be an increased number of women in a subsequent pregnancy that would require a planned elective Caesarean Section compared to primiparous women, however our statistics reveal a six-fold increase between primips and multips. When examining the indication for these planned Caesarean Sections, it is apparent that the vast majority (125 or 73.0% women) are based around an indication of previous Caesarean Section. This is clearly an area to focus on when looking at ways to reduce our Caesarean Section rate. The implementation of the VBAC (vaginal birth after Caesarean Section) clinic and the initiatives surrounding this are our starting point for 2016.

The VBAC clinic initiative is discussed in more detail in chapter twelve.

The remaining indications for multiparous women to have undergone an elective Caesarean Section were for breech presentation, multiple pregnancy, intrauterine growth restriction, unstable lie, placenta previa, previous perineal trauma and indications relating to previous obstetric history.

7.4.2 Emergency Caesarean Section

The indications for the 310 emergency Caesarean Sections are shown in the table below

Indication for Emergency Caesarean Section	Number of Mothers
Failure to progress	**120**
Fetal Distress	**88**
Prior C/S	**26**
Breech	**20**
Other	**11**
Multiple	**10**
APH	**7**
(blank)	**6**
Failed IOL	**5**
Malpresentation	**5**
HELLP	**3**
PET	**3**
Placenta Praevia	**3**
Placental Abruption	**3**

The most common indication for an emergency Caesarean Section was failure to progress followed by fetal distress. 37 of the emergency Caesareans Sections were based on failure to progress were following an induction of labour, as were 22 of those with an indication of fetal distress.

Primiparous women were approximately twice as likely to have an emergency Caesarean Section for failure to progress or fetal distress compared to multiparous women. Twenty-three multiparous women presented in labour when there was a plan in place for an elective Caesarean Section, with an indication of previous Caesarean Section. Had these women not laboured earlier than expected, they would have contributed to the planned Caesarean Section for previous statistics thus creating

the potential to increase the Planned Caesarean Section statistic from 125 to 148 women, equating to 8.0% of our overall birthing women in 2015.

There were twenty emergency Caesarean Sections for breech presentation, ten related to multiple pregnancies, seven for antepartum haemorrhage, five for failed induction, with the remainder having various other maternal and fetal indications. Caesarean Sections are monitored and evaluated as part of the New Zealand Maternity Clinical Indicators. How HBDHB is performing in this area in comparison to national figures is presented in chapter fifteen.

7.5 Caesarean Section under General Anaesthesia

Of the total Caesarean Sections that were undertaken during 2015, 46 (16.0%) were performed under a general anaesthetic (GA). Six of these were elective procedures; four due to unsuccessful spinal anaesthetic, one where condition of the maternal spine contraindicated a spinal anaesthetic and one case where the GA was maternal choice.

Anaesthesia Delivery	Grouping	Mother Count
General anaesthesia (GA)	Lower segment Caesarean Section: Elective	6
General anaesthesia (GA)	Lower segment Caesarean Section: Emergency	40
	Total	**46**

The remaining 40 Caesarean Sections performed under GA were emergency procedures. Twenty-five were due to the urgency of delivery of the baby when a category one or crash section was called. Eleven of the forty emergency GA cases were due to failed spinal anaesthetic attempts. One GA had an indication of a spinal anaesthetic being contraindicated and three were due to maternal request.

Owing to the increased risks associated with having a general anaesthetic for a Caesarean Section, our figures for intervention are monitored and reported as part of the New Zealand Maternity Clinical Indicators. Analysis of this indicator can be found in chapter fifteen.

A clinical audit of women who experienced a Caesarean Section under general anaesthetic over a fifteen-month period was undertaken during 2015 by the Consultant Anaesthetist, Sarah Sew Hoy, who sits on the Maternity Clinical Governance Group. The findings of this audit are discussed on the following page.

7.6 Lower Segment Caesarean Section (LSCS) under General Anaesthesia (GA) Audit

This audit examined a total of 55 women who were identified as having a general anaesthetic during their Caesarean Section between the 13th June 2014 and the 29th September 2015. There is an element of overlap with a prior audit of women who experienced a failed spinal or epidural neuraxial anaesthesia during Caesarean Section over part of the same time period. The LSCS under GA audit was requested by the MCGG in mid-2015, in response to our rising and higher than national average GA Caesarean Section rate, as per the national Maternity Clinical Indicators and our own internally reported data.

Two of the 55 women were excluded as their GA was not during delivery but for complications following delivery. Of the 53 women, 85% had an emergency Caesarean Section (45/53), where eight were for an elective procedure. 60% of GA sections occurred during day time hours. It was important to the auditor to identify whether there was a consultant anaesthetist presence at the GA sections due to higher risks of GA associated with a pregnant woman, compared to a non-pregnant woman; such as potential difficulty in intubation, increased oxygen consumption and difficulty with ventilation. The auditor identified 37 out of 53 women had a consultant anaesthetist in the room and of these 30 also had an anaesthetic registrar present. Another four cases had an anaesthetic registrar in theatre, with a consultant anaesthetist present within the hospital available to help if required. This is a total of 77% of all GA Caesareans Sections where there was immediate or near access to an experienced anaesthetist. Eight GA Caesarean Sections (15%) were performed by an anaesthetic registrar, with the anaesthetic consultant off-site, however, in all of these cases there is documentation of the consultant anaesthetist being informed. In a small but significant number (4 women) the level of supervision was not documented.

Seven women requested GA over regional anaesthesia – all for reasons of anxiety. Five women were seen in anaesthetic clinic and one agreed to a regional anaesthesia, however, upon arrival in theatre could not face being awake. Of the remaining 45 women there were 16 requests for GA from obstetric services, 20 from anaesthesia services, six combined obstetric/anaesthesia decisions and one with multidisciplinary team input for the GA decision. Unfortunately, in three cases it was unclear from the documentation where the request originated.

The auditor felt that from an anaesthetic viewpoint, in the vast majority of the 53 cases, the GA was not avoidable, although admits that her sphere of expertise prevents her from commenting on the clinical decisions made by other disciplines. She identified that a multidisciplinary approach is needed to analyse all GA sections that occur and that retrospectively handling clinical notes between different individuals is not time effective. One action from the audit is to develop a form to be completed around the time of the GA section by anaesthetic/obstetric/midwifery staff, to facilitate an ongoing evaluation of GA Caesarean Sections.

Areas for improvement were found in relation to documentation around supervision and the reasons why a GA was requested/performed. The audit also recommended that all women who opt for a GA for anxiety reasons are offered an anaesthetic appointment prior to commencement of labour, so that appropriate counselling regarding anaesthetic options can be provided.

7.6.1 A Hawke's Bay Consumer Story - The Birth Story of Baby H

"I was SUPER EXCITED TO GET PREGNANT it had been an easy time for us and I felt very lucky. Within a month of getting pregnant I was extremely sick all day and all night. It was horrible. I had quite a few other complications that, when I was not at work, led me to be in bed for a lot of my pregnancy. Even at work I had to lie on the floor out the back while I wasn't needed, luckily I was self-employed and it wasn't always busy. I was led to believe that this was "normal" and at the time I thought so myself but now realise I was extremely dehydrated and with the amount of vomiting I was experiencing; I should have had help in one way or another. It was almost too much to bear and led to me being quite upset while being pregnant. I was very emotional and frustrated. I didn't feel supported and wished I had chosen a midwife that I could communicate with better and who was more empathetic. I should have sought more help rather than thinking I was just being a "wuss", I now know there are things that I could have done and that could have been done for me that should have helped. So the pregnancy wasn't full of warm fuzzies for me and although I was so happy to be on the road to becoming a mum, I struggled to enjoy the lead up, being so sick, tired and pretty much bed ridden.

I went into labour on a Friday morning. It wasn't long after that that the contractions became strong and were about three to five minutes apart. Five or so hours later I called my midwife and she said to meet her at the hospital about 7pm that night. The contractions had slowed down by the time I got to the hospital and when my midwife checked I was only one to two cm dilated. I was sent home for the night with some tramadol and panadol. I took the panadol and spent the night on the couch wide awake!

By the morning, the contractions were two to three minutes apart and after chatting to my midwife we agreed to meet her at the hospital again at 11am. On arrival she found that I was still only 2cm dilated. She checked baby's heart rate and told us we would be staying from then on. I was exhausted with no progression of labour; I was put on an IV drip. It had been over 24 hours and I hadn't eaten. Soon after that the contractions started to get stronger and I was three to four centimetres dilated within the hour.

My waters were broken to try and progress the labour faster and I was also given something via an IV line to bring on contractions. The first doctor I saw wasn't keen for me to have epidural and encouraged me to hop on Swiss ball, so I did that for a couple of hours with a plan to re-assess if need be. When the next doctor came on duty they then recommended an epidural. I didn't really want one but was advised it would be best as I was so tired and things weren't progressing that well. By five o'clock in the afternoon, I had the epidural put in, although this took two attempts. Once the epidural was in, it didn't work too effectively so they had to keep topping it up with something stronger. This meant that I then couldn't feel anything on my left side but my right side was still a problem. Maybe after an hour or so I felt some changes, extreme pain and pressure. My midwife checked my progress and I was fully dilated. As my epidural had not long been topped up I was asked not to push yet as the baby needed to descend. I felt like I needed to push but knew I couldn't. This went on for a while, then when I was encouraged to push by everyone, it didn't seem to work, so they tried to get her out by ventouse. This didn't work and I was wheeled into theatre to try a forceps birth. This was not successful either and I was told I would need to have an emergency caesarean section.

During this time, my baby's heart rate had gone down, she had pooped meconium whilst still inside and had become distressed. As my epidural had not been working properly, I was not able to have the emergency caesarean using the epidural and I had to have a general anaesthetic. It all happened very fast. I am unsure about what happened from here on in but baby H was delivered on early Sunday morning. I didn't wake up properly for a long time. I think it was Sunday afternoon before I was fully awake. I remember waking up for a couple of minutes at a time and a nurse was putting baby H on me for a feed and so we could have skin on skin time, but I kept falling asleep. The postnatal nurses and midwives were awesome and I think they should be paid more. I stayed in hospital for another six days until I was ready to go home.

That did not last long as once home I had complications with an abscess in my stomach and further problems with the wound healing. I was back in hospital, on antibiotics and took quite some time to recover.

With the problems of the birth and the wound complications I had afterwards, I ended up becoming very overwhelmed. I loved my baby girl to bits but realised I needed help after a year when I realised I hadn't processed the negative experience yet. It took me so long to get help as I thought other people had it worse, and that I had a beautiful healthy baby that I should be grateful for and that would get me through. Unfortunately, it didn't as the trauma was too much and I needed to debrief with the help of counselling.

This helped and I know that next time I will do things differently and not suffer alone in both pregnancy and after the birth. Now I can enjoy it all and love being a Mama"

7.6.2 A Hawke's Bay Consumer Story - My Birth Story

"I had my baby Penny on the 19th September 2015. For two days prior to her birth, I was experiencing significant pain. I went to be checked and my midwife felt the pain was caused from an irritable uterus. That night, my pain intensified, with contractions remaining 8-10 minutes apart.

I went for another check on the 19th; my midwife continued to think my pain was from an irritable uterus. (My son was an undetected breech, born by emergency C-section. Similarly, I had been in early stages of labour for two days prior to his birth.)

This baby had been breech right up till this point when she turned around. Anyway, I was nervous she had gone back to being in a breech position; so they did a scan and all was how it should be. The obstetrician gave me some options, 1: Go home and see what happens 2: Have a c- section 3: Induce me. My midwife felt she wouldn't be able to break my waters at this point; however, the obstetrician felt he could and went ahead and did so.

Very quickly my contractions intensified. I was in full labour, a lot of pain, vomiting, etc. My midwife had left, so the hospital midwife was looking after me. I asked my husband to get her, as I needed some pain relief. I was given something for the vomiting and some gas.

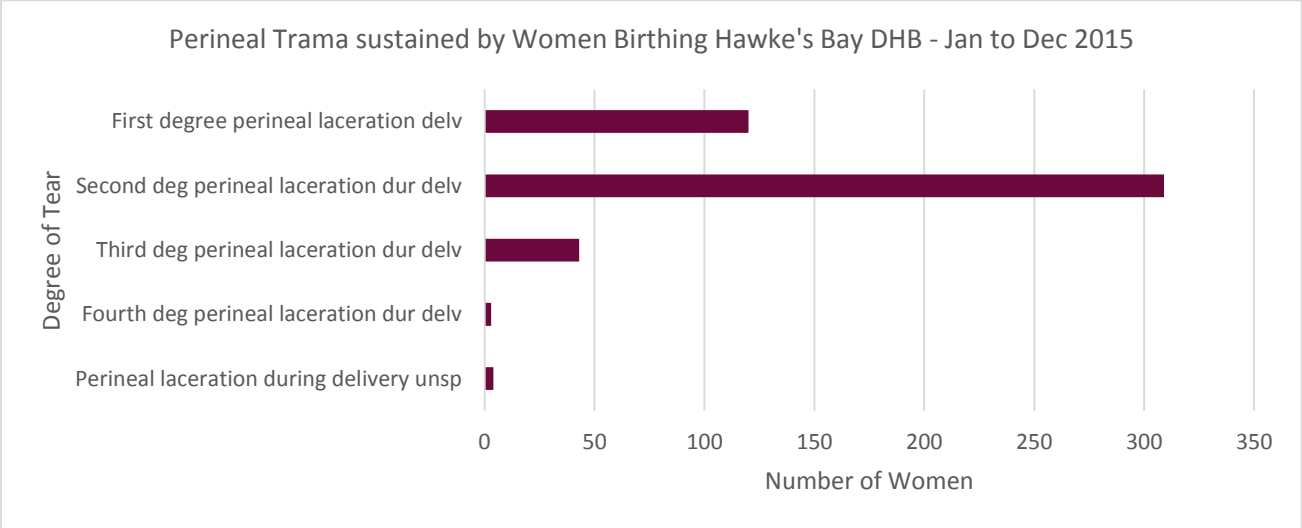
It seemed shortly after the hospital midwife said I had a rather big show. She put monitors on the baby that identified the baby was under stress; everything happened pretty quickly from there. I was rushed to theatre with real urgency. Although it was scary, I thought the medical staff were amazing in how they dealt with the situation.

I had a general anaesthetic and a C-section. It was not until after I woke up I was told what had happened and explained how dangerous a Placental Abruption is. It was lucky I hadn't gone home; if this had happened, my baby probably wouldn't have made it. All the staff post-natal were wonderful. I have a gorgeous girl whom I adore!!!"

CHAPTER EIGHT: ADVERSE MATERNAL OUTCOMES

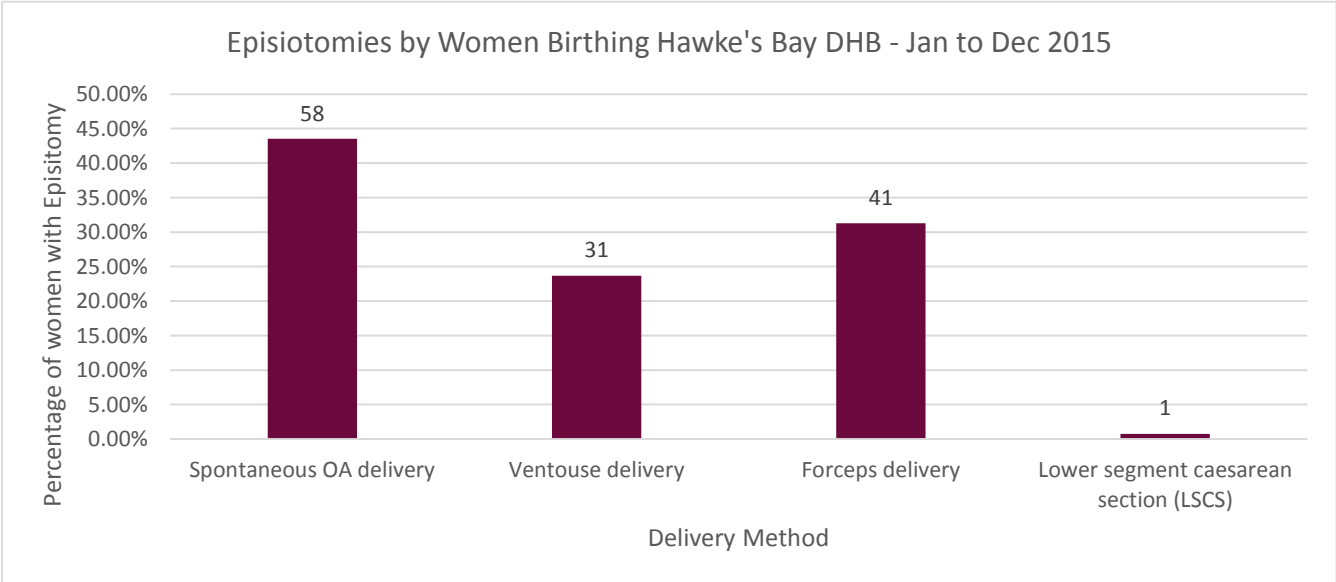
8.1 Perineal Trauma

1379 of women who birthed in 2015, had an intact perineum following the birth of their baby; this equates to 74.2% of all women. However, it should be remembered that 185 (13.4%) of women requiring an elective Caesarean Section and therefore a guaranteed intact perineum, are included in this cohort. When deducted manually, the actual total of women with an intact perineum was 60.8%. The graph below depicts the level and complexity of trauma to the perineum that the remaining 479 women sustained.



6.5% of all women sustained a first degree tear, 16.6% of women a second degree tear, whilst 2.31% and 0.16% of all women had a third and fourth degree tear respectively. The women sustaining third and fourth degree tears are discussed in more depth in section 8.3.

8.2 Episiotomies



131 of the 1858 women (7%) who birthed between 1st January 2015 and the 31st December 2015 had an episiotomy performed. As depicted in the previous graph, over half of these births (81 births, 61.8%) were instrumental births, one was a failed ventouse/ failed forceps birth leading to a Caesarean Section, leaving 43.5% of the 131 women achieving spontaneous vaginal birth.

8.3 Third and Fourth Degree Perineal Tears (34DTs)

The occurrence of a third or fourth degree perineal tear (34DTs) can be a complication of a vaginal birth that can significantly affect morbidity for the woman and her subsequent mode of delivery.

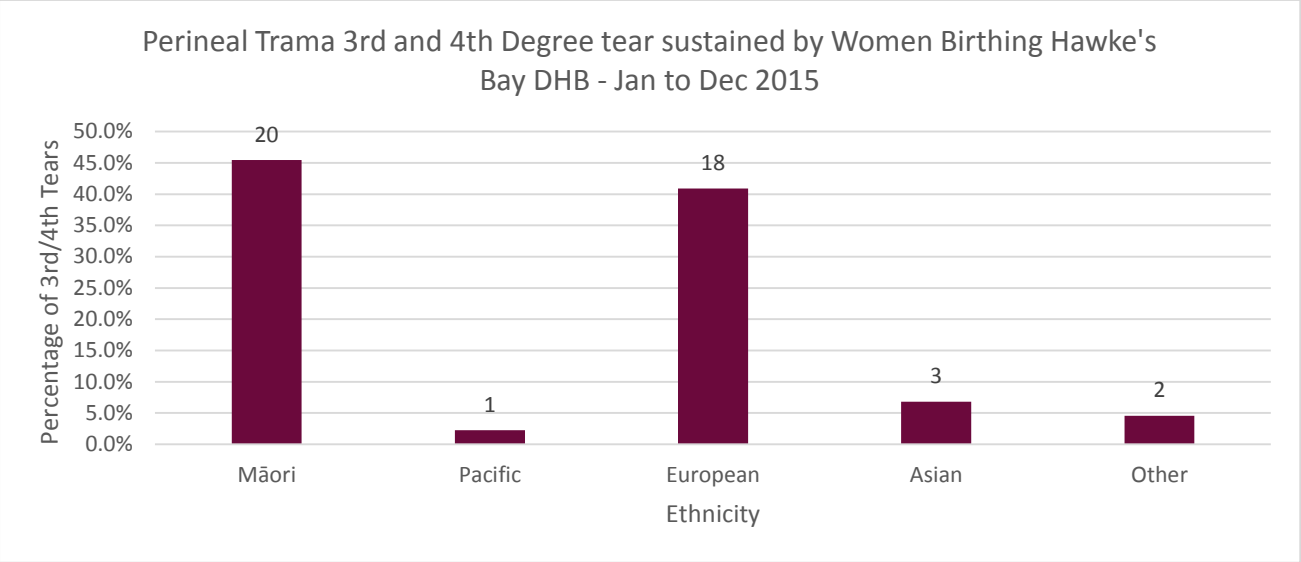
International evidence is identifying a rising occurrence of 3rd and 4th degree tears, with the reported rate of 34DTs tripling for first births over the last 15 years. In conjunction with this rise is the increase in forceps deliveries, a decrease in ventouse deliveries and a decrease in the use of episiotomy in non-instrumental births. Recognized, is that for women with existing identified risk factors, there are specific risks in particular; maternal age above 25, forceps and ventouse delivery, especially without an episiotomy. Other factors include: advanced maternal age, Asian ethnicity, more affluent socio-economic status, higher birth weight and shoulder dystocia. In these circumstances a medio-lateral episiotomy is considered protective.

For all vaginal births, a 1% risk of sustaining a third or fourth degree perineal tear is present. Additional risk factors associated with sustaining this level of perineal tear are:

- First birth (up to 4% -this is an independent variable)
- Induction of labour (up to 2%)
- Epidural (up to 2%)
- Second stage labour longer than an hour (up to 4%)
- Forceps birth (up to 7%)
- Shoulder dystocia (up to 4%)
- Midline episiotomy (up to 3%)
- Neonate with a birth weight over 4 kg (up to 2% - this is an independent variable)
- Neonate in a persistent occipito-posterior position (up to 3%)

(RCOG, 2007, Groutz et al, 2011)

During the period from 1st January 2015 to the 31st December 2015, 43 women sustained a third degree tear while three women sustained a fourth degree tear during birth. This is a decrease in prevalence from our last report based on June 2014 to May 2015 where these figures were 48 and 4 respectively. Our 2015 statistics equate to 2.4% of all women birthing within the maternity units sustaining a third or fourth degree tear and a 3.3% rate for all those who achieved a vaginal birth. The ethnic breakdown of women sustaining a 34DT is depicted in the following graph.



The greatest quantities of 34DT's were with our European and Māori women. However, when calculated against the overall population of women birthing, the Other ethnicity group have the highest rate of occurrence by a significant margin with 6.45% of women sustaining a 34DT. Māori and Asian ethnic groups have similar rates of 2.85%, with Europeans and Pacific Peoples women having a much smaller likelihood of sustaining a 34DT, 1.91% and 1.12% respectively.

Of the 46 women sustaining this level of significant trauma, 75% were primiparous women. Evaluation of other additional risk factors reveals that eight of the 46 women had no additional risks factors at all, sixteen had one additional risk factor, nine had two additional risk factors and the remaining thirteen women had multiple additional risk factors.

The majority of women sustaining a third degree tear had a spontaneous vaginal birth with no episiotomy. The use of episiotomy prior to sustaining a third or fourth degree tear for 46 women is demonstrated in the following table.

Delivery Method	3rd Degree Tear		4th Degree Tear		TOTAL
	With Episiotomy	Without Episiotomy	With Episiotomy	Without Episiotomy	
Forceps Birth	7	6	0	0	13
Spontaneous OA Birth	0	25	1	1	27
Ventouse Birth	0	5	1	0	6
Total	7	36	2	1	46

As already stated, the number of third and fourth degree tears have decreased since the last annual report from 52 to 46. This could be attributed to the educational focus on care of the perineum, management of the perineum during birth or implementing evidence based practice in relation to encouraging antenatal perineal massage that occurred over the last twelve months. Practice forums and workshops are integral to our ongoing clinical education focusing on protecting the perineum and performing episiotomies. These are multidisciplinary forums.

Clinical audit work around the rate of third and fourth degree tears has been a focus for the past three years. An audit conducted around the third and fourth degree tears sustained in 2013 was

undertaken late 2014, however no obvious trends or suboptimal care were identified. Regardless of this finding, due to our prevailing higher than national average clinical indicator rates for 3rd and 4th degree tears, development and implementation of the third and fourth degree tear care pathway occurred in 2015; a yearlong prospective audit exploring risk factors for women and utilisation of the care pathway commenced in April 2015, with an action for all 3c and 4th degree perineal tears to be reviewed by the obstetric consultant who sits on the Maternity Clinical Governance and Clinical Indicators Review Groups being implemented.

Future initiatives identified as requiring implementation to reduce our third and fourth degree perineal trauma rate:

- Introduce and support completion of the online PROTECT training module for all midwives and obstetricians
- Conduct a survey exploring the position of midwives' hands during the birth of the baby's head as conducted by the RCM (2014)
- Audit identification of risk factors for 34DTs at booking or during pregnancy
- Ensure all women, in particular those with identified risk factors for perineal trauma, are educated about antenatal perineal massage and offered warm compresses during 2nd stage of labour
- Investigate participation in the 34DTs project in the United Kingdom coordinated through Lindsay Steward Centre for Audit and Clinical Informatics

There are several New Zealand Maternity Clinical Indicators that explore our statistics around perineal trauma. The 2014 MOH data indicates that Hawke's Bay DHB sits considerably above the national average for standard primiparae women with an Intact lower genital tract post birth where we have the eight best rating of the twenty-one DHBs. There is however, an area of focus for improvement in relation to the rates of episiotomy and third and fourth degree tears amongst standard primiparae women where, although our rates are only just above the national average, we are in the bottom third of DHB's nationally. These indicators are presented in greater detail in chapter fifteen.

8.3.1 Management of Third and Fourth Degree Perineal Tears Audit

A clinical audit of all women sustaining a 3rd or 4th degree perineal tear during childbirth between the 1 April 2015 and the 31st March 2016 was undertaken by MCGG Midwife representative Audrene Samuel. The audit was commissioned by the Hawke`s Bay Maternity Clinical Governance Group as a follow up audit to review if any common contributing factors leading to 3rd and 4th degree tears could be identified. This audit also reviewed if the recommendation from the 2014/2015 clinical audit of 3rd and 4th degree tears to implement a postnatal care pathway of 3rd and 4th degree perineal tears is being adhered to.

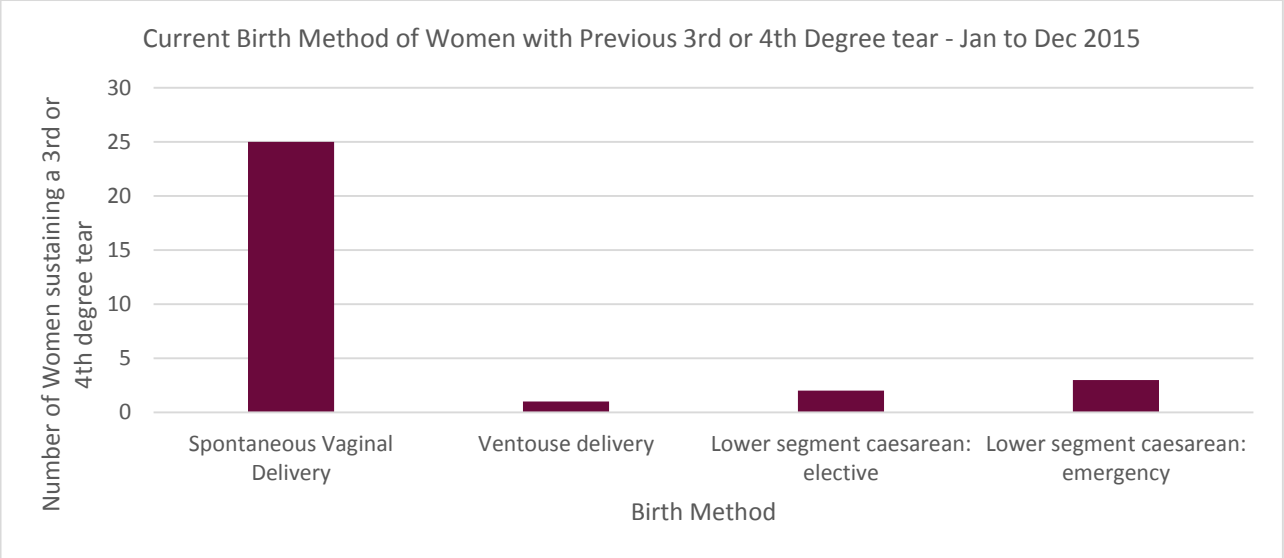
The audit involved a retrospective review of maternity health records of all women sustaining a 34DT irrespective of their parity and looked at 39 women in total. Thirteen perineal tears (32.5%) were categorized as a 3A perineal tear, Nineteen (47.5%) a 3B perineal tear, five (12.5%) as 3C and two (5%) as a fourth degree perineal tear. One tear (2.5%) was documented as a third degree tear but no further category was documented anywhere in the body of notes.

The women were of mixed ethnicity, 37.5% New Zealand Māori, 37.5% New Zealand European, 5% Samoan, 10% Asian/Indian and 10% from the 'Other' ethnicity group. 75% were primigravida whilst 25% were multiparous women. One quarter of women had their labour induced, two women had a previous Caesarean Section birth and six women had sustained a third degree tear with a previous delivery. BMI was identified as being suboptimal in over 25% of the women. There was a relatively high incidence of instrumental birth (40%) and 7.5% of women opted for a water birth. 17.5% of the neonates had a birth weight greater than 4000g's and two thirds of them were male. The majority of women that sustained a 34DT were in a reclined position with 32.5% semi-reclined, and 45% in the lithotomy position. Only one woman experienced a shoulder dystocia with this birth. 35% had an episiotomy and 25% of the women had an epidural in labour.

The 2014/2015 audit did not identify any common factors that could contribute to the rate of occurrence of third or fourth degree tears and again no common factors were identified in this latter audit. In some cases, there was evidence of lack of documentation as to whether icepacks were applied to the perineum after repair of third or fourth degree perineal tear. Most of the women (82.5%) sustaining 3rd and 4th degree perineal tears had the new care pathway document on managing third and fourth degree perineal tears present in their maternity notes, however improved compliance for completion of the pathway by doctors (54% completed) and nurses/midwives (78% completed) is required. The recommendations from this audit are to commence the initiatives identified in section 8.2, fully inform staff on how to complete the 34DT care pathway correctly and ensure that midwives and nurses perform a daily perineal check whilst the woman is an inpatient under DHB care.

8.4 Previous Third and Fourth Degree Perineal Tears & Perineal Trauma

31 multiparous women who birthed between 1st January 2015 and 31st December 2015 had sustained a third or fourth degree tear during a previous birth. The subsequent modes of birth for these women is represented in the following graph, where it can be identified that 25 of the 31 women achieved a spontaneous vaginal birth, a very positive rate of 80%. Only 2 of the 31 women who experienced a Caesarean Section birth did so with an indication of previous perineal trauma.



The perineal outcome against the birth method of their babies of the same group of women is depicted in the following chart.

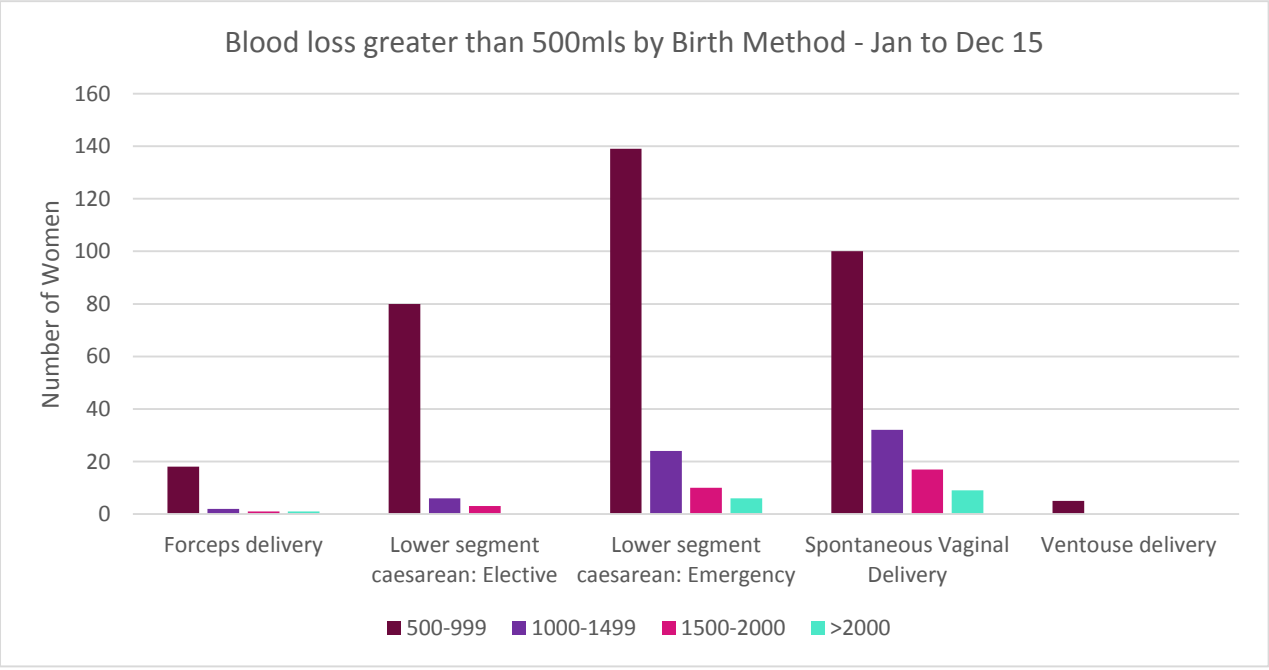
Type of Birth	Intact	First degree tear	Second degree tear	Third degree tear	Grand Total
Spontaneous Vaginal Birth	14	1	8	2	25
Ventouse Birth	1				1
Lower segment Caesarean: elective	2				2
Lower segment Caesarean: emergency	3				3
Grand Total	**20**	**1**	**8**	**2**	**31**

It is evident that twenty women had an intact perineum for this birth, however the statistic includes those five women who had a Caesarean Section this time. Nine of the women that had a spontaneous vaginal birth sustained a first or second degree tear. There were no tears occurring for instrumental births, however two women who had sustained a previous third degree tear during their last birth sustained a further 3rd degree tear. Neither of these two women had a prophylactic episiotomy.

8.5 Postpartum Haemorrhage

A postpartum haemorrhage (PPH) is defined as excessive bleeding from the genital tract at any time from the birth of the baby up to six weeks post-partum.

The graph below depicts the number of women who experienced a postpartum haemorrhage during 2015. 453 of the 1858 women lost more than 500mls of blood post birth which equates to one quarter (24.3%) of the total women birthing this year.



When this cohort of women is examined more closely, three-quarters of women (75.4%) experiencing a post-partum haemorrhage had blood losses between 500mls and 1000mls occurring

from all types of modes of birth. 111 women (5.9% of all women birthing in 2015) lost more than 1000mls, mainly following spontaneous vaginal births and emergency Caesarean Sections.

64 women experienced a postpartum haemorrhage between 1000 and 1500mls, 30 from Caesarean Section births and 34 from all types of vaginal births. 31 of 111 women lost between 1500mls and 2000mls, 13 from Caesarean Section births and 18 from all types of vaginal births. 16 women lost greater than 2000mls, six from Caesarean Sections, and nine from spontaneous vaginal births and one from a forceps birth.

8.5.1 Blood loss >1000mls for Vaginal and Caesarean deliveries

The following table illustrates the number of women losing more than 1000mls of blood following birth against each birth method. The percentages shown demonstrate the percentages of women who lost more than a 1000mls out of all women who had the same method of birth.

Postpartum Haemorrhage >1000mls	Birth Count	Percentage
Blood loss > = 1000mls for vaginal births	72	5.0% of all vaginal Births
Blood loss >= 1500mls for vaginal births	38	2.6% of all vaginal Births
Blood loss >= 1000mls for a Caesarean Section – Elective	6	3.1% of all elective Caesarean Sections
Blood loss > = 1000mls for a Caesarean Section – Emergency	36	12.6% of all emergency Caesarean Sections
Blood loss >=1500mls for a Caesarean Section – Emergency	16	5.6% of all emergency Caesarean Sections

The suggestion from the National Consensus Guideline for Treatment of Postpartum Haemorrhage to use 40 IU Syntocinon in 1000mls of normal saline infusion over four hours of administration has been implemented fully over the last twelve months and has been standard practice for 2015. All postpartum haemorrhages are reviewed by the Maternity Governance Coordinator, with the more severe PPH initiating a multidisciplinary case review. The PPH rate continues to be reported unit wide on a weekly basis to heighten awareness, with a breakdown of birth outcomes against severity of postpartum haemorrhage.

8.5.2 A Hawke's Bay Consumer Story - My name is Katie and this is my Story

"In August 2015 we welcomed our son Eli into the world. Eli is our second child; we also have a 2-year-old girl Olive. Both our beautiful children were conceived through IVF following my diagnosis of endometriosis and around 6 years of trying to conceive. Fortunately, once pregnant I carried both children with no complications to full term and delivered both healthy babies at Ata Rangi with the help and amazing support of both my husband and midwife.

I began to have contractions that were irregular on Sunday the 9th of August and I was excited that our baby was on its way! 'We will have a baby by tomorrow' I thought! I had minimal sleep through the night and the contractions continued on and off through Monday and again through Monday night. I had been in touch with my midwife and we agreed, as I was happy at home, I would stay as I was relaxed and we would just wait. Tuesday morning arrived and I felt exhausted and my mood was starting to drop, contractions ranged between 7 mins and 30 mins apart some were mild and some very strong. My midwife was coming to see me at home that afternoon however my membranes finally ruptured as I lay down to try and sleep. I spoke to my midwife and she told me to prepare for stronger closer contractions and we would meet at Ata Rangi when this happened.

An hour went by and I had no contractions whatsoever. We agreed it was best at this point to meet at Ata Rangi for a check-up, I was beginning to feel a bit anxious and I wanted to know everything was ok. Once we arrived at the hospital I had an examination by my midwife and then by the O and G registrar, we discovered I was actually fully dilated and our baby was waiting to come however I was not having any contractions. I was so relieved they didn't tell me I was 3cm and sending me home! An IV line was put into my arm, blood taken and a syntocinon infusion started and an hour and four pushes later our beautiful son arrived. I delivered him standing up which is what I wanted to do, squeezing my husband's hands and leaning over the end of the bed. Following the delivery, I had a blood loss of around 500-600mls. I had a catheter inserted and IV fluids running. My LMC was present as well as a hospital midwife as requested by my LMC midwife.

The next 24 hours I felt so bizarre I don't know if it was shock or what was happening but I felt like I was almost having an out of body experience. It was very odd and I didn't enjoy it, I did not experience this with Olive's birth. My husband was able to stay the night with me and all the staff were fantastic. I felt we were really well cared for. Eli latched on and I established breastfeeding with him with ease. We were discharged the following day once my catheter was out and I was feeling a bit better.

Over the next four and a half weeks I had what I would have described as a normal amount of bleeding. Five weeks post-partum I passed a large clot and experienced some heavier bleeding. I saw my midwife and she started me on oral antibiotics to minimise risk of possible infection. She instructed me on what was normal and what was not and made me an appointment for a scan the following morning at the hospital.

Once back in Ata Rangi, everyone seemed really busy. I was exclusively breastfeeding a hungry five-week old baby boy and was so hungry and thirsty. Every time I asked if I could please eat or drink and find out when the scan would be, people seemed to disappear and not return to keep me informed. Being a nurse myself I understand how busy it can be, however just to have been informed more and kept in the loop more would have been more reassuring for me. I felt there was a real breakdown in communication and found it unnecessary to remain nil by mouth for so long…..

…..After a lot of waiting and nothing to eat or drink other than ice chips to suck on for about fifteen hours, having not eaten since the night before as instructed, I had a scan which showed a small amount of membrane. I was discharged home and reassured that I would most likely pass a smallish clot and have some further bleeding. I did feel uneasy about going with such heavy bleeding and being over in Napier. I had a terrible headache felt dehydrated and felt pretty miserable.

