Te Kotuku

2018 Maternity Quality and Safety Annual Report

Acknowledgements

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Contents

General Manager, Child Youth Maternal Oral & Public Health Services and Midwifery Director and Service Manager – Maternity Services

The Maternity Quality Safety Programme is an essential component of the maternity service in Northland and we appreciate on-going support of the programme by the Ministry of Health. MQSP has become the umbrella under which all maternity quality initiatives sit as we constantly endeavour to improve the delivery of the maternity service so as to continue to improve outcomes for the women, babies and whānau of Northland.

On-going tangible support for primary maternity units throughout the region has continued. This has included specific education for midwives working in relative isolation by the Midwife Educator, case review sessions and regular visits by the Director of Midwifery and Service Manager-Maternity and MQSP Leader. Implementation has begun on a revised staffing model in the primary maternity unit at Kaitaia Hospital with an expectation that the unit will be fully staffed by midwives in the future.

Our Northland DHB maternity service has been happy to collaborate with the Health Quality Safety Commission to undertake pilot projects for Maternal Morbidity and the Maternity Early Warning System. Our staff have appreciated the learning and the processes have enriched our approach to quality initiatives throughout the service.

The rate of Northland babies born at term requiring more than four hours of respiratory support remains a concern for our DHB. Having done our best to ensure the accuracy of data and coding regarding this Clinical Indicator, we have been focussing on multi-disciplinary reviews of all babies admitted to SCBU over the past year. The paediatric and maternity services both acknowledge shared accountability for this outcome.

We have a number of quality initiatives which are on-going and a strong culture of continuous quality improvement which is well developed throughout our maternity service. The Maternity Quality and Safety Programme is well entrenched within our service and is now considered core business.

We are thrilled to see the successful development and roll out of kaupapa Māori antenatal education throughout our region. This has been included in our SUDI prevention work stream and sits alongside early engagement awareness and other public health endeavours.

We are heartened to see the efforts being made by the maternity leadership team to further address the needs of those women and families who experience a pregnancy loss. Care by midwives and use of the Butterfly Room in Te Kotuku is now available for families from 20 weeks gestation during this time of significant stress and grief.

We are always proud of Northland's consistently high breastfeeding rates and believe this is testament to the commitment of women and midwives working together along with support from our team of lactation consultants as necessary.

Our MQSP programme will have a strong focus on work aimed to minimise inequities in the coming year and the first step is to ask those women most represented in groups with poorer outcomes for their feedback on possible service improvements and access concerns. We are eagerly awaiting feedback from the scheduled hui/meetings regarding the perceptions of women and whānau about our maternity services throughout the region. As a DHB we are committed to addressing issues of equity and we see these community consultation gatherings as one way to draw our attention to those areas where we need to focus in order to respond to the needs of our population.

Finally, we want to acknowledge the loyalty, passion and steadfast allegiance of the entire maternity workforce across Northland and the on-going support of our consumer representatives. We know that all clinicians, individually and collectively, determine the quality of our maternity service.

Jeanette Wedding

Deb Pittam

Education Report

Compulsory Education

This year has seen the introduction of the 2017-2020 midwifery recertification period (effective from 01 April 2018). This requires all midwives to complete maternal and neonatal resuscitation and a midwifery emergency skills refresher (MESR). The Midwifery Council of New Zealand requires postpartum haemorrhage (PPH) to be one of the MESR topics, with other topics decided locally. We decided to continue with shoulder dystocia and also include management of amniotic fluid embolism. As with the previous year the resuscitation and MESR sessions were run as separate 4-hour sessions with the latter also incorporating a maternal and neonatal resuscitation within the scenarios. From April 1st the topics covered are PPH and other emergencies as determined by the participants which so far have included shoulder dystocia, umbilical cord prolapse, breech birth and management of the second twin.