I woke that night at home with my bed sheets soaked with blood. I got to the bathroom and sat on the toilet and just bleed. It was so frightening; blood was soaking through towels. I knew this was not normal and my husband phoned the ambulance. I was admitted on to Ata Rangi and commenced on IV antibiotics. My midwife was kind enough to come in to see me, she was a fantastic advocate, and together we discussed with the consultant that the best option was to go to theatre for an evacuation of retained products.

The procedure went as planned and I recovered back around on the postnatal ward for the rest of the day. I felt that both I and my son were so well cared for. I felt so much better the following day and was discharged home with no further problems.

A couple of days later I was called by the charge nurse on A3, the gynae ward, checking to make sure I had been seen. I explained I had been see in Ata Rangi, had been to theatre and was now back at home. She was lovely and checked up to see how I was and said I could call her if I had any questions at all.

My husband Daniel and I are extremely grateful for the care and support received during my stays in Ata Rangi.

Thank you"

8.6 Postnatal Blood Transfusions

45 of the 1858 (2.42%) women who birthed during 2015 required a post birth blood transfusion. 44% of these women had experienced a spontaneous vaginal birth, with a further 40% undergoing an emergency Caesarean Section.

Birth Method	Number of Mothers
Spontaneous Vaginal Birth	20
Ventouse Birth	2
Forceps Birth	4
Lower segment caesarean: elective	1
Lower segment caesarean: emergency	18
Total	**45**

The volumes of estimated blood lost by the 45 women averaged at approximately two litres, 35 of which (77%) were between 500 and 2500mls. The 2015 transfusion rate of 2.42% indicates a pleasing reduction in our statistics when compared to the 3.12% rate from the June 2014 to May 2015 annual report. A clinical audit examining use of blood transfusions following Caesarean Section births was conducted early in 2015 and led to an education drive around use of post-operative blood transfusions with an aim to reduce both the number of women having a transfusion and the number of units transfused. A subsequent audit on post-birth blood transfusions is planned for 2016, when like for like comparisons will be able to be made. Anecdotally, an increase in antenatal Iron Replacement Therapy is also thought to be a contributing factor to our reduced blood transfusion rate. An audit around our use of Iron Replacement Therapy is presented in chapter fourteen.

8.7 Intensive Care Unit (ICU) Admissions for Mothers

Nine women, 0.42% of all women who birthed within the maternity unit, had complications of pregnancy or birth that required admission to the Intensive Care Unit. This is a decrease from 0.62% from the clinical previous report which examined 1st June 2014 to 31st May 2015 data.

The indications for ICU admissions are demonstrated in the following table:

Indication for admission to ICU	Ethnicity	Birth Method
Acute Renal Failure Requiring observation in HDU	New Zealand Maori	Emergency Caesarean Section
Eclamptic Fit	Pacific Islander	Emergency Caesarean Section
HELLP Syndrome	European	Emergency Caesarean Section
Major PPH	European	Emergency Caesarean Section
Maternal Medical condition requiring HDU admission for monitoring post op	European	Elective Caesarean Section
Major PPH	European	Emergency Caesarean Section
Maternal cardiomyopathy	European	Emergency Caesarean Section
Fulminating HELLP syndrome	European	Emergency Caesarean Section
Pre-eclampsia	Asian	Emergency Caesarean Section

CHAPTER NINE: NEWBORN SERVICES

9.1 Special Care Baby Unit Services

9.1.1 Specifics of the Hawke's Bay Region

In Hawke's Bay the Children and Youth Services cater for over 34,000 children (0-14 years). The ethnic makeup of the paediatric population includes a significantly high proportion of Māori (36%) and those living in high deprivation areas (26%). This inevitably presents challenges around provision of equitable access to health care services. There are similar challenges to perinatal health care. The ratio of babies born at late prematurity (32-36 weeks gestation), with low birth weight and diabetes in pregnancy is significantly higher in Hawke's Bay compared to the national average, particularly for Māori, those living in the most deprived areas and young mothers (2015 report of the New Zealand Child and Youth epidemiology service; data 2008-2014). The report further states that the overall rate of premature delivery at 8.4 per 1000 births is higher in Hawke's Bay than the national average of 7.5/1000 and the rate of 37.1 teenage births per 1000 deliveries surpasses the national prevalence of 24.4/1000.

Worldwide, an estimated 15 million babies are born too early every year (<37 weeks gestation). That is more than 1 in 10 babies. Almost 1 million children die each year due to complications of preterm birth with preterm birth the leading cause of child death in most developed countries. Many survivors face a lifetime of disability, including learning disabilities and visual and hearing problems. Globally, preterm birth rates are increasing (WHO, 2015).

Although babies born before 34 weeks of pregnancy are at the greatest risk of early death and life-long morbidity, it is becoming increasingly recognized that infants born late preterm are less healthy than infants born later in pregnancy. In fact, the 37 week cut off defining preterm birth is somewhat arbitrary and whilst the risks associated with preterm birth are greater the lower the gestational age, it appears that even babies born at 37 or 38 weeks have higher risks than those born at 40 weeks gestation. Infants who are developmentally and physically immature are more likely than term babies to suffer health complications at birth such as respiratory distress, require intensive and prolonged hospitalization, incur higher medical costs, die within the first year of life and suffer brain injury that can result in long-term neurodevelopmental problems. Accordingly, increased high levels of late preterm births are an important public health issue.

9.1.2 Service Specifications

HBDHB provides a High Dependency Special Care Baby Nursery (Level 2-A) to meet specific regional and geographical requirements of the newborn population. As per the Ministry of Health (MOH) specifications, there is a link to the regional Neonatal Intensive Care Unit (NICU) in Wellington (Level three).

The Special Care Baby Unit (SCBU) has twelve resourced neonatal cots and admits approximately 300-350 neonates annually. This is approximately 15% of all babies born in Hawke's Bay Fallen Soldiers' Memorial Hospital. There has been a steady increase in admissions to SCBU over the past ten years, causing increasingly frequent periods where occupancy is above recommended safe level.

The SCBU is equipped to treat unwell newborn infants including infants who are born very premature (<32weeks). The unit has the ability to provide non-invasive respiratory support (high-flow oxygen, CPAP), mechanical ventilation, total parenteral nutrition via central lines and passive cooling to improve outcomes of neonatal encephalopathy. Babies who need surgical treatment or babies born extremely premature (<28 weeks or birth weight < 1000g) are transferred to the Neonatal Intensive Care Unit 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 SCBU is staffed with 20 registered nurses (13.7 FTE). Five staff nurses have completed postgraduate neonatal papers in 2015.

The Children and Youth Services at Hawke's Bay Hospital provide a structured follow up programme 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 Services provide an expert team of visiting neuro-developmental therapists (VNDT) for ongoing monitoring and treatment in the home.

9.1.3 New initiatives

The Wellington Neonatal Exchange Programme was established in 2014 and received continuing funding support from the Oliver Smales Trust in 2015. As part of this program registered nurses of the SCBU were able to attend two days in Wellington hospital comprising a study day with lectures followed by a second full day for observation in the NICU. This sponsorship has been a great learning opportunity for the SCBU nursing staff and enabled ten registered nurses to complete the programme in 2015. Out of this relationship grew the development of a neonatal discharge co-ordinator and homecare nursing role which was fully established in 2015. It is expected that both will facilitate the safe and effective discharge home and provide a continuum of care in the community.

The Children and Youth services were donated a NewB simulation manikin by the Free Masons in late 2014. Regular neonatal resuscitation training for nurses and doctors was established in early 2015 and has taken place monthly since.

9.2 Neonatal Outcomes

1877 live babies were born to 1858 women at Hawke's bay DHB in 2015. There has been a trend of declining birth numbers over the years, however, the ratio of premature delivery, particularly those of 32-36 weeks gestation has been increasing. Three (1.6/1000) infants died in the neonatal period and there were nine (4.8/1000) fetal deaths. According to the 2015 report of the New Zealand Child and Youth Epidemiology Service of Otago University, fetal death rates in Hawke's Bay (6.96/1000) have in past years (2008-2012) been below the national average (7.53/1000) and the same applies to neonatal deaths (Hawke's Bay 3.08/1000 vs. NZ 3.18/1000).

The following sections include tables and graphs that demonstrate perinatal birth statistics in Hawke's Bay including birth method, ethnicity, gestation and birth weight.

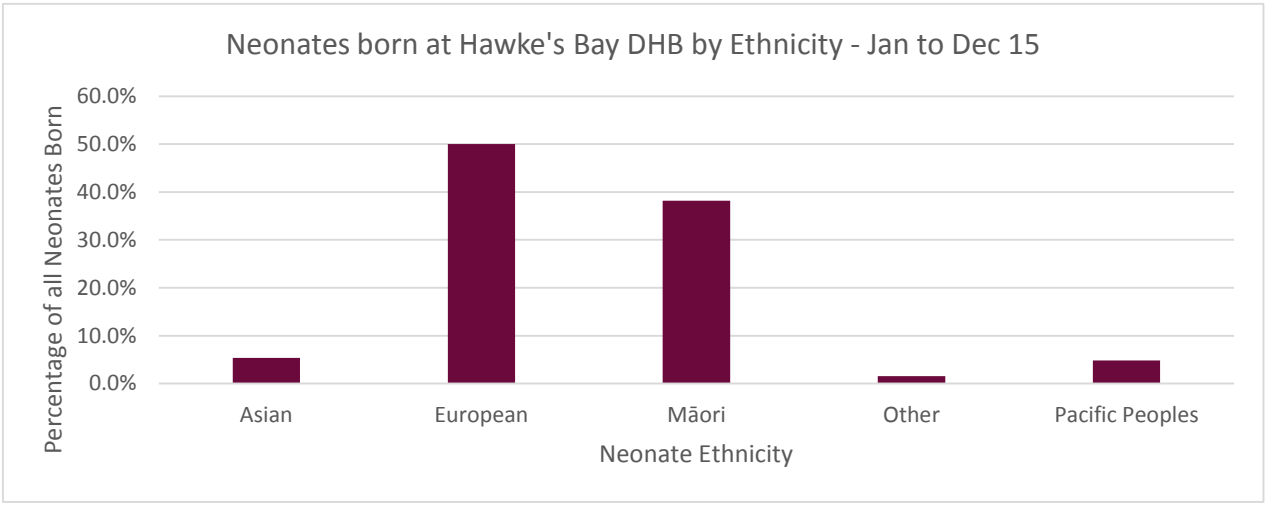
9.2.1 Birth Method

Rates for Caesarean Section have remained reasonably stable and do not appear to differ greatly from national rates. 65.6% of all babies were born via spontaneous vaginal delivery, 7.9% by assisted vaginal delivery and 25.7% by Caesarean Section. It is not surprising that the rate of emergency Caesarean Sections is significantly higher for babies born prematurely (29.3%) than for babies born term (16.5%).

Birth Method	All Babies		Preterm Babies	
Spontaneous Vaginal Delivery	1,232	65.6%	92	55.1%
Ventouse delivery	72	3.8%	4	2.4%
Forceps delivery	76	4.0%	10	6.0%
Lower segment Caesarean Section: Elective	173	9.2%	11	6.6%
Lower segment Caesarean Section: Emergency	310	16.5%	49	29.3%
Breech delivery	14	0.7%	4	2.4
Total	**1877**	**100%**	**167**	**100%**

9.2.2 Neonatal Ethnicity

The distribution of neonatal ethnicities is demonstrated in the graph below. Of the 1877 babies born in 2015, 50% were New Zealand European. Compared to national data a relatively high proportion of mothers identified themselves as Māori (38.2%). 4.8% of mothers identified as Pacific Islander, 5.4% as Asian and 1.5% as other ethnicities. The ethnicity of infants born in 2015 reflects that of the maternal breakdown, with the twin babies accounting for the minor variance in numbers.

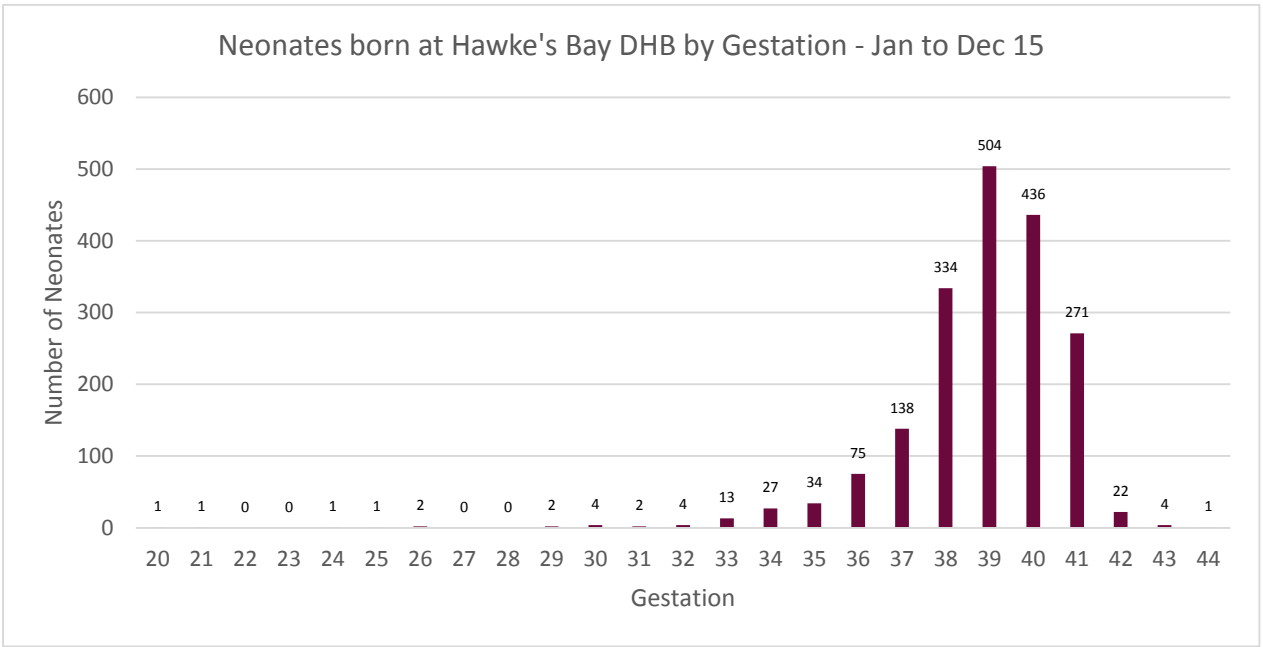


9.2.3 Neonatal Birth Gestation

In 2015 at Hawke's Bay DHB, 89.7% (1683/1877) of babies were born term (≥37-41 weeks) and 1.4% (27) were born post term (>41 weeks). Of the term deliveries 28.0% (472) were early-term at 37 or 38 weeks gestation and 72.0% (1211) were born at mid to late term (39-41 weeks). This leaves 167 babies (8.9%) who were born prematurely (≤36 weeks). Six (0.3%) infants were born extremely premature (20-27 weeks), eight (0.4%) were born very premature (28-31 weeks) and 153 (8.1%) were born at moderate to late prematurity (32-36 weeks).

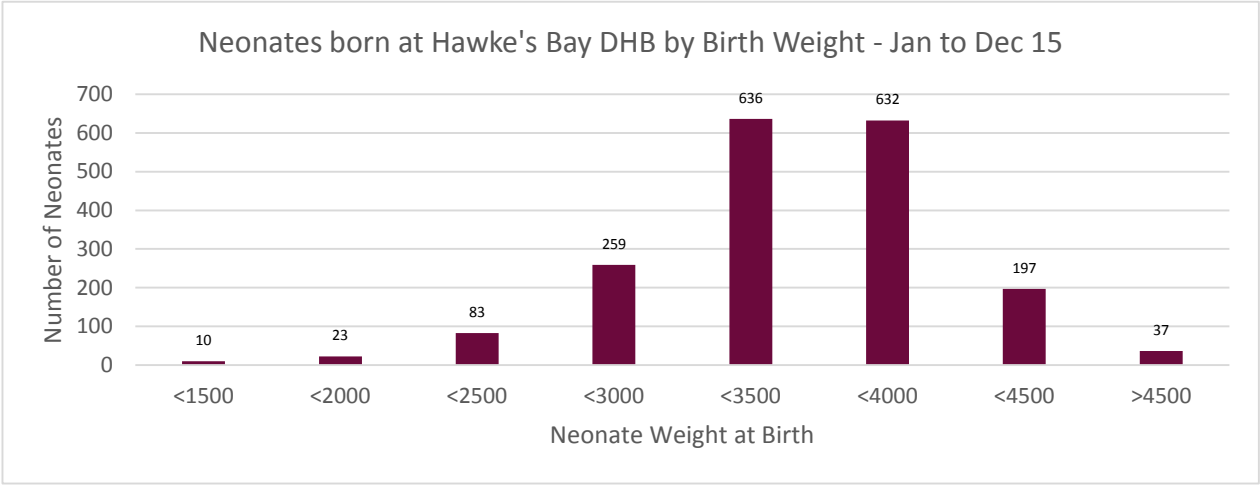
The pre-term birth rate in New Zealand has been stable at around 7.4% of live births from 2000 to 2014. Over the same time period around 0.5% of all live births occurred at 20–27 weeks gestation, 0.8% at 28–31 weeks and approximately 6.1% at 32–36 weeks. This pattern was observed for all ethnic groups, with Māori pre-term birth rates generally higher than the rates for other ethnic groups. In the years from 2010 to 2014 the average preterm birth rate of 8.4% was significantly higher in Hawke's Bay than the New Zealand average of 7.5% (New Zealand Child and Youth epidemiology service, 2015 report).

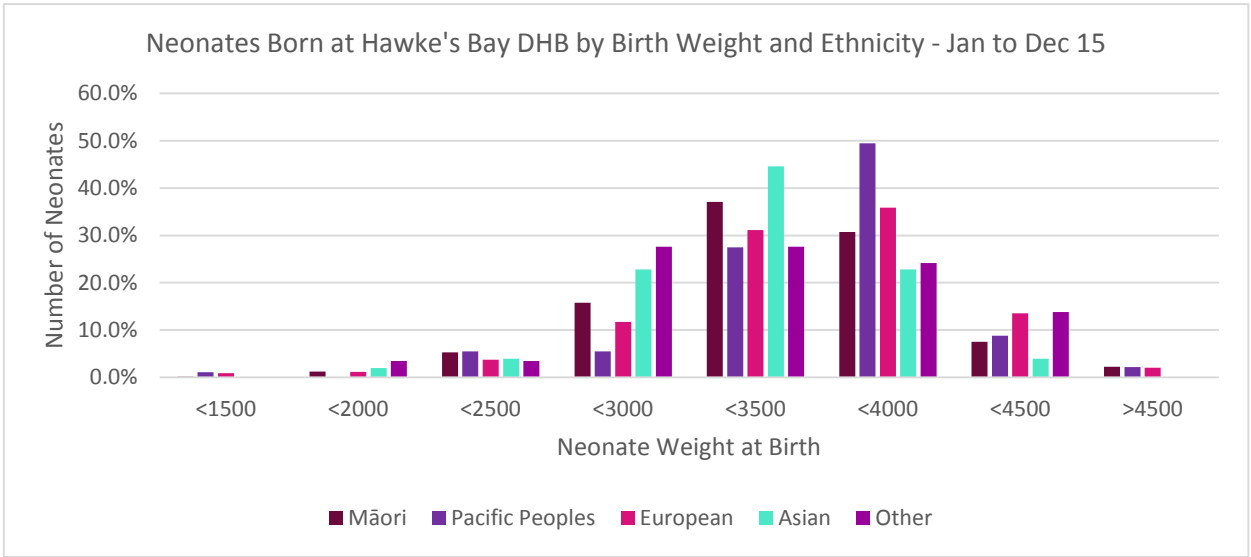
The following graph demonstrates the bell curve distribution of births per weeks gestation with a peak at 39-weeks gestation.



9.2.4 Neonatal Birth Weight

6.2% (116) of babies were born with low birth weight (<2500g). 37 babies (2.0%) had a birth weight greater than 4500g. The following graphs depict the overall distribution of birth weight and the proportional distribution of birth weight seperated for each ethnicity. It is interesting to note that the average birth weight for Māori is significantly lower than that of NZ European and Pacific Peoples. Moreover, Māori but also Pacific People are overrepresented in the low birth weight group (<2500g) with 6.7% (48) and 6.6% (6) respectively versus 5.8% (54) of European babies. Low birth weight is associated with perinatal morbidity and may reflect underlying complications such as gestational diabetes, maternal smoking and low socio-economic status. Māori (2.2%) and Pacifica (2.2%) are equally overrepresented in the high birth weight group (>4500g) which may be related to the higher prevalence of gestational diabetes in these populations.

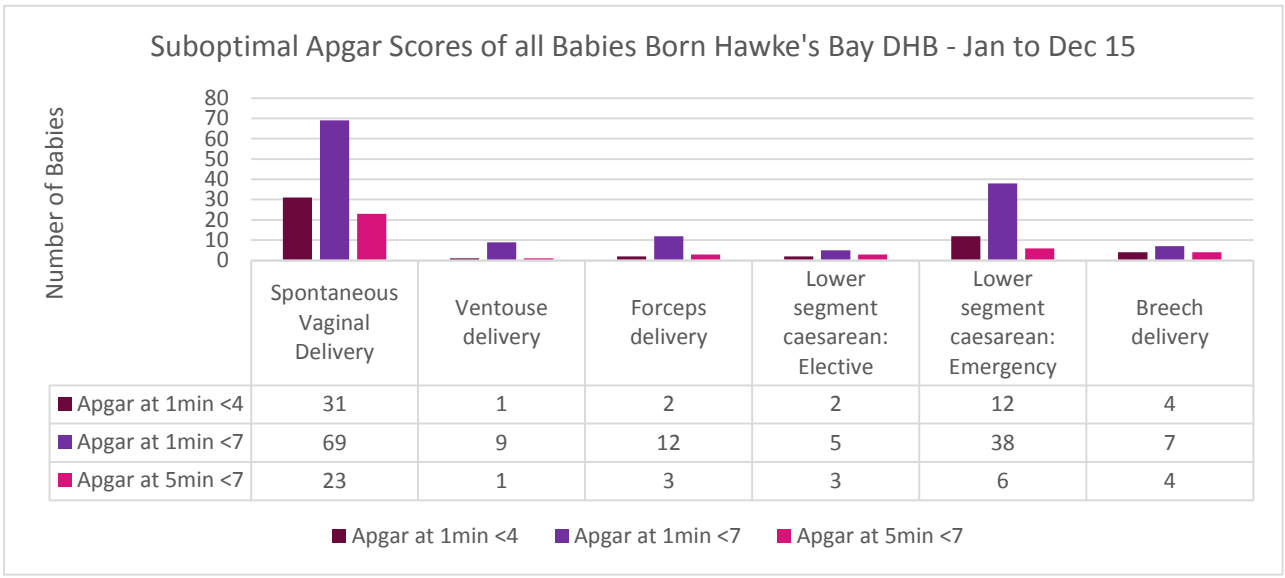




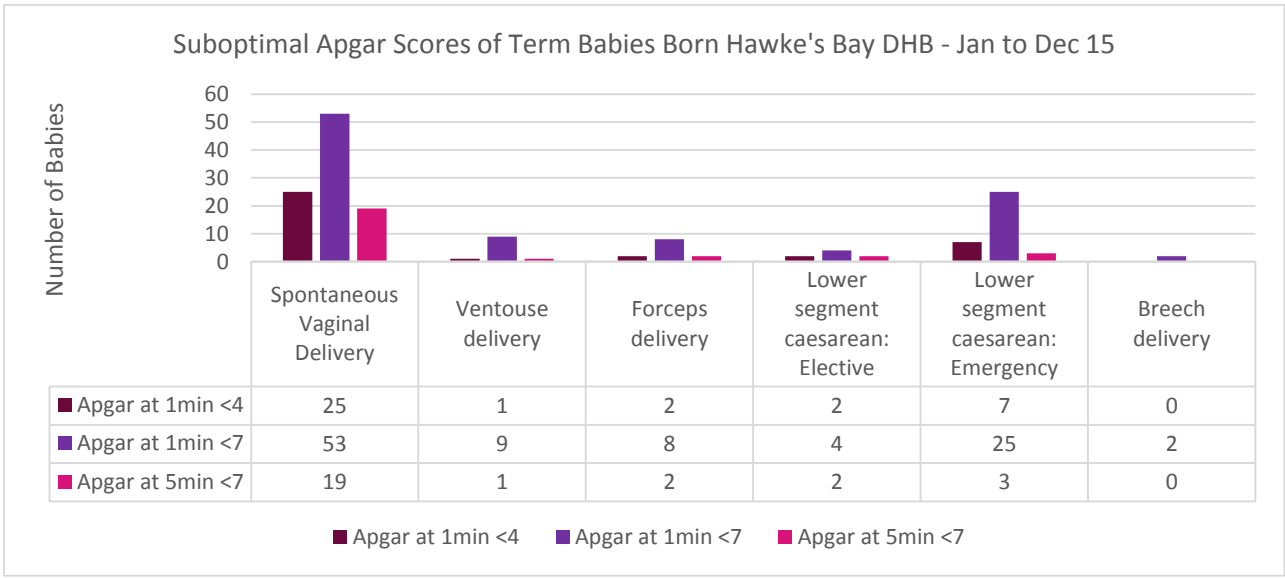
9.3 Neonatal Condition at Birth

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.

An Apgar score of less than four at one minute of age was recorded for 2.8% (52) of babies born. 7.4% (140) recorded an Apgar score of less than seven at one minute of age and 2.1% (40) had a score of less than seven at five minutes of age. Among the babies who had low Apgar scores (<4) at one minute, 59.6% had a spontaneous vaginal delivery, 5.8% had assisted vaginal delivery and 26.9% had a Caesarean Section. However, these proportions loosely reflect the ratio of total numbers per group. The percentage of low Apgar score per group of birth method was 2.5% for spontaneous vaginal deliveries, 2.0% for instrumental delivery and 2.9% for all Caesarean Sections. Babies with breech delivery had the highest rate of low Apgar scores (28.6%).



When comparing the outcome of term (≥37 weeks) versus preterm (<37 weeks) babies it is not surprising that the rate of low Apgar scores is significantly higher for premature infants. However, premature babies may receive lower Apgar scores simply depending on the degree of immaturity with poor muscle tone and weak cry. 9.0% of premature babies had an Apgar score of less than four at one minute and 7.8% had a score of less than 7 at 5 minutes. The percentage for term babies was 2.2% and 1.6% respectively. The highest risk of poor outcome (one minute Apgar <4) for premature infants was associated with emergency Caesarean Section (10.2%) compared to vaginal birth (6.5%). The rates were significantly lower for term babies with 2.7% for emergency Caesarean Section and 2.1% for vaginal birth.

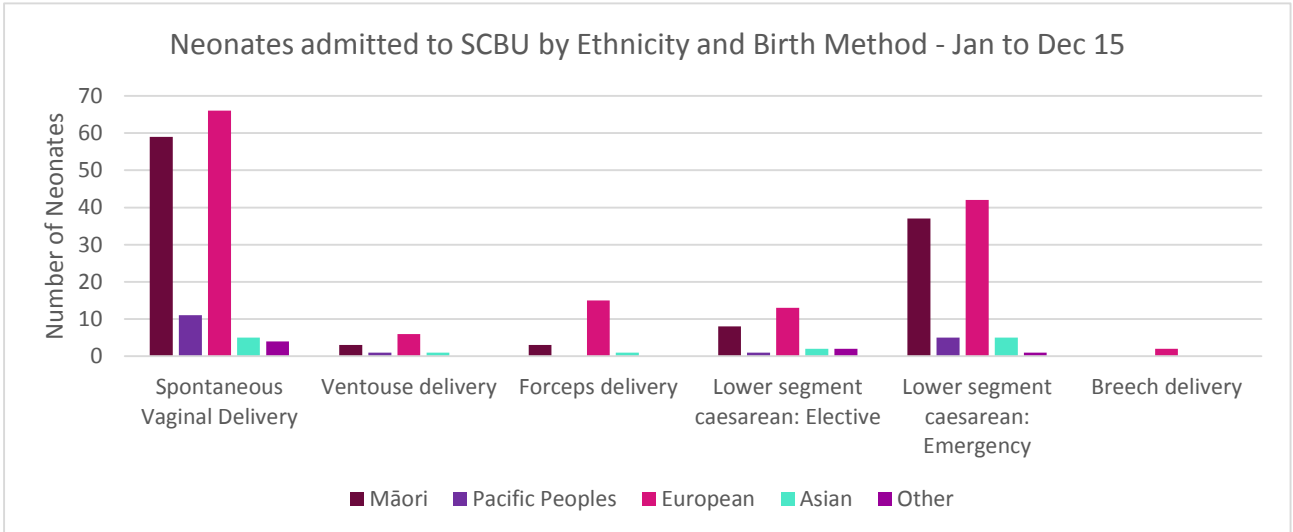


9.4 Special Care Baby Unit Admissions

293 (15.6%) of all the babies born in Hawke's Bay DHB were admitted to the SCBU in 2015. The following table and graph demonstrate the distribution per ethnicity and birth method. 49.1% of infants were New Zealand European, 37.5% identified as Māori, 6.1% as Pacific Peoples and 4.8% as Asian. The ethnic distribution does not differ greatly from the overall births statistics. However, there are a higher percentage of Pacific People babies needing admission (20.0%) compared to New Zealand European (15.3%), Māori (15.3%) and Asian (13.9%).

There appears to be a significant relationship between method of delivery and risk of admission. However, it may not be surprising that the admission rate is higher for assisted vaginal delivery (20.3%) and emergency Caesarean Section (29.0%) compared to spontaneous vaginal delivery (11.8%) and elective Caesarean Section (15.0%).

Method of delivery / ethnicity	Māori	Pacific Peoples	European	Asian	Other	Total
Spontaneous Vaginal Delivery	59	11	66	5	4	145
Ventouse delivery	3	1	6	1		11
Forceps delivery	3		15	1		19
Lower segment caesarean: Elective	8	1	13	2	2	26
Lower segment caesarean: Emergency	37	5	42	5	1	90
Breech delivery			2			2
Total	**110**	**18**	**144**	**14**	**7**	**293**



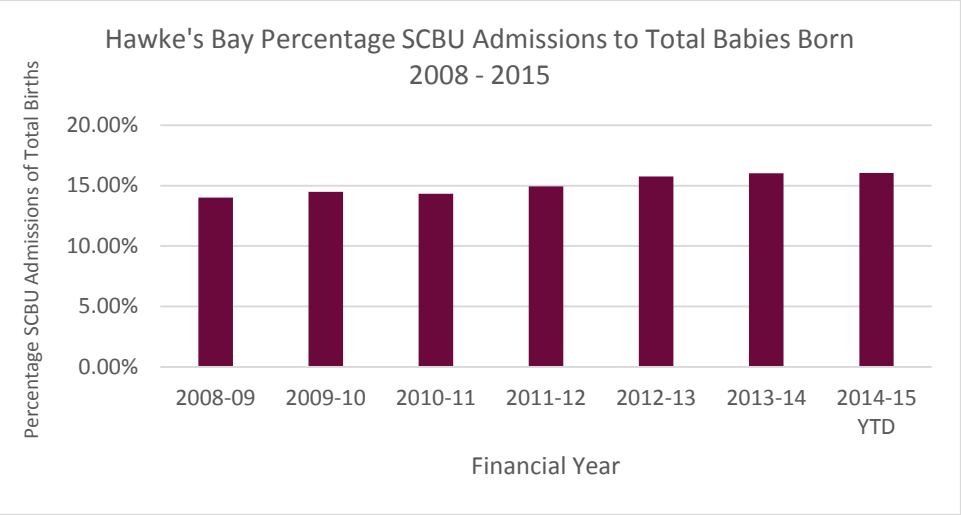
There were a total of 347 admissions to SCBU in 2015. In addition to the above stated 293 admitted babies who were born in Hawke's Bay DHB, this number includes admission of infants born at home (planned or unplanned) or in other hospitals. It also includes babies who may have been born at the HBDHB but were re-admitted within the neonatal period (0-28 days old) from the community and infants who returned to the SCBU after having been transferred to another DHB. A small number of infants who were admitted in 2015 were born in 2014. The following statistics are based on the total number of admissions per year to provide a comprehensive and more accurate picture of acuity and service provision.

There is a continuing trend of increasing annual admission rates per babies born despite a fall in birth numbers. It is likely that several factors contribute and these may include the growing rate of late preterm and early term deliveries, which are both associated with a higher risk of perinatal morbidities. Furthermore, survival rates of extremely (<28 weeks) and very (<32 weeks) premature infants are improving, which comes with increased length of stay and need for complex therapies with high dependency neonatal care. The population demographics of Hawke's Bay with a high percentage of social deprivation, young maternal age, obesity, smoking and Māori, reflect known risk factors for low birth weight and premature delivery. Both are associated with a higher need for specialised neonatal care.

The following two tables demonstrate the admission rates over a five-year period (2011-2015) and distribution of birth weight. It is important to note that not all infants were born in Hawke's Bay. Particularly, the group of birth weights below 1000g does likely include neonates of extreme prematurity who were born in Wellington before returning to Hawke's Bay. Nonetheless, it is often this group of patients who stay in the SCBU for weeks or months adding significantly to the acuity and demand on specialised nursing care.

Summary of admissions					
	2,011	2,012	2,013	2,014	2,015
Number of Babies admitted to SCBU	331	358	340	291	347
Total Babies Born in Hawke's Bay	2,194	2,214	2,077	2,007	1,918
% of SCBU admissions of all babies born	15.1%	16.2%	16.4%	14.5%	18.1%

Number of Babies admitted to SCBU by Birth weight by Year						
	2,011	2,012	2,013	2,014	2,015	
<1000	23	18	17	22	16	4.61%
1000 - 1500	12	16	10	11	10	2.88%
1500 - 2000	30	39	34	36	33	9.51%
2000 - 2500	70	74	72	53	61	17.58%
>2500	196	211	207	169	227	65.42%
Total	331	358	340	291	347	



The percentage of all babies born in Hawke's Bay that were admitted to the SCBU per financial year from 2008 to 2015 is demonstrated in the following graph. It highlights a small but ongoing increase over the seven-year period.

9.5 Morbidities

9.5.1. Retinopathy of prematurity

Along with retinopathy of prematurity (ROP), neonatal chronic lung disease (NCLD) is one of several major morbidities in very preterm infants. This has historically been characterised as 'oxygen radical diseases of prematurity' but with little direct evidence of the processes involved. Targeting on optimal oxygen saturations range can help reducing oxygen toxicity and particularly ROP while not increasing mortality. However, 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 (VLBW) graduates had lower educational achievements and were more socially isolated than term born controls, they rated their quality of life no differently.

The following table demonstrates the number of infants diagnosed with ROP over recent years compared to the number of infants who required respiratory support (ventilation and CPAP) and were given surfactant, which may in some ways reflect the prevalence of moderate to severe respiratory distress syndrome (RDS) and long term complications like chronic neonatal lung disease. There is possibly a vague relationship between number of babies ventilated and ROP, however, the majority of extremely premature infants with ROP will have been born in Wellington. It is important to note that ventilation hours and CPAP hours per year are also a marker of acuity.

Retinopathy of Prematurity and indirect markers of RDS (surfactant, ventilation, CPAP)								
Year	ROP	Surfactant	Babies ventilated	Average ventilation hours per baby	Ventilation hours	Babies on CPAP	Average CPAP hours per baby	CPAP hours
2,007	3	44						
2,008	3	40						
2,009	1	55						
2,010	5	66						
2,011	9	65	12	11.58	139	80	61.31	4,905
2,012	6	90	12	52.83	634	113	44.08	4,981
2,013	3	81	7	44.86	314	98	49.69	4,870
2,014	5	82	9	26.22	236	73	87.12	6,360
2,015	7	109	15	71.47	1,072	97	73.68	7,147

9.5.2. Parenteral Nutrition and Central Lines

Early nutritional support on the first day of life is advocated in very low birth weight <1500g (VLBW) infants because of limited nutritional stores. 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 anticipated requirement for parenteral nutrition is >48 hours. Parenteral Nutrition is preferably infused via a peripherally inserted central catheter (PICC). Umbilical catheters (arterial and venous) are often required in the management of critically ill neonates. Some infants may require all three central lines during their treatment course. The following table demonstrates the number of all central lines (including PICC, UVC and UAC) that were inserted per year as a further indicator of acuity and specific nursing requirements.

Central Line					
	2,011	2,012	2,013	2,014	2,015
Number of babies with Central Line	79	113	142	118	171

9.5.2. Neonatal Encephalopathy (NE)

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. Hypothermia therapy is indicated for moderate and severe cases and has shown to improve long-term outcomes. The terminology NE is preferred to Hypoxic Ischemic Encephalopathy (HIE) as it is not always possible to document a significant hypoxic-ischemic insult and there are a number of other potential aetiologies.

In 2015 there were six cases of NE (2.0% of inborn admissions). Four babies were significantly compromised at birth and received hypothermia treatment. One baby had normal Apgar scores at birth but suffered a seizure at 24 hours of age and a subsequent MRI scan suggested signs of hypoxic brain injury. Lastly, one baby also presented with neonatal seizures after uneventful delivery and was later diagnosed with a severe but extremely rare epileptic encephalopathy syndrome (Otahara syndrome).

The former five infants were transferred to the NICU in Wellington for EEG monitoring and further management and the latter was transferred to Starship Children's Hospital in Auckland. Most of the cases have been reviewed by a multidisciplinary team to identify areas of learning and recommendations for future practice, the compliance of which is being monitored by the Maternity Clinical Governance Group (MCGG), and the majority have been presented as part of the Perinatal Mortality and Morbidity Review Committee bi-monthly discussion forum.

9.6 Neonatal Transfers to the Tertiary Centre

In 2015 a total of 15 infants (5.1% of inborn babies, 4.3% of all admissions) required transfer from the Special Care Baby Unit to either Wellington or Auckland hospitals in order to receive tertiary level care. No babies were transferred due to over-occupancy despite the fact that 68 days (18.63%) were documented as being above 100% capacity, at times significantly. Twelve transfers were made to the NICU at Wellington Hospital including five for management of neonatal encephalopathy, twins for management of extreme prematurity (26 weeks gestation), three for surgical intervention (two inguinal hernias and one diaphragmatic hernia), one infant for assessment of neonatal seizures (benign) and one with atrial flutter for cardioversion. Three infants were transferred to Starship Children's Hospital including two cardiac cases (TGA, neonatal SVT) and one to PICU for management of late onset sepsis. The five-year average (2011-2015) has been relatively stable with approximately 14 transfers to tertiary care units annually.

CHAPTER TEN: POSTNATAL CARE AND SERVICES

This chapter depicts statistics and information regarding infant feeding, length of stay and postnatal readmissions.

10.1 Postnatal Care

Immediate postnatal care is provided by the LMC or DHB core midwife on the labour and birthing suite for the first two hours postnatal. Once evident all is well, mothers and babies are transferred to a postnatal bed unless they wish to discharge home within the first few hours.

Depending on the outcome of birth, women will experience a postnatal inpatient stay with care provided by the DHB midwives and nurses from between two and ninety-six hours. The majority of our vaginal birth mothers going home within the first twenty-four hours, with women who experience an instrumental birth, a Caesarean Section or other complexities having a longer period of postnatal inpatient care.

Within the postnatal care package, families are provided with one-to-one education around infant safe sleep, breastfeeding and expressing, and care of the newborn. Teaching is reinforced with pamphlets and DVDs, includes information about the importance of a smokefree environment, Never Shake a Baby education, infant resuscitation and various breastfeeding DVD's.

10.2 Infant Feeding Outcomes

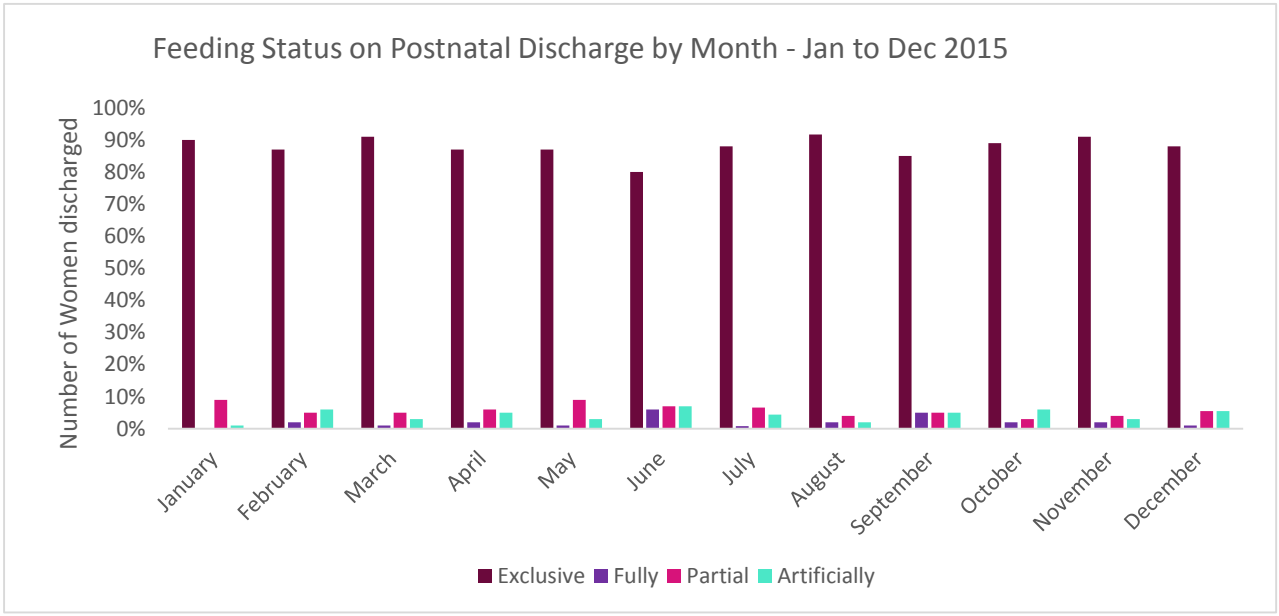
The Maternity Service first achieved Baby Friendly Hospital Initiative accreditation (BFHI) in 2006 and has retained its status in three yearly assessments, the last achieved in 2013. Due to successful implementation of audit standards, the reaccreditation process has now been extended to four yearly audits; our next audit is due February 2017.

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 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.

10.2.1 Exclusive Breastfeeding Rates at Discharge from Hospital



The BFHI target for Exclusive Breast or Breastmilk feeding is 75%. Ata Rangi is proud to have achieved an average of 88.1% on discharge from hospital over the last twelve months.

10.2.2 Infant feeding Education and Service Provision

Breastfeeding education for all staff that have contact with pregnant or breastfeeding women occurs on an annual basis. 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 Core Midwives require four hours annually; this includes one-hour clinical education on breastfeeding. The goal of BFHI education is to ensure that mothers and their whānau receive consistent breastfeeding information and prevent conflicting advice from all professionals they have contact with during their pregnancy, birth and breastfeeding journey.

The risks of giving formula to infants is now well documented especially in the first few days of life. Women whose babies are likely to need supplementation, or who are at risk of delayed lactogenesis II, are encouraged and taught how to express in the antenatal period. Examples include women with diabetes, multiple births, women in premature labour, women with poor lactation history and women who have severe familial allergies. It is acknowledged that this practice lacks rigorous evidence based research; as such we are aware of the ethical dilemma this poses. All women who commence this practice are discussed with the obstetrician responsible for their care.

Another initiative to support parents wishing to exclusively feed their infants with breastmilk is the development of a Donor Milk Policy. The policy applies to unpasteurised donor human milk which is all we have access to. Each breastmilk donor has lifestyle and blood screening prior to donation. The Policy is to facilitate the use of donor breast milk, and reduce the giving of formula when a mother is unable to provide her own breastmilk. This Policy is for use in the Maternity Unit and Special Care Baby Unit (SCBU).

HBDHB is committed to supporting nurses and midwives who are interested in becoming lactation consultants to do so. The number of staff holding lactation consultant registration currently working in the hospital and community now stands at 18. 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:

Antenatal Breastfeeding classes:

- Monthly breastfeeding classes: These are 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.

Baby Café and breastfeeding support on discharge:

- Baby Café (a drop in breastfeeding clinic) operates on a Monday and Friday from 11am - 1pm in Hastings, located at Choices, a Māori Health Provider. Issues with funding lactation consultants is our main barrier to providing an ongoing four days a week service.

- Our second Baby Café operates at Napier Maternity Resource Centre (NMRC), Wednesday afternoon from 1pm to 3 pm. Numbers are consistent with regular attendance each week.

- Wairoa has established a drop in Breastfeeding Clinic run out of Kahungunu Executive (KE). Consistency of service is difficult due to only one lactation consultant (LC) being available in Wairoa. KE has made a commitment to get more lactation consultants trained in the community and has several La Leche League (LLL) peer support workers trained who work voluntarily in the community.

- CHB has a Peer Support group of volunteers that visit mothers in their home. There is also a Lactation Consultant (paid by Parent Centre) who offers free home visits for women with more complex breastfeeding issues. She has noticed a considerable increase in requests for tongue tie assessments and referrals to ORL at the HBDHB have increased correspondingly.

- Choices (HB Kahungunu Health Services) in Hastings has a Piri Paua service funded by Māori Health (DHB) who provides free home visits especially targeted for the hard to access population. This main barrier to this service has been maintaining the employment of an LLL peer trained support worker. The present employee is on long term sick leave.

- In 2013 several Hawke's Bay providers achieved BFCI and this has improved opportunities to educate and inform employees and other contacts in the community. Unfortunately, it appears that the financial cost of the audit prohibits reaccreditation for these services.

10.3 Postnatal DHB Community Care

Our postnatal care provision primarily occurs in the community where the new mother and her baby are residing. The postnatal visit schedule requires daily visits as postnatal inpatients and at least weekly visits up to four to six weeks after birth once home. Our five secondary care team midwives average between eight and ten visits daily. Over the last twelve months there were approximately 2100 postnatal visits to women and babies.

Acuity and complexity of the women that the DHB midwifery team care for is high and often very demanding in terms of resources and time. The team midwives are responsible for taking a holistic approach and ensuring that the new mother is accessing any supports that will assist her, as well discussing the options and referring to the appropriate agencies as required. The team's philosophy is always to endeavour to provide care, be non-judgemental and wrap supports around the women, babies and their whānau whilst safety for the mum and baby is paramount. The complexity of the women and their families can present challenges around poverty, family violence, drug and alcohol dependence and inability to collect important prescriptions. The team also endeavour to support continuity of carer with a standard of ensuring a maximum of two midwives visiting a woman.

10.4 Newborn Hearing Screening Programme

The incidence of permanent congenital hearing loss in New Zealand is approximately 1:1000 births. Prior to Newborn Hearing Screening, the average age of identification of hearing loss was 4 years of age. Research indicates that if hearing loss is identified and intervention commenced before six months of age, the outcomes for the child with hearing loss is the same as for their normally hearing peers, inequalities are reduced, and the relationships for these children, their families and whānau, communities and society are improved.

The Universal Newborn Hearing Screening and Early Intervention Programme (UNHSEIP) is a national programme that aims to identify newborns with a permanent congenital hearing loss so that they can access timely and appropriate interventions. All babies born in New Zealand are eligible for Newborn Hearing Screening. The UNHSEIP aims to complete screening by one month of age, diagnosis by three months of age, and intervention by six months of age.

We aim to offer screening to 100% of babies born in, or transferred to, Hawke's Bay. All babies have two opportunities to pass screening. In order to meet programme goals of timely screening (97% of babies screened by 4 weeks of age), we try to perform initial screening while the baby is an inpatient. Any babies that are missed on the ward or who require a rescreen are followed up in our local and rural outpatient clinics at Central Hawke's Bay, Napier, Wairoa, and within Hawke's Bay Fallen Soldiers' Memorial Hospital. From 20th July 2015, the National program changed to a 'one machine and one screening' pathway regime. Risk factors for progressive hearing loss were also updated to match current international recommendations. Statistics are given for before and after the regime change as detailed in the table below.

UNHSEIP screening statistics for 2015 calendar year		
	January to July '15	**July to Dec '15**
% completing screening pathway	96.75%	90.10%
Primary Reason for not completing screening	DNA outpatient appt	DNA outpatient appt
% requiring ongoing hearing surveillance	8%	0.4%
% pass and discharged	82%	79.1%
% completed by 4 weeks	94.1%	92.3%

For the latter half of 2015, we had a significant staff vacancy. This is now filled so we hope that 2016 screening results will be even better. As the table shows, over 93% of Hawke's Bay babies completed the screening pathway in 2015 and the majority of those that completed the pathway, did so within 4 weeks of age (corrected).

The primary reason for a baby not completing the screening pathway is non-attendance at outpatient clinics. Appointments are made in discussion with the family, appointment cards are

sent, with phone and text reminders also used. We acknowledge that those first weeks at home with a new baby are a busy and stressful time for families. Non-attendance at clinic highlights for us the importance of inpatient screening and we try, where possible, to achieve this. The updated risk factors for progressive hearing loss have had a huge improvement on the numbers of babies who require ongoing audiological monitoring. This has dropped from 8% of births to 0.4%. This significantly reduces the load on families to come to further appointments. We entered 2016 with a full complement of Newborn Hearing Screeners. We hope that 2016 can see higher screening rates and a further improved service.

10.5 Length of Stay

Establishing the 'right' length of stay for women and babies following labour and birth has become a hot topic over recent years, however in Hawke's Bay the emphasis is on working in partnership with the new mothers, in collaboration with their LMC's and ensuring discharge primarily works for the mother, whilst ensuring bed management, workload acuity and smooth patient flow from labour and birthing suite to the inpatient ward can occur.

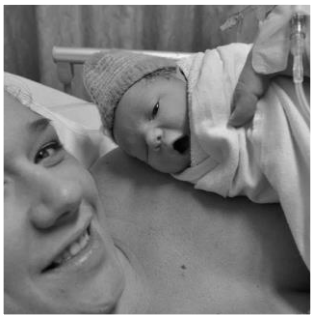
The average amount of time women stayed in the hospital post birth between 1st January 2015 and 31st December 2015 is shown in days in the table below by mode of birth.

Type of Birth	Number of women	Total Length of Postnatal Stay (Days)	Average Length of postnatal stay (Days)
Breech Birth	9	10.6	1.2
Forceps Birth	76	181.7	2.4
Lower segment Caesarean Section: Elective	169	523.0	3.1
Lower segment Caesarean Section: Emergency	304	1066.7	3.5
Spontaneous Vaginal Birth	1229	1662.2	1.4
Ventouse Birth	71	158.1	2.2
Grand Total	**1858**	**3602.2**	**1.9**

Prior to collation of this data, the year was broken down into two parts; pre and post temporary alterations to our postnatal inpatient ward locations, to establish if there was any variance in average length of postnatal stay before and after the transition of services occurred on March 1st, 2015. The variance between these two periods was insignificant.

There has, however, been an evident reduction in length of stay when the complete 2015 year is compared to 1st June 2014 to 28th Feb 2015 for which the overall length of postnatal stay was 2.18.

Part Two



Maternity Quality Safety Programme and Quality Improvement

CHAPTER ELEVEN:
MATERNITY QUALITY AND SAFETY PROGRAMME GOVERNANCE AND OPERATIONS

This chapter defines the role of the MQSP within the HBDHB Maternity Services and demonstrates the accomplished, ongoing and pending work by the Maternity Governance Team whose role it is to facilitate the Maternity Quality and Safety Programme and to implement the service wide quality initiatives.

Meeting the requirements of the current 'established' contract is the responsibility of the Maternity Governance Co-ordinator (MGC) as part of her 0.9FTE role, reporting to the Midwifery Director who holds overall accountability for the programme. The current Maternity Governance Co-ordinator was appointed to implement the remainder of the Maternity Quality and Safety Strategic Plan 2012-15 and then permanently deliver the expectations of the subsequent MQSP contract and all other Maternity Quality and Safety initiatives that fit within the realms of the Governance Coordinator's role.

11.1 Roles and Co-ordination

The infrastructure that implement and maintain the MQSP programme are:

- 0.9FTE Maternity Governance Coordinator
- 0.8FTE Maternity Governance Team Administrator
- Two x Maternity Consumer Members contracted to approx. 12 hours a month each

11.1.1 The Maternity Governance Coordinator (MGC)

The Maternity Governance Coordinator, with the support of the Midwifery Director, has a delegated accountability to lead quality and safety initiatives across the Maternity Services, ensuring full implementation of the delivery of excellence in maternity clinical care.

The Maternity Governance Co-ordinator, who is also a registered practising midwife, is accountable for the provision of expert guidance, support and leadership to all staff across Maternity Services in relation to risk management, clinical governance, audit processing and provision of best practice.

The governance role encompasses the facilitation of adverse event case reviews, co-ordination of the Maternity Clinical Governance Group, facilitation of the Perinatal Maternal Morbidity Review Committee meetings, development of clinical documentation and patient information material, provision of formal education to clinicians, continual implementation of quality initiatives and the ongoing review and publication of our maternity statistics and reported events.

Additionally, the Maternity Governance Co-ordinator holds the main responsibility to create and publish the Maternity Services Annual Clinical Report, at the request of the Ministry of Health, as part of the current MQSP contract. This is a comprehensive piece of work that involving many months of collaboration with numerous individuals across the DHB, extensive collation and analysis of all relevant data and considerable narrative reporting on all elements of the Hawke's Bay Maternity Service.

Providing a timely response to requests from the National Maternity Monitoring Group also lies with the Maternity Governance Co-ordinator, along with collating reports for the HBDHB Clinical Council, representing Maternity Services on committees such as the Patient Safety Advisory Group, the Pharmacy and Therapeutics Committee and the Hawke's Bay Nurses and Midwives Leadership Council, in addition to representing the Maternity Services at the National PMMRC conference on an annual basis.

The diverse role of the MGC additionally encompasses the hosting and facilitation of the Annual Clinical Report Presentation Day, planning celebration days such as International Midwives Day, overseeing, supporting and guiding the two consumer representatives in their roles and a variety of other responsibilities undertaken as part of the senior midwifery leadership team.

11.1.2 The Maternity Quality and Safety Programme Administrator

I commenced the MQSP Administrator role in August 2015, excited to be part of a multidisciplinary team that is passionate about providing excellent antenatal and postnatal care of Hawke's Bay women and their babies.

The Maternity Quality Safety Programme Administrator is currently a 0.8FTE position, with the primary focus of supporting the Maternity Governance Coordinator in all aspects of her daily role.

The MQSP Administrator focus begins first and foremost on integrity. Maintaining strict confidentiality is essential, as significant portions of work completed by the MQSP team is highly sensitive in respect to birthing women, their whānau and our practitioners.

Variety describes the MQSP Administrator role very well. Responsibilities are inclusive of the collation of the weekly Maternity Services statistics and adverse events publication, compilation of the mid-monthly and quarterly adverse reported events documents, completion of the monthly and quarterly Maternity Quality and Safety Programme report and the analysis of the quarterly online Maternity Consumer Survey. It is my role to ensure that all MQSP related reports are disseminated to all stakeholders across the Maternity Services and/or the wider Women Children and Youth Directorate.

Additionally, the MQSP Administrator contributes to case review facilitation, report compilation and tracking of the resulting recommendations. My MCGG involvement includes fully supporting the

Maternity Governance Coordinator in order for her to chair this busy monthly meeting, 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.

The role also encompasses assisting the Maternity Governance Coordinator in the creation and writing of the Maternity Services Annual Clinical Report, contributing administratively and statistically to the report as required.

I am additionally able to fulfil my role of engaging with women and maintaining a consumer focus by being the main administrator 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.

11.1.3 The Maternity Quality and Safety Programme Consumer Representatives

Consumer engagement is an ongoing focus for our Maternity Service. We have recently revised our fixed term 0.1fte consumer liaison representative role that was appointed to in May 2013. We are now delighted to have two maternity consumer members on a more flexible basis where their networks, skills and experiences can be utilised in a more versatile manner in order to gather the consumer views we seek at that particular time. Our two consumer members sit on the Maternity Clinical Governance Group to enable a consumer voice to be heard and incorporated into the way in which we design, deliver and evaluate the Maternity Service. They are supported by the Maternity Governance Coordinator and the Midwifery Director via regular catch ups and ongoing communication.

"Hello, my name is Gabby Allen and I was appointed as a consumer member for Maternity Services at the HBDHB in early November 2015. The role is a very interesting and important one and I feel very privileged to be able to represent parents of all walks of life from across the Hawke's Bay region.

November and December of 2015, for me, were about finding my feet, learning about my role, hearing what my predecessor had achieved and becoming familiar with the current and future initiatives within the maternity service. For 2016, I look forward to making connections with as many consumer groups as I can by visiting coffee groups, well child providers and other specific parenting groups such as teen parents, talking to families I meet in my everyday day life and through my role as sole administrator of my community Facebook page 'Out and About with Kids in Hawke's Bay' where I have a readership of 100,000+ a week and over 11,000 parents following this page.

I strongly believe social media can be used in a positive way to increase engagement and have seen this continually throughout the three years that I have been running the page. I intend to use Out and About with Kids in Hawke's Bay as a platform to make contact with consumers, to introduce and promote myself in the consumer member role, to create an online pathway for consumers to have their voice heard so that we can shape the look of the services in the future and to increase the level of consumer engagement for the Maternity Services online consumer survey. Using the

relationships I have already established with the followers, I am able to make more personal and from the heart requests for contributions, thoughts and feedbacks for all things maternity related.

I also plan to establish a Facebook page for a "closed group" of mums early in 2016. This will enable mums who have utilised the service to give feedback in a private group setting via social media and to be informed as to what's happening within the service such as baby café hours, 'Waioha' opening, free pregnancy drop-in centre, ante natal classes etc. Additionally, I look forward to establishing networks through holding consumer forums where I and my counterpart Lou Curtis will bring together the mums and babies from across the community and the Hawke's Bay maternity senior leaders in order for first-hand consumer feedback to be directly given and received.

Another really enjoyable aspect of my role is sitting as a Consumer Member on the MCGG. It is very important for the consumer to be involved at this level and I look forward to giving input on all things maternity related as well as contributing to consumer documents. I have already been able to use my own personal experience and that of others gained through this role to make a valued contribution to the important information provided to patients and their families by the service.

Without doubt, 2016 is a big year for the Maternity Services at the HBDHB with the opening of the primary birthing unit 'Waioha' in July. I believe this will be an exciting time and I look forward to helping raise awareness of this new facility and that my role will be to help inform mums that they do have a choice about "place of birth". I believe 'Waioha' will be a special and almost sacred place that will become a popular choice for low risk mums, where women will be more aware of the choices and feel empowered to achieve a natural birth.

Over the next two years, my ultimate goal as a Maternity Services consumer member is to reach out to the community via social media, forums and face to face meetings far and wide, so that the mums and dads of Hawke's Bay know that they have representation at this level, that they have a voice, and that their voice will be heard. I look forward to this exciting challenge."

"Hi, I'm Louise Curtis ("Lou") and I love being a mum to my two-year-old son who teaches me so much every day. I feel really excited about this role as a consumer member representing mums and their whānau who have experienced the pregnancy, and the birth of their babies across the entire Hawke's Bay region. I am Hawke's Bay born and bred (as is my hubby) and we wish the same for our boy. My son took his first breath at Hawke's Bay Fallen Soldiers' Memorial Hospital surrounded by lots of supportive staff, He was placed in the arms of myself and my husband by a midwife who we had developed a wonderful relationship with from those early few weeks. We felt very grateful.

I realize that having the opportunity to conceive, carry and deliver a wonderful healthy baby is not something that can be taken for granted. Similarly, I don't wish to take for granted that my husband and I were able to make full use of HBDHB's Maternity Services which were available to us to support us through the journey of pregnancy, birth and those first few weeks of settling into life with a newborn baby, and let's face it, adjusting to being newly 'born' parents!

I consider pregnancy and childbirth to be a 'holistic' experience, it impacts not only on a woman's body but her mind, her spirit, the way she thinks and feels and certainly her baby and her whānau too. My nursing background is very dear to me and I remember thinking throughout my pregnancy that the community and health services on offer might potentially feel really supportive for many of us. It did however leave me wondering "what if…?" What if we had a different set of circumstances? Is it as easy for everyone within our community to access services? Do we all understand the same words and language? What is it like for women (and their babies) who have less support, might not have transport, might be without a partner, or might have health or social conditions that make their journey more complex?

So hearing of this role being established was just like it was meant to be. For me, this role is an opportunity to challenge myself to 'listen' more. I believe that no matter who we are, we are all entitled to feel valued and supported during the maternity journey and that together, by being heard, each whānau and each personal story can make a difference.

It is great being able to work alongside Gabby, the consumer member whom I share the role with who has many personal strengths and an established rapport with many families in the community through her world of social media. This allows me to take a different approach; I see an opportunity to connect with mums by connecting with those services who are already engaged with our families. This includes Maori Providers, Family Services, Early Childcare/Kohanga facilities, Well Child Providers, Teen Parent Centers, Parent and Child facilities, playgroups etc. My intention therefore is to ensure sure we look for ways to connect with a cross-section of ages, ethnicities, socio-economic circumstances and geographic diversity.

This method of engaging will take time but will be worth it when I am known to the services and have built a rapport with each service so that they not only share the 'trends' of what they hear from the mums within their service, but also enable the potentially to be invited to meet the mums and dads as a group and hear their stories firsthand. It's so very important they have their say and that they feel heard. Whilst some women might feel comfortable to feedback via a survey, others might prefer face-to-face korero in a setting which is 'like home' for them, with companions they feel comfortable with and supported by. Similarly, I believe our commitment to arrange and host face-to-face forums is very valuable, with the presence of key DHB maternity staff representation to hear and respond to stories firsthand. I am always mindful that the maternity journey of other's is different to mine and I feel it's important to always have something to give. I will continue to look for ways in which we can feedback to women that their story has made a difference.

11.2 MQSP Governance

Our overarching multidisciplinary group is known service wide as The Maternity Clinical Governance Group (MCGG). The MCGG is a multidisciplinary group of professional, consumer, administration and management representations whose remit it is to oversee the implementation of maternity quality and safety activities and ensure consistency and quality across the Maternity Service.

The MCGG meet monthly, twelve months of the year, to contribute to discussions and decisions about maternity care at DHB level, approve clinical guidelines, monitor the compliance of audit recommendations, oversee the 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. The MCGG reports half yearly to the HBDHB Clinical Council which in turn reports to the HBDHB Board. The group receives several reports each month including the comprehensive monthly incident report, the unit statistical data

report and the quality and safely activities report. The Terms of Reference for the MCGG can be found in Appendix 2.

11.3 Membership of the Maternity Clinical Governance Group

The MCGG members are currently:

- Maternity Governance Co-ordinator, Maternity Services (Chair)
- Clinical Midwife Educator, Maternity Services (Vice Chair)
- 2 x Obstetric Consultant (one consultant with a special interest in Maternal Fetal Medicine)
- Medical Director
- Obstetric Anaesthesiologists
- 2 x DHB Midwife representatives
- Lead Maternity Carer (LMC) representative
- NZCOM representative
- Nga Maia Representative
- Rural primary midwifery representatives
- 2 x Consumer Members
- MQSP Administrator
- General Practice Representative – Currently Vacant

THE MATERNITY CLINICAL GOVERNANCE GROUP – 2015
BACK ROW (L TO R): JEREMY MEATES – OBSTETRIC CONSULTANT, SARA PALEY – MIDWIFERY EDUCATOR, KIRSTEN GAERTY – OBSTETRICIAN, CUSHLA MCLAREN – DHB MIDWIFE, GABRIELLE ALLEN – CONSUMER MEMBER, ANETE ANDZANE –NZCOM/DHB MIDWIFE, LOU CURTIS - CONSUMER MEMBER
FRONT ROW (L TO R): MICHELLE HIGHT – MQSP ADMINISTRATOR, AUDRENE SAMUEL – DHB MIDWIFE, EMMA MUMFORD – MATERNITY GOVERNANCE COORDINATOR
ABSENT: PHIL MOORE – MEDICAL DIRECTOR, SARAH SEW HOY – ANAESTHETIST, DONNA FOOTE- LMC, ERIN SANDILANDS- NGA MAIA REPRESENTATIVE

During the past 12 months the Maternity Clinical Governance Group have met on eleven occasions, during which time we have:

- Welcomed the addition of a 2nd O & G Consultant and 2nd DHB Midwife to the group
- Welcomed two new Consumer Members to the group
- Reviewed and endorsed over 20 clinical guidelines
- Contributed to and approved a selection of new documents in preparation for the opening of the primary facility mid 2016 such as the 'Clinical Risk Assessment for Place of Birth' document
- Reviewed the criteria and development plan for the new established MQSP contract
- Reviewed 6 individual clinical audits and with monitoring of audit the recommendations.
- Reviewed 10 Clinical Quality Audit Summaries
- Developed and implemented three patient information leaflets including: The Third and Fourth Degree Perineal Tear Patient Information Pamphlet, the Newborn Jaundice Parent Information Pamphlet, the VBAC (Vaginal Birth After Caesarean) Patient Information Leaflet
- Reviewed fifteen adverse events case reviews reports with monitoring of the recommendations from each review.
- Approved and endorsed four new Documentation tools, including the Communication Tool for Induction of Labour, Communication Tool for Elective Caesarean section, Third and Fourth Degree Perineal Tear Care Pathway and the Accumulating Blood Loss Tool
- Reviewed eleven monthly Maternity Governance Reports
- Reviewed and created actions against Four Quarterly Clinical Event Reports
- Reviewed the GP Early Engagement Initiative project report
- Reviewed eleven Mid-Monthly Events Reports
- Received several monthly Breastfeeding statistics reports
- Reviewed four quarterly reports of the Online Maternity Consumer Survey
- Received and reviewed approximately 50 written consumer compliments and 12 written complaints

11.4 Clinical Case Reviews

Evidence based clinical case reviews are led by the MGC with the support of the senior leadership team. Their occurrences are instigated following submission of a formal event report based on our robust event reporting trigger list. The depth of the case review depends on the severity of the adverse event, however all case reviews involve a full examination of case notes, gathering of additional information, a closed group multidisciplinary review meeting where issues are identified and recommendations generated, a formal investigation report being written and shared appropriately, and the dissemination of the anonymised recommendations to all clinicians for shared learning. The formal reports and their required actions are endorsed and monitored for compliance by the MCGG.

Between 1st January and the 31st December 2015 the Maternity Governance Coordinator facilitated fifteen formal clinical case reviews. Each of the fifteen adverse event case reviews were multidisciplinary investigation meetings, where excellent practice was recognised and areas for improvement identified. Recommendations for future practice and shared learnings were published in an anonymous format following each review.

Changes relating to clinical practice that have occurred as a direct result of these case reviews following endorsement from the MCGG are:

- Adjustments to the hospital urgent pager system to ensure that the most appropriate clinicians are called at all times
- Ensuring telephones in the birthing rooms are used to convey crucial information to the paediatric team rather than by a third party at the general workstation
- Improved communication/visual displays of essential details that need to be provided to senior clinicians in an acute scenario – the Who, When, Where and Why message
- Amendments to the iron therapy guidelines to ensure all women receiving intravenous iron replacement therapy have a CTG during the encounter
- Ensuring women visiting the Day Assessment Unit for out-patient treatment more than twice a week also have an antenatal clinic appointment to ensure ongoing obstetric review
- Improving communication in relation to the expectations of the LMC's input of care when the woman is also seen regularly in the Day Assessment Unit
- The upgrading of the Day Assessment Unit referral form to incorporate the completion of a clearly outlined plan of requirements for monitoring per visit, with specifics tasks and the level of surveillance required
- The DAU midwife role adapted to encompass minimum requirements for fetal heart auscultation for every visit regardless of indication for attendance
- The consideration from theatre management to implement additional guaranteed staff availability on-call or on the floor during weekends and statutory holidays
- Evolvement of the "second midwife at every birth" culture to support, document and provide a helicopter view
- Commencement of a project to develop consultant level face to face consultation and attendance for all full dilation Caesarean Sections and other significant emergency cases
- The development of an improved orientation package for new doctors coming into the service to ensure awareness of policies, procedures and practice expectations
- Strengthening of the communication pathways between maternity clinicians and colleagues in others areas when an acute Caesarean Section is required
- Ensuring that debriefing from the surgeon with the women around complications and adverse outcomes occurs in a timely manner
- Improving and publicising the communication pathways between maternity and medical ward staff to ensure support is provided for women with PICC lines in situ, in order to facilitate the women being able to remain in the most appropriate environment for each particular case

- Ongoing investigation into adherence to the wound infection prevention care bundle policy and education provided to women prior to Caesarean Section regarding wound care
- Development of two Caesarean Section Patient Information Pamphlets, one for antenatal elective Caesarean Sections and one for all post Caesarean Section women. Both pamphlets include comprehensive information around post-surgical wound care and prevention as well as in-depth information around all aspects of Caesarean Section experience within HBDHB Maternity Services
- Implementation of the standardized use of surgical drape opening over the surgical site for all Caesarean Sections and compliance of the drying procedure for the op site as per HBDHB policy
- Improved communication pathways for antenatal clinic appointment requests by electronic methods
- Commencement of a work-stream to establish the appropriate and acceptable waiting time for a woman requesting to be seen by the registrar, prior to calling the consultant to review on the registrar's behalf
- Work around improving the communication between ultra-sonographers and obstetric clinicians when abnormalities are detected, as well as looking at ways of establishing a generic referral form for all of our ultrasound providers
- Sharing of specific emergency information with relevant clinician
- Improving the process for Dual Obstetric/Diabetes Clinic Referrals so that both appointments are made

CHAPTER TWELVE: QUALITY INITIATIVES & COLLABORATION

HBDHB established the Maternity Governance Coordinator position as a permanent role part way through 2015 along with increasing the FTE of this role and the MQSP administrator. This wise implementation of funding has not only allowed for the completion of implementation of several ongoing quality initiatives but it has also expanded the capacity to focus on new objectives, adjust priorities for further service implementation and initiate new Hawke's Bay wide collaborations.

Many of the planned actions for 2015 have now been achieved, with numerous additional initiatives also being developed along the way. With many of these objectives running alongside or in addition to the creation and development of our along-side primary birthing unit 'Waioha', it has been a very busy and productive year.

This chapter showcases the Maternity Services quality initiatives that have been implemented or embedded into the service during 2015. The initiatives are discussed under three separate headings: Collaborative Initiatives, Maternity Service Implementations and Maternity Quality and Safety Programme Innovations.

Collaborative Initiatives

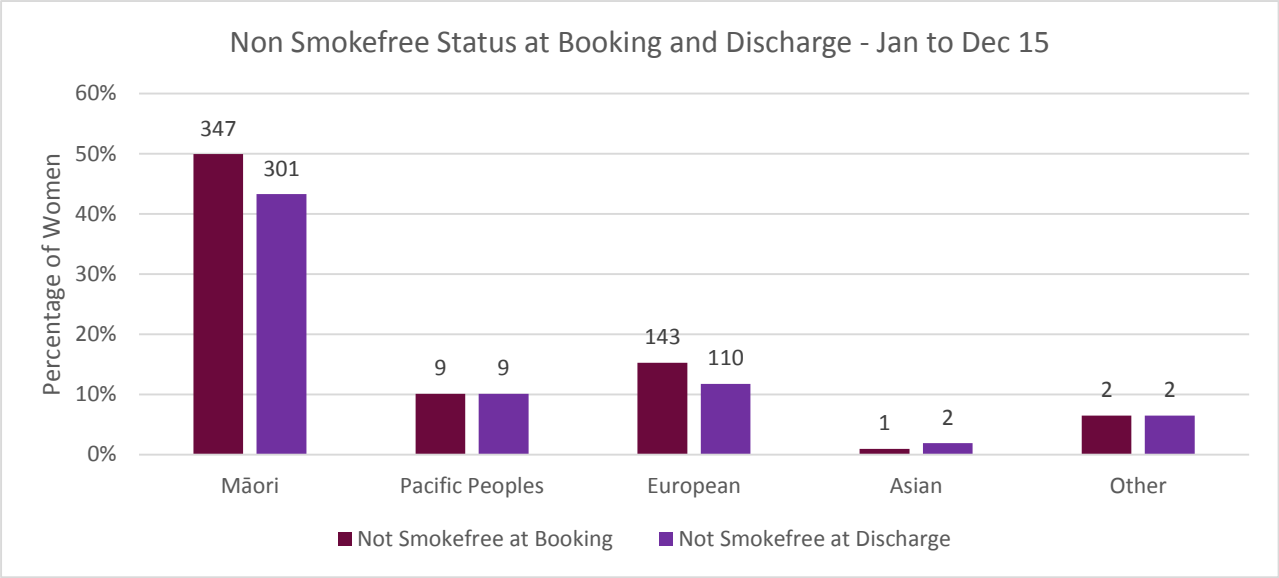
The following initiatives are integrated services that are in place to provide women, babies and families with the best opportunity to be healthy.

12.1 Smokefree Cessation Service & Smokefree Intervention Programme

The Hawke's Bay District Health Board (DHB) Smokefree Team has seven staff, six located in Hastings and one based in Wairoa. While each team member has a designated area of work, all team members work collaboratively for specific projects and to promote the smokefree message in general.

The Maternal and Child Health Smokefree Co-ordinator's focus is to ensure and prioritize patient safety and quality relating to care and processes within the Smokefree Service. This includes delivery of organizational key performance indicators (KPIs) such as the Ministry of Health target of at least 95% of all patients and/or patient's parents being asked about their smoking status, briefly advised on the benefits of being smokefree and offered cessation support to assist them with quit attempts. This KPI is consistently met, with the figure for this current year being 98.35%. The KPIs also include a number of service plans. The Maternal and Child Health Smokefree Co-ordinator's role is to develop and support initiatives to reduce smoke exposed pregnancies.

Since the last annual report there has been an increased focus to ensure the accuracy of data entry and reporting of smokefree status; this will produce confidence in the local Smokefree statistics in pregnancy and postnatally captured by the DHB's IT team. It is early to say yet how much we have improved but the 2016 report is expected to show the progress.



The graph above presents the non smokefree status at booking and discharge by ethnicity of the women who birthed within the service during 2015. This data is collected by HBDHB's Information Technology Department. It shows that although there are some women who quit smoking during their pregnancy. The rate is low and more work is required to expand the Increasing Smokefree Pregnancy Programme (ISPP) improve engagement, to improve quit rates and to include whānau.

Data is also collated directly by the Smokefree Team. The following tables demonstrate the Increasing Smokefree Pregnancy Programme (ISPP) referrals, quit attempts and quit status collated by the team. The key cessation initiative "Increasing Smokefree Pregnancy Programme" and its' quit rates are discussed below.

12.1.1 Increasing Smokefree Pregnancy Programme Report 2015

	NZM	NZE	PI	Total
Antenatal	168	67	3	238
Postnatal	22	11	1	34
Whānau	22	21	3	46
Total referrals				**318**

In 2015 there were 318 referrals made to the Hawke's Bay District Health Board's (HBDHB) Smokefree Team or to Kahungunu Health Services (Choices) directly. This is 54% of all women who were not Smokefree booked to have their babies in Ata Rangi Maternity. All referrals were made by Ata Rangi registered midwives, nurses and Lead Maternity Carers (LMCs) in the community. It is important to note that most referrals (75%) were received antenatally. This allows more Smokefree interventions throughout pregnancy and before baby is born. For those who quit this increases the chance of a healthier pregnancy, birth outcomes and better postnatal outcomes including expanding the Smokefree environment for the women, babies and whānau members involved.

The biggest challenge of the ISPP is to increase the number of women and their whānau members going on to the programme and quitting after the referral has been received. There is still a large number of women who decline support or are unable to be contact once a referral has been

received. This is a national concern amongst cessation providers and has proven to be a very difficult one to resolve.

Of those on the programme in 2015

The graph below shows the breakdown of women and whānau members going on to the 12-week cessation programme provided by Choices. 32% of women and whānau members referred to Choices followed through with their referral and had a quit attempt with ongoing cessation support with or without Nicotine Replacement Therapy (NRT).

Total on to programme	NZM	NZE	PI	Total
Antenatal	52	28	1	81
Postnatal	6	6	0	12
Whānau	5	4	1	10
Total				**103 (32%)**

Quit data in 2015 at 4 and 12 weeks for antenatal and postnatal women on ISPP

The quit rate for the ISPP in 2015 was 30% at 4 weeks and 27% at 12 weeks. As can be seen, the drop off for those who went on the ISPP is small at 12 weeks.

	4 weeks Smokefree	12 weeks Smokefree
Total	31 (30%)	27 (26%)

12.1.2 Increasing Smokefree Pregnancy Programme Report Wairoa

Since July 2015 the ISPP has been running more intensely in Wairoa with cessation clinics operating parallel to the antenatal midwife clinics. The aim of this was to capture more women during their midwife appointments and increase quit attempts among pregnant women and their whānau in Wairoa.

	NZM	NZE	PI	Total Referrals
Antenatal	18	0	0	18
Postnatal	1	0	0	1
Whānau	1	0	0	1
Total				**20**

Of those on the programme between July and December Wairoa 2015

Total referrals	NZM	NZE	PI	Total
Antenatal	14	0	0	14
Postnatal	1	0	0	1
Whānau	0	0	0	0
Total				**15 (75%)**

In total there were 20 referrals made to the Smokefree Coordinator in Wairoa, 75% of women referred accepted cessation support and two women (13%) quit in the six-month period. It is important to note again that all women apart from one were antenatal women and all identified as New Zealand Maori. More work needs to be steered towards maintaining women and their whānau

members on the programme to achieve smokefree pregnancies, smokefree whānau and higher quit rates in Wairoa.

Smokefree data July – December Wairoa 2015

	4 weeks Smokefree	12 weeks Smokefree
Total	2 (13%)	2 (13%)

12.1.3 The Increasing Smokefree Pregnancy Programme Review

The ISPP was externally reviewed in 2015 by Hi-RES Ltd in Wellington. The review involved data and statistical reviews, personal interviews with participants of the ISPP, midwives referring in for the cessation support, cessation providers at Choices and members of the HBDHB Smokefree team. The key findings of the review are listed below:

- Increased referrals to pregnancy-specific smoking cessation services.
- Increased delivery of ABC Smoking intervention to pregnant women.
- Increased referrer knowledge of and confidence in pregnancy-specific smoking cessation services.
- Increased smokefree pregnant women.
- Improved reporting and feedback loops between HBDHB, Choices smoking cessation service and referrers.
- Improved relationship between HBDHB and Choices smoking cessation service.
- Nappy incentives - a cost-effective, appropriate and acceptable incentive for the ISPP.
- One-on-one smoking cessation support – key to women becoming smokefree through the programme.
- Promotion of the ISPP and ABC Smoking to midwives – key to high referral numbers.
- Key challenges included:
    - Enrolment rates.
    - Quit rates.
    - Programme drop-off rates.
    - Whānau engagement.
    - Wider health sector engagement.
    - Cessation support resource.
    - Quality of data collection and analysis.
    - Individual motivation and readiness to quit smoking.
    - Risk of undermining long-term cessation message.

The key recommendations for the programme were as follows:

- Market the ISPP as a whānau opportunity to quit smoking for the new baby
- Promote the ISPP directly to pregnant women and their whānau to increase self-referrals
- Promote the ISPP more widely in the health and social sector
- Enhance the incentives package to include whānau members and more incentive opportunities
- Improve the ease and speed of the referral process
- Increase cessation support capacity
- Improve the quality of ISPP data and outcome analysis

The HBDHB agree with the findings within the evaluation and are progressing the recommendations with the intention to launch the new promotional material and incentives on the 1st July 2016.

12.1.4 Baby Carbon Monoxide Monitoring

As reported in the 2014/15 Annual Clinical Report, during 2015 we had a trial of Baby Carbon Monoxide (CO) monitor in Ata Rangi's postnatal ward and in the antenatal obstetric clinic. This is now a permanent day to day practice for midwives working in the antenatal clinic. It is well accepted by the midwives using the monitor and women choosing to have their carbon monoxide readings taken. The following is a reflection from Sue Davey, one of our Team midwives, on her antenatal clinic patient experience using the Baby CO monitor.