These sessions continue to be held in the birthing rooms of the maternity units in which the midwives work using mannequins and equipment that is utilised during each emergency. There have been 10 sessions for adult and neonatal resuscitation in Whangarei, two in Kaitaia, one in Rawene and four in the Bay of Islands. Ten MESR sessions were held in Whangarei, three in the Bay of Islands, one in Kaitaia and one in Rawene.

Both the resuscitation and the MESR sessions have been run by the Midwifery Educator with the assistance of the Antenatal Clinic midwife who is also an Newborn Life Support instructor.

DHB compulsory education

There have been a number of compulsory sessions that Northland DHB requires staff to attend – Violence Intervention Programme (VIP) Neonatal Life Support (NLS) and Engaging with Māori.

By the end of 2018 all staff will have attended the latest VIP study day programme and the Engaging with Māori session.

Nineteen midwives (core and community midwives) and one nurse attended the 8-hour Neonatal Life Support study day this year. For core staff, attendance at least every three years is mandatory. This a multidisciplinary study day including midwives, nurses working in areas that may be required to attend a neonatal resuscitation and house officers who will or are undertaking their paediatric rotation.

Additional education

This year we have held a variety of study days that were attended by core midwives, community midwives, and, for some of the days, nurses who work in maternity. Some of these included Diabetes in pregnancy, post-resuscitation/pre-transport stabilization care of sick infants (STABLE), Women's Health Physiotherapy, Perineal Suturing, Cardiotocograph (CTG) Interpretation, Early Pregnancy Complications, Care of the Late Preterm Baby and Breastfeeding.

Additional relevant education was provided to nurses who work in maternity settings in Whangarei and Dargaville and to the health care assistants employed in Te Kotuku.

Next year's education calendar is in the planning process and we are working toward implementation of further multidisciplinary education, particularly for emergencies alongside education around methamphetamine effects, sexual health, immunisation and contraception. Other sessions will be organised according to the educational needs of our Northland midwifery and medical in Obstetrics, workforces. Work towards to appointment of further educator and quality midwifery FTE is being undertaken to support this regionally.

Wendy Taylor, Midwifery Educator

Northland DHB Vision and Mission

Northland DHB's vision is 'A Healthier Northland'. The mission is to work in partnership under the Treaty of Waitangi with the Northland population to improve population health, reduce inequity and improve the experience of all patients.

Mahi tahi te kaupapa o Te Tiriti o Waitangi he whakarapopoto nga whakaaro o te Whare Tapa Wha me te whakatuturutahi i te tino rangatiratanga te iwi whanui o Te Tai Tokerau.

In undertaking its mission Northland DHB is guided by the following values:

Northland DHB Values

People First - **Taangata i te tuatahi** - People are central to all that we do.

Respect - **Whakaute (tuku mana)** - We treat others as we would like to be treated.

Caring - **Manaaki** - We nurture those around us, and treat all with dignity and compassion.

Communication - **Whakawhitiwhiti korero** - We communicate openly, safely and with respect to promote clear understanding.

Excellence - **Taumata teitei (hiranga)** - Our attitude of excellence inspires confidence and innovation

Northland DHB's vision, mission and values are consistent with the Government's national priorities, and are consistent with the high-level direction of the Northern Region Health Plan. Northland DHB prioritised the following health needs in the 2012-2017 Northern Health Services Plan - long-term conditions, older people, Māori, child & youth, oral health, mental health, lifestyle behaviour, social influences.

Maternity Quality and Safety Programme Purpose

The purpose of the Maternity Quality and Safety Programme (MQSP) in Northland is to review and improve the quality and safety of maternity services as experienced by women, babies and their whānau in Northland. To be successful, leadership supports and enables a collaborative multidisciplinary team approach to service provision including the voice of consumers at all levels of service planning and review. The New Zealand Maternity Standards, the New Zealand Maternity Clinical Indicators and the Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines) and the Suite of DHB Maternity Services – Service Specifications are key national documents guiding practice and service provision.