SUE DAVEY UTILISING THE CO2 MONITOR DURING AN ANTENATAL CLINIC VISIT

"During one of my days working in the antenatal clinic, a couple came through for their routine antenatal check and chat with me before their consultation with the obstetrician. One of the topics I would always discuss is their Smokefree status. Both the woman and her partner smoked and initially when I offered NRT, they declined and said they were not ready to quit.

We then went on to discuss safe sleep and they were informed that their baby was at higher risk of SUDI and explained why, that they would be entitled to be referred for a pepi-pod and encouraged to consider to become Smokefree and educated never to co-sleep with their baby. I also discussed breastfeeding with the woman and informed her that by doing this it would be one of the ways of protecting her baby from SUDI along with safe sleep practice.

We were trialing the CO monitor and I had been asked to test the CO in the breath of the non Smokefree woman or partner. I offered this to the couple and both were really interested and happy to do so. The partner had an extremely high reading and the woman moderate, she was shocked when she saw the reading her baby would be getting. After this test the couple both decided they would like to try NRT and accepted to go on the Smokefree programme especially as there is an opportunity to receive nappies for every four weeks (up to 12weeks) that the woman is Smokefree.

This is an excellent and powerful example that highlights the importance of taking the time to explain to a couple in a clear non-threatening way the implications of smoke exposure during pregnancy and how they can take measures to avoid an IUGR baby and protect against SUDI.

I found the use of a tool such as this CO breath testing machine was very useful and completely turned this couple's attitude around to wanting to become Smokefree on the basis of the information they had been given and their high readings."

Sue Davey, Registered Midwife

12.1.5 31st May the World Smokefree Day

World Smokefree Day is the 31st of May. Regionally in Hawke's Bay the entire month of May has become the Smokefree Month with a number of Smokefree Events occurring across the Bay including Wairoa and Central Hawke's Bay. In 2016 the Smokefree Team, in conjunction with Choices will be hosting a High Tea for Hapu Mama at Te Aranga Marae, Flaxmere and in the Plunket Hub in Napier. It is hoped to be a friendly morning tea for all Hapu Mama where a smokefree pregnancy and postnatal period can be celebrated. During the morning smokefree advice will be offered for those who wish to take on a quit attempt. All events will be advertised via media and in community hubs.

12.2 Immunisations Programme

Now in its fourth year, a "drop in" free "Boostrix" Vaccination clinic is running in Ata Rangi Maternity. The clinic is for all Hawke's Bay pregnant women between 28 and 38 weeks gestation, as well maternity staff and LMC's. This initiative was following a directive from the Ministry of Health in an effort to reduce the outbreak of pertussis. This is well supported by LMC's and the Antenatal Clinic staff. Most attend on the recommendation of their LMC and some by word of mouth. Offered on Wednesdays, this clinic coincides with the high-risk Medical and Obstetric specialist clinics.

Numbers are consistent with 286 women being vaccinated in 2013, 285 in 2014 and 280 in 2015. The Hawke's Bay DHB Immunisation Team vaccinate approximately 15% of our local pregnant population. We are unaware of any other Maternity Unit in NZ offering such a clinic. We also offer Napier antenatal women a drop-in clinic once a week at the Napier Health Centre.

Influenza vaccine is offered concurrently to women during influenza season. We are fortunate to be able to utilise the pharmaceutical fridge in the Ata Rangi to store our vaccines, and have access to emergency equipment should that be necessary. Thank you to all staff who are helpful and welcoming as we do our very best to protect pregnant women and new born babies.

In addition to the pregnant population, many staff present for their own vaccinations, both Boostrix and Influenza, as well as those postnatal women who require either Boostrix or the MMR vaccine. Having an authorised vaccinator on the ward weekly is useful for the LMC contractors who are not part of our staff but access Maternity Services.

12.3 Family Violence Programme

The Violence Intervention Programme (VIP) has been in place in HBDHB since 2002. Maternity staff are trained through the VIP Core training to question all women over the age of 16 if they have been a victim of family violence. The routine enquiry 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 educated to assess risk and put a safety plan and referral into place for any identified victims. Staff are also required to document all interactions with the victim to ensure the appropriate support and referrals are completed. Refresher training is offered yearly to keep clinicians up to date with the latest findings. This allows staff to build a relationship with the VIP team so if consultation is needed staff feel comfortable asking for support.

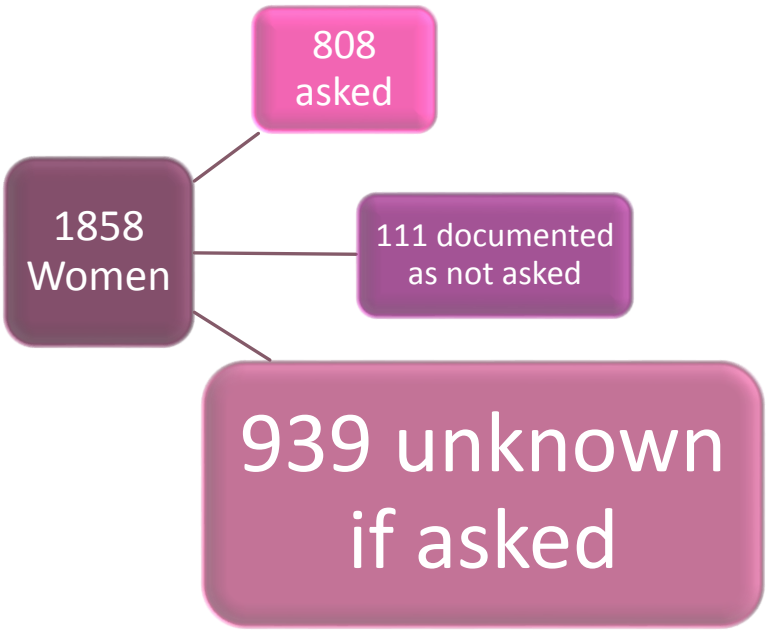
As the co-occurrence of family violence and child neglect and abuse are high, staff are requested to consider risk to both the born and unborn baby. Staff are trained to complete a referral to Child Youth and Family if the situation is high risk. Additionally, The Shaken Baby Prevention Programme has 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.

The VIP team, along with the Maternity Management team are always looking at innovative ways to increase staff knowledge and confidence when working with patients who are victims of Intimate Partner Violence. The roll out of Family Violence shirts for VIP champions has meant that several staff in the maternity unit now wear shirts which have a FV prevention and support message on them. It is hoped that this will keep the issue of FV on the radar for both staff, patients and whānau who come into the ward. The VIP team continue to build working relationships with all staff on the ward and offer support to any that need it.

There is a national standard and expectation that women are asked about Family Violence (FV) at least three times during pregnancy and the postnatal period: at booking, 28 weeks and postpartum. It is significant to note that we currently have limited access to data once women are discharged from hospital. Therefore, all our data is DHB related.

In relation to routine family violence questioning at booking, 808 of the 1858 women birthing in Hawke's Bay during 2015 were asked about Family Violence at booking. There were 22 women who disclosed family violence, a 2.7% disclosure rate. Of note, 111 women were not asked with the main reason given for this being an inability to speak to the woman alone. However, for 939 women there is no documented evidence of any family violence screening being carried out or considered: 50.5% of the total.

ROUTINE FAMILY VIOLENCE QUESTIONING AT BOOKING



ROUTINE FAMILY VIOLENCE QUESTIONING AT HOSPITAL DISCHARGE

For the same 1858 women birthing in 2015, 892 of them were questioned around family violence prior to postnatal discharge. 35 women provided a positive result, creating a disclosure rate of 3.9%. It is important to note that Hawke's Bay Maternity support whānau to stay with the new mother which does pose a challenge in carrying out the FV screening prior to discharge as the women are rarely alone. The screening rate is similar to that at booking of 50%.

Similarly, to routine family violence questioning at booking, there were hundreds of women who were not screened for family violence at discharge. These were made up of 750 women where a documented reason was provided for not questioning and 216 where there was no documentation of family violence screening ever being considered. Collectively these unscreened women represent 52% of the women who birthed with us during 2015.

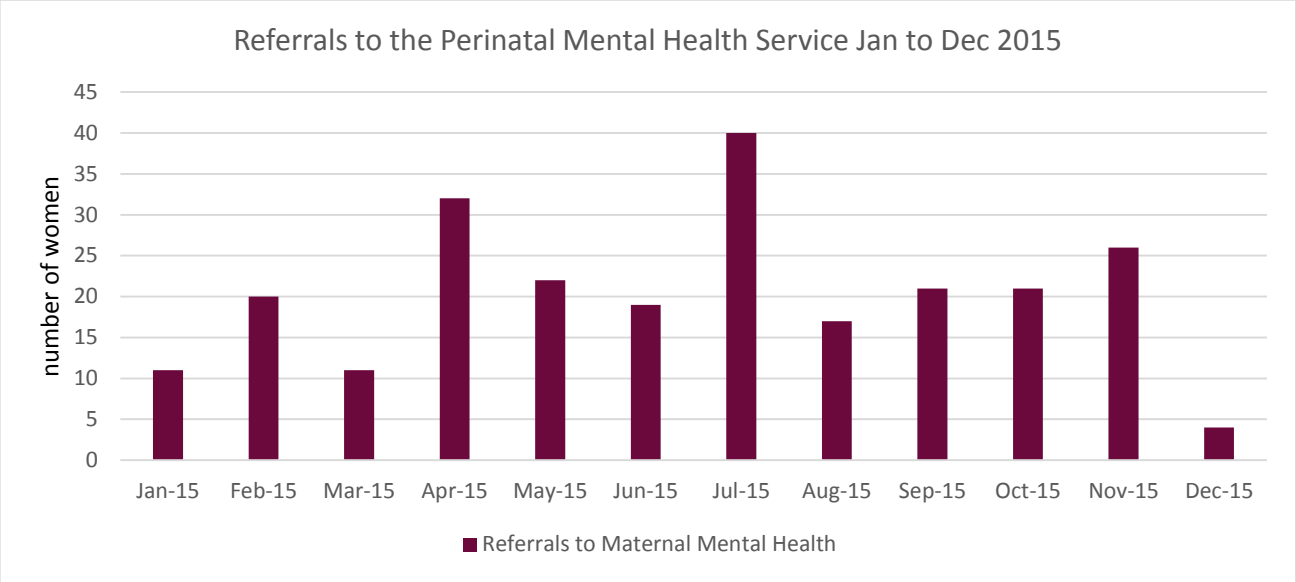
A strong focus on improving these poor screening rates via a collaborative approach will commence during the latter half of 2016. In the meantime, we will continue to work closely with DHB FVI Co-ordinator and attempt to embed FV screening in a similar manner to Smokefree screening and intervention.

12.4 Maternal Mental Health Service

Maternal Mental Health (MMH) has been operational since March 2012. The service continues to grow and provide support and services through pregnancy and after birth to women with moderate to severe mental health concerns. The face of MMH Hawke's Bay has changed with Betty Savage (Social Worker) starting in August 2015 and Anna-Marie Devoe (Registered Nurse) joining Betty in January 2016. The service has medical cover of 0.2FTE provided by Anoek Dechering-Raes. This small dynamic team are dedicated to the well-being of woman during their perinatal period which has been extended up until baby is twelve months of age. The service provides assessment, treatment, information and therapeutic intervention to women needing support. With the changes in the service we continue to build networks working collaboratively with NGOs and other maternity providers within the community to create a robust and resilient service for women assessing needed supports.

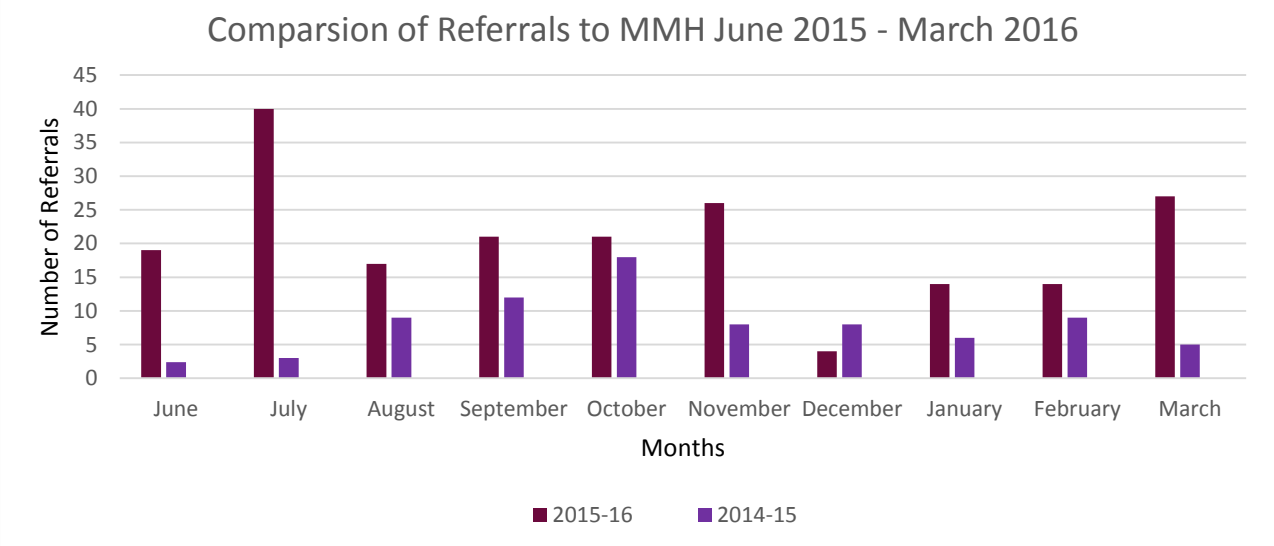
One of our focuses has been on outlining service criteria and patient access pathways. Previously, information showed an increase in professional women seeking help from MMH, with this group representing over 50% of the women being supported. We continue to provide care for this group of women, while encouraging other accessible avenues of support. The focus of the service is driven by the needs identified as the most vulnerable consumer group.

The volume of referrals received has generated a need to plan and work towards providing collaborative services to meet the demand for service. MMH is not an acute service and many referrals are co-worked with Community Mental Health Services and primary health providers. Woman with addictions during pregnancy is an example of the complexity of referrals being received. These women need specialist support from addiction services. The Maternal Mental Health Services Moderate to Severe Pathway can be viewed in appendix three.



MMH has been working closely with Capital & Coast MMH in the training and development of MMH accessibility pathways and what the service design looks like. We now have a video link in the MMH office linking us to other MMH services regionally. This enables meetings to be conducted via video link and support to be more readily accessible. Our goal is to continue to work towards a specialist service that is able to provide information to other professionals working within this arena.

The following graph indicates there is a continuing increase in the number of referrals being received by MMH with the exception of December 2015. This can be explained by the service being unavailable over the Christmas period. Referrals during this period still remained higher than the lowest number of referrals received in previous year.

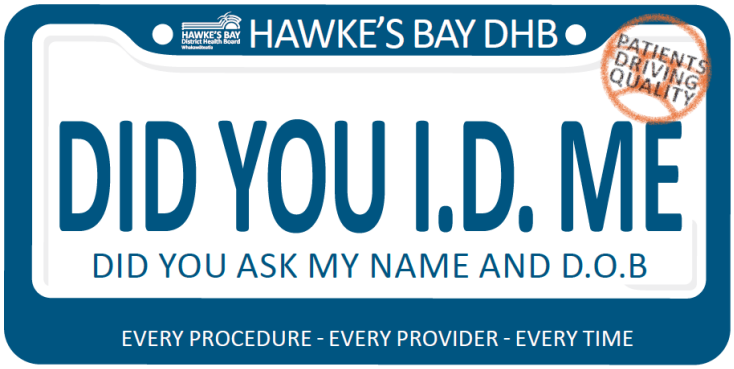


Our targets for the up and coming year are developing close networks with specific NGO groups that will further support women during the perinatal period. Options we are looking at are establishing groups for pregnant women exposed to domestic violence, identifying avenues for working with pregnant women with addictions, a possible hot desk in maternity once a week to offer guidance and support to professionals and consumers. We also aim to run education sessions and give all stakeholders guidelines of the referral process, criteria and pathway to access MMH. MMH will also be included in the implementation of SPOE with all referrals being triage through a single point of entry to Community Mental Health.

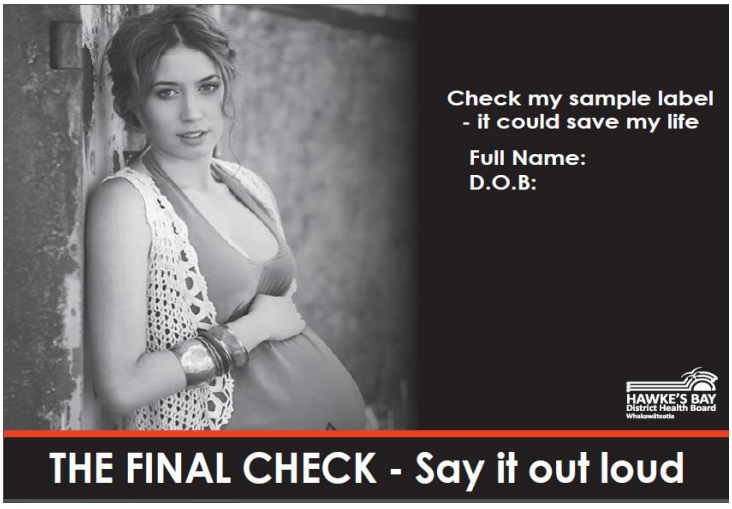
12.5 Labelling Specimen Error Campaign – DHB wide collaboration

During 2015 the Maternity Governance Co-ordinator became part of a small working group commissioned to address the ongoing clinical risk issues created by high numbers of sample labelling errors across the DHB. The group met weekly over the twelve months of 2015 and during that time implemented three significant pieces of work:

The first was the creation of a labelling specimen error education package that the group delivered to hundreds of DHB nurses and midwives over a serious of approximately fifteen presentations throughout the year. The presentation focussed on the errors being made within the DHB, the effects of these errors, whose practice needs to be improved and video examples of best vs poor practice.



The second piece of work was the 'Put Patient Safety First – Six Week Campaign' which focussed on patient identification. The campaign targeted the positive engagement of patients, to ensure the right person is identified prior to every procedure, every time by all staff. The campaign developed the patient led slogan of "Did you ID Me?", with an aim to engage and actively encourage patients to know that their ID has been checked prior to the delivery of care, and that if not, that it is OK to ask. A very distinctive visual package to reinforce the message was developed by the working group with these posters remaining prominent across patient areas at the time of writing this report.



The third 2015 project for the sample labelling error working group was 'The Final Check – Say it out loud' campaign. This visually impacting piece of work used powerful images of everyday people who cross our service and asked us to perform the final check – a verbal dialogue between clinician and patient to ensure we have a three-way match between the patient, the labelled sample and the specimen request form. The Final Check – Say it out loud process requests staff stop

and engage in the moment, as the specimen is labelled at the point of collection and actually say out loud the patient name and date of birth. A simple but effective implementation to reduce specimen errors and thus clinical risk. Similar to the "Did you ID Me? Campaign, the work and processes have been sustained and are visually present across the clinical areas. Early results are showing a positive downturn in specimen error rates.

12.6 Breastfeeding Action Plan

The HBDHB Breastfeeding Governance Group (HBDHB BFGG) provides a forum for a collaborative approach to improving breastfeeding rates in Hawke's Bay. It includes the following goals:

- To coordinate and integrate breastfeeding strategies, services, communications and resources
- To analyse breastfeeding data and provide advice on strategies to maintain and improve rates
- To develop strategies for reducing inequities in rates in Hawke's Bay
- To provide recommendations on improving breastfeeding rates to the funders of breastfeeding support services

The group meets quarterly and is led by the DHB Director of Population Health, Dr Caroline McElnay. Other members include BFHI and BFCI Co-ordinators, Plunket and Tamariki Ora leaders, Māori Health and Population Health Advisors.

The Hawke's Bay Breastfeeding Action Plan is currently being revised with the intention of having a shorter but more relevant strategy for the local community. The composition and role of the HBDHB BFGG is being explored to improve its impact and ultimately increase breastfeeding rates in the community.

Actions in the last year include exploring accuracy of data collection both at DHB and community level and the development of a new pictorial breastfeeding, safe sleep and smokefree resource that delivers health messages, appealing especially to young mothers in the community.

Maternity Service Initiatives

12.7 Infant Safe Sleep Programme

The Safe Sleep Programme has been established since 2013 and was initiated as a project in 2010 after an almost 400% increase in Sudden Unexpected Death in Infancy (SUDI) rate in the Hawke`s Bay. The programme continues and involves the education of Safe Sleep for baby principles to all, and the provision and distribution of Safe Sleep Enablers (pepi-pods) for high-risk, vulnerable babies

at risk of SUDI. Hawke`s Bay was the first DHB to fund the distribution of pepi-pods and of the fourteen DHBs who now also distribute them, we remain one of the biggest distributors. 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.

There are two Safe Sleep Co-ordinators working who share a 0.4FTE role to provide comprehensive safe sleep education to clinicians, health workers, patients and whānau right across the community, and oversee and keep comprehensive records of the pepi-pod referral and distribution process.

The focus for 2015 has been to continue with Safe Sleep Education in the Community. Safe Sleep education mornings have occurred quarterly, with approximately 30 people from community organizations involved with caring for babies under the age of one year attending. 91 people working with babies in our community have been educated to be Safe Sleep Champions in this year. There are now over 150 Safe Sleep Champions working out in our community who practice safe sleep within their workplace and now educate their colleagues and the mothers they work with to follow the safe sleep principles.

Additional significant community awareness work occurred around National Safe Sleep Day in December 2015. This was the third annual event of its kind and was initiated by Whakawhetu, a national Maori organization focused on safe sleep for tamariki. This year the Hawke's`s Bay Safe Sleep Programme was represented and promoted by a range of health professionals from Plunket, Te Taiwhenua O Heretaunga and our own Safe Sleep Co-ordinator. Information and promotion stalls at the Warehouse retail outlet in Hastings and the Napier Iron Maori event were both very successful, providing opportunity for over 100 safe sleep conversations to be held for people in the community. There were safe sleep quizzes and two wonderful baby orientated gift hampers won.

The Safe Sleep Co-ordinators attended a Hui at Whanganui Marae led by Whakawhetu. Hawke's Bay was congratulated on being the leaders in New Zealand by appointing the first Safe Sleep Co-ordinator, being the first distributor of pepi-pods and implementing a Safe Sleep Programme across the DHB and the community.

The two Co-ordinators also attended a Community Conference organized for the Children's Commissioner in February having Safe Sleep Conversations with over 50 attendees, in addition to attending the teen parent unit and having conversations with over 30 teenagers and their families. Internal safe sleep education one-on-one training with staff continues, ensuring every new member of staff is given an education resource pack. The co-ordinators have been involved in attending Safe Kids Coalition meetings and have written an article on Safe Sleep for publication in their National Newsletter.

Clinical audit work is also the role of the Safe Sleep Co-ordinators. Their audit work is discussed in more detail in the audit section of this report. As a result of one of the audits last year, there has been a dramatic change of practice of babies not wearing hats unless medically indicated.

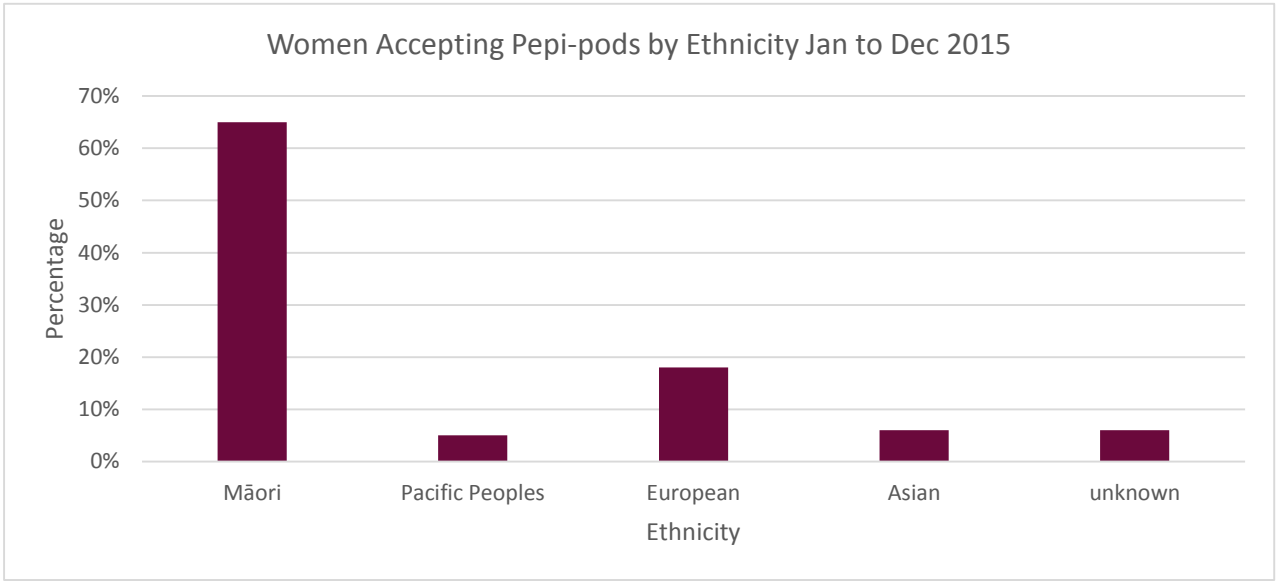
In addition to Safe Sleep Education, the provision of pepi-pods is the other major initiative of the HBDHB Safe Sleep Programme. Pepi-pods (a safe sleep enabler for babies) continue to be distributed with referrals increasing each year. The eligibility criteria remain the same, a non smokefree pregnancy, a baby born before 36 weeks, a baby less than 2500gms or a baby living in an environment where drugs, alcohol or safety are a concern. To date HBDHB have provided a safe

sleep space (pepi-pod) for over 1500 babies and have now trained 65 health professionals as certified distributors of pepi-pods. Nationally HBDHB is the second highest provider of pepi-pods for vulnerable babies and the highest per head of population. 2015 has seen the co-ordinators implementing a recycling system and redistribution of returned pepi-pods. The Safe Sleep Co-ordinators have laundered, cleaned and recycled 100 pepi-pods and bedding that have been returned after use, and these have been distributed into the community again.

The 'First Days Pod' is another initiation from Change for Our Children that has been introduced on the postnatal ward in HBDHB during 2015. This is a smaller version of the pepi-pod placed on the bed beside mothers who are unable to get out of bed after a Caesarean Section or instrumental delivery, while the mothers are inpatients on the ward. This ensures women have easy access to their baby who remains close at all times in its own safe sleeping space. The First Days Pod is proving to be very popular and useful.

Between 1st January and 31st December 2015, 706 women were identified as having a SUDI risk factor and were referred to receive a pepi-pod to enable their baby to have a safe sleeping place for every sleep. This is an increase from the 543 women being referred during the year of 1st June 2014 to 31st May 2015 as reported in our previous annual clinical report. There is also an evident increase in the number of pepi-pods being distributed to Māori and non-smokefree women.

526 of the 706 women referred for a pepi-pod during 2015 accepted to have the enabler. The ethnicities of these women is demonstrated in the graph below.



The 526 were referred for a combination of risk factors, with many women meeting the criteria through more than one category. 76% of the 526 women were not smokefree in pregnancy, 16% had babies born weighing less than 2500g, 14.2% birthed prematurely and 23.5% also met the category for safety concerns in the home.

The SUDI rates have dropped nationally since our Safe Sleep Programme began. In 2006-2010 the national incidence of SUDI was 2.15 per 1000 live births whereas the 2011 – 2015 data shows a 1.68 per 1000 SUDI rate (MOH - 2013SUDI stats). It is encouraging the see that the infant death rate has fallen steadily especially for Maori and that we are making a difference.

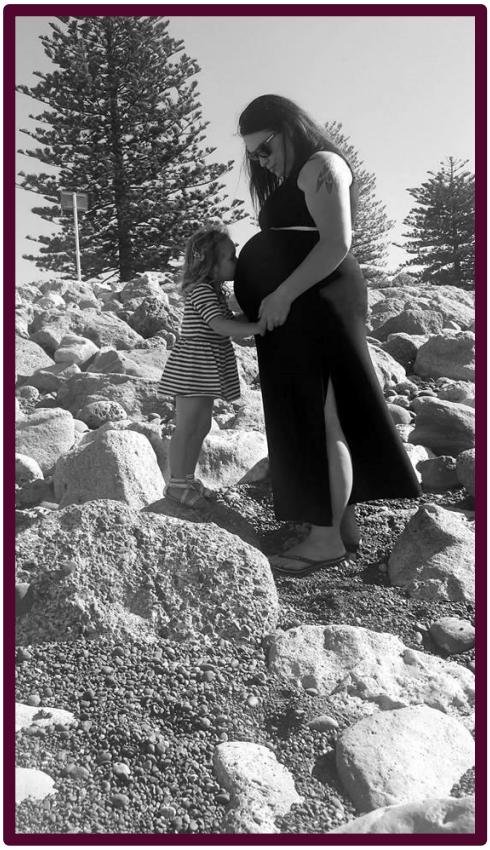
Safe Sleep Programme Actions for 2016
In 2016 the Safe Sleep Co-ordinators will be visiting all the Health Centres in Hawke`s Bay and provide Safe Sleep education to the Practice Nurses and GP`s leaving an information resource pack that can be referred to when speaking to pregnant clients and families with young children
In January 2016 a Community Safe Sleep Co-ordinator role with 0.5FTE will be funded by the Maori Health Initiative. The role has a particular focus on engaging Māori whānau and extended whānau to continue to influence and change the culture and knowledge in relation to where it is safe for baby to sleep. This will also provide opportunities for our integrated messages around safe sleep, breastfeeding, addictions, smokefree, family violence and never shake a baby to be heard and better understood by our community.
2016 will continue to focus on engaging with Maori whānau and extended whānau to continue to influence and change the culture and knowledge in relation to where it is safe for baby to sleep.
Plans to establish weavers to make beautiful wahakura (flax baby beds) which was the traditional way to sleep our Maori babies, will be explored
The follow up of a retail audit undertaken 3 years ago on shops that sell baby products in Hawke's Bay and spreading the Safe Sleep Education amongst retailers.
The Safe Sleep Programme will continue to educate health professionals in the community.
Provide support and expertise to the reviewing of current safe sleep resources for our community and localizing from national resources that are already available
Work towards extending current contracts of the three co-ordinators beyond 2016 to support continued safe sleep promotion, education and programme evolvement

12.8 Pregnancy and Parenting Education Programme Review

All pregnant women that reside in Hawke's Bay are offered pregnancy and parenting education (PPE) as a free service

The service comprises of a pregnancy and parenting education programme, with specific service specification requirements from the MOH, for new parents and covers an extensive range of topics encompassing:

- fetal and maternal health
- changes in hormones
- nutrition
- the role of the midwife
- the role of the support person
- signs of labour
- pregnancy warning signs
- labour and birth expectations
- self-help methods and coping in labour
- pain relief options
- possible interventions
- Breastfeeding and the postnatal period as well as a tour of the maternity facilities.



The mainstream classes are delivered by three child birth educators who are coordinated by a PPE Co-ordinator, whose role also encompasses ensuring the child birth educators (CBE's) are up to date with current issues and evidence based practice. Classes are held in Napier, Hastings, Central Hawke's Bay and Wairoa. Multiple birth classes, monthly breastfeeding and newborn care classes are also provided.

To complement the six-week block mainstream classes, one of the CBE's delivers specific teen parent classes at the William Colenso Teenage Parents Unit. The unit opened in 2000 and has a roll of fifty teenage mums between 13 and 19 years, around 20% who are currently pregnant. The CBE facilitates teen parent education to residents and additional non-residents that have been referred in by a Lead Maternity Carer. A comfortable informal and relaxed environment is provided for the education to be delivered in, with the school able to transport women to classes if needed. Partners and support people are very welcome to attend class. The teen pregnancy education programme is a prime example of how the Maternity Service modifies the expected norm to remain women focused and meet the individual needs of our birthing population.

Throughout 2015, the Maternity Service responded to the MOH consultation on the provision and service specification of pregnancy and parenting education by reviewing and upgrading numerous elements of the previous programme. The elements that were working well have continued to run along-side the upgraded systems, processes and additional classes that have been implemented. The emphasis has been on reaching a wider population of first time mums, in particular those with increased vulnerabilities such as teenage parents, Māori, Pacific and families where English is a second language. The six-week programme has continued in locations where the uptake was good.

The classes were rebranded late in 2014 and became "Bump, Birth and Baby". This was a quality improvement with an aim to improve information about classes, increase our visibility & improve our registration systems and accessibility. Women are now able to register with classes using a much wider range of communication methods including phone, text and email. Prior to the drive to increase uptake of the PPE service women interested in attending classes were required to leave a messages on an answer phone, this system has now been significantly improved with the implementation of having a designated person to answer the calls and book women onto an appropriate set of classes.

Another initiative that occurred during 2015 to increase attendance from the high-risk groups was the additional implementation of the Teen Bump Birth and Baby classes at the Flaxmere Teen Parent Unit. These classes are very fluid and run on a term basis at the college to fit more suitably with the needs of our teen population. We have had positive feedback from the mums in the Flaxmere Teen Parent Unit. Throughout the year we have had 38 (14.2%) women under the age of 20 enrolled in classes, mainly from the Flaxmere Unit with 10 women attending mainstream classes.

Antenatal Education		
Ethnicity	Attended 80% of classes	Attended 50% of classes
Maori	**89 (33%)**	
• Under 20yrs	6	7
• English as 2nd language	0	0
Pacific Island	**4 (1.5%)**	
• Under 20yrs	2	0
• English as 2nd language	0	0
Other	**174 (65.1%)**	
▪ Under 20yrs	0	0
▪ English as 2nd language	0	0
Total	**267**	

Our target number of women according to the identified MOH groups is 660 women. The total number of births for our population was 1858, therefore 14.3% of the population attended 80% or more of classes. The MOH requirement is for 30% each ethnicity Maori, Pacific, European, Other and teen mums. We are still working towards this requirement.

We remain very challenged to deliver this service in a meaningful way for women and meet MOH service specifications. Consumer feedback consistently demonstrates a lack of understanding of what the classes are for, that they don't see the classes as meaningful to them, that they are held at the wrong time, on the wrong day or consumers just do not wish to attend. Attempting to restructure this is constrained by finances, availability of CBEs, venues, and the flexibility of the course.

During the first half of 2016 we will be trialling another PPE initiative to increase service provision and uptake in the form of a drop in class that will run in conjunction with a drop in midwifery clinic. Women will be able to attend as many classes as they wish. There will be a less structured style than a formal class and women will be able to ask any questions that they have at any time.

Future Initiatives for 2016 and Beyond
Improve responsiveness of classes to the community it serves especially to more vulnerable populations
Explore the option of a phone based app. to engage and educate our more vulnerable populations
Continue to improve booking system with women being able to speak directly with a member of the service to book in. Continue to offer different ways of booking in so that women have options
Increase the number of Māori childbirth educators, we have two who are in training at present
Provide supportive pathways for Māori childbirth educator students
Raising the profile of antenatal educational services by working with primary care and LMCs to improve promotion, in particular with referrals of young mums and vulnerable populations
Working with high schools in Hawke's Bay to raise the profile of the teen units and engage young mums in classes
Feedback from clients for all antenatal education services to explore trends and inform future service provision (including those who enrolled but did not complete antenatal education)
Explore the option of engaging with community leaders to engage vulnerable populations in education

12.9 Clinician Education

The Maternity Service has a structured education plan to support staff meeting their competency requirements and develop skills in specific areas of interest. These are co-ordinated by the Midwifery Educator, Sara Paley.

Midwives must attend a Midwifery Emergencies day annually, a Midwifery Practice day once every three years, attend breastfeeding education and demonstrate participation in ongoing education in order to meet their recertification requirements. The Maternity Services provided six Emergency days, two Practice days and six Refresher days, which incorporate breastfeeding education during 2015 providing adequate opportunities for access.

Our Maternity Services has a commitment to multidisciplinary education which has multiple benefits for the team. Participants build relationships outside of regular clinical practice and have the opportunity to learn from other specialities' expertise. Examples of multidisciplinary education provided by the Maternity Service are Newborn Life Support, PROMPT and RANZCOG foetal surveillance workshops. These days have a multidisciplinary teaching team as well as participants.

Staff working in our rural setting of Wairoa can be disadvantaged in accessing ongoing education due to their isolation. In addition to being able to access training in Hastings, a Newborn Life Support course was run in Wairoa hospital, enabling G.P.s, Midwives, and Registered Nurses to attend, with a focus on providing care in their specific location. The Maternity Services also facilitate access to online breastfeeding education through the 'Step 2' Breastfeeding essentials online training programme.

Monthly Practice forum sessions provide the opportunity for staff and Lead Maternity Carers to present on topics of interest, feedback on conferences, and study days or share new developments in practice. These are informal, generally well attended and enjoyed.

With excitement growing around building the new Primary Birthing Facility, ''Waioha'', there has been a focus on supporting physiologic birth with workshops on waterbirth and facilitating normal birth throughout 2015. 'Great Expectations' meetings combined practical planning meetings with the opportunity to brainstorm and work through guidelines and practical scenarios that may occur. Additional supplemental education opportunities during 2015 included Alcohol Screening for Midwives in association with Kina Trust, and workshops.

Opportunities to undertake postgraduate education are always encouraged with four midwives being supported to complete the Postgraduate Certificate in Complex Care during 2015. This is funded by Health Workforce New Zealand. This Postgraduate certificate focusses on developing skills in caring for women with complex health care needs in pregnancy and is run by Victoria University in association with Capital and Coast DHB.

Local and National conferences also provide a great opportunity for networking and developing a broader perspective on issues in clinical practice. Many staff were supported to attend various conferences in 2015.

12.10 Perinatal and Maternity Mortality Review Committee (PMMRC)

Hawke's Bay contributes to the national database providing information and influencing recommendations for practice through the yearly PMMRC reports. This year there have been nine stillbirths greater than 20 weeks and three neonatal deaths. All of these cases are reviewed within a multidisciplinary forum at the bi-monthly Perinatal Morbidity and Mortality Meetings led by Obstetricians Dr Croft and Dr Gaerty.

Our meeting is perceived as highly valuable and has good attendance from all DHB staff from obstetrics and neonatology and from our LMCs. All local radiology providers are aware of the meetings and specific invitations are issues to other specialities such as anaesthetics depending on the cases being reviewed. Presentations in this protected multidisciplinary environment allows robust discussion around contributing factors to adverse outcome and 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 by a small group including obstetricians, neonatologist and midwives at the end of each meeting. The classifications and findings of case discussion are sent to the National Perinatal Maternal Research Committee.

During 2015, the Maternity Governance Co-ordinator utilised one of the well-attended PMMRC meeting to present the recommendations of the 9th Annual PMMRC report. This created good discussion both during the meeting and in the weeks following. The actions that HBDHB have assigned to the PMMRC recommendations can be found in Chapter seventeen (17.2).

2016 will see expansion in the meeting with a push to include more neonatal and maternal morbidity cases. This will allow us to maximise the opportunity for multidisciplinary discussion, widen learning opportunities and create greater dissemination of recommendations and changes to practice that result from the multidisciplinary adverse event case reviews led by the Maternity Governance Team.

12.11 Leadership in the Maternity Services

Midwifery leadership and succession planning are a strength of our senior leadership team and with significant focus being placed on ensuring that professional development reviews are encouraging the future leaders of midwifery.

Again 2015 has seen the increasing enrolment and achievement of our midwives through the Postgraduate Complex Care Course training with four of our team completing the course this year.

All midwives carry a responsibility to maintain their midwifery competencies through clinical practice, continued learning within the profession and regular reflection and review of their care provision.

DHB's are responsible for assuring that progressive professional development opportunities are available for midwives in their employment, encouragement of midwives in the advancement of their professional practice and recognition of midwifery expertise within the hospital setting.