Northland DHB's maternity service alignment

Northland DHB maternity service sits within a wider service encompassing child and youth health, dental and district hospital services which gives it a great opportunity to collaborate across the maternal and child health spectrum and throughout the region.

Strategic and work plans for midwifery workforce, maternity services and all other services under this umbrella are coordinated to ensure service coverage, collaboration and integration across the service. The service plans are incorporated within DHB wide service plans.

The Midwifery Director and Service Manager- Maternity Services attends the alliance clinical governance, DHB hospital operational management and DHB clinical governance groups as well as chairing the maternity clinical governance group and LMC forum and combined DHB and LMC midwifery meetings to ensure we have collaboration across the services and throughout the region.

Northland DHB's Alignment with the New Zealand Maternity Standards

The DHB funded Tier one service specifications require all DHBs to comply with the New Zealand Maternity Standards. Northland DHB meets all requirements within the National Maternity Services Service Standards and service Specifications. Below is an outline of the standards including associated work streams, many of which are further discussed later in the document.

Standard One: ***Maternity services provide safe, high-quality services that are nationally consistent and achieve optimal health outcomes for mothers and babies***		***Current Work streams or BAU processes***
8.1	Multidisciplinary meetings convene at least every three months	**Three times per week:** Trigger Tools **Fortnightly:** Te Whare Ora Tangata **Monthly:** Morbidity and Mortality (M&M) meetings Maternity Clinical Governance Forum Maternity Guidelines Committee meetings
8.2	Report on implementation of findings and recommendations from multidisciplinary meetings	At M & M meetings Reportable Events Committee for higher level reviews Reports to Maternity Clinical Governance Further elevation to Board Clinical Governance if required
8.3	Invite all practitioners linked to maternity care, including holders of Access Agreements, to participate in the multidisciplinary meetings, and report on proportion of practitioners who attend.	All practitioners are invited and annual reports identify attendance
8.4	Produce an annual maternity report	MQSP report includes new projects and Business As Usual (BAU) processes
8.5	Demonstrate that consumer representatives are involved in the audit of maternity services in Northland DHB	Consumer membership in Clinical Governance Consumers are included in specific case-review process for example maternal morbidity review process Annual consumer feedback forum dates established
9.1	Plan, provide and report on appropriate and accessible maternity services to meet the needs of the Northland region	Documents include: Midwifery Strategic Plan - CYMPOHS annual plan which is linked to the Northland DHB annual plan MQSP Annual Report and Annual Plan

9.2	Identify and report on the groups of women within their population who are accessing maternity services, and whether they have additional health and social needs	Included throughout the report
9.3	Plan and provide appropriate services for the groups of women within the Northland population who are accessing maternity services and who have identified additional health and social needs.	Te Whare Ora Tangata Note MQSP Annual Plan
9.4	The proportion of women with additional health and social needs who receive continuity of midwifery care is measured and increases over time	Work to improve services in Kaipara has been implemented and continues 97 percent of women in Northland have continuity of care from an LMC and we aim for all women. The DHB provides continuity of antenatal and postnatal care for women who are either too complex for LMC care or as a service as last resort
10.1	Local multidisciplinary clinical audit demonstrates effective communication among maternity providers.	Strong clinical audit processes exist with Trigger Tools, Case Review, Serious Event Analysis and M&M in place
10.2	The number of sentinel and serious events in which poor communication is identified as a risk decreases over time.	We have not had any SEAs identifying poor communication in this last year. See additional project to enable community feedback in the annual plan this year.
11.1	The number of national evidence-informed guidelines implemented in Northland increases over time.	All our internal guidelines are developed using national guidelines where available Hypertension in Pregnancy guideline has been updated to reflect the national guideline
12	National maternity service specifications are implemented within each DHB-funded maternity service.	100 percent of the DHB maternity services; service specifications are implemented in each DHB-funded maternity service.
Standard Two: Maternity services ensure a women-centred approach that acknowledges pregnancy and childbirth as a normal life stage.		***Current Work Streams or BAU processes***
16	All DHBs provide access to pregnancy, childbirth and parenting information and education services	Antenatal education is provided in Whangarei as well as at the primary units in Kawakawa, Kaitaia and Dargaville. Kaupapa Māori antenatal education is being delivered
17.1	The national tool for feedback on maternity services is applied at least once every five years.	A client survey was undertaken in January & February however the return rate was poor and repeat survey will be undertaken this year
17.2	Demonstrate in the annual maternity report how Northland DHB has responded to consumer feedback on maternity services	Northland DHB Feedback forms are available in all clinical settings. All completed forms are placed into a locked box and sent directly to the

		Quality Improvement Directoratet. There they are entered into the DHB Datix system to be followed up by designated staff within the relevant service. Responses are prompt and outcomes are reported monthly. Complainants are offered the opportunity for a face to face meeting. Note consumer survey planned to be repeated this year.
18.1	Consumer feedback demonstrates that consumers consider the services to be culturally safe and appropriate	The vast majority of feedback received is extremely positive. Complaints are managed in a timely manner and with respect. All staff are currently undertaking Northland DHB-wide cultural training, and have attended an additional half day course, "Engaging with Māori". This has been very well received.
18.2	Demonstrate in the annual maternity report how Northland DHB has responded to consumer feedback on whether services are culturally safe and appropriate	See above.
19.1	All DHBs have a mechanism to provide information about local maternity facilities and services and facilitate women's contact with Lead Maternity Carers and primary care.	Women are directed to the Find Your Midwife website. Local pamphlets listing the midwives working in each area are provided to GP clinics and also to women on request On-going work is in progress with the Northland PHOs to improve access to LMCs from GPs
19.2	Report on the proportion of women accessing continuity of care from a Lead Maternity Carer for primary maternity care	97 percent of Northland women access care from a LMC midwife.

Standard Three: All women have access to a nationally consistent, comprehensive range of maternity services that are funded and provided appropriately to ensure there are no financial barriers to access for eligible women.		***Current Work Streams or BAU processes***
22.1	Demonstrate local services are consistent with national and regional plans and appropriate for the local birthing population	See page 10
23.1	Local multidisciplinary clinical audit demonstrates women and babies have access to levels of care that are clinically indicated.	Each transfer from a primary service to the secondary service is triggered and assessed for appropriateness of decision making and timeliness including transport options Whangarei women have access to primary care within the secondary unit or at home. There is no Whangarei primary unit.
24.1	Report on implementation of the Maternity Referral Guidelines processes for transfer of clinical responsibility	Guideline developed and auditing commenced. Use of handover sticker improving
24.2	Local multidisciplinary audit demonstrates effective linkages between services.	Active participation of the paediatric service in Trigger Tool meetings and M&M meetings. There is a bi-monthly shared Quality meeting with paediatrics
25.1	All DHBs have local and regional maternity and neonatal emergency response plans agreed by key stakeholders including emergency response services.	Transfer guideline between all levels of service including checklists has been developed. Northland DHB is a pilot site for the Maternity Early Warning System (MEWS)
25.2	All maternity providers can demonstrate knowledge of local and regional maternity and neonatal emergency response plans	Education for midwives on emergency situations takes place in all DHB practice settings. This year there will be additional multi-disciplinary sessions throughout the region
25.3	Local multidisciplinary clinical audit demonstrates effective communication among maternity providers in cases of clinical emergency	This is reviewed with all trigger tools when transfer has occurred
26.1	All DHBs provide, or accommodate, a model of continuity of midwifery and obstetric care when secondary or tertiary services are responsible for the woman's care.	97 percent of women have an LMC and in most cases LMCs continue to provide all or part of the woman's care when there are complexities. They work in partnership with consultant team and antenatal midwife specialist or core midwife as required. When, in rare cases this does not occur, coordinated care is offered via the employed community midwife.
26.2	Consumer feedback demonstrates that an increasing proportion of women requiring secondary or tertiary level care are satisfied with the continuity of midwifery and obstetric care they received	This is an area to be included in the consumer survey to be repeated before the end of the 2018 calendar year