These responsibilities are met by the provision of the DHB Midwifery Quality and Leadership Programme (QLP). This programme allows midwives and employers to meet requirements in a manner which models partnership and applies to all midwives, regardless of practice setting or employment status.

The QLP recognises and develops a range of transferable professional, clinical and personal skills that will remain applicable throughout a midwife's career. The QLP also provides a framework for midwifery contribution to DHB quality and safety activities, preparing midwives for prospective professional leadership roles.

The Quality Leadership Programme is tiered based on experience and expertise; practitioners currently recognised on the programme are reviewed every three years to ensure the level is maintained.

The three levels to the Midwifery Quality Leadership Programme:

1) Competent
2) Proficient/Confident
3) Leadership

At the time of this report, HBDHB has 42 permanent and 13 casual midwifery clinicians. Of those eligible, 74% of permanent staff have engaged in the QLP, submitting portfolios for assessment at either the confident or leadership levels. This equates to 12 midwives practising at the confident level and 21 at the leadership level. The remaining 22 midwives practise at the competent level of the programme.

Midwives on the leadership level of the Midwifery Quality Leadership Programme are recognised as possessing substantial midwifery experience in all aspects of midwifery practice, demonstrating excellent communication skills and professional understanding.

The twenty-one midwives on the leadership level of the programme have additional expertise in areas such as quality and leadership portfolio assessment, student midwifery education, NZCOM standards reviewing, training in complex care for midwives, co-ordination of the midwifery flight team, lactation consultancy, IV resource representation, education of clinicians on midwifery emergency study days, infection control representation, clinical auditing, neonatal life support instruction, clinical co-ordination expertise, and the infant Safe Sleep Programme co-ordination.

The 2015 Maternity Quality and Safety Programme Implementations

The Maternity Governance team have realised many key initiatives this year, which have not only raised the profile of the Maternity Quality and Safety Programme and the team, but have significantly improved communications and relationships between the hospital based clinicians, the consumers and the Lead Maternity Carers.

12.12 Maternity Service Annual Clinical Report 14-15 Presentation Day

The Maternity Governance Team were delighted to host The Maternity Services 2nd Annual Maternity Clinical Report Presentation Day on Friday 16th October 2015.

The presentation day revolved around the contents of the recently published 2014-15 Maternity Report and provided an opportunity to raise awareness of how our service is performing compared to other DHB's across New Zealand and to celebrate the positive quality initiatives that the Maternity Services' have implemented over the last twelve months.

Distinguished guest speakers, Professor Lesley McCowan and Associate Professor Dr Judith McAra-Couper were invited to critique the content of the report from both an obstetric and midwifery perspective and this created excellent discussion for further quality improvements and initiatives to the service.

Dr Croft (L) Dr McCowan (R)

Dr McAra-Couper (L) Jules Arthur, Midwifery Director (R)

Alongside our two distinguished speakers, presentations were also provided by Consultants Dr Craig Skidmore, Dr Lynda Croft and Dr Oliver Grupp. Throughout the day many topics were explored, amongst them were increased maternal Body Mass Index and gestational weight gain, birth outcomes and statistics, complexities of our population, suggested changes in practice and early registration for midwifery care. Attendees were also able to engage in an interactive education session regarding Small for Gestational Age facilitated by Professor Lesley McCowan and Dr Lynda Croft.

Key messages that were expressed by Drs McCowan and McAra-Couper were Hawke's Bay Maternity Services' focus on health provision and addressing the significant health inequalities that exist across our community as well as how these social complexities and vulnerabilities impact on our care provision and practice.

The Maternity Services were challenged with maintaining future focus on:

- Our culture of birth and undertaking prospective research on our future Along-side Primary Birthing Unit
- Our responsibility to continue to be responsive to our maternal population
- Continued focus on integrated seamless care to address social and environmental factors on outcomes
- To further explore integration with primary care and the community.

Rounding out the day were fun quality quizzes to test the attendee's familiarity of the Annual Clinical Report and an exceptional luncheon allowing practitioners and speakers a more informal opportunity to exchange ideas and initiatives.

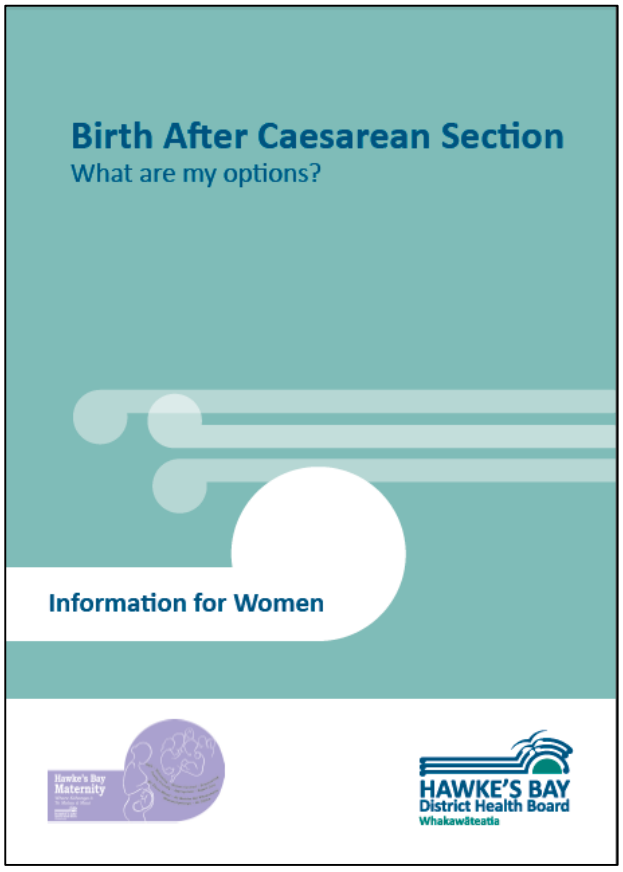
12.13 Community Facebook Page

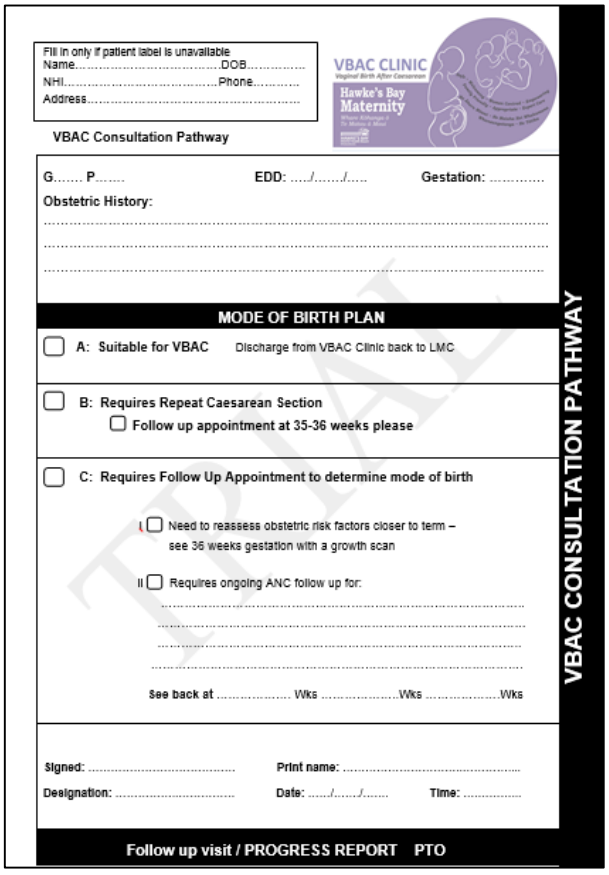
Hawke's Bay Maternity

The Hawke's Bay Maternity Facebook page was launched at the end of 2014 to create an interactive platform for communicating with our consumers and showcasing our service. The page has established its success over the last twelve months and now boasts well over a thousand followers. The site is maintained by the Maternity Governance Team, primarily by the MQSP administrator, on a daily basis which allows for contemporary information to be shared, enabling our population to be fully informed on every element of change and development within the service. The page is also used for consumers to share their pregnancy and birth stories, provide extensive feedback, ask maternity related questions directly to us and post lovely photographs of their journeys, birth and babies. The Hawke's Bay Maternity Facebook page has become a versatile tool for information and education provision by many and has become a vital commodity for our modern day consumers.

12.14 Vaginal Birth after Caesarean (VBAC) Clinic

The implementation of an antenatal clinic specifically for women with a history of Caesarean Section finally came to fruition in December 2015 after months of development of systems and processes required to make this happen. The consensus to establish a VBAC clinic was gained from our learning and discussion at the 2013/14 Annual Clinical Report Presentation Day. It was clear at that time, clinicians were in favour of this kind of implementation to potentially reduce our Caesarean Section rate and create consistency across the service for all women with a history of a Caesarean Section. Since then, time has been taken to agree on the care pathway for these women, to develop an in depth evidence based patient information pamphlet that is provided several times during the pregnancy, create the necessary tools for the clinic to be utilised correctly and therefore a success. At the time of writing this report, the VBAC clinic is in its infancy; however, all pregnant women who have a history of a Caesarean Section have received a letter from an obstetric clinician stating their suitability for a VBAC with their next pregnancy, are referred in to the individualised VBAC clinic appointment slots, sent out a specific VBAC clinic appointment card, provided a VBAC patient information leaflet and have been assessed using the VBAC consultation pathway.





12.15 Wound Infection Prevention Project

Towards the latter part of 2015 the Maternity Governance Team commenced the Wound Infection Prevention Project, following an anecdotally reported rise in postnatal readmission for Caesarean Section wound infection. The team decided that an audit examining pre–op preparation, individual surgeon technique, type of caesarean and the time of day, type of dressing used, postnatal adherence to our wound care policy, education received and digested by the patient both in the ward and for take home reading, would be required in order to establish any valuable recommendations in reducing the rate or readmits for wound infections.

However, upon closer examination of many Caesarean Section notes and prior to commencing the in-depth audit as suggested above, the Maternity Governance Team found that documentation of pre-op care and treatments provided was non-existent, as was documentation of provision of education around wound care both prior to surgery and post-operatively.

With these finding, the Maternity Governance Team decided to initially embark on a Wound Care Prevention Project rather than a lengthy audit. Four documents are in the process of implementation at the time of writing this report.

The first is a the 'Caesarean Section Wound Prevention Self-Audit Tool', a form asking the clinician to indicate which part of the wound prevention care bundle they were able to achieve prior to the surgery, such as the correct use of chlorhexidine wipes or the pubic area clipped as per policy. This form has been implemented into everyday use unit wide. The data collated from this tool will allow us to establish how well the wound infection prevention care bundle is adhered to and perhaps identify the indication for the anecdotal increased rate of readmission.

The second is a re-working of the pre-op appointment check list, in order to trigger the clinician to provide education around several wound infection prevention methods, such as provision of pre-surgical chlorhexidine shower wash with instructions for correct use or advising women regarding pre-surgery pubic area waxing. These forms are currently being used in trial format and if required, available for audit to assess compliance of the provision of information women require pre Caesarean Section surgery.

The third document is a patient information leaflet which is currently in the development stage. The leaflet will be named 'I'm having a Caesarean Section – what do I need to know?' and will be provided to all women as soon as an Elective Caesarean Section is planned. The leaflet will provide clear information around preparation for a Caesarean Section in relation to wound infection prevention as well as several other paragraphs of meaningful education currently not provided to women in a written, take-home format.

The fourth leaflet is also in the development process and will be published in conjunction with the above leaflet. The 'I've had a caesarean – what now?' patient document is intended for all women who have had an elective or emergency Caesarean Section, and provides post-surgical information and education for wound care, safe exercise, lifting, etc. This is also in a take-home written format for reading at a calm time or having at hand if concerns arise. It is intended for both Caesarean Section patient information leaflets to be published electronically to our website for instant access in due course.

Actions for 2016	
Wound infection prevention self-audit tool	Publish finding and address any non-compliance
Pre-op Checklist	Finalise new form content and monitor accuracy and compliance of use
Pre and post Caesarean Section patient information leaflets	Publish and establish provision to all appropriate women as standard.

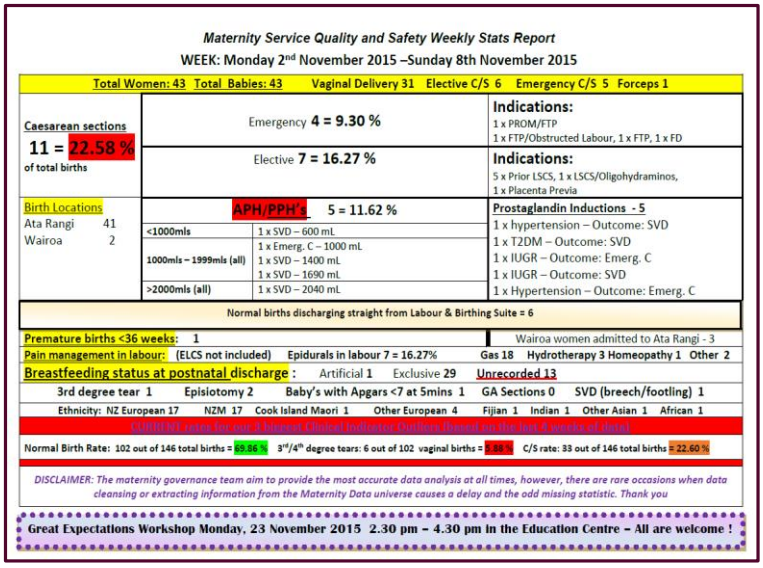
12.16 Implementation of the Booking Triage Process

Following repetitive clinical event reports received by the Maternity Governance Team throughout 2015, relating to missing or inaccurate information on maternal booking documents, and the development of an initiative presented by one of our experienced DHB midwives, a project was commenced at the end of the year to develop a booking form triage process addressing this concerning clinical risk. The team commenced work on designing acceptance and rejection based documentation to assist the triage process in identifying errors, ensuring all bookings are complete and accurate at presentation to the service and following manual input into the electronic patient record. The booking form triage project will be launched in early 2016 with the Maternity Governance Team monitoring frequency of rejected bookings and the clinicians who repeatedly present these. The project will be quite visible across the unit, with an aim to improve the general quality of the content of the booking forms without the need to address individual practice.

Actions for 2016	
Booking Form Triage Project	Establish the process and complete required documents
	Implement the project unit wide
	Monitor the frequency of rejected forms
	Provide 6 monthly feedback report to collective of clinicians who book women into the service

12.17 Maternity Governance Team Reporting & Publications

The collection, reporting and analysis of maternity data is one of the key elements and responsibilities of the Maternity Governance Co-ordinator. The MGC reports to the large group of maternity unit clinicians on a weekly basis. The demographics, outcomes and indications for interventions are demonstrated on this report with the purpose being to alert clinicians to areas of inappropriate or unsafe practice, to encourage reflection on practice, to learn from each other's practice and to alleviate harm to ourselves and our patients. The



Maternity Service Quality and Safety Weekly Stats Report

WEEK: Monday 2nd November 2015 –Sunday 8th November 2015

Total Women: 43 Total Babies: 43 Vaginal Delivery 31 Elective C/S 6 Emergency C/S 5 Forceps 1

Caesarean sections 11 = 22.58 % of total births

Emergency 4 = 9.30 %

Indications: 1 x PROM/FTP; 1 x FTP/Obstructed Labour, 1 x FTP, 1 x FD

Elective 7 = 16.27 %

Indications: 5 x Prior LSCS, 1 x LSCS/Oligohydraminos, 1 x Placenta Previa

Birth Locations: Ata Rangi 41; Wairoa 2

APH/PPH's 5 = 11.62 %

<1000mls	1 x SVD – 600 mL
1000mls – 1999mls (all)	1 x Emerg. C – 1000 mL; 1 x SVD – 1400 mL; 1 x SVD – 1690 mL
>2000mls (all)	1 x SVD – 2040 mL

Prostaglandin Inductions - 5: 1 x hypertension – Outcome: SVD; 1 x T2DM – Outcome: SVD; 1 x IUGR – Outcome: Emerg. C; 1 x IUGR – Outcome: SVD; 1 x Hypertension – Outcome: Emerg. C

Normal births discharging straight from Labour & Birthing Suite = 6

Premature births <36 weeks: 1

Wairoa women admitted to Ata Rangi - 3

Pain management in labour: (ELCS not included) Epidurals in labour 7 = 16.27% Gas 18 Hydrotherapy 3 Homeopathy 1 Other 2

Breastfeeding status at postnatal discharge : Artificial 1 Exclusive 29 Unrecorded 13

3rd degree tear 1 Episiotomy 2 Baby's with Apgars <7 at 5mins 1 GA Sections 0 SVD (breech/footling) 1

Ethnicity: NZ European 17 NZM 17 Cook Island Maori 1 Other European 4 Fijian 1 Indian 1 Other Asian 1 African 1

CURRENT rates for our 3 Internal Clinical Indicator Outliers (based on the last 4 weeks of data):

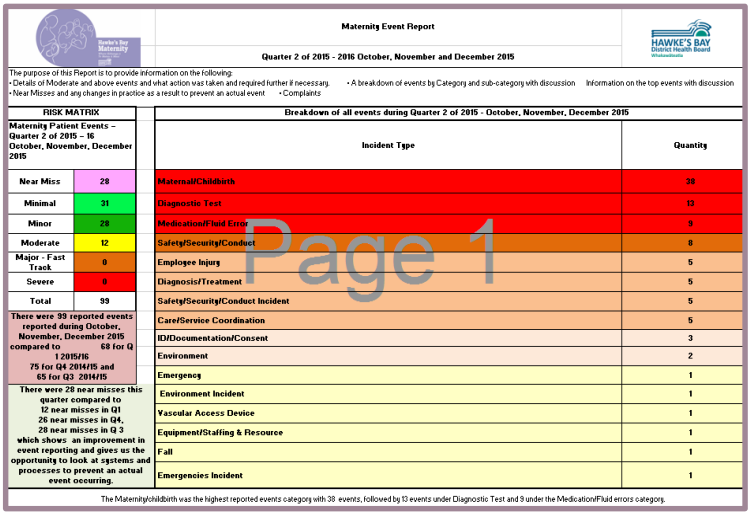
Normal Birth Rate: 102 out of 146 total births = 69.86 % 3rd/4th degree tears: 6 out of 102 vaginal births = 5.88 % C/S rate: 33 out of 146 total births = 22.60 %

DISCLAIMER: The maternity governance team aim to provide the most accurate data analysis at all times, however, there are rare occasions when data cleansing or extracting information from the Maternity Data universe causes a delay and the odd missing statistic. Thank you

Great Expectations Workshop Monday, 23 November 2015 2.30 pm – 4.30 pm in the Education Centre – All are welcome !

statistical summary within the report identifies the mode of birth and outcomes of the week's births highlighting significant data such as the postpartum haemorrhage rate, severe perineal tear occurrences and premature births, with additional information such as ethnicities, birth locations and the rationale behind elective Caesarean Sections and inductions of labour.

Approximately thirty to fifty adverse events related to clinical care and coordination are reported to and thus investigated every month by the MGC. The resolution of these events are published both monthly, to allow for contemporary learning, and quarterly (as demonstrated below) to allow for the identification of trends within the adverse event reported.



Maternity Event Report

Quarter 2 of 2015 - 2016 October, November and December 2015

The purpose of this Report is to provide information on the following:
- Details of Moderate and above events and what action was taken and required further if necessary.
- A breakdown of events by Category and sub-category with discussion
- Information on the top events with discussion
- Near Misses and any changes in practice as a result to prevent an actual event
- Complaints

RISK MATRIX	
Maternity Patient Events – Quarter 2 of 2015 – 16 October, November, December 2015	
Near Miss	28
Minimal	31
Minor	28
Moderate	12
Major - Fast Track	0
Severe	0
Total	99

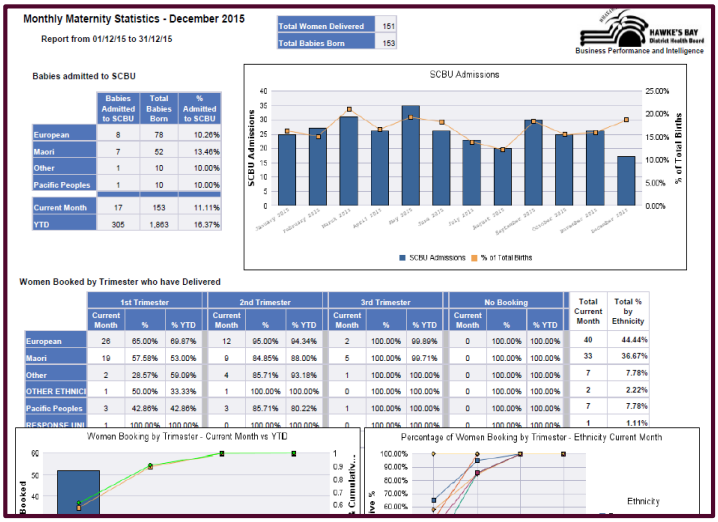
There were 99 reported events reported during October, November, December 2015 compared to 68 for Q 1 2015/16 75 for Q4 2014/15 and 65 for Q3 2014/15

There were 28 near misses this quarter compared to 12 near misses in Q1 26 near misses in Q4, 28 near misses in Q 3 which shows an improvement in event reporting and gives us the opportunity to look at systems and processes to prevent an actual event occurring.

Breakdown of all events during Quarter 2 of 2015 - October, November, December 2015

Incident Type	Quantity
Maternal/Childbirth	38
Diagnostic Test	13
Medication/Fluid Error	9
Safety/Security/Conduct	8
Employee Injury	5
Diagnosis/Treatment	5
Safety/Security/Conduct Incident	5
Care/Service Coordination	5
ID/Documentation/Consent	3
Environment	2
Emergency	1
Environment Incident	1
Vascular Access Device	1
Equipment/Staffing & Resource	1
Fall	1
Emergencies Incident	1

The Maternity/childbirth was the highest reported events category with 38 events, followed by 13 events under Diagnostic Test and 9 under the Medication/Fluid errors category.



Monthly Maternity Statistics - December 2015

Report from 01/12/15 to 31/12/15

Total Women Delivered	151
Total Babies Born	153

Business Performance and Intelligence

Babies admitted to SCBU

	Babies Admitted to SCBU	Total Babies Born	% Admitted to SCBU
European	8	78	10.26%
Maori	7	52	13.46%
Other	1	10	10.00%
Pacific Peoples	1	10	10.00%
Current Month	17	153	11.11%
YTD	305	1,863	16.37%

SCBU Admissions

SCBU Admissions

% of Total Births

SCBU Admissions % of Total Births

Women Booked by Trimester who have Delivered

	1st Trimester			2nd Trimester			3rd Trimester			No Booking			Total Current Month	Total % by Ethnicity
	Current Month	%	% YTD	Current Month	%	% YTD	Current Month	%	% YTD	Current Month	%	% YTD		
European	26	65.00%	69.87%	12	95.00%	94.34%	2	100.00%	99.89%	0	100.00%	100.00%	40	44.44%
Maori	19	57.58%	53.00%	9	84.85%	88.00%	5	100.00%	99.71%	0	100.00%	100.00%	33	36.67%
Other	2	28.57%	59.09%	4	85.71%	93.18%	1	100.00%	100.00%	0	100.00%	100.00%	7	7.78%
OTHER ETHNICI	1	50.00%	33.33%	1	100.00%	100.00%	0	100.00%	100.00%	0	100.00%	100.00%	2	2.22%
Pacific Peoples	3	42.86%	42.86%	3	85.71%	80.22%	1	100.00%	100.00%	0	100.00%	100.00%	7	7.78%
RESPONSE UNI	1	100.00%	100.00%	0	100.00%	100.00%	0	100.00%	100.00%	0	100.00%	100.00%	1	1.11%

Women Booking by Trimester - Current Month vs YTD

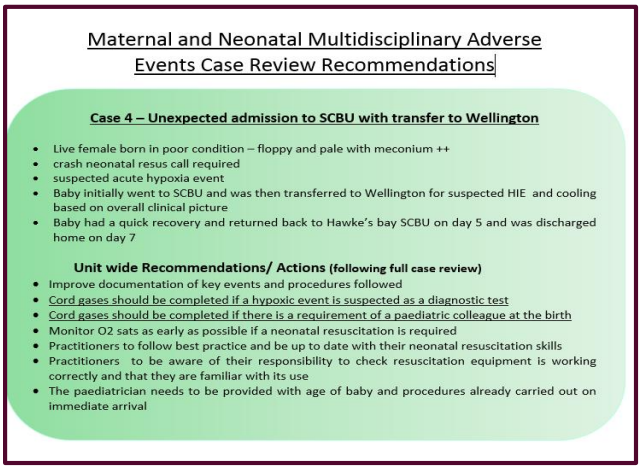
Booked

Percentage of Women Booking by Trimester - Ethnicity Current Month

Ethnicity

A monthly statistical report is generated by our business analysts and disseminated to relevant stakeholders by our Maternity Governance Team. This report contains monthly and year-to-date statistics around numbers and mode of birth, Special Care Baby Unit admissions, trimester bookings, alcohol consumption and smokefree status at booking, routine family violence questioning compliance and disclosure and average length of stay.

The Maternity Governance Coordinator also ensures the unit wide publication of all best practice recommendations that are established during our multidisciplinary case reviews and ensures these recommendations are visible to all and that they are discussed at appropriate opportunities. Recommendations from clinical audits are also published in this way.



Maternal and Neonatal Multidisciplinary Adverse Events Case Review Recommendations

Case 4 – Unexpected admission to SCBU with transfer to Wellington

- Live female born in poor condition – floppy and pale with meconium ++
- crash neonatal resus call required
- suspected acute hypoxia event
- Baby initially went to SCBU and was then transferred to Wellington for suspected HIE and cooling based on overall clinical picture
- Baby had a quick recovery and returned back to Hawke's bay SCBU on day 5 and was discharged home on day 7

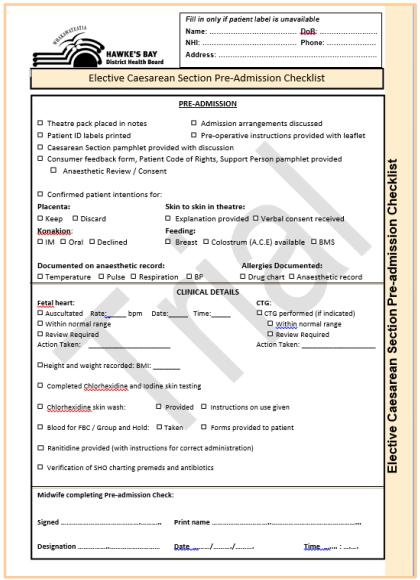
Unit wide Recommendations/ Actions (following full case review)

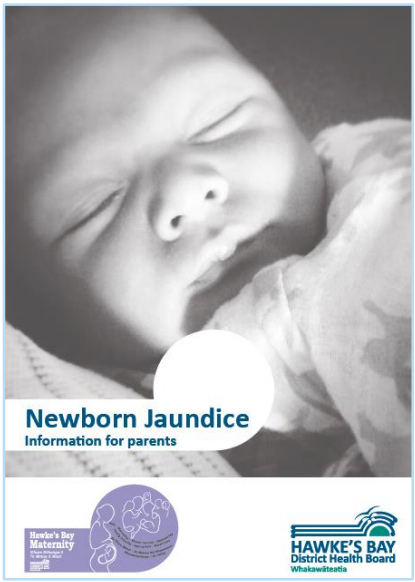
- Improve documentation of key events and procedures followed
- Cord gases should be completed if a hypoxic event is suspected as a diagnostic test
- Cord gases should be completed if there is a requirement of a paediatric colleague at the birth
- Monitor O2 sats as early as possible if a neonatal resuscitation is required
- Practitioners to follow best practice and be up to date with their neonatal resuscitation skills
- Practitioners to be aware of their responsibility to check resuscitation equipment is working correctly and that they are familiar with its use
- The paediatrician needs to be provided with age of baby and procedures already carried out on immediate arrival

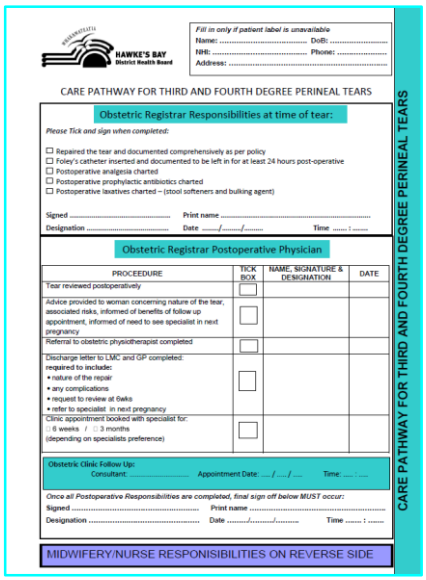
Without doubt the most comprehensive publication that the Maternity Governance Team produce is the Annual Maternity Clinical Report, the presentation and analysis of extensive maternity data and a top to toe show case of our entire Maternity Services.

This all-encompassing report takes approximately six months to compile, is disseminated Hawke's Bay wide and is discussed and utilised throughout our service on a daily basis.

Based on the findings of clinical audit, case reviews and adverse event reports, the Maternity Governance Team have undertaken development of several items of clinical documentation and patient information related material over 2015. Clinical forms have been simplified to improve completion, compliance and accuracy, as well as being more streamlined and identifiable. Several patient information leaflets, posters and pamphlets have been created and implemented to increase consumer knowledge and therefore improve health outcomes.







The Quality and Safety Communications Board is maintained on a regular basis to provide a comprehensive range of information, reports and statistics to all clinicians that operate within the Hawke's Bay Maternity Service. The board identifies and showcases the work of the MCGG as well displaying all current audit and MQSP reports. The quality and safety communication board is specifically located in a central location to allow for optimal viewing by all clinicians that work within or visit Ata Rangi.

12.18 Pending Projects for 2016

In addition to the larger ongoing or pending service wide quality initiatives, the Maternity Governance Team will be setting time aside to establish a Maternal Morbidity element to the Perinatal Mortality and Morbidity meetings which has historically focussed on still birth, neonatal death and neonatal morbidity cases. This forum has excellent attendance and creates robust discussion of cases enabling extensive shared learning. By introducing a selection of interesting maternal adverse events cases along with their anonymised reports, it is believed that the discussion of recommendations based on case review outcomes will increase awareness of the same and thus creating easier and more meaningful implementation. This is an action for 2016.

Over the first half of 2016, Maternity Governance Co-ordinator time will also be spent upgrading the current electronic record system known as Healthware and Labour & Birthing Summary documentation related to this. Weekly data reporting identifies inaccuracies in both data presented on paper and data manually entered into the electronic record. Significant work will be undertaken to simplify the format of the Labour & Birthing Summary while increasing capacity to capture vital information and prevent errors, along-side reworking the electronic system to ensure only plausible, accurate data can be entered and stored. All amendments to both paper and electronic formats will incorporate accurate and compulsory capturing of new Key Performance Indicator statistics and figures in relation to use of 'Waioha' and transfers from primary to secondary care.

Amongst all of the quality improvement work that is undertaken by the MQSP team, a sizable amount of time will be utilised early in 2016 to fundraise for the Countdown Kids Hospital Appeal, whom donate funds for equipment to the Women, Child and Youth Services. Although this work commitment is not a direct quality initiative, the result creates donation of beneficial equipment that improves patient care, quality and/or experiences and is a positive use of the MQSP Co-ordinator and administrator's time.

CHAPTER THIRTEEN: CONSUMER COLLABORATIONS

Consumer engagement is an ongoing focus for our maternity Service, with consumer opinion and feedback continuing to be a valuable component of how we shape our service. Throughout 2015 the role that the consumer plays in influencing our services, systems and processes has gained significant momentum and become an everyday element of planning, development and decision making.

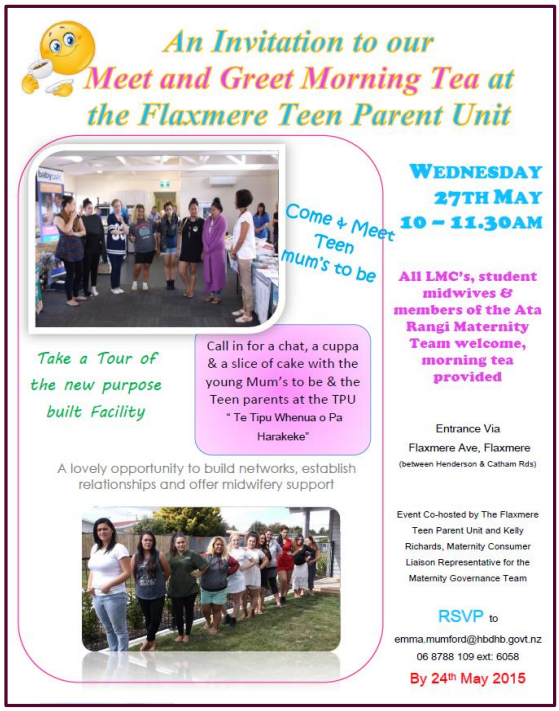
Generically, Hawke's Bay DHB consumers have an ongoing opportunity to provide feedback of their experiences to the service through a multitude of mediums including various forms of electronic media. Consumers are able to share their patient journeys with us through their own eyes whether a positive or negative experience.

In addition to consumers responding in a generic manner via email, phone or on paper, the maternity governance team utilise an online maternity service survey in order to collate our own specific consumer feedback on particular elements of the services, and our own community Facebook page to share and post the feedback and comments that our service users message in.

13.1 Consumer Collaboration Project

2015 has been a productive and progressive year for collaborative work with consumers. Our former consumer liaison representative worked with us to initiate and facilitate a meet and greet morning tea with the newly opened Flaxmere teen parent unit back in March of this year. This was a positive event with new connections established with this hard to reach group of women.

As the initial MQSP contract ended and The Maternity Services were requested to develop a plan for three major quality improvement projects to execute over the two-year period of the new contract, the consumer liaison role was revised in order to meet our expectation of embedding the consumer in everything we do.



Instead of employing a consumer liaison representative in a 0.1FTE role, in latter 2015 we were delighted to be able to employ two maternity consumer members on a more flexible basis where their networks, skills and experiences can be utilised in a more versatile manner in order to gather the specific consumer views we seek at that particular time. As already stated the two consumer members sit on the Maternity Clinical Governance Group to enable a consumer voice to be heard and incorporated into the way in which we design, deliver and evaluate the maternity service. They are supported by the Maternity Governance Coordinator and the Midwifery Director via regular catch ups and ongoing communication.

CHAPTER THIRTEEN: CONSUMER COLLABORATION

Ensuring that the experiences of the women and families accessing our service is recognised, acted upon and subsequently feeds into our service design and delivery is a fundamental element of the consumer members' role. There is an expectation that the consumer members will focus their energies on building networks and relationships with women and groups within the harder to reach populations and pockets of our region. Work has commenced on building connections with our young mothers population and the Māori and Pasifika communities. This has been established through meet and greets, coffee morning attendance, guest presentations, ad-hoc conversations and significant social media networking. Promotion of the ability and means to access the two consumer members will also be heavily focussed in these areas throughout 2016 and new work will commence to explore options for connecting with mothers with disabilities and those experiencing mental health issues.

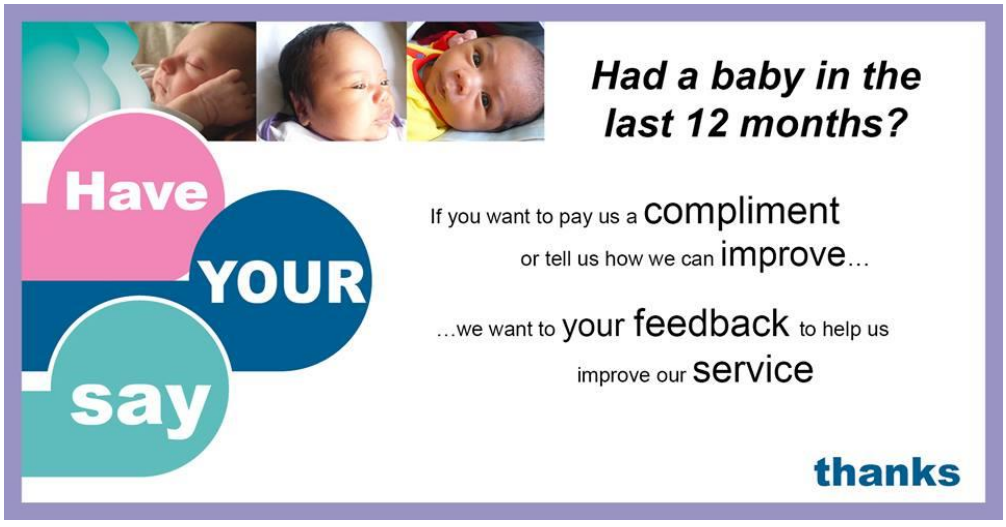
Hawke's Bay Maternity Services expect that the changes we have made to the consumer member role, that now facilitate flexible and spontaneous accessibility across the community, will enable connections with more women and whānau that currently do not access the service to be heard, educated and supported to do so.

A further strategy that is in progress to establish successful engagement with our hard to reach population is the maternity consumer survey, which is presented in detail in section 13.2. With the new feel to how our consumer voices will be heard and shared going forward we have established the following actions for 2016 in relation to consumer collaboration.

Actions for 2016	
Consumer Collaboration Project	Identify a clear work plan with timeframes for the 2016/17 year
	Establishing consumer forums within a variety of settings focusing on Māori, Pasifika, young mothers, mothers with disabilities and those experiencing mental health issues in order to be accessible and approachable across the community and away from the DHB.
	Ensure consumer members are known and visible in our organisation and across all aspects of the community
	Establish relationships with our high risk and hard to reach women by making specific connections and having a regular presence in appropriate group meetings, special events and purpose built environments such as the teen parent units
	Respond to trends and issues in relation to service delivery and design
	Ensure a number of mediums are used to support consumer feedback
	Ensure this 'work-stream' maintains high profile in the organisation for ongoing support and shared understanding

13.2 Maternity Services Consumer Online Survey

With consumer opinion and feedback being such a valuable component of how we shape our service, the Maternity Governance Team underwent extensive work in late 2014 to implement a system that captures the thoughts, feelings and experiences of our own maternity population by developing an ongoing electronic consumer survey that encompasses the entire spectrum of our Maternity Services. The survey is structured to provide an in-depth and meaningful response to key issues including difficulties with engaging with a lead maternity carer in the first trimester and dissatisfaction with experiences of in-patient care.