MQSP Objectives for 2017-2018 and on-going plan

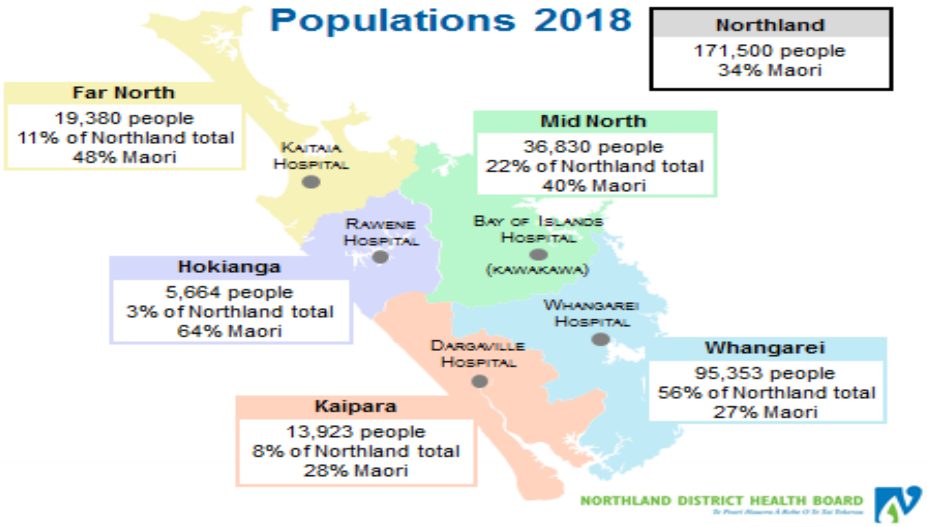
	Goal	Measure	Outcome
1.	Review of perinatal loss in Northland On-going	To identify and highlight systems and processes which contribute to perinatal death in Northland and provide a report to Maternity Clinical Governance with key recommendations from the review	Completed and reported in the 2017 Annual Report. On-going investigation of each case of perinatal loss is undertaken by DHB processes and presented at M&M meetings
2.	Increase engagement by women with LMC midwives in the first trimester of pregnancy On-going	First trimester registrations will continue to increase	The number of first trimester registrations is reported to the M&M monthly and have fluctuated throughout the year. Additional requirements for booking information have been instituted in order to improve data quality and there is on-going work with General Practice to address this. A cue sheet has been developed in order to gain information about any barriers to access for those women who are unbooked at the time they give birth
3.	Review of the service offered to women who experience a mid-trimester pregnancy loss On-going	Women who experience a mid-trimester pregnancy loss will be supported to birth in an appropriate environment	An updated guideline on the management of perinatal death incorporating PMMRC recommendations has been completed as part of the wider project outlined in this report
4.	Review of term babies requiring more than 4 hours of respiratory support On-going	To identify the causes and preventative factors in reducing the number of term babies requiring this level of respiratory support	This is reported monthly at M&M meetings. ALL babies admitted to SCBU are reviewed at Trigger Tool meetings with paediatric staff. Ease of accurate coding has been made possible from a specific stamp which is being utilised in the baby's clinical record
5.	Improve referral pathways and processes for women with mental health and addiction conditions On-going	He Tupua Waiora / Pregnancy and Parenting and mental health referral processes have been aligned	A new referral form is currently under review by the Maternal Mental Health team. Staff shortages within this service are being resolved. Te Whare Ora Tangata is embedded in the wider maternity service and is currently being reviewed The new antenatal clinic and TPO clinic triage and counselling service is starting in October and will coincide with a trial of the new referral pathway.
6.	To improve the validity and reliability of maternity health data. on-going	Coding information is accurate. Solutions (maternity information system) information is accurate. Same shown by audit processes. Regular systems audits undertaken and issues identified for correction Review of data input in regards to coding in relation to numbers of babies needing 4 hours respiratory support in SCBU undertaken in 2016/17 in view of very high rates.	Increased communication and education of both employed staff and LMCs on joint responsibilities of ensuring correct data entry is on-going. A recent Solutions audit has identified some issues with data integrity. It is a recommendation for 2018/19 to introduce point of care input of some data for labour and birth, baby summaries and discharge notes to ensure better integrity of data input.
7.	Increase the capacity and utilisation of primary units On-going	Staff employed in and LMC's accessing primary units, including Hokianga Hospital, will increase their confidence in management of emergency situations over the year An improved service for the women of the Kaipara district will be implemented	Hokianga Hospital has not fully engaged with this however both Kaitaia and Bay of Islands Hospitals are timetabled to receive regular education sessions by the Maternity Educator. SCBU provide twice yearly education regarding care of an unwell baby prior to retrieval by the paediatric team Midwives provide 1.0 FTE in a coordinated care model and data is collected on the number of low risk women from this area

			who are required to give birth in Whangarei due to the absence of a birthing facility closer to home
		A modified staffing model will be Introduced in Kaitaia Hospital	An ACMM has been appointed to the Kaitaia maternity service and there is an increase in the number of midwives providing inpatient care. There is an intention that the midwife ratio will increase
		Initiatives to enhance the inclusiveness of primary units into the region's maternity service will continue	Monthly meetings of the region-wide midwife leaders take place. Videoconferencing facilities are available for these meetings
8.	Improve the quality of maternity care available to Māori women and whanau On-going	Measures to enhance access to high quality culturally appropriate maternity care will be implemented as a MQSP priority during the 2019 year. Equity will be the focus.	Kaupapa Māori antenatal education is taking place throughout Northland. A train the trainers approach sits alongside the delivery of these wananga. Marae-based consultation hui will inform further work to attain this goal.
9.	Enhance opportunities for consumer participation in maternity services On-going	Establishment of further mechanisms to share information and receive feedback	Arrangements are in place for a general consumer forum and a marae-based hui in the Mid North. These will be followed by a hui in the Far North before the end of the year
10.	To streamline the process for category 1 LUSCS's	All Cat 1 LUSCS's will be completed within the Northland DHB guidelines.	All category 1 LUSCS's are triggered events and presented at Trigger meetings. Guidelines are being met A repeat audit will take place this year
11.	Improve access to postnatal contraception throughout the region including improved accessibility of long acting reversible contraception for postnatal women On-going	Processes will be established for LARC insertion to take place in all Northland DHB facilities. Annual educational opportunities will be provided for midwives	Repeat training sessions have been held and these are available to all midwives, both employed and self-employed. LARC's are accessible in the in the Kaitaia primary unit as well as the community hub and the secondary service in Whangarei. A service will be established at the Bay of Islands primary unit with support of LMC midwives who will refer

Northland Context

It is recognised that the health status in Northland is poor in comparison to other regions of New Zealand. This is closely linked with deprivation, with the Northland region showing a greater disadvantage for all measures of comparison including income, housing, employment social and occupational class and educational achievement.