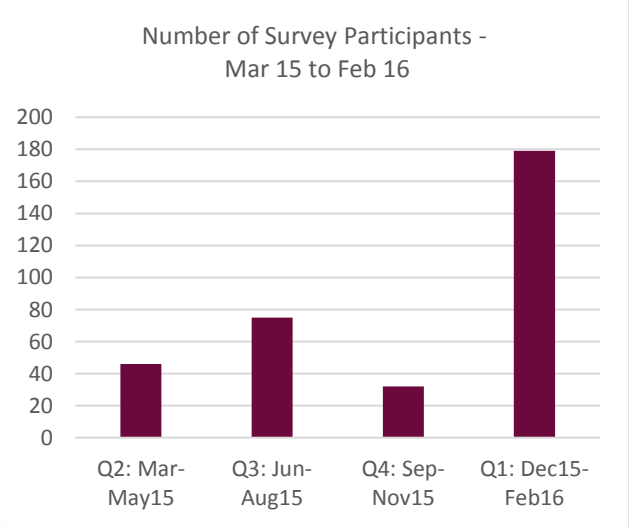


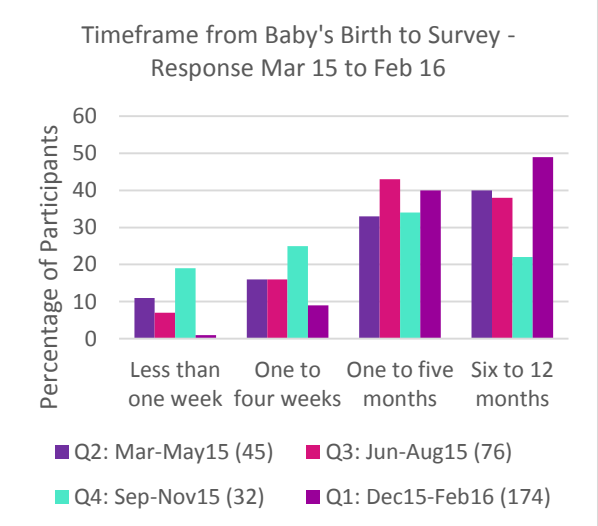
CHAPTER THIRTEEN: CONSUMER COLLABORATION

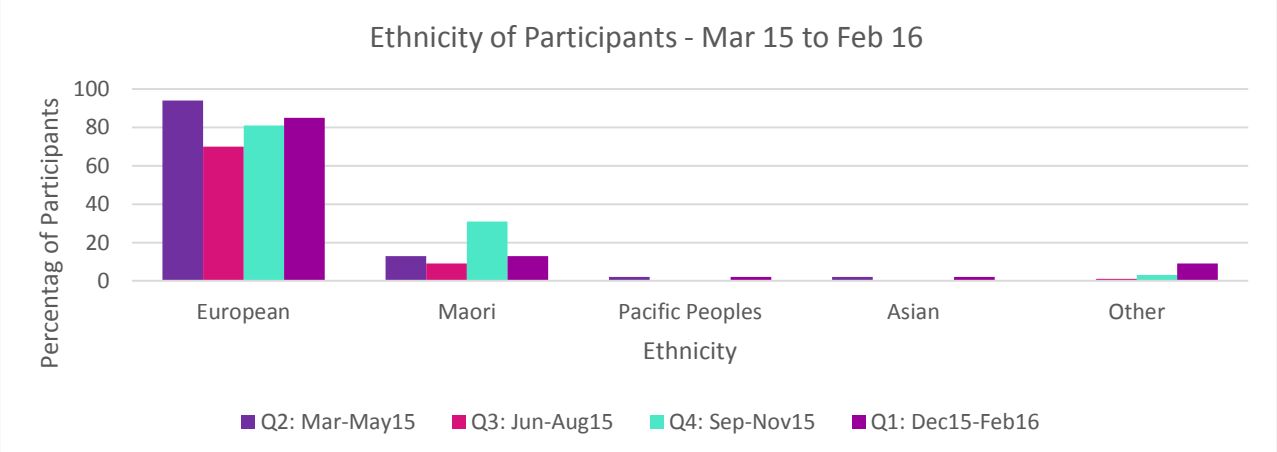
At the time of writing this report, there has been four quarterly data collations that we have worked with to demonstrate consumer views to staff as well as to shape our service and assess improvements we have recently made. Although the tool is in-depth, easy to collate and valuable, the uptake of completion is poor in relation to the numbers of women whom access the service, therefore work will be under taken in 2016 to improve this utilisation of this feedback tool.

Actions for 2016	
Online Consumer Survey	Increase promotion of the online survey via local community Facebook pages on website
	Redesign promo material to Improve the access details to the survey on all promotional platforms
	Enable completion of the electronic survey by patients whilst on the postnatal ward
	Explore options of texting an invitation to complete the survey to women at 6 weeks postnatal
	Consider providing paper copies to those who do not access the internet

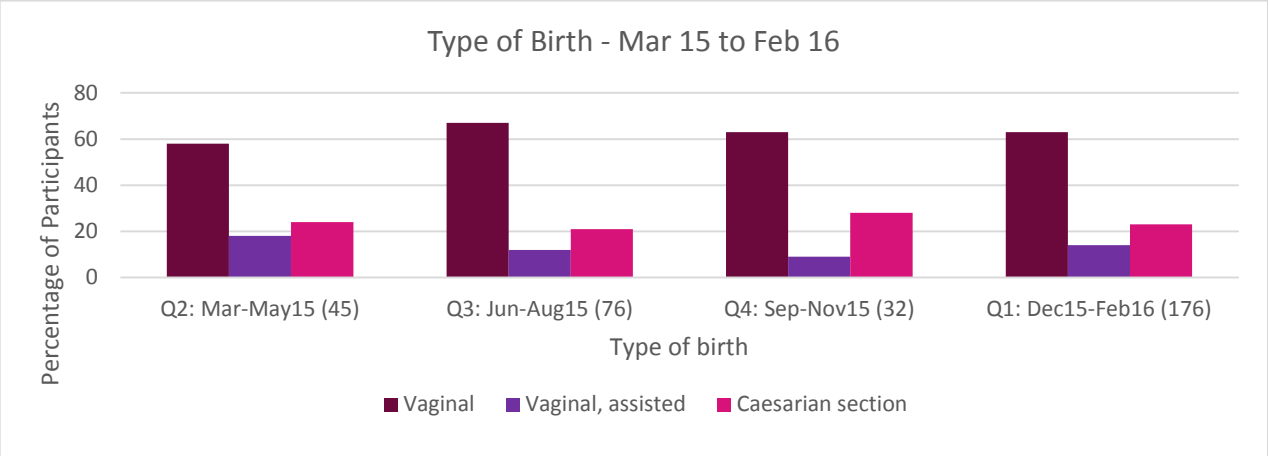
The consumer survey findings of the twelve months from 1st March 2015 to 28th February 2016 are presented below. The data contains the contribution of 399 women whom were made up primarily of NZ European ethnicity. A significant disparity is identifiable amongst the ethnicity of survey participants with work ongoing to improve the reach to the high risk population in order to ensure our results are the most meaningful.



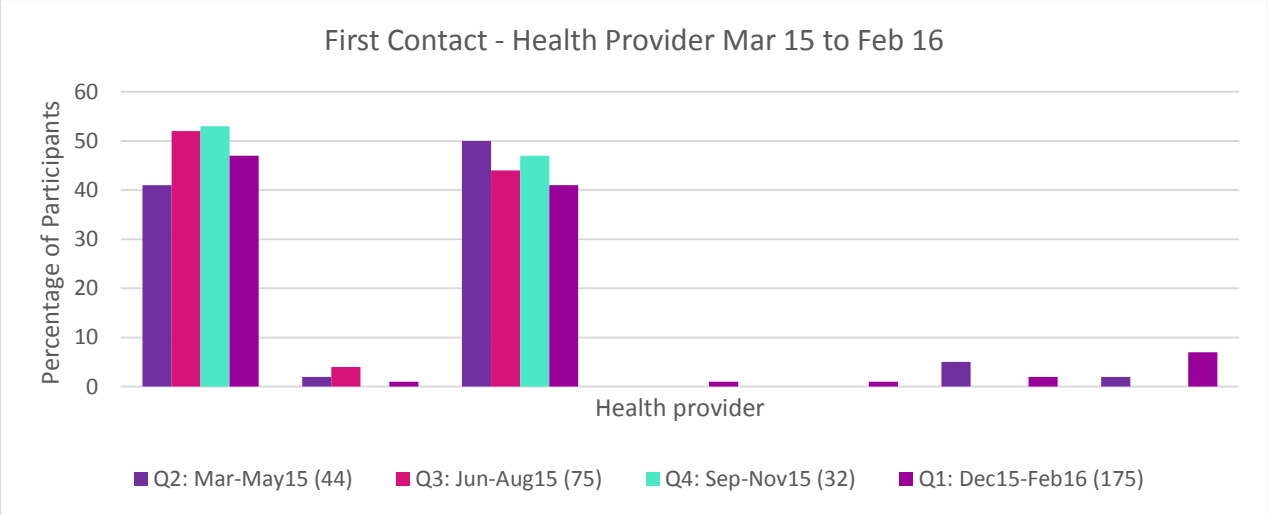


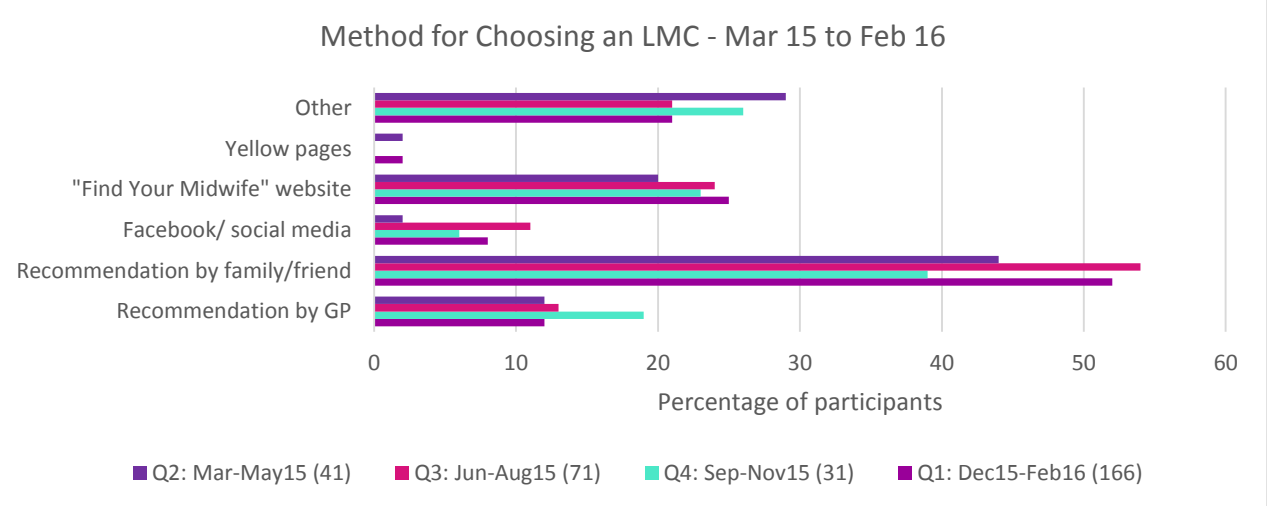


42 % of the women were primiparous, with approximately 60% of women experiencing a normal birth.



Additional findings were that on average 50 % of the participants made initial contact with their GP to confirm their pregnancy during their first trimester, with the majority of the remainder initially accessing an LMC. With such a high percentage of women using the GP as first port of call to confirm their pregnancy, the significance of the work currently being undertaken to enhance our relationships with Hawke's Bay GP's cannot be underestimated.

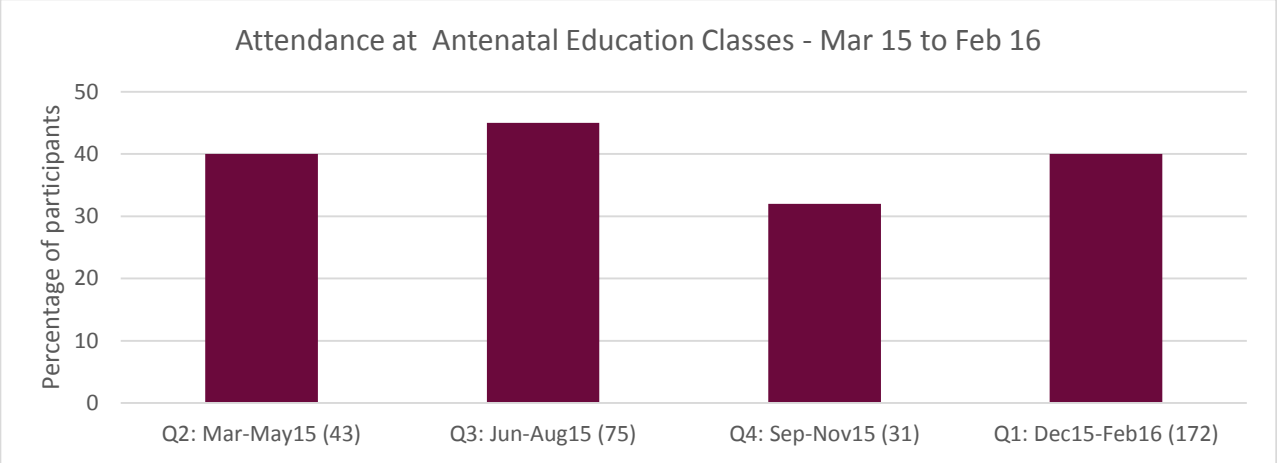


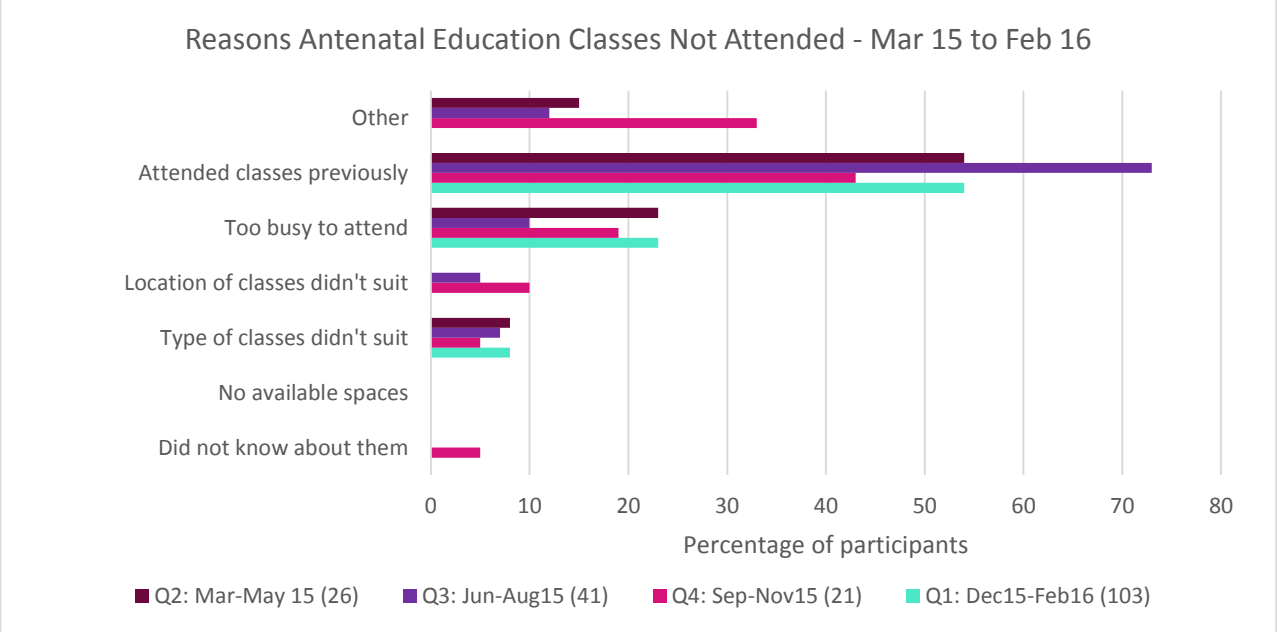


In relation to choosing an LMC, the survey findings indicated that over 50% of participants chose an LMC based on the recommendation of their family or friends as demonstrated in the previous graph.

Antenatal Education

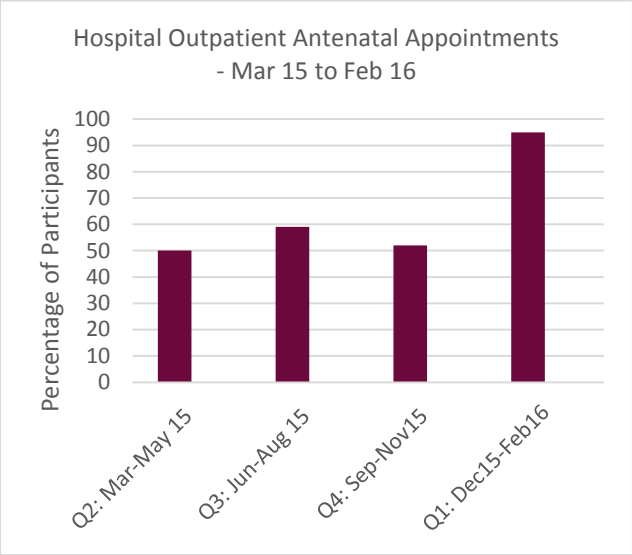
Of the consumers undertaking the survey, an average of 39% indicated they had attended antenatal education. A large proportion of the remaining consumers stated that they did not attend, having done so before in previous pregnancies. Work is ongoing around engaging our hard to reach and high-risk population with pregnancy and parent education as discussed in chapter twelve.

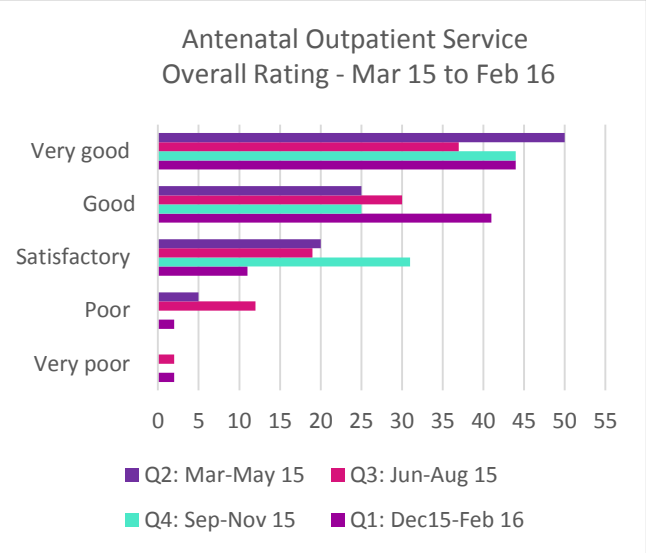




Antenatal Outpatient Service

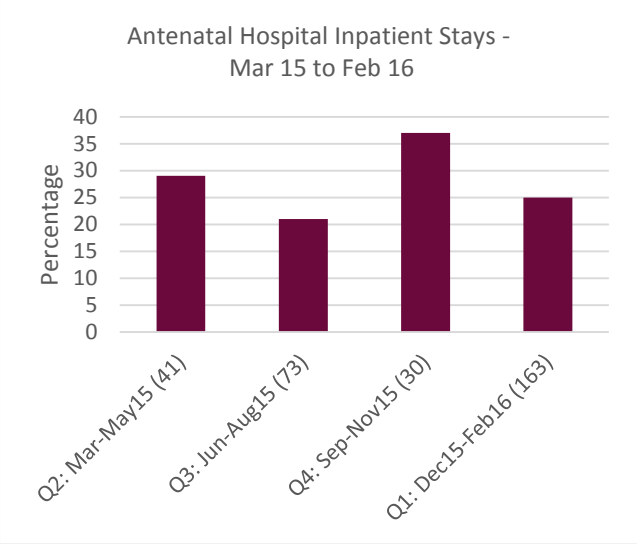
Despite a decline in overall consumer satisfaction in the 'very good' rating during Quarter Two, quarters four and one show consistency in consumer rating of 'very good' for antenatal outpatient services. Worth noting is the 45 % increase of outpatient antenatal contact in Quarter one as compared to Quarter Two.

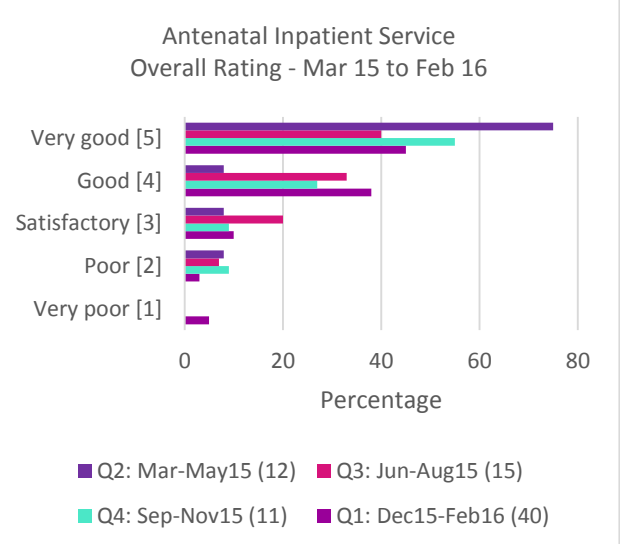




Antenatal Inpatient Service

Antenatal inpatient services also experienced a decline in consumer satisfaction in the top category of 'very good' over the first half of the year, however significant growth in the consumer's rating the antenatal inpatient service as 'good' shows significant improvement over the last four quarters.

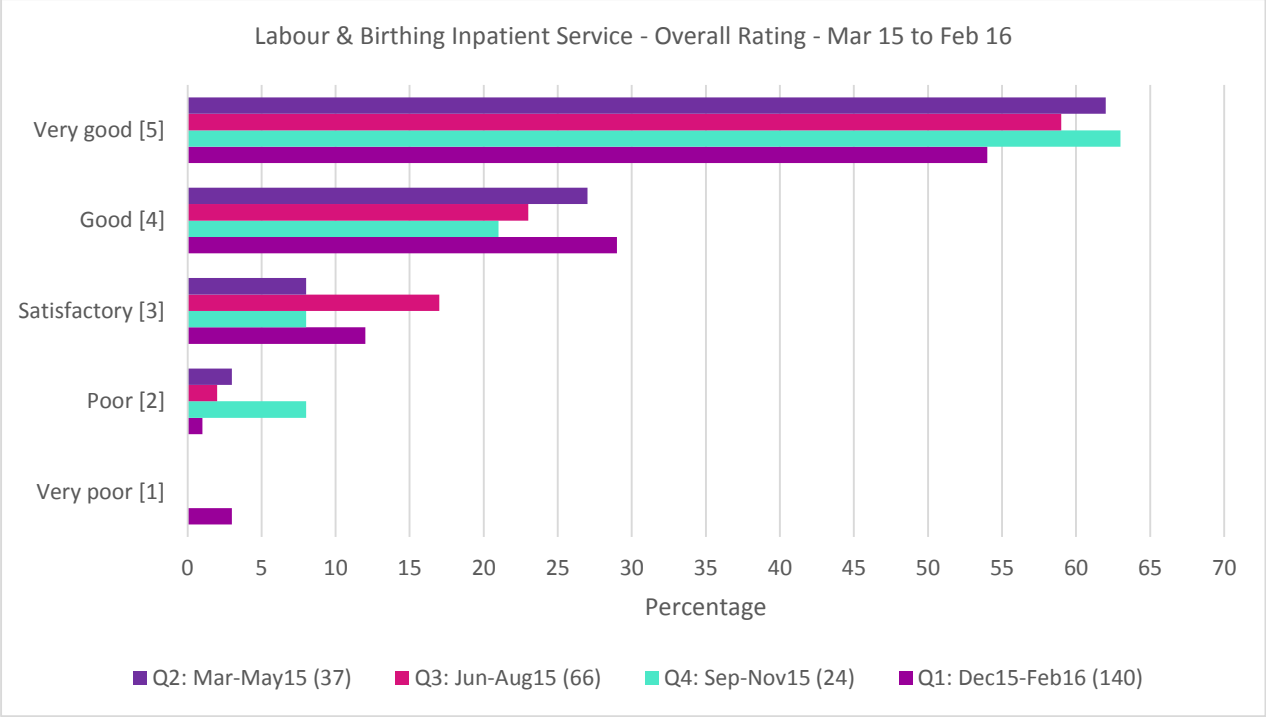




The Maternity Services are working hard to improve the elements of the patient experiences where service was deemed unsatisfactory. It is clear that systems and processes need to be improved and that some changes in culture need to occur in order to ensure that a good standard of care is perceived and received by all our service users.

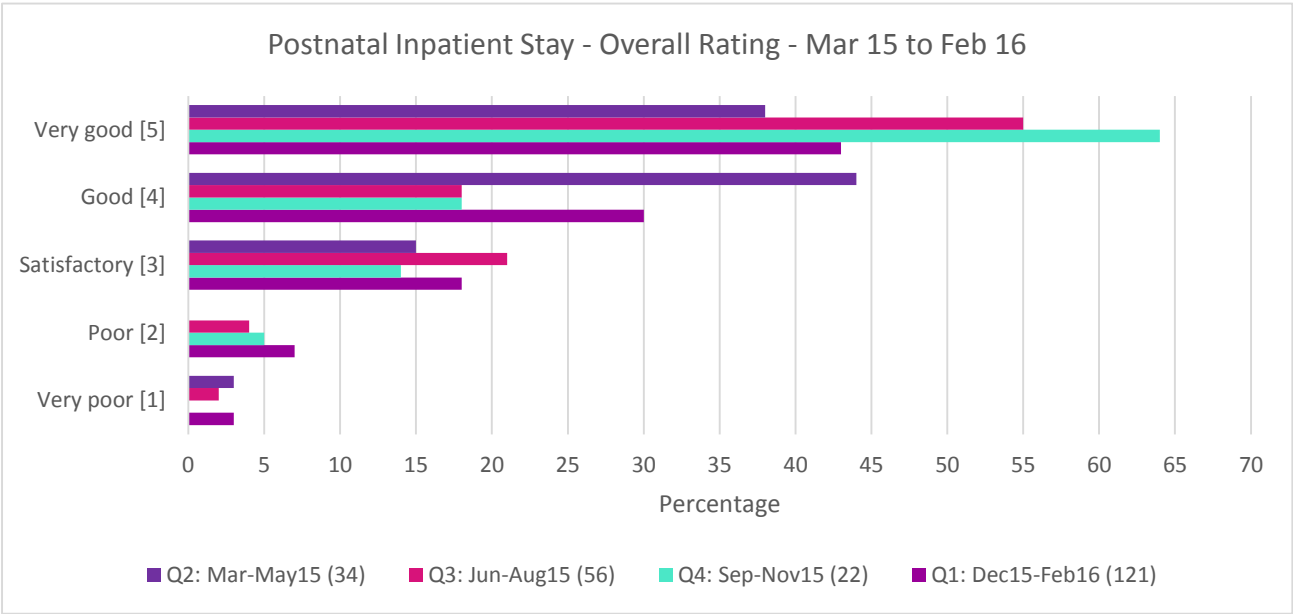
Labour and Birthing Service

The feedback rating of the 'Labour and birthing inpatient service remains positive, showing a continued balance between good & very good consumer satisfaction over the last four quarters.



Postnatal Service

The overall postnatal inpatient data reflects positive consumer feedback over the past four quarters, with 94% of those participating in the survey rating it from very good/good (77%) to satisfactory (17%). At present, the survey reflects a 5% increase of consumer satisfaction in Quarters One and Two.



13.3 Hawke's Bay Consumer Experiences

The Maternity Services are delighted to have been able to present the precious words, thoughts and feelings of many Hawke's Bay consumers throughout this year's report. Our maternity consumer representatives have sourced these stories from women whom they have known or come across

through their new and exciting community based roles. Each woman has travelled her own individual journey to motherhood and written her story in her own words. We are very grateful to have received such a diverse selection of personal stories from women representing a variety of ethnic groups from our community, all of whom birthed within 2015. We sincerely wish all of these women and their whānau well for their future.

13.3.1 A Hawke's Bay Consumer Experience

"After moving to Hawkes Bay a couple of months earlier we decided to try for another baby. This meant starting from scratch, we needed to find a midwife, and begin to set up support systems for myself and my family. We were lucky enough to find a midwife close by to where we lived through a distant friend.

My pregnancy (2nd child) was relatively straight forward and I went into labour three days before my due date that morning. My midwife and I had discussed that I wanted to do it without an epidural but was not ruling it out. We arrived at the hospital at 2am waiting as long as I could at home till my contractions where around four to five minutes apart. I laboured in the shower standing up for the next forty-five minutes and had my daughter one hour later after arriving at the hospital. I had my daughter breastfeed from me for about an hour straight after birth. This was incredibly special, it was so instinctive and she basically pulled herself there.

We were transferred up the temporary maternity satellite ward (A2) at around 5.30am. Being in the temporary ward meant that my partner couldn't stay long and I had to share a room. I decided to head home later that day and was home by 1.30pm. I wanted to be home with my other daughter and was missing her greatly, I spent a lot of time worrying about her and how she was feeling.

The first 8 weeks of my daughter's life was lovely, she was feeding and sleeping beautifully. Unfortunately, we were not made aware of the whooping cough vaccine that pregnant women are encouraged to have. At six weeks, our daughter had her six week immunisations.

Our daughter was incredibly unlucky and contracted Whooping Cough at 8 weeks old. The next three months of our daughter's life were horrific. Every hour, day and night, she would have coughing fits that would last around two minutes. She would go bright red - sometimes blue, cry and struggle to breathe. From our understanding the mucus that is produced from this illness is what causes such distress for little babies as their airwaves are not big enough to cope with, firstly, the stress of the cough and secondly, the thickness of the mucus which can get stuck in their throat and cause the blockage.

Over those two to three months, we had three ambulance trips and three hospital stays. There were times we were unsure if she would clear the mucus but she did and we are lucky she was strong enough. We asked paediatricians, naturopaths, herbalists, nurses and google, millions of questions, and the horrible thing about this illness is there is really nothing much you can do. The paediatricians at the hospital were very sympathetic and I know they felt helpless at times for us.

We had a phone-call from the District Health Board telling us that our immediate family needed to take a dose of the antibiotics, we would've appreciated a visit and possibly some health professionals to talk to for support during this time as there was nothing anybody could do for our daughter. We felt the support was not very forthcoming.

At about five months our daughter started coughing less and smiling more. The one saving grace for her through the whole time she had this illness is that she fed from me beautifully and exclusively. Our daughter lost weight over that time, she is battling a little with her weight still five months later, but she is happy, healthy and alive. Thank goodness our beautiful little girl will never remember. "

13.3.2 A Hawke's Bay Consumer Experience – Our Story

"When I was asked to write this I thought what I could possibly have to offer, as my births were normal vaginal deliveries, that were short and sharp. However, getting to the labour and birth was possibly the least stressful part of our journey. In 2011 we started that journey and with no success, in 2012 we began fertility treatment. Clomiphene; one and a half rounds of IVF, one failed pregnancy, a hysteroscopy, and a miscarriage. Biological time and money were creeping up and up. We were beginning to feel that we would not become parents.

Then to our delight we fell pregnant naturally and I became a mother at the age of 41. Due to my blood pressure going up and maternal age I was induced at 39 weeks. This was very stressful as I didn't know what to expect. I finally got into labour once the syntocinon drip was started after two nights on the ward. Three and a quarter hours later our beautiful baby was born safe and sound.

Unfortunately, our baby was jaundiced and not feeding well so required treatment and three hourly breastfeeds, an EBM top up, then expressing for the next round which meant I had to express and give top ups. By the time I was finished each cycle it was nearly time to start all over again. I was exhausted and at times felt unsupported. During this time my blood pressure was also poorly monitored and not well controlled, hence with my second pregnancy I was anxious about staying in Ata Rangi, however the second time, it was a totally different experience.

We used our last embryo and were fortunate to get pregnant, I gave birth to our second child at the age of 43. Once again, due to maternal age and needing to be on blood pressure medication throughout the pregnancy, I had numerous scans and extra midwifery and obstetric appointments. As I live rurally, this three to four-hour trip became tricky towards the end of the pregnancy and with a toddler to juggle, these visits added their own stress to the pregnancy. In all honesty the morning sickness I experienced and the anxiety of the pregnancies were worse than giving birth.

On a Saturday morning my waters broke at 0730, labour did not start so we made the hour long journey to the hospital to be assessed. We were advised to take our things in case we stayed. It took a while to be let into the unit and we were challenged as to why we had brought all our things which was frustrating and disappointing. Fortunately, I knew the hospital midwife who was caring for us that afternoon and I felt instantly reassured when our fantastic independent midwife came in, did an assessment and it was arranged that I stayed the night and be induced the next morning……
Luckily baby decided to come and was uneventfully born the same evening safe and sound. I had been hoping to use the birthing pool for both of my births, but unfortunately I was hooked up on a drip for my first birth and there was not time to run the bath for second. Prior to both births I was terrified, and so I was so relieved and thankful that both births were short and sharp and that our babies were born healthy.

Due to my blood pressure issues I had my postnatal care within Ata Rangi's postnatal ward in my own room. I was thankful for this as I wanted to share this time with my partner as we did with our first-born. The room had a toilet and shower and my partner had a fold out chair to sleep on. It was so much more pleasant than the shared facilities I had to experience with my first born. What was disappointing though was the lack of ability to store our placenta within the hospitals placenta fridge, as despite living an hour from town and my partner remaining with me for the first two nights, we were told we not eligible to utilise the fridge as we are not from Wairoa.

A positive element was how the maternity services embrace fathers (support people) to stay with the mother and baby. Being able to be together for those first 24-48 hours of the baby's life was amazing. It allowed us not only to bond with our baby's but also with each other. We were fortunate to be in Hawke's Bay for both deliveries, however a greater provision of fold out beds showering and toileting facilities would be appreciated for rural partners and support people.

Overall our 2015 stay in Ata Rangi 2015 was pleasant and I noticed a higher standard of professionalism and that the nurses and care associates seemed more friendly, caring and efficient than our previous stay. When it was discovered our baby had floppy/clicky hips we were assessed and sent for an ultrasound prior to leaving – it was good that they did that so we didn't have to travel back a week later. Even though the scan was normal we were referred to Orthopaedics and will be monitored until baby walks, which feels reassuring.

One thing that comes to mind was in the middle of the night, I was offered a cup of tea, when I said no that I wished I had brought my Milo, the midwife looking after us made me a hot chocolate of her own. This gesture was kind and appreciated.

We were cared for with respect and we went home happy with our new little bundle of joy. Thanks to all the Ata Rangi staff and independent midwives of Hawkes Bay."

CHAPTER FOURTEEN: CLINICAL AUDIT

The quarterly review of our clinical indicators by the MCGG determines many of the clinical audits that need to occur across our maternity related services. Other valuable audits are identified as needing to occur by individual practitioners that identify either a gap in the service or an element of care that can be improved. All maternity related audits are supported and overseen by the Maternity Governance Co-ordinator, who is responsible for the publication of these audits and ensuring that all recommendations are carried out appropriately.

14.1 Table of 2015 Clinical Audits

All of the clinical audits that have either been completed during 2015 or based on data created in 2015 are listed below.

Audit	Report Section	Report Page
Premature Births Causes and Outcomes Audit – 2015	6.1.4	66
Small for Gestational Age Dual Audit	6.5.2	75
Induction of Labour Audit	7.3.3	84
Lower Segment Caesarean Section (LSCS) under General Anaesthesia (GA) Audit	7.6	89
Management of Third and Fourth Degree Perineal Tears Audit	8.3.1	95
Iron Replacement Therapy Audit	14.2	168
Safe Sleep Practice within Ata Rangi Maternity Unit	14.3.1	169
Provision of Antenatal Safe Sleep Education by LMC's	14.3.2	170
Safe Sleep Education and Family Plan Documentation Audit	14.3.3	170
Monthly Clinical Quality Audit	14.4	171
Breastfeeding Documentation Audit	14.5	171
Fetal Fibrinectin (FFN) Use in 2015 Audit	14.6	172

14.2 Iron Replacement Therapy Audit

An audit of women receiving Iron Replacement Therapy within Ata Rangi, Maternity Services between 1st January 2015 and 31st October 2015 was undertaken in November 2015. The audit was commissioned in response to an anecdotal rise in the administration of Intravenous Iron Replacement Therapy 'IRT' within the service.

The purpose of the audit was to establish the level of concordance and compliance between clinical treatment of anaemia and the Anaemia in Pregnancy Guideline (WCYS/MATUPPM/8083). The audit involved 38 women who received 61 infusions of either Iron Sucrose or Ferric Carboxymaltose. The audit identified that of the 38 women audited, only 16 (42%) met the criteria for Iron Replacement Therapy according to the Anaemia in Pregnancy Guideline (WCYS/MATUPPM/8083. Only six (27%)

of the 22 women who received Iron Replacement Therapy outside of the policy criteria had documented reasons why the deviation occurred.

The audit report made recommendations that the current Anaemia in Pregnancy Guideline be updated to include a pathway covering all gestations of pregnancy and that the updated guideline be widely distributed across all Maternity and Obstetric Health Care Practitioners and GPs. Additionally, a guideline for women suffering anaemia in early pregnancy, which is caused by a medical condition where oral iron supplementation is not adequate, needs to be developed. A recommendation for ferritin and haemoglobin levels to be included in booking bloods for all women was shared amongst primary care providers as well as requesting they consider checking ferritin and haemoglobin levels three to four weeks post Iron Replacement Therapy. Establishing a system that ensures all iron replacement therapy infusions are consultant level approved will also be implemented. Ongoing Intravenous Iron Replacement Therapy data collection will occur and the audit will be undertaken again six months after the recommendations have been implemented.

14.3 Safe Sleep Practice Auditing

14.3.1 Safe Sleep Practice within Ata Rangi Maternity Unit

This was one of three infant Safe Sleep related audits conducted during 2015. This audit, undertaken in June 2015, was based on mothers who were experiencing their postnatal stay with baby at Hawke's Bay Fallen Soldiers' Memorial Hospital in the Ata Rangi maternity unit.

The purpose of this audit was five-fold, the first being to identify if the parents in the HB Maternity Services inpatient settings are undertaking safe sleep practice when sleeping their babies, secondly to identify if the education of no hats on babies unless medically indicated, had been established. Additionally, the audit was to ensure that all staff members are modeling safe sleep practices at all times whilst the infant is in the hospital setting. Fourthly that comprehensive documentation of safe sleep education and informed choice decision making is evident for all mothers not complying with sleep in the hospital setting. Finally, the audit was to identify those mothers with vulnerable infants who continue unsafe sleep practice in the hospital setting following extensive safe sleep education, have been offered a pepi-pod and whether they are using it in the hospital setting.

Overall compliance of acceptable safe sleep practice was 96%, with the remaining 4% of sleeping infants found either not in a baby bed, or not being wrapped in a safe manner if wrapped. Overall compliance of the infant being found sleeping on its back was 98% as well as 90% of infants being found un-swaddled or swaddled in a safe manner if wrapped. The audit also identified that the practice of routinely sleeping babies with hats on had been eliminated and only babies with medical reasons were wearing hats, which is a 100% improvement on the last audit. Once the criteria for no hat wearing had been agreed, a change in practice has been successfully implemented. Staff members were commended regarding no unsafe sleep practice being identified as having been initiated by a staff member and that all of the vulnerable babies identified during the audit had been referred for a pepi-pod.

Key recommendations from the audit were to ensure that the safe sleep conversation is held in the early postnatal period within the first 4 hours of life followed by the completion of the Safe Sleep Documentation Tool and agreed family plan. The Policy is due for review to implement this. Education around completion of the tool and a re-audit in twelve months' time are also actions to be executed.

14.3.2 Provision of Antenatal Safe Sleep Education by LMC's

An antenatal safe sleep education and assessment audit for women registered with a Lead Maternity Carer (LMC) and booked to birth at Hawke's Bay Fallen Soldiers' Memorial Hospital in the Ata Rangi Maternity Unit, was undertaken in March 2015. The aims were to ascertain the degree of antenatal education being provided by Lead Maternity Carers and if appropriate referrals were occurring. Telephone contact was made with 14 randomly selected women from each of three categories of gestation: 20-28 weeks; 29-34 weeks and 35-40 weeks. In total 42 women were contacted, a 10% sample of the total women registered to birth.

The audit found that antenatal safe sleep education is being provided more frequently as the gestational period increases, with 57% of women between 35-40 weeks gestation reporting having this discussion with their LMC compared to 14.3% who were between 20-28 weeks pregnant. LMC's are also to be commended for giving Smokefree advice and support to the 77.8% of women who were not Smokefree. It was pleasing that most women contacted were able to name some factors to reduce the risk of SUDI for newborns, with 93% able to state putting baby to sleep on their back as the safest position to protect their infant from risk of SUDI. The results of this audit clearly show that there is good awareness of some aspects to help reduce the risk of SUDI while the message of other factors remain relatively unknown.

Recommendations based on the audit findings were to encourage LMC's to engage in safe sleep conversations with their clients in the second trimester and revisit this discussion again before the client reaches 36 weeks gestation, for the Safe Sleep Co-ordinators to update LMC's on safe sleep education, risk criteria for SUDI, referral process for pepipods to ensure referral is completed in a timely fashion, to encourage LMC's to make timely and appropriate referrals for Smokefree Services and offer support should the client wish to become smokefree. This audit will be repeated in twelve months' time to gauge levels of improvement.