Northland Population Distribution and hospital services 2018



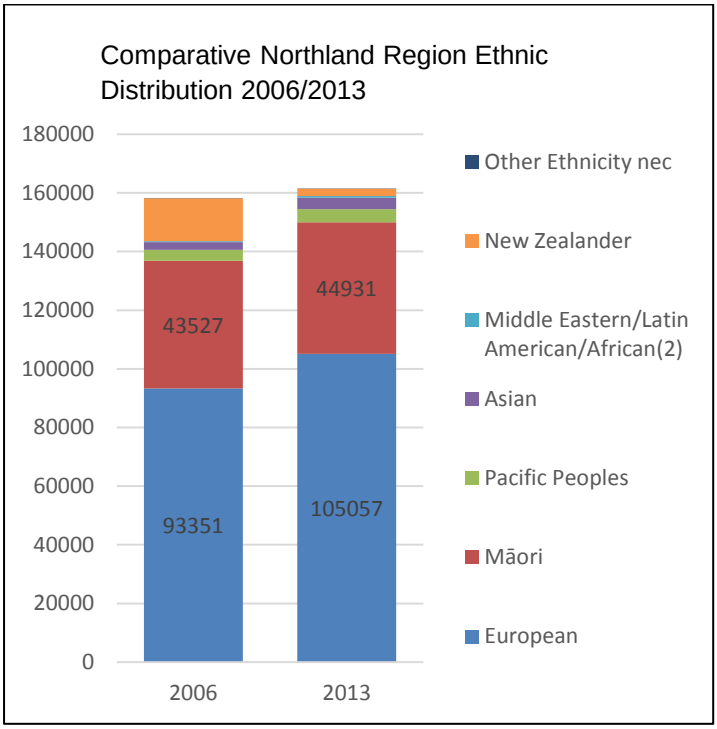
Travel times across Northland and to Auckland

Northland is a long narrow peninsula and is about 343km long (by road) and only 80km across at its widest point. Northland has many isolated communities; it takes over five hours to travel from Northland's northern to southern extremities and up to two hours east to west. This has significant impacts on service provision models and on the ability of women to access services throughout the region.

Although population numbers are small in many of the more remote parts of Northland, travel times are often long for women in these areas. They may have to travel up to 90 minutes to access services. Many of the women and families in these areas experience significant barriers to accessing services as roads are in poor condition, they have limited access to safe cars and petrol and no public transport is available. Providing services in each of the primary units reduces, however does not fully ameliorate, risks for these women and we work hard to identify further services we can provide close to home and develop these. In most areas our community LMC midwifery service provides home

based services when needed but this is significantly difficult in an environment when the funding they receive is insufficient to enable them to cover travel costs.

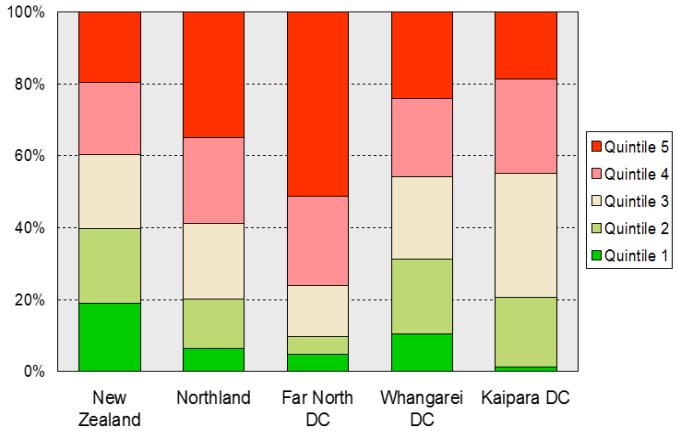
Northland's currently estimated population at 171,500 which is four percent of the total New Zealand population. Māori comprise around 34.6 percent of Northland's population however the birthing population comprises a much higher percentage of Māori at approximately 46 percent of the population.



This graph shows a direct comparison of Northland ethnicities in the 2006 and 2013 censuses. It would have been ideal to be able to compare the 2017 census information in this report however it is still currently unavailable. We are aware that there has been a significant increase in the population in Northland in the last few years.