14.3.3 Safe Sleep Education and Family Plan Documentation Audit

A Safe Sleep Education, Risk Assessment and Family Plan Documentation Audit for mothers giving birth during the month of September 2015 was undertaken at Ata Rangi Maternity Unit during October 2015. This was a fifth follow up audit to the initial audit undertaken in April 2012. This audit concentrates on compliance with safe sleep education, identifying SUDI risk factors, creating a safety plan and gaining signatory agreement to this infant safety plan.

The audit indicated that many elements of the infant safe sleep education and planning are done very well and that nearly all babies are being accurately identified as high risk with appropriate referral where necessary. However, work is still required in ensuring that all systems are robust enough to prevent any baby slipping through the net. Focus will be on education to all practitioners to ensure that every woman has a fully completed safe sleep documentation tool on discharge; that all mothers of babies meeting vulnerable criteria for a pepi-pod are appropriately referred, and that further comprehensive education and referrals are completed for smokefree support if appropriate. This audit will also be repeated in 2016 to monitor compliance levels.

14.4 Monthly Clinical Quality Audit

The Maternity Governance Co-ordinator has participated in the DHB wide monthly clinical audit throughout 2015. The aim of this monthly audit is to meet the requirements of HBDHB policy and national standards in the provision of safe and effective care for HBDHB consumers. The Clinical Quality Audit activity also assists staff in identifying opportunities to improve practice and allows the Maternity Service to measure compliance against the following standards:

- Code of Health and Disability Consumers' Rights "Code of Rights" Policy (HBDHB/OPM/005)
- Midwives Handbook for Practice Decision Points (2008)
- Hand Hygiene and General Glove Use Policy (HBDHB/ICM/010)
- Tikanga Best Practice Policy (HBDHB/OPM/006)
- Health Record Policy (HBDHB/CPG/021)
- Identification of Inpatients / Day Patients Policy (HBDHB/CPG/046)
- Modified Early Obstetric Warning Scoring (MEOWS) System Policy (WCYS/MATUPPM/8063)
- Administration and Monitoring of Medicines Policy (HBDHB/IVTG/117)
- Family violence – Partner Abuse Policy (HBDHB/IVTG/117)
- Controlled Drugs Policy (HBDHB/ IVTG/115)

The results of the audit were published hospital wide with the quarterly report reviewed by the Maternity Clinical Governance Group.

14.5 Breastfeeding Documentation Audit

The HBDHB Breastfeeding Advisor conducts audits around documentation requirements and interviews of mothers on a six monthly basis. The last main Audit was the Annual Self-Assessment completed in February for the year of 2015, submitted to NZBA. It included interviews with mothers regarding the delivery of information and support with breastfeeding, establishing evidence of maintaining of The Ten Steps, plus evidence of breastfeeding rates and education of staff. It is very pleasing to see an increase of exclusive breastfeeding rates, from 84.5% to 88.1% in 2015.

Overall there is excellent compliance with the Ten Steps. Interviews revealed good practical teaching of positioning and latching and the practice of skin to skin after Caesarian Section has become commonplace. Not all women received information regarding hand expressing and this topic has been included for all staff (including LMCs) in the BFHI education that occurs through the year.

14.6 Fetal Fibrinectin (FFN) Use in 2015 Audit

Fetal fibronectin (FFN) is a protein present in the placenta, as part of the interface between the decidua of the uterus and the chorion. It is released when this interface is disrupted – e.g. abruption, inflammation or uterine contractions. A test has been developed to measure this protein and aims to guide management by identifying who would benefit from active management (e.g. steroids and tocolysis) and who can be sent home. It has a negative predictive value of 99.5% - i.e. women with a negative test have a very low risk of giving birth within the next fourteen days and are safe to discharge home. Its use may prevent unnecessary treatments, admissions, or transfers.

With the cost of running the test high, a protocol has been implemented to ensure that fetal fibronectin is used at the correct gestation (24-34 weeks), in the appropriate situation (where labour is suspected but the cervix is not opening), and with the knowledge of obstetric consultants.

The audit examined compliance against the policy for 55 women over 66 inpatient events. The hospital records were reviewed against gestation when the FFN tests were used, whether appropriate examination were carried out before running the test, and whether the consultant had prior knowledge of and agreement to the test being run. The audit also examined if the use of FFN reduced the need for admission, steroids and nifedipine and whether transfer to a tertiary centre could be avoided. Finally, the false negative rate was also established.

The auditors found that the majority of FFN tests were being run at the appropriate gestation. All patients had an assessment prior to the test being run, with a clinician preference for speculum exams (>75%) over vaginal exams. There was poor documentation of obstetric consultant discussion prior to the test being run, more so over out of hours.

30 women were able to avoid admission because of a reassuringly negative fetal fibronectin test, although 19 women were admitted despite also having a negative test. 44 women avoided nifedipine & steroids as a result of a negative test, however five received treatment despite also being negative. Two women were transferred to Wellington with appropriately high FFN levels, one transfer was avoided with a reassuringly negative level.

Overall, the audit identified that FFN was used well, but a greater level of confidence of results is required if we are to further avoid admissions and treatments.

Part Three

HAWKE'S BAY MATERNITY SERVICE RESPONSES AND ACTIONS TO NATIONAL EXPECTATIONS

CHAPTER FIFTEEN: THE NATIONAL MATERNITY CLINICAL INDICATORS

15.1 The National Maternity Clinical Indicators

The figures and statistics presented and analysed in this report thus far are based on the outcomes of the overall total of women who birthed within our services during 2015. This chapter explores our statistics in a different way that enables up to both benchmark against the twenty other DHB's across New Zealand and to track trends of the clinical management that our population received. This chapter explores and analyses HBDHB's performance against The New Zealand Maternity Clinical Indicators.

A clinical indicator is a measure of the clinical management and outcome of health care received by an individual and has a primary purpose to highlight areas where quality and patient care could be improved. Clinical indicators enable the quality of care and services to be measured and comparisons made between services or sites.

The New Zealand Maternity Clinical Indicators are the result of collaboration between the Ministry of Health and maternity stakeholders representing consumer, midwifery, obstetric, general practice, paediatric and anaesthetic perspectives.

Initially, in 2011 the working group established a set of 12 maternity clinical indicators to measure against. These were increased to 15 in 2014 when the MOH published their 2012 data and then again to 21 in September 2015 when the MOH published their 2013 data.

The data set used to calculate our performance against the indicators differs from that of the data presented earlier in the report, by including and excluding specific criteria as set out by the MOH. This means that the women used to calculate the clinical indicators statistics are not necessarily the exact same women used to collate the statistics in the other elements of the report, depending on the criteria.

The current collection of 21 clinical indicators have four different data set groupings as set out in the table below

Data Set Groupings	Indicators
• **Women who registered with an LMC**	1, 16, 17
• **Standard Primiparae –** Women aged 20–34 years old at the time of giving birth who are giving birth for the first time (parity = 0) at term (37–41 weeks gestation) where the outcome of the birth is a singleton baby, the presentation is cephalic and there have been no recorded obstetric complications that are indications for specific obstetric interventions	2, 3, 4, 5, 6, 7, 8, 9
• **All women giving birth in New Zealand**	10, 11, 12, 13, 14, 15
• **All babies born in New Zealand**	18, 19, 20,21

In the latest publication, based around 2014 data, the MOH defined new inclusion criteria and expanded data extraction methodology, meaning that we cannot make comparisons against our 2012 Ministry data to gauge improvement.

We can however, benchmark our current internal data against the MOH's 2014 publication, which provides us with a good understanding of how we have improved since 2014 and highlights the areas needing further improvement

15.2 HBDHB Performance Against the National Maternity Clinical Indicators

Evaluators of our indicators need to remain mindful of the population we serve being one with significantly high health inequalities as demonstrated in chapter three of this report, and of the poor access to primary care and high rates of complex pregnancies that this challenges us with on an ongoing basis.

The performance of Hawke's Bay DHB against the individual clinical indicators is presented in three different formats:

15.3 2014 Clinical Indicator Overview Table: based on 2014 MOH Data

- Demonstrates the most recently published Ministry of Heath targets and national clinical indicators (2014)
- Shows the percentages that HBDHB were reported to be at in 2014 by the Ministry of Heath
- Displays our ranking within the twenty nationwide DHB's

15.4 Internal Data Clinical Indicator Overview Table: based on current internal data

- Presents Internal report figures for 2013, 2014 and 2015
- Demonstrates our direction of trend from the 2014 to 2015 statistics
- Shows our current performance based on the 2015 statistics

15.5 An individual analytical breakdown of each clinical indicator by ethnicity

15.3 2014 Clinical Indicator Overview Table: based on 2014 MOH Data

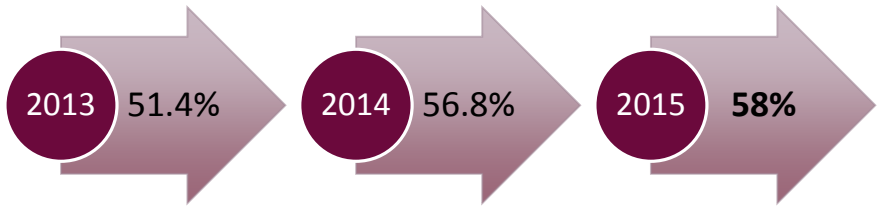
	National average	HBDHB for 2014	Ranking within 21 DHBs	Outliers (Indicators where HBDHB sit outside the 25% or 75% confidence intervals)
1: Registration with a Lead Maternity Carer in the first trimester of pregnancy- All Women	67.7%	65.9%	13th	No
2: Spontaneous vaginal birth among standard primiparae	68.9%	63.9%	13th	No
3: Instrumental vaginal birth among standard primiparae	15.2%	17.6%	16th	No
4: Caesarean Section among standard primiparae	15.6%	18.9%	18th	No
5: Induction of labour among standard primiparae	5.6%	6.4%	16th	No
6: Intact lower genital tract among standard primiparae giving birth vaginally	27.7%	30.8%	8th	No
7: Episiotomy and no third- or fourth-degree tear among standard primiparae giving birth vaginally	22.7%	23.8%	16th	No
8: Third- or fourth-degree tear and no episiotomy among standard primiparae giving birth vaginally	4.5%	5.8%	20th	Yes
9: Episiotomy and third- or fourth-degree tear among standard primiparae giving birth vaginally	1.5%	1.7%	14th	No
10: General anaesthetic for all women giving birth by Caesarean Section	8.4%	10.4%	18th	No
11: Blood transfusion for all women giving birth by Caesarean Section	3.2%	5.6%	21st	Yes
12: Blood transfusion during birth admission for vaginal birth for all women	2.1%	2.5%	19th	No
13: Diagnosis of eclampsia during birth admission for all women	n/a	0	N/A	No
14: Peripartum hysterectomy	n/a	2 women	N/A	No
15: Mechanical ventilation during pregnancy or postnatal period	n/a	0	N/A	No
16: Maternal tobacco use during postnatal period for all women	12.8%	21.1%	19th	Yes
17: Women giving birth with a BMI over 35 at registration	8.8%	9.8%	15th	No
18: Preterm births, 32 to 36 weeks gestation, for all women	7.4%	7.3%	12th	No
19: Small babies at term (37–42 weeks gestation)	3.0%	3.1%	9th	No
20: Small babies at term born at 40–42 weeks gestation	39.4%	38.6%	15th	No
21: Babies born at 37+ week's gestation requiring respiratory support	2.0%	1.5%	11th	No

15.4 Internal Data Clinical Indicator Overview based on Current Internal Reporting

Indicator	KEY		2013	2014	2015	Trend Direction	Performance for 2015
	U	Unfavourable					
	S	Static					
	F	Favourable					
1: Registration with a Lead Maternity Carer in the first trimester of pregnancy- All Women MOH target			51.4%	56.8%	58.0%	↑	S
2: Spontaneous vaginal birth among standard primiparae			61.1%	62.3%	60.2%	↓	U
3: Instrumental vaginal birth among standard primiparae			16.4%	21.2%	19.3%	↓	F
4: Caesarean section among standard primiparae			19.4%	16.4%	20.2%	↑	U
5: Induction of labour among standard primiparae			6.2%	6.2%	8.6%	↑	U
6: Intact lower genital tract among standard primiparae giving birth vaginally			39.2%	39.0%	44.2%	↑	F
7: Episiotomy and no third- or fourth-degree tear among standard primiparae giving birth vaginally			19.9%	21.9%	15.9%	↓	F
8: Third- or fourth-degree tear and no episiotomy among standard primiparae giving birth vaginally			5.8%	6.2%	6.1%	=	S
9: Episiotomy and third- or fourth-degree tear among standard primiparae giving birth vaginally			1.4%	2.7%	2.9%	=	S
10: General anaesthetic for all women giving birth by Caesarean Section			10.6%	9.4%	11.5%	↑	U
11: Blood transfusion for all women giving birth by Caesarean Section			5.8%	3.6%	3.8%	=	S
12: Blood transfusion during birth admission for vaginal birth for all women			2.8%	1.9%	2.4%	=	S
13: Diagnosis of eclampsia during birth admission for all women			0	0	0%	=	F
14. Peripartum hysterectomy			New in Sept 2015		0.05%	↑	U
15. Mechanical ventilation during pregnancy or postnatal period			New in Sept 2015		0%	=	F
16: Maternal tobacco use during postnatal period for all women: Status at Discharge			Not collated prior		21.6%	=	S
17. Women giving birth with a BMI over 35 at registration			New in Sept 2015		3.42%	=	S
18: Preterm births, 32 to 36 weeks gestation, for all women			6.9%	7.9%	8.9%	↑	U
19. Small babies at term (37–42 weeks gestation)			New in Sept 2015		Data warehouse unable to retrieve this new data at time of report		Na
20. Small babies at term born at 40–42 weeks gestation			New in Sept 2015		Data warehouse unable to retrieve this new data at time of report		Na
21. Babies born at 37+ week's gestation requiring respiratory support			New in Sept 2015		1.8%	Na	Na

15.5 Individual Clinical Indicator Breakdown by Ethnicity

1: Registration with a Lead Maternity Carer in the first trimester of pregnancy - All Women

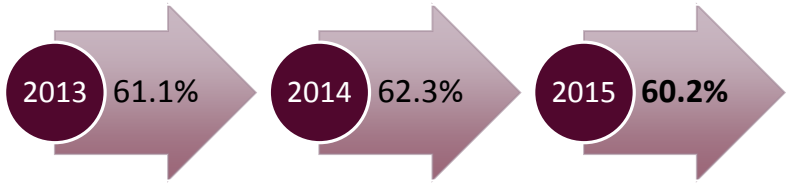


Statistics for the last three years show static progress for this indicator, with a minimal improvement over the last twelve months despite several initiatives being implemented over this period as reported on in section 5.9 of chapter five. With this in mind, a significant focus will be put into improving the percentage of women who register with an LMC in the first trimester over the next two years by implementing a Hawke's Bay version of 'Five key things in first Ten weeks of pregnancy' campaign, developing education for primary care practitioners to support early enrolment and establishing another maternity resource centre in Hastings or Central Hawke's Bay.

The 58% of women who did register with an LMC in the first trimester during 2015 have been broken down in the following ethnic groups.

	Women who registered with an LMC in the first trimester - 2015	Total number of women who registered with a LMC by the end of pregnancy -2015	Rate (%) per Ethnicity
Māori	388	812	48.0%
Pacific	45	122	37%
All Ethnicities	**1245**	**2151**	**57.88%**

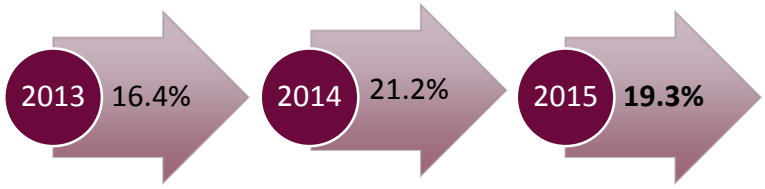
2: Spontaneous vaginal birth among standard primiparae



Internal data reporting demonstrates reasonably static rates of spontaneous vaginal birth amongst our standard primiparous women over the last three years. With the national average as reported for 2014 being 67.7% we are currently sitting well below many of the other DHB's across New Zealand. Without doubt Hawke's Bay Maternity Service is expecting to see a notable increase in this statistic over the next twelve months with the pending implementation of our primary birthing centre, 'Waioha', followed by a steadily increasing trend over the coming years. The ethnic breakdown of the 208 standard primiparous women achieving a spontaneous vaginal birth over 2015 is demonstrated in the following table, with both the Māori and the Pacific Island women having above average numbers of spontaneous vaginal births amongst their standard primips.

	Total Standard Primiparae per ethnic group - 2015	Spontaneous Vaginal Births achieved per ethnic group - 2015	Rate (%) per Ethnicity
Māori	107	70	65.4%
Pacific Islander	9	7	77.8%
European	187	111	59.4%
Asian	26	13	50.0%
Other	18	8	44.4%
Total	**347**	**208**	**60.2%**

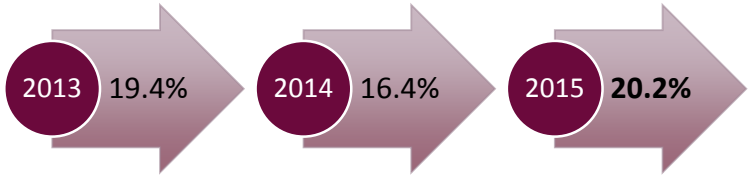
3: Instrumental vaginal birth among standard primiparae



The 2015 instrumental vaginal birth rate amongst standard primiparous women has dropped significantly when compared to the 2014 internally reported statistics; however, our rate has been continuously higher than the national average of 15.2% (2013) for the last three years. Again, there is an expectation that the rate will decrease further once the primary birthing facility is fully utilised as well as an expectation of a further declining trend over the coming years. The ethnic cohort with the greatest percentage of instrumental vaginal births is the 'Other' group, although the numbers are small in relation to the Māori and European Standard Primips as demonstrated in the table below.

	Total Standard Primiparae per ethnic group - 2015	Instrumental Vaginal Births per ethnic group- 2015	Rate (%) per Ethnicity
Māori	107	15	14%
Pacific Islander	9	2	22.2%
European	187	39	20.9%
Asian	26	6	23.1%
Other	18	5	27.8%
Total	**347**	**67**	**19.4%**

4: Caesarean Section Among Standard Primiparae

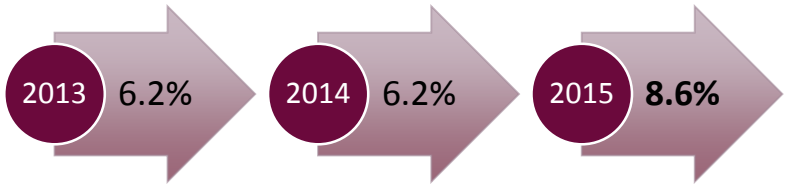


Following a 3% decline in our standard primips rate for 2014, 2015 has seen increase back up to a fifth of our standard primips requiring a Caesarean Section to birth their first babies. With an expectation that all low risk women are booked into birth at ''Waioha'', the primary birthing facility from July 2016 onwards, we are expecting to see a decline in the Caesarean Section rate that mimics an increase in the spontaneous vaginal birth rate for our standard primip women.

It is encouraging to see when reviewing the following ethnicity breakdown table that all of our Pacific Peoples standard primips were able to birth without the requirement of a Caesarean Section and that the percentages of Māori and European standard primips requiring a Caesarean Section were similar, despite the significant disparities. It is small groups identifying as Asian and Other ethnicities women that are raising the percentage of Caesarean Sections amongst standard primips. This is an area to be addressed.

	Total Standard Primiparae per ethnic Group - 2015	Caesarean Sections per ethnic group - 2015	Rate (%) per Ethnicity
Māori	107	21	19.6%
Pacific Islander	9	0	0.0%
European	187	37	19.8%
Asian	26	7	26.9%
Other	18	5	27.8%
Total	**347**	**70**	**20.2%**

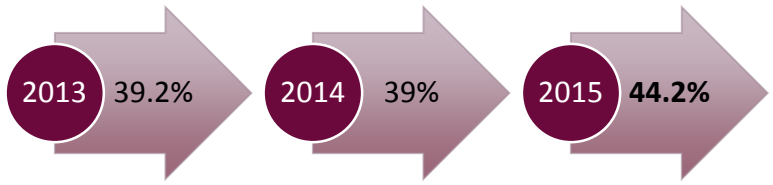
5: Induction of labour among standard primiparae



Our induction of labour rate amongst standard primips appears to have increased significantly in 2015, particularly amongst Asian and European women in this cohort. With the national average for 2014 sitting at 5.6% this is clearly an area to work on, however our significantly disproportionate population of women living in deprivation brings increased numbers of pregnancies with multiple complexities requiring early delivery to facilitate the best possible outcome. There is also a piece of work to be done with the coding department in relation to recognition of an augmented labour in comparison to an induced labour, as a combination of ambiguous documentation forms, incorrectly annotated data entry and incorrectly completed fields have led to the discovery of a likely inaccuracy in this year's reported data. This issue will be explored as soon as possible.

	Total Standard Primiparae per ethnic group- 2015	Inductions of labour per ethnic group - 2015	Rate (%) per Ethnicity
Māori	107	8	7.5%
Pacific Islander	9	0	0.0%
European	187	17	9.1%
Asian	26	4	15.4%
Other	18	1	5.6%
Total	**347**	**30**	**8.6%**

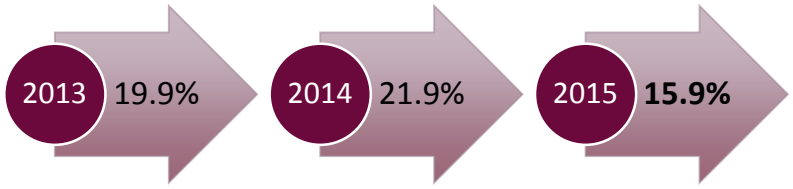
6: Intact lower genital tract among standard primiparae giving birth vaginally



HBDHB excels at this clinical indicator with a continual trend significantly over the national average. It is very encouraging to see that almost half of our Māori and European standard primiparous women have an intact perineum following their first birth. The Pacific Peoples standard primips appears to be the most at risk of damaged perineum amongst our population.

	Total Standard primiparae giving birth vaginally per ethnic group - 2015	Intact Lower Genital Tracts per ethnic group - 2015	Rate (%) per Ethnicity
Māori	106	49	46.2%
Pacific Islander	9	2	22.2%
European	187	88	47.1%
Asian	26	9	34.6%
Other	18	5	27.8%
Total	**345**	**152**	**44.2%**

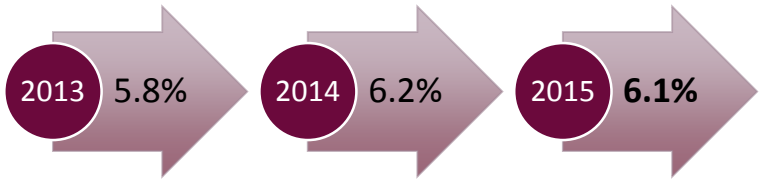
7: Episiotomy and no third or fourth degree tear among standard primiparae giving birth vaginally



Hawke's's Bay Maternity Services has a low episiotomy rate amongst standard primips for 2015 and are sitting below the 22.7% national average 2014 figure. Episiotomies are less common in our Māori standard primips than all of the other ethnic groups, followed by a reasonably low rate amongst European women. The disproportionate percentages of Pacific Peoples standards primips receiving an episiotomy is relative to small numbers and the similar numbers of instrumental vaginal births for this group.

	Total Standard Primiparae Giving Birth Vaginally per ethnic group 2015	Episiotomies without a 3rd or 4thdegree tear per ethnic group– 2015	Rate (%) per Ethnicity
Māori	106	10	9.4%
Pacific Islander	8	3	37.5%
European	187	32	17.1%
Asian	18	4	22.2%
Other	26	6	23.1%
Total	**345**	**55**	**15.9%**

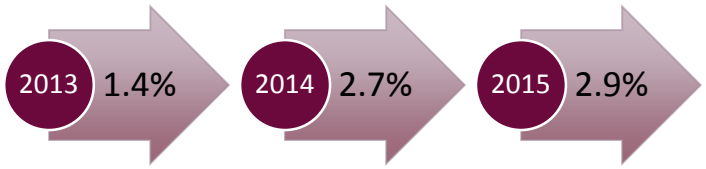
8: Third or fourth degree tear and no episiotomy among standard primiparae giving birth vaginally



When third and fourth degree perineal tears are examined amongst the standard primips, we have a static but above national average rate, regardless of the utilisation of an episiotomy or not. Work is ongoing to reduce the rate of third and fourth degree tears as discussed in chapter eight, section 8.3, and the audit undertaken to review a years' worth of recent cases can be viewed in section 8.3.1.

	Total Standard Primiparae giving birth vaginally per ethnic group 2015	3rd or 4th degree tears without episiotomy per ethnic group - 2015	Rate (%) per Ethnicity
Māori	106	10	9.4%
Pacific Islander	8	0	0.0%
European	187	8	4.3%
Asian	26	2	7.7%
Other	18	1	5.6%
Total	**345**	**21**	**6.1%**

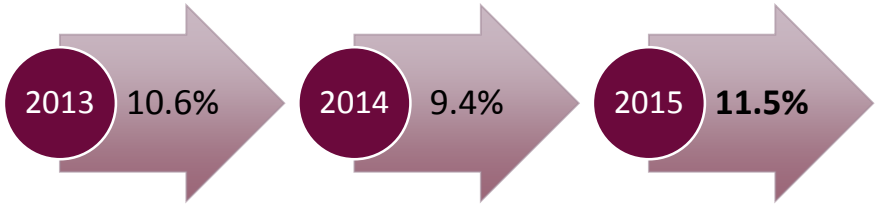
9: Episiotomy and third or fourth degree tear among standard primiparae giving birth vaginally



Similar to Clinical Indicator Eight we have a suboptimal rate of third and fourth degree tears in conjunction with an episiotomy. Work is ongoing to improve both of these indicators simultaneously.

	Total Standard Primiparae giving birth vaginally per ethnic group - 2015	Episiotomies with a 3rd or 4th degree tear per ethnic group – 2015	Rate (%) per Ethnicity
Māori	106	3	2.8%
Pacific Islander	8	0	0.0%
European	187	6	3.2%
Asian	26	1	3.8%
Other	18	0	0.0%
Total	**345**	**10**	**2.9%**

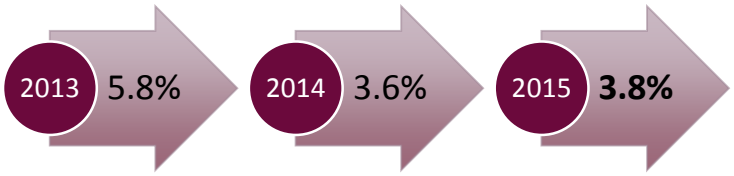
10: General anaesthetic for all women giving birth by Caesarean Section



The increased rate for all women requiring a general anaesthetic for Caesarean Section during 2015 initiated the consultant level audit which is discussed in chapter fourteen, section 14.2. Despite our current internal data sitting just over 3% above the national average reported in 2014, the audit showed that the significant majority of general anaesthetics used for Caesarean Section were justified and necessary in order to expedite birth, provide adequate anaesthesia or to respect maternal wishes. From an ethnicity point of view, it is interesting to identify that none of the thirty-three Asian women underwent a Caesarean Section under general anaesthetic, although the significance of this is not known.

	Total Caesarean Sections per ethnic group - 2015	Caesarean sections Under General Anaesthetic per ethnic group - 2015	Rate (%) per Ethnicity
Māori	147	19	12.9%
Pacific Islander	21	3	14.3%
European	257	32	12.5%
Asian	33	0	0.0%
Other	22	1	4.5%
Total	**480**	**55**	**11.5%**

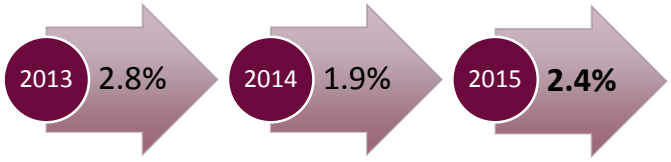
11: Blood transfusion for all women giving birth by Caesarean Section



HDHBD have managed to reduce the rate of post Caesarean Section blood transfusions and are now only just above the 2014 national average of 3.2% for this indicator. It is thought that the introduction of antenatal and postnatal Intravenous Iron Therapy has contributed to this improved statistic. Although small numbers, the Pacific Peoples cohort are at the greatest risk of requiring a post Caesarean Section blood transfusion according to the ethnic breakdown table below.

	Total Caesarean Sections per ethnic group - 2015	Blood Transfusions Post Caesarean Section per ethnic group – 2015	Rate (%) per Ethnicity
Māori	147	6	4.1%
Pacific Islander	21	2	9.5%
European	257	9	3.5%
Asian	22	1	4.5%
Other	33	0	0.0%
Total	**480**	**18**	**3.8%**

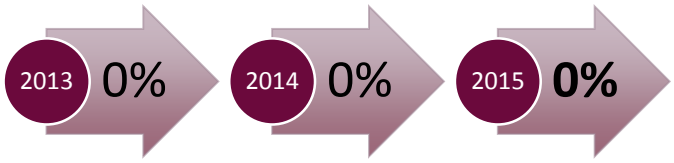
12: Blood transfusion during birth admission for vaginal birth for all women



The statistics for the post vaginal birth blood transfusion indicator has risen rather than reduced over the same twelve-month period, however our internally reported data remains within 0.5% of the national average as reported by the MOH in 2014. The highest occurrence of post vaginal birth blood transfusion is amongst Asian women, where the occurrence by percentage of women is at least double that of all the other ethnic groups. European women have the least risk of requiring a post vaginal birth blood transfusion according to the 2015 internal data as reported in the table below.

	Total Vaginal Births per ethnic group - 2015	Blood Transfusions Post Vaginal Birth per ethnic group – 2015	Rate (%) per Ethnicity
Māori	690	19	2.8%
Pacific Islander	92	3	3.3%
European	890	15	1.7%
Asian	83	5	6.0%
Other	54	1	1.9%
Total	**1809**	**43**	**2.4%**

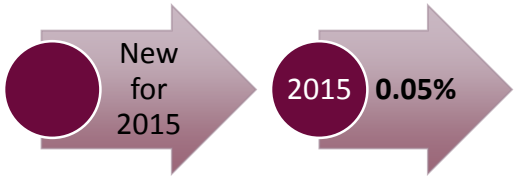
13: Diagnosis of eclampsia during birth admission for all women



There were no occurrences of eclampsia amongst any of the women who birthed within HBDHB Maternity Services during 2015 similar to 2013 and 2014.

	Total number of women giving birth per ethnic group - 2015	All women diagnosed with Eclampsia per ethnic group – 2015	Rate (%) per Ethnicity
Māori	737	0	0.00%
Pacific Islander	93	0	0.00%
European	914	0	0.00%
Asian	87	0	0.00%
Other	54	0	0.00%
Total	**1885**	**0**	**0.00%**

14. Peripartum hysterectomy



This is a new indicator, published by the MOH in September 2015. Our internal data identified one woman of Māori ethnicity that required an abdominal hysterectomy during 2015.

	Total number of women giving birth per ethnic group - 2015	Total number of women having an abdominal hysterectomy per ethnic group - 2015	Rate (%) per Ethnicity
Māori	735	1	0.14%
Pacific Islander	92	0	0.0%
European	913	0	0.0%
Asian	54	0	0.0%
Other	87	0	0.0%
Total	**1881**	**1**	**0.05%**

15. Mechanical ventilation during pregnancy or postnatal period

This is another new indicator, published by the MOH in September 2015. During 2015 Hawke's Bay DHB has no incidence of women being admitted to ICU requiring over twenty-four hours of ventilation.

	Total number of women giving birth per ethnic group - 2015	Total number of women admitted to ICU and requiring over 24 hours of ventilation per ethnic group - 2015	Rate (%) per Ethnicity
Māori	737	0	0.00%
Pacific Islander	93	0	0.00%
European	914	0	0.00%
Asian	87	0	0.00%
Other	54	0	0.00%
Total	**1885**	**0**	**0.0%**

16: Maternal tobacco use during postnatal period for all women: Status at Discharge

Although the MOH have been able to provide a national average figure of 12.8% maternal tobacco use during the postnatal period as recorded a two weeks, HBDHB does not record or have access to maternity data once the woman has been discharged from our service. For this reason, we have created our own version of this indicator for internal reporting data comparisons based around smokefree status at hospital discharge. As the table below demonstrates we have an overall figure of 21.61% of women booked into our service who are not smokefree at discharge. Women of Māori ethnicity are significantly over represented in this indicator and extensive work to support the non-smokefree birthing population prior, during and after pregnancy continues to be major focus for our service and this DHB. Work around supporting our smokefree women and families to become smoke free is presented in chapter twelve, section 12.1.

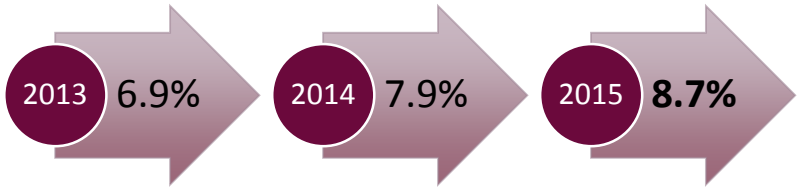
	Total Mothers booked in 2015 per ethnic group	Total Number of Women not Smokefree per ethnic group – 2015	Rate (%) per Ethnicity
Māori	742	308	41.51%
Pacific Islander	95	9	9.57%
European	1019	110	10.79%
Asian	107	2	1.87%
Other	31	2	6.45%
Total	**1994**	**432**	**21.61%**

17. Women giving birth with a BMI over 35 at registration

This is also a new indicator, published by the MOH in September 2015. As already discussed in chapter three of this report, Hawke's Bay is challenged with a population of significant inequalities such as a phenomenally high incidence of social deprivation and one in three of our adult population determined as obese. These statistics will continue to be challenge for HBDHB and for our Maternity Services against this indicator. However, 2015's internally reported data demonstrates a positively lower than the 2014 national average as reported by the MOH of 8.8%. The ethnic breakdown table identifies that our Māori, Pacific and Other ethnicities are where our efforts to reduce obesity need to be focussed.

	Total number of women with BMI recorded per ethnic group 2015	Total number of women with BMI over 35 per ethnic group - 2015	Rate (%) per Ethnicity
Māori	630	38	6.04%
Pacific Islander	78	4	5.13%
European	954	18	1.89%
Asian	92	0	0.0%
Other	30	1	3.23%
Total	**1784**	**61**	**3.42%**

18: Preterm births, 32 to 36 weeks gestation, for all women



We have seen a rise in the number of preterm births between 32 and 36 weeks gestation during 2015. This could be attributed to the notable increase in women living in our most deprived areas of deciles nine and ten and the complexities of pregnancy associated with women living in these circumstances, whether this increase be through pre-term labour or early induction due to growth restriction. There is a similar incidence of preterm birth across all ethnicities, in line with comparable representation of all ethnicities amongst women living in the most deprived areas of our region.

	Total number of babies born (live births) per ethnic group 2015	Total number of babies born under 37 weeks gestation per ethnic group - 2015	Rate (%) per Ethnicity
Māori	718	71	9.89%
Pacific Islander	92	8	8.70%
European	939	75	7.99%
Asian	101	7	6.93%
Other	27	2	7.41%
Total	**1877**	**163**	**8.68%**

19. Small babies at term (37–42 weeks gestation)

Internal Data unavailable

Monitoring rates of women who birth small for gestational babies between 37 and 42 weeks gestation is one of the new maternity clinical indicators released by the MOH in September 2015. Although we are able to report details of the small for gestational age babies from our Healthware database in chapter six, section 6.5, the specific internal data that is used to collate this particular clinical indicator is unobtainable at the time of writing this report, and will remain so until significant changes can be made in our data warehouse which is not likely to occur for some time. The MOH are able to report a figure of 3.1% for their publication of the 2014 indicators based on their reported data. The national average for 2014 was 3.0%, therefore Hawke's Bay was sitting with 0.5% at that time.

20. Small babies at term born at 40–42 weeks gestation

Internal Data unavailable

Similar to Clinical Indicator 19, monitoring rates of women who birth small for gestational babies between 40 and 42 weeks gestation is one of the new maternity clinical indicators whose data cannot presently be captured and will remain so until significant changes can be made in our data warehouse which is not likely to occur for some time. The MOH are able to report a figure of 38.6% for Hawke's Bay for their publication of the 2014 indicators based on their reported data, and with the national average being reported at 39.4% at the time, this is one of the clinical indicators that we are excelling at.

21. Babies born at 37+ week's gestation requiring respiratory support

This is the final new indicator, published by the MOH in September 2015. Our comparisons against the MOH 2014 data showed a negative increase in the number of term babies requiring ventilation, the ethnic breakdown is featured in the following table.

	Total Babies per ethnic group - 2015	Total number of Babies 37 weeks + requiring respiratory support per ethnic group - 2015	Rate (%) per Ethnicity
Māori	689	16	2.32%
Pacific Islander	88	2	2.27%
European	933	0	0.0%
Asian	94	0	0.0%
Other	28	16	57.1%
Total	**1830**	**48**	**1.86%**

Chapter 16: Hawke's Bay Maternity Services Actions

Throughout 2015, the MQSP has achieved many of the planned deliverables that were outlined in maternity service two previous annual reports. Several new actions have been created and achieved and good progress has been made towards ensuring the MQSP becomes business as usual.

This chapter is divided into two tables. The first identifies the planned deliverables that were outlined to be achieved by the end of 2015, demonstrating progress made and current status of each deliverable. The table also reveals deliverables that have not been met and our planned actions are to address these over the coming year.

The second table illustrates the actions or deliverables for 2016 and our work towards achieving the 'excellence status' in the MQSP programme.

16.1 Actions for Completion in 2015 and Current Status

Planned Action for 2015	Progress in 2015	Status at end of 2015
Fully Integrate the Napier Maternity Resource Centre (NMRC) into the HBDHB Maternity Services	• Opened in November 2014 • Established throughout 2015 • Currently has seven midwives practising out of the resource centre and is accessed by over 150 women a month for scheduled appointments • Drop – in facilities accessed by almost 300 women during 2015	Achieved with ongoing evolvement
Establish an annual presentation and critique day of the Maternity Service Annual Clinical Report, with external reviewers and clinician involvement	• 2013/14 report critiqued in September 2014 • 2014/15 report critiqued in October 2015 • 2015 report critique scheduled for 8th Sept 2015	Embedded
Increase the overall percentage of women in Hawke's Bay who register with a Lead Maternity Carer before 12 weeks of pregnancy to 80% (national target) through targeted work with Women, GPs, Practice Nurses and Pharmacists	• Proof of concept pilot project undertaken in 2015 – see Appendix one for the full report) • Developed system to ensure that the registration date data being collected is accurate and then annotated correctly. (sustainable project to be developed for 2016) • Ensured the establishment of Napier Maternity Resource Centre became known as a one stop shop for registration • Ongoing promotion of the find your midwife website throughout 2015 via our website and community Facebook page	Actions completed with new initiatives created for 2016 to address this target
Integrate the National Gestational Diabetes Mellitus into standard practice for Hawke's Bay Clinicians	• The GDM Guideline was implemented during 2015 with all Lead Maternity Carers and Team Midwives ensuring all pregnant women have the HBa1C test as part of their first booking bloods. HBDHB laboratory schedule amended to incorporate the HBa1C as a standard test for all 'First Antenatal Bloods' whether written request	Achieved

	provided or not. The content of guideline was integrated into the service during 2015 and is well on it's to becoming business as usual. A large scale Diabetes Education Day is scheduled for early 2016 and is expected to close any gaps of knowledge and compliance around the implementation of the National guideline.	
Embedding weekly reporting of maternity activity, incidents and learning from incidents.	Weekly reporting of statistical data and maternity activity has occurred. • The reporting of incidents and learning from the same has moved to a mid-monthly report, in order to create a more meaningful event report where trends can be identified and resolutions viewed	Achieved
Establish consistent data collection and embed analysis of the New Zealand Maternity Clinical Indicators into the MCGG agenda	Quarterly clinical indictor reporting embedded and quarterly analysis of the indicators at the MCGG meeting with audits and actions recommended as part of the rolling agenda	Achieved
Continue to develop the maternity pages of the HBDHB website	Limited progress has been made in improving the comprehensiveness of information available on the DHB website during 2015, due to a freeze on all page updates being instigated in early 2015 in preparation for an entirely new website platform which was launched late 2015. Due to the size of this project, the Maternity Services were only permitted to reuse the pre-generated content from the old website and to date have not been able to make any improvements to the quality and depth of the information available. It is hoped that in 2016 the consumer's representatives will be able to work with the communication team to ensure the website expends its content and increases in value. The maternity team were able to ensure that simple but meaningful additions such as the find your midwife links on every page, links to the maternity Facebook page, uploading of maternity related safety videos and direct routes through to the consumer survey are present on both versions of the website	Completed for 2015. New actions for 2016
Establish process for the ongoing review of clinical guidelines to ensure practice is based on the best clinical evidence and the guidelines are kept up-to-date	Established a clinical guidelines group towards the end of 2015 that meet monthly to perform this role, led by the clinical midwife manager and supported by the clinical guidelines midwife who establishes and updates the guidelines which are then endorsed by the MCGG	Achieved for 2015
Implement a VBAC clinic and a formalised package of patient communication after caesarean	• Ward round debriefs with all women to occur • Operation documentation adapted to include options for next pregnancy • Discharge documentation to include options for next pregnancy • Create VBAC patient information pamphlet	Completed at end of 2015

	• Identify a consultant clinic where VBAC appointments can be streamlined to • Create referral pathway • Establish VBAC clinic Logo and stamp • Establish a VBAC clinic appointment card	
Ongoing review of clinical practice to ensure best practice by performing the monthly clinical quality audit and performing multidisciplinary case reviews of unexpected outcomes for mothers and babies	• HBDHB monthly clinical audit completed on behalf of the Maternity Services by Maternity Governance Co-ordinator • Multidisciplinary case reviews held for all moderate to serious adverse events as per the event reporting trigger list	Implemented as business as usual for the MGC
Work with Health Hawke's Bay to ensure governance systems are health sector wide.	Bi-monthly collaborative meetings are identifying our shared issues and enabling development of improved pathways of care for our women and their families	Achieving
Fully implement the government's initiative 'Never Shake a Baby'	Offered to every inpatient woman and family and available on the Maternity Services website	Achieved
Establish a postdates assessment care pathway and a specific postdates clinic (virtual clinic also proposed)	• Recommendations for offering membrane sweep from 38 weeks circulated. • Expectation that postdates appointments are scheduled between 41 and 41+5 weeks gestation with the induction scheduled for 41+5 plus 42 week circulated • Decision by obstetric team that assessments should continue to occur in the antenatal clinic rather than the proposed day assessment unit. Rationale for this was a reduced waiting time and the increased likelihood of a consultant opinion. LMC encouraged to attend the clinic appointment with their client with an emphasis on seeing the patient and the LMC in person rather than' virtually' via telephone.	Completed
Creation and maintenance of the Maternity Services Community Facebook Page	Achieved as a closely monitored page governed under the main HBDHB Facebook page. Maintained by the Maternity Governance Team on a daily basis. Page has over 1100 followers and is accessed by women and families from all areas of the community	Achieved
Introduce consultant presence at full dilatation Caesarean Sections unless registrar is fully credentialed in order to reduce the Caesarean Section rate	Limited progress occurred by the end of 2015, however all of the consultant team agree in principle. Formalities and guidelines need to be agreed, with additional scenarios also considered such as presence at twin births etc. This initiative has good support from two of the obstetric consultants who are now driving the initiative forward with their colleagues	To be prioritised as an action for 2016 and to be the responsibility of the consultant members of the MCGG
Review our pregnancy and parenting education programmes to ensure the	• The programme has been rebranded.	Ongoing

specifications of the MOH of health are met, with particular focus on capturing the hard to reach population	• The delivery time and location of classes has been altered to be more suitable for the harder to reach women. • Consumer options to access the service has been expanded to include more current and commonly used methods of communication. • The upgraded service has been widely publicised with promotional material and advertisements through social media. • Numbers are increasing although there is still a long way to go before the ministry targets will be achieved	
Integrate the midwifery services into the Teen Parent Unit and early childhood education facility in Flaxmere College once open in late 2014	• Co-hosting of meet and greet morning tea at the unit to establish relationships between the young women and the lead maternity carers • Integration of pregnancy and parenting classes into the unit on a regular basis	Achieving
Create a Maternity Resource Centre in Central Hawke's Bay	This element of the Maternity Services improvement plan is on hold whilst the Napier Maternity Resource Centre establishes and the primary birthing facility is built and embedded into our service	Not achieved
Adoption of the Auckland Induction of labour Consensus Guideline by HBDHB	MCGG endorsed the adoption of this guideline and dissemination of this and putting it into practice remains a focus for our clinical leaders and all clinicians	Ongoing

16.2 Planned Actions for 2016 Onwards

Planned Actions for 2016	Proposed methods / initiatives
Increase the percentage of normal births to over 70% within the next 10 years and *Decrease the intervention rate in labour to less than 20% within the next 10 years*	• The establishment of 'Waioha', our along-side primary birthing centre with the collective purpose of: *Improving normal birth, decreasing intervention, promoting physiological labour and birth, improving exclusive breastfeeding rates, increasing health promotion conversations, changing our Birth culture, developing Midwifery leadership.* • The embedding of all elements related to the VBAC clinic as standard practice • Facilitate normal birth workshops • Create a primary birthing focused DHB midwife team • Establish consultant presence at full dilatation Caesarean Sections unless registrar is fully credentialed in order to reduce the Caesarean Section rate • Re-audit IOL rate for standard primips and ensure best practice to reduce intervention
Embed the VBAC Clinic principle into daily practice for all clinicians who practice within Hawke's Bay Maternity Services	Promote and monitor compliance of the clinic and its tools
Online Consumer Survey	Increase promotion of the online survey via local community Facebook pages on website
	Redesign promo material to Improve the access details to the survey on all promotional platforms
	Enable completion of the electronic survey by patients whilst on the postnatal ward
	Consider posting details of how to access the survey out to women at 6 weeks postnatal
	Consider providing paper copies to those who do not access the internet
Introduce consultant presence for emergency Caesarean Section decision making and other high risk clinic scenarios	Establish and embed the face to face consultation pathway
Wound infection prevention project	Publish finding from self-audit tool and address any non-compliance
	Finalise new pre-op form content and monitor accuracy and compliance of use
	Publish and establish patient information leaflets and ensure provision to all appropriate women as standard.
Booking Form Triage Project	Establish the process and complete required documents

	Implement the project unit wide
	Monitor the frequency of rejected forms
	Provide 6 monthly feedback report to collective of clinicians who book women into the service
Consumer Collaboration Project	Identify a clear work plan with timeframes
	Establishing consumer forums
	Ensure consumer members are known and visible in our organisation and community
	Respond to trends and issues in relation to service delivery and design
	Ensure a number of mediums used to support consumer feedback
	Ensure this 'work-stream' maintains high profile in the organisation for ongoing support and shared understanding
Ongoing review of clinical practice to ensure best practice occurs	Maternity Governance coordinator to continue to review adverse outcomes and share recommendations and monitor that best practice is occurring throughout the unit throughout 2016
Ongoing publication of the Weekly Statistics report and the Monthly Event Report	Maternity Governance team to continue with this valuable publication throughout 2016
Improve Data Capture	Maternity Governance team to work with clinicians, administrators and business analysts to improve the electronic Healthware programme, the capturing of accurate data and the compliance of completion of the online system throughout 2016
Commence multidisciplinary SGA project to ensure all babies are identified and appropriate actions are taken	Once the audit of all 2015 SGA babies is completed the recommendations and action plan from the audit will be implemented in order to ensure that all SGA babies are identified and managed appropriately and consistently
Embed Family Violence screening in a similar manner to Smokefree screening and intervention	Collaborative project to commenced during the latter half of the 2016, led by the improvements office and the family violence intervention programme coordinator

Chapter 17: Hawke's Bay Maternity Service's Response to National Initiatives

The HBDHB Maternity Services also work towards meeting the published recommendations of the National Maternity Monitoring Group (NMMG) and those of the Perinatal Mortality and Morbidity Review Committee (PMMRC). How we have responded to or are working towards these recommendations is demonstrated in the following two tables.

17.1 Our Response to the NMMG 2015 Annual Report Recommendations

Response to the National Maternity Monitoring Group Recommendations	
Registration with an LMC:	Please see Chapter Five, section 5.9 for both the work undertaken so far and the ongoing and future work to be carried out in this area. Significant work occurred throughout 2015 and will continue to do so throughout 2016 and beyond. In particular, the knowledge gained from the pilot project to look at ways to bridge the gap between GP's and LMC's will be used to create new initiatives to tackle this disparity further, (please see Appendix 1), and a community based media campaign will be explored in order to reach those who are not accessing care in timely manner.
Clinical coding:	Data quality is an overall issue in relation to commitment to positions that facilitate data integrity and clinical coding remains an area where work needs to be done. There is evidence to indicate that the quality of data needs improvement. Whilst individually noted coding errors are addressed on an individual basis, at present the MQSP team are concentrating on the upgrading of the online Healthware record programme and the labour and birthing summary document that is utilised to complete this, in order to create a document and a programme that is both user friendly and reduces errors and ambiguity. Once these improvements have been made discussions will be planned and held to ascertain our current maternity data coder support and the DHBs future plans.
Connecting and supporting consumer members of the MQSP:	In addition to the recruitment of two consumer members during the latter half of 2015, who are both supported by the maternity governance coordinator and her team, good progress has been made in integrating the consumer perspective throughout our service, in design, change and future delivery. Please see chapters Eleven (11.1) and Thirteen (13.1) to understand how the consumer voice is being heard across our service as the programme continues particularly for our most vulnerable women and whānau.

Variation in gestation at birth:	The variation in gestation of at birth is monitored and presented in our annual clinical report each year. This year's data is presented in Chapter Seven (7.2) and shows the gestational trends of the last four years. Our 2015 data demonstrates that the peak gestation for birth was 39 weeks, as it was in 2014, and our most common gestation for induction of labour being 38 weeks.
Maternal Mental Health:	HBDHB have an established integrated maternal mental health referral pathway that spans the primary/secondary health care continuum. The development and implementation of this pathway involved all key stakeholders and was signed off in 2012. The pathway has been reviewed and is still current. See appendix 3 As already highlighted in Chapter Twelve (12.4) HBDHB have a small dynamic team who are dedicated to the well-being of woman during their perinatal period up until baby is twelve months of age. The service provides assessment, treatment, information and therapeutic intervention to women needing support. Recent changes in the service will allow the team to continue to build networks to work collaboratively with NGOs and other maternity providers within the community creating a robust and resilient service for women assessing the service.
New Zealand Clinical Indicators:	The fulltime role of the MGC encompasses the responsibility to ensure multidisciplinary review of the New Zealand Maternity Clinical Indicators and to action discussion, audit and quality improvements around the identified outliers. The indicators themselves are published and reviewed on a quarterly basis by both the Maternity Clinical Governance Group (MCGG) who identify the areas for audit and action and the HBDHB Clinical Council who monitor our progress of improvement. The indicators are also extensively discussed within both the Annual Clinical Report document and the presentation day of the same report. As discussed within this report, work is required to improve our outcomes on several of the clinical indicators, however our main focus will be on increasing registration with an LMC within the first twelve weeks of pregnancy, increasing the normal birth rate and reducing the Caesarean Section rate, followed by continuing to ensure a preventative focus to reducing our significant perineal tear occurrences.
Publications of the MQSP Annual Reports	Our annual clinical report is made publically available on our website and a link will be placed on our HB Maternity Facebook page. We have a recent new Quality improvement and Patient Safety Directorate and are ensuring that MQSP is seen as part of the quality programme for this DHB. Our MCGG is currently a subcommittee of the Clinical council and all our quality initiatives and clinical indicators are reported bi-annually to this Council.

Engaging with the consumer populations	Ensuring that the experiences of the women and families accessing our service is recognised, acted upon and subsequently feeds into our service design and delivery is a fundamental element of the consumer members' role. There is an expectation that the consumer members will focus their energies on building networks and relationships with women and groups within the harder to reach populations and pockets of our region. Work has commenced on building connections with our young mothers population and the Māori and Pasifika communities. This has been established through meet and greets, coffee morning attendance, guest presentations, ad-hoc conversations and significant social media networking. Promotion of the ability and means to access the two consumer members will also be heavily focussed in these areas throughout 2016 and new work will commence to explore options for connecting with mothers with disabilities and those experiencing mental health issues. Hawke's Bay Maternity Services expect that the changes we have made to the consumer member role, that now facilitate more flexible and spontaneous accessibility across the community, will enable connections with women and whānau that currently do not access the service to be heard, educated and supported to do so.

17.2 Our Response to the Perinatal Mortality and Morbidity Review Committee Report 2015

HBDHB has an active programme to ensure quality improvement in all aspects of perinatal, maternal and neonatal care. We have noted the recommendations of the PMMRC for this year and are confident we are working towards meeting all of them. Shortly after the report was published, the recommendations were presented and discussed in depth at our own PMMRC meeting.

As reported in Chapter twelve (12.11) our implementation encompasses bi-monthly PMMRC meetings, with education, shared learning and communication of all relevant learning, regular discussion forums for DHB and LMC midwifery practitioners where information is discussed and disseminated, a robust and active teaching program encompassing fetal surveillance, PROMPT, suturing workshops, family violence screening, smoking and alcohol cessation education and so on, and a robust adverse events multidisciplinary review process led by the maternity governance coordinator. How we have working towards addressing the specific recommendations of the 2015 PMMRC report is outlined in the following table.

PERINATAL MORTALITY	
1) That all maternity care providers identify women with modifiable risk factors for perinatal related death and work individually and collectively to address these**. Strategies to address modifiable risk factors include:**	
Improving uptake of pre-conceptual folate	A recent proof of concept pilot implemented provision of 3 months' supplies of folate and iodine for women confirming pregnancy in the 1st trimester with their GP. This has been successful in initially addressing inequity of access to these supplements for our Maori, Pacific and young women. Awaiting Pharmac response to a request to have these supplements available on PSO to supply at time of consultation and plan to action how to support this to occur across Hawke's Bay.
Pre-pregnancy care for known medical disease	This work is the focus of the primary care sector
Access to antenatal care	A number of initiatives have occurred and are in progress • the opening and establishment of Napier Maternity Resource centre where women can drop in and access free pregnancy testing and be supported to book with an LMC at that time of confirmation • working closely with a number of GP practices who have high volumes of pregnant women to link women with LMCs at time of confirmation of pregnancy consultation; • advertising in the community of the 5 key things in the 1st 10 weeks; • Facilitating women with difficulties in accessing the service to attend appointments including visiting at home or transporting into clinics. • Increased utilisation of various mediums for promotion and utilization of the Find Your Midwife (FYM) website have occurred using our Facebook page, website, posters, banners and flyers. • Plans to run a community media campaign to increase awareness and support for women to book with a midwife early, continue to improve information on our website regarding Maternity Services and where they are located with contact numbers • Amendments to registration documentation to assist the midwife with capturing the correct registration date. • Efforts to increase awareness of the maternity consumer online survey that identifies barriers to engagement • Improvement and development of the HBDHB consumer website in order to increase usage of this information platform – Maternity pages now present with increased information about pregnancy available and direct links to the Find Your Midwife website. PHO relationship building has a more specific focus particularly in working with alongside their primary care partners LMCs and GPs. This is being supported and facilitated by our Chief Nursing Officer, Midwifery Director and NZCOM local representatives.
Accurate height and weight measurement in pregnancy	Implementation of the MOH Weight Gain in pregnancy resources and information to women during antenatal clinic, shared resources with all LMCs, pilot project to send booking information back to LMCs when

with advice on ideal weight gain	not completed; particularly height and weight. Implementation of mandatory field in online record, improved access to height and weight equipment to support.
Prevention and appropriate management of multiple pregnancy	Our unit guidelines state that women with multiple pregnancies should be transferred to secondary care, however there are occasions where shared care has been appropriate. Following review of these latest PMMRC report recommendations and recent adverse events case reviews, our guidelines will be amended to incorporate a complete transfer to secondary care for labour and birth for all multiple pregnancies.
Smoking cessation	The Hawke's Bay District Health Board (DHB) Smokefree Team has seven staff with five located in Hastings and two based in Wairoa. While each team member has a designated area of work, all team members work collaboratively for specific projects and to promote the Smokefree message in general. The Maternal and Child Health Smokefree Co-ordinator's focus is to ensure and prioritize patient safety and quality relating to care and processes within the Smokefree Service. This includes delivery of organizational key performance indicators (KPIs) such as the Ministry of Health target of at least 95% of all patients and/or patient's parents are asked about their smoking status, briefly advised on the benefits of being Smokefree and offered cessation support to assist them with quit attempts. This KPI is consistently met, with the figure for this current year being 99.25%. The KPIs also include a number of service plans. The maternal and child health Smokefree co-ordinator's role is to develop and support initiatives to reduce smoke exposed pregnancies. Over the last year our Maternal and Child Health Smokefree Co-ordinator has worked towards the "business as usual" tasks as well as having a focus on a number of new initiatives. Business as usual has involved Smokefree training for midwives and obstetric doctors, smoothing the referral process and ensuring the constant availability of Nicotine Replacement Therapy on site. A Smokefree audit has been undertaken, which involved a review of 103 medical notes. Ongoing Smokefree data collection and monitoring, as well as data sharing within the Hawke's Bay DHB and between other Smokefree teams in a number of DHB's around the country. The Smokefree Co-ordinator has attended a number of study days and Smokefree events to further increase the knowledge around tobacco addiction in pregnancy and how to aid more quit attempts and Smokefree pregnancies. There have been three main maternity Smokefree initiatives implemented over the last 12 months • The Nappy Incentive Initiative: Increasing Smokefree Pregnancy programme • Baby Carbon Monoxide monitoring • Ongoing advertising campaign Initial evaluation of these initiatives is promising and demonstrating an increase in a number of postnatal women becoming Smokefree and staying Smokefree as well as whānau members
Antenatal recognition and management of fetal growth restriction	2.5% of the babies born in Hawke's Bay are small for gestational age. Currently, there is ongoing work to ensure a customised growth chart is used for each woman and that the data can be analysed as

	percentiles instead of a weight. A further aim is to have a birth weight centile "App" available on every desktop and to plot every baby at birth, allowing us to compare any missed small for gestational age infants with those that were identified, thus allowing us to recognise any trends.
Prevention of preterm birth and management of threatened preterm labour	We have a robust clinical guideline supporting evidence based management of threatened preterm labour. Health promotion activities including being Smokefree, nutritional support and advice, access to green script and early engagement with LMC continue to work towards preventing preterm birth. Regular audits also occur to ensure compliance with policy.
Following evidence-based recommendations for indications for induction of labour	Recent sabbatical of one of our consultants – he specifically focused on induction of labour, indications for and management of. Awaiting his findings and work to update our current practice. Regular audits also occur to ensure compliance with policy.
Advice to women and appropriate management of decreased fetal movements	It is standard practice for midwifery clinicians to ensure their women are aware of decreased or altered fetal movements and LMC's regularly utilise Napier Maternity Resource centre, our day assessment unit and our acute assessment area to monitor women who have noted a change.
All DHBs should report the availability and uptake of relevant services in their annual clinical	Our comprehensive Annual Maternity Clinical Report 2014-15 demonstrates this.
2) Offer education to all clinicians so they are proficient at screening women, and are aware of local services and pathways to care, for the following:	
Family violence	The Violence Intervention Programme (VIP) has been in place in HBDHB since 2002. Maternity staff are trained through the VIP Core training to question all women over the age of 16 if they have been a victim of family violence. The routine questioning occurs at the 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 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. As the co-occurrence of family violence and child neglect and abuse are high, staff are requested to consider risk to both the born and unborn baby. Additionally, The Shaken Baby Prevention programme 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. Most recently, the Family Violence Intervention Programme Co-ordinator (FVIPC) has commenced new initiatives within the Maternity Services. The FVIPC provided a concentration of time and resources to the maternity ward for the month of May where it has enabled maternity staff to build a relationship with the FVIPC. It is anticipated that this in turn will improve the statistical data of the Family Violence Routine Questioning that needs to occur on the ward. The FVIPC is also making herself available to talk to staff about de-escalating violence with patients and their families when they are under stress.

Smoking	Clinicians are provided education that will assist them to support women and whānau to become smoke free on an annual basis within the maternity refresher training, on an elective basis through the Innov8 Te Hapu Ora education programme and online as part of the ABC programme. The Maternal and Child Health Smokefree Co-ordinator's role is fully embedded and she is available to deliver education on an individual and group basis whenever required
Alcohol and other substance abuse	This is an area of newer focus for HBDHB and will be a working progress for the time being. Key clinicians are involved in the national FASD policy development and raising awareness locally. Fetal alcohol syndrome workshops are regularly offered to our clinicians and shared education with our PHO colleagues has also occurred last year in relation to healthy conversations and how to screen for alcohol and other substance abuse. Utilisation of national poster campaign and other resources are readily available and clinicians are aware
3) That multi-disciplinary fetal surveillance training be mandatory for all clinicians involved in intrapartum care.	
This training includes risk assessment for mothers and babies throughout pregnancy as well as intrapartum observations.	As a central region we are in agreement that mandatory multidisciplinary fetal surveillance should occur and work regionally with the course provider to support access to training days across the region for midwifery practitioners. The DHB provides a twice annual opportunity for clinicians to attend the RANZCOG foetal surveillance workshops and are working towards establishing the funding for this programme to be mandatory for all employees. We encourage our LMC colleagues to participate in this training to support their need to be up to date with fetal surveillance as part of their access agreement. It is also a recommendation for any case reviews or adverse events where CTG interpretation has played are part in the outcome
4) The PMMRC recommends (amended from previous PMMRC reports) that assessment of fetal growth incorporates a range of strategies including:	
Assessment and appropriate referral for risk factors for fetal growth restriction at first antenatal visit and throughout pregnancy. **Accurate measurement of maternal height and weight at first antenatal visit.** **Ongoing assessment and plotting of fetal growth by measuring fundal-symphysial height in a standardised way**	HBDHB works hard to ensure that all pregnancies at risk of fetal growth restriction are monitored vigilantly throughout pregnancy and appropriate actions taken if deemed necessary. All pregnancies with identified risk factors are referred into the secondary care services, where robust monitoring plans are instigated. Throughout 2016 our systems and processes will be amended to ensure that the provision of maternal height and weight is provided as a compulsory component at booking. It is now standard practice to measure fundal-symphysial height, and record this at each antenatal visit and plot this on a customised growth chart, where the detection of any fetal growth restriction will be trigger the appropriate response. Additionally, the DHB will look at utilising the fundal height measuring film that is available on the internet as a teaching tool across our service.
MATERNAL MORTALITY	
1) Seasonal or pandemic influenza vaccination is recommended for all pregnant women regardless of gestation, and for women planning to be pregnant during influenza season.	
Vaccination is also recommended for maternity care providers to reduce the risk	HBDHB offers and heavily promotes a twice weekly free drop-in vaccination clinic for all pregnant women to receive Boostrix as well as the influenza vaccines prior to and during the influenza season. The

to the women and babies under their care	clinics are conveniently located within our hospital and health centre and timed to co-inside with the busy multidisciplinary antenatal clinics. All maternity care providers can attend the same drop-ins then receive the vaccine or Boostrix themselves on any occasion. The entire DHB staff are also offered and encouraged to receive the free of charge influenza vaccine prior to flu season within several specially run clinics, the uptake of which is very high.
2) All pregnant women with epilepsy on medication should be referred to a physician.	
Women with a new diagnosis of epilepsy or a change in seizure frequency should be referred urgently	This is standard practice at HBDHB with all women with a history of epilepsy, a new diagnosis of epilepsy or a change in seizure frequency being referred to our endocrinologist who sits as part of our weekly multidisciplinary clinic. A clear care plan is adhered to appropriately.
NEONATAL ENCEPHALOPATHY	
1) Widespread multidisciplinary education is required on the recognition of neonatal encephalopathy with a particular emphasis on babies with evidence of intrapartum asphyxia (babies who required resuscitation at birth) for all providers of care of babies in the immediate postpartum period.	
Recognition of babies at increased risk by their history, signs suggestive of encephalopathy, knowledge of clinical pathways to induced cooling if required	An opportunity to provide multidisciplinary education around recognition of neonatal encephalopathy is taken by our paediatric team each time this scenario occurs within our service. In addition to all of our neonatal encephalopathy cases being individually case reviewed with the learning shared across the service, each case is presented and discussed in depth at our bi-monthly PMMRC meeting. A specific neonatal encephalopathy awareness and teaching session was provided by one of our paediatricians Oliver Grupp during 2015. Maternity Staff are well educated as to the signs of neonatal encephalopathy and are fully aware of the urgency of referral to the paediatric services if required in the immediate postnatal period. The clinical pathway to induced cooling is well known and adhered to within HBDHB
2) **That all DHBs review local incident ca**ses of neonatal encephalopathy	
The findings of these reviews should be shared at a multidisciplinary local forum and form the basis of quality improvement activities as appropriate.	All cases of HIE are reviewed by a multidisciplinary team in a timely manner to identify areas of learning and recommendations for future practice. The implementations of these recommendations are monitored by the Maternity Clinical Governance Group. The reviews and their recommendations are shared at the PMMRC which runs on a bi-monthly basis and is well attended by a multidisciplinary range of clinicians

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Appendix 1: Proof of Concept Project - Improving Care in Early Pregnancy

During the latter part of 2015 a project was developed to improve early engagement with an LMC in the first trimester and to improve communication between GP's and LMC's. A summary of the project report is presented below:

INTRODUCTION: The clinical indicator is to support early engagement with a midwife. The MOH have set a target of 80% of all women will be booked with an LMC in the 1st trimester of pregnancy. This was first reported on in HB in 2013 at 63.5%, just below national average of 64.9%. This was then broken down and showed an inequity of access for Maori, Pacifica and teenage parents. Data from Nov 2015 shows an engagement rate of 50.8%, of this 43% were Maori, 36% Pacifica. Research shows that the earlier women are booked with a midwife the better the health outcomes are for the woman and her baby.

PURPOSE: This project's purpose was to encourage early engagement with LMCs within 1st trimester, and to improve communication between LMCs and GPs.

BACKGROUND: 48% of HB women saw a GP to confirm pregnancy, GPs were not aware of FYM website to support women in booking early. An early pregnancy pack was developed with both midwives and GPs to support information sharing and key messages for our women confirming pregnancy early. Early engagement supports early detection of problems, education around being smoke free, diet and exercise and antenatal screening.

KEY OBJECTIVES:

- Improve care in pregnancy facilitating engagement with LMCs by 12 weeks or asap
- Improve engagement of the pregnant woman with her general practice
- Strengthen communication between GPs and LMCs
- Meet education needs of women in early pregnancy
- Provide identified pregnant women with antenatal supplements

PROCESS: A pilot project over 12 weeks was 3 GP practices: Hauora Heretaunga; Te Mata Peak Practice; The Doctors, Hastings. Funding was provided for early pregnancy packs. A midwife was employed to develop the programme.

EARLY PREGNANCY PACK: Each pregnant woman was provided with a pack which included:

- Your Pregnancy Booklet
- Bump, Birth and Baby Flier
- Pelvic Floor Exercise Guide
- Find your Midwife information
- Your pregnancy guide

Additionally, specific clients will be provided:

- 12 week supply of folic acid tablets
- 12 week supply of iodine tablets
- NRT starter pack

PROCESSES INVOLVED: Initial setup involved meeting with the practice managers and GPs involved; teaching around the FYM website; and negotiating with 3 local pharmacies to provide the 3 practices with supplies of iodine and folic acid.

PROPOSED MEASURES OF EFFECTIVENESS: Feedback forms were provided with the packs given to the women, to the participating general practitioners, and to the LMCs.

FINDINGS: Consumer: The packs were informative, relevant and easy to understand. They appreciated the help with making appointments with midwives. **GP:** More aware of FYM website, and the programme improved their relationships with midwives. More opportunities for intervention for becoming smokefree, and early referrals for high risk women. **LMC:** Very effective programme, improved communication and contact with GPs.

OUTCOMES: More GPs are now using FYM website. The project has encouraged communication between GPs and midwives. The hope would be to ensure women are engaging with LMCs earlier.

RECOMMENDATIONS:

- Improve the information package making it less conspicuous for women
- Support a simple pathway to ensure our high needs pregnant women receive early pregnancy supplements supply during confirmation of pregnancy consultation
- Motivate early referral to smoke free team and provide NRT during consultation as appropriate
- To ensure all practice nurses and GPs have access to the Find your midwife website on their desktops and are educated on how to use it
- To strongly recommend identifying an LMC midwife with the woman during consultation and support the woman to make a booking appointment
- To roll out an early pregnancy pathway to provide support for primary care practitioners to engage pregnant women early with a midwife and any other referrals the woman may require
- To ensure equal accountability of feedback loop between GPs and LMCs regarding booking of a pregnant woman i.e. when pregnancy is confirmed by a GP and a booking appointment is made with an LMC, the LMC has a responsibility to inform the GP when she has booked the woman. Equally the GP practice has a responsibility to follow up with the woman that she has booked in with an LMC
- Develop a supportive communication/media package around early engagement using the 5 keys things to do in the first 10 weeks campaign

SUMMARY:

There are key points of contact that need improved visibility, improved communications and better support for the pregnant women to access the right health professional and service in a timely manner. The proof of concept has demonstrated the ability to close the gap for the pregnant women in relation to finding a midwife early in pregnancy. There has been an improvement in communication between LMC and GP practices in the specific practices involved. The idea of providing supplements at the time of confirmation of pregnancy was welcomed, however the information packs need to be further refined. There has been some thought to the fact of having a dedicated person for early engagement awareness. Even though FYM website has been available for the last 3 years many practices still need help with negotiating this website. Education around this needs to be on a continuous basis to serve as a reminder. One of the suggestions would be to include the information on regular study days (as a refresher). Another recommendation would be to have a space in the monthly PHO newsletter and also to have an advertising space in the local TV channel. The need has now come to look at how we as a midwifery community engage with the wider community. How we promote ourselves is important to how women view engaging early with a midwife. This proof of concept offers an opportunity to make sustainable change and improved integration with a seamless journey of maternity care for pregnant women in our community from confirmation of pregnancy and early booking with a midwifery lead maternity carer.

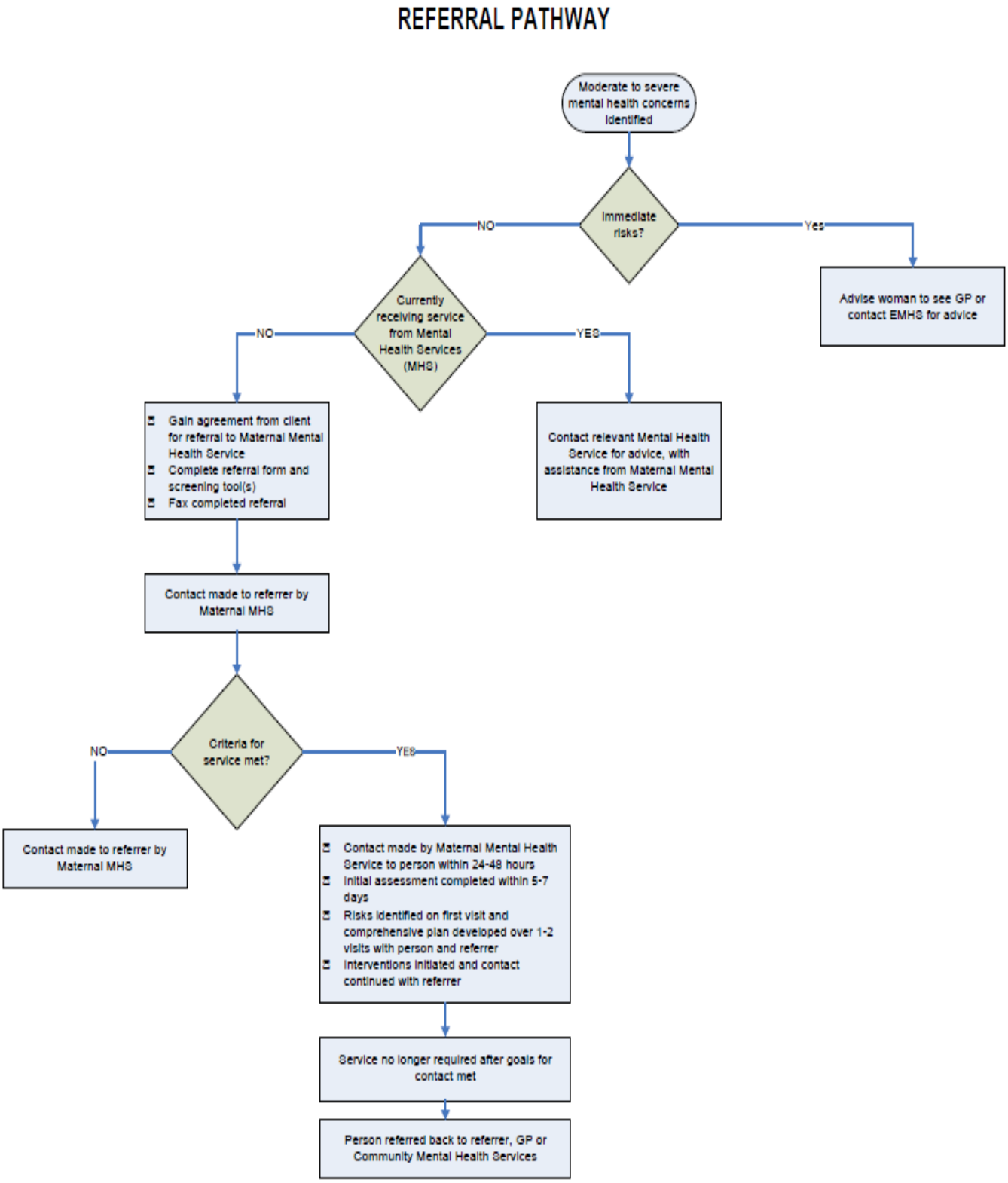
Appendix 2: MCGG Terms of Reference

MATERNITY CLINICAL GOVERNANCE GROUP Terms of Reference September 2012 – Amended August 2015	
Purpose	The purpose of the Maternity Clinical Governance Group is to provide a consultative and directive forum for managing quality and safety in the maternity service, 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 MCGG so individuals in the maternity service are aware of their responsibility for contributing to quality and safety and support them to work in a way that actively embraces that responsibility. • To review incident data via 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 • To communicate changes and developments from quality and safety management via various media e.g. staff meetings, LMC/DHB meetings, Consultant and medical staff meetings and NZCOM meetings. • To encourage safe, evidence based practice by the provision of comprehensive multidisciplinary guidelines, in a format specified by the HBDHB policy for the development, ratification and management of procedural documents. The multidisciplinary team on the Maternity Governance Group will ratify the guidelines after the process of consultation and feedback is complete. • Review compliance with the guidelines as part of the annual maternity audit programme • To review benchmarking and action plans of National or International documents relevant to the maternity service within a year of publication.

	• To review and ratify patient information leaflets relevant to the maternity service • To be informed of MHRA alerts and the relevance to the maternity service, and ensure actions are undertaken. • To review audits and action plans, complaints, legal cases – ongoing or settled and those pending Coroner's inquests • To look at audits with the view of disparity between Maori, Pacific Islanders and the rest of the population • To identify new training needs. • To review the Maternity Risk Register quarterly.
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** • Maternity Governance Co-ordinator (Chairperson) • Midwifery Educator (vice chair) • Medical Director Women, Child and Youth / Paediatrician • Obstetrics and Gynaecology Consultants • Obstetric Anaesthetist Consultants • GP Representative • Maori Representative/Nga Maia representative • New Zealand College of Midwives representative • LMC representative • DHB core midwife representatives • Rural midwife representative (Virtual) • Maternity Consumer Core members are encouraged to send a deputy to attend if core member is unable to and need to inform the whom this is group prior **Co-opted Membership**Various individuals that are appropriate to the key items for discussion per agenda
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 • Each meeting will have a specific focus rotating quarterly. The focus for these meetings will be: A) Review of events/incidents, case reviews, consumer feedback – complaints/compliments. B) Clinical indicators, audits, National Maternity Standards C) Guidelines – updated and recommendation for development of new guidelines. Patient information leaflets/ Review risk register **Frequency** The Maternity Clinical Governance Group will meet monthly with a minimum of ten meetings per year and 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 MCGG 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 HBDHB • Abide by the decisions of the Maternity Clinical Governance Group • Ensure confidentiality of information provided to the Maternity Clinical Governance Group and 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 Attendance record is maintained and presented to the group annually
Agenda & Minutes	• Agenda will be sent out three (3) working days prior to the meeting. • Minutes of each meeting shall be recorded and distributed promptly to each member of the team within one (1) 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 and Reporting	• The Chair will send a six monthly report to the Clinical Council for information. • Delegated authority will make recommendations on behalf of the maternity service • Feedback to and from other relevant committees and advice and recommendations will be forwarded to the Clinical Council as required
Review Period	• The Terms of Reference will be reviewed every 2 years of more frequently if required

Appendix 3: Maternal Mental Health Services Moderate to Severe Pathway



Appendix 4 Maternity Online Consumer Survey Questionnaire

HBDHB Maternity Services Online Consumer Survey Questions	
Question	Response Format
Which ethnic group or groups do you belong to?	Tick box options
Which of these age groups (in years) do you belong to?	Tick box options
Where do you normally live?	Tick box options
How long ago was your baby born?	Tick box options
Was this your first birth?	Tick box options
What type of birth?	Tick box options
When you first thought or found out you were pregnant, which one of the following health care providers did you have contact with FIRST?	Tick box options
How many weeks pregnant were you when you first made contact with this health care provider?	Tick box options
What stopped you from making contact earlier with that health care provider?	Tick box options
Did you have a Lead Maternity Carer ('LMC')?	Tick box options
Who was your LMC?	Tick box options
At what time in your pregnancy did you choose your LMC?	Tick box options
How did you choose your LMC?	Tick box options
How easy was it to get a LMC?	Scale very easy to very difficult
What made it difficult for you to get an LMC?	Tick box options
Please tell us why you didn't have a Lead Maternity Carer (LMC)	Tick box options
Did you attend antenatal education classes?	Tick box options
For what reason(s) did you not attend antenatal classes?	Tick box options
How useful did you find the antenatal classes?	Scale very useful to not at all useful
Please tell us what you liked best about the antenatal classes	Open answer

Please tell us how you think the antenatal classes could be improved	Open answer
Where appropriate the following questions were asked in regards to the Outpatient, Inpatient, Maternity Unit, and Postnatal services	
The amount of time you waited to see the Hospital Midwife/ Obstetrician	Scale very poor to very good
Communicating and sharing information with you in a way you can understand	Scale very poor to very good
Involving you (and your family/ whānau/ support person where appropriate) in discussions about your care and treatment	Scale very poor to very good
Involving you in decisions about your care and treatment	Scale very poor to very good
Giving you enough privacy	Scale very poor to very good
Protecting the privacy of your health information	Scale very poor to very good
Treating you with dignity and respect	Scale very poor to very good
Attending to your comfort needs	Scale very poor to very good
Preparing you for discharge home	Scale very poor to very good
Your overall rating of the service	Open answer
How many nights were you in hospital after baby was born?	Tick box options
Please rate your length of stay in hospital	Tick box options
Were you offered a choice of Well Child Providers (e.g. Plunket, Tamariki Ora)?	Tick box options
What type of Well Child Provider were you referred to?	Tick box options
Please tell us how we could have improved our service to you:	Open answer
Lastly, please tell us what we did well.	Open answer

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Whakawāteatia

Hawke's Bay
Maternity
Whare Kōhanga ō Te Matau ā Maui