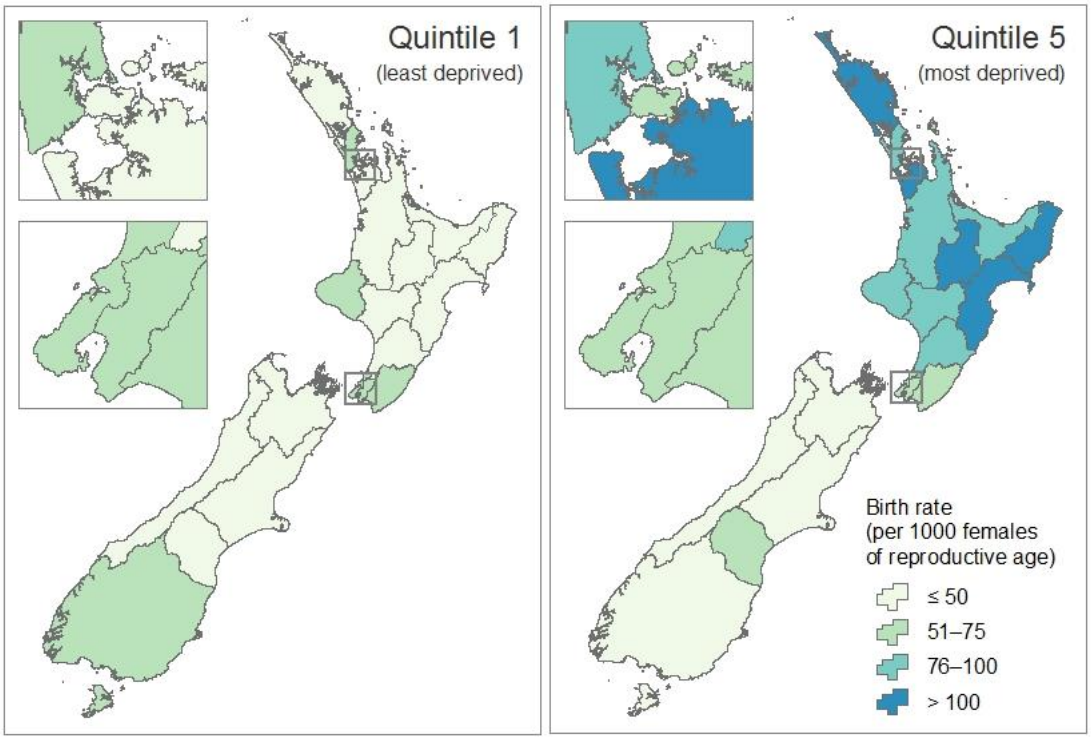
Northland deprivation by area and compared to New Zealand profile (Quintile 5 most deprived, Quintile 1 least deprived)

Northland has one of the most deprived populations in the country. Deprivation levels vary across Northland but all areas have at a minimum, close to 20 percent of the population represented in the quintile 5 category with the whole of Northland showing almost 60 percent of the population living in quintiles 4 and 5.



Birth rates of women in the least deprived neighbourhoods (quintile 1) and in the most deprived neighbourhoods (quintile 5), by DHB of residence, 2015 (Report on Maternity 2015, Fig. 13, NZMOH, Published 2017)

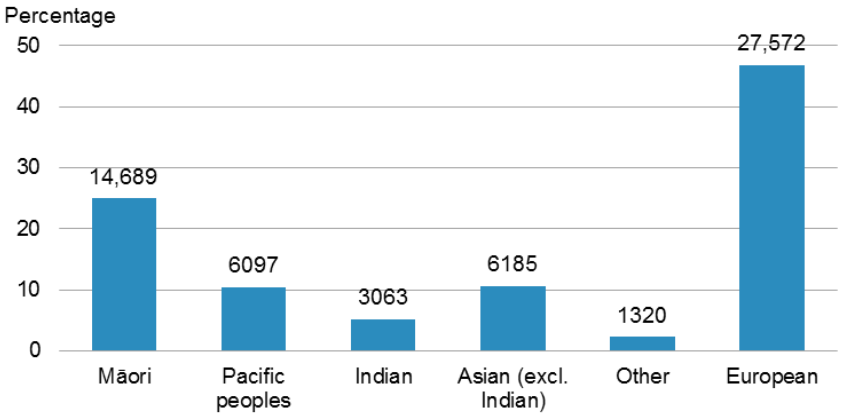
These maps show a much higher birth rate in the most deprived populations in Northland.



Northland Birthing Population - Summary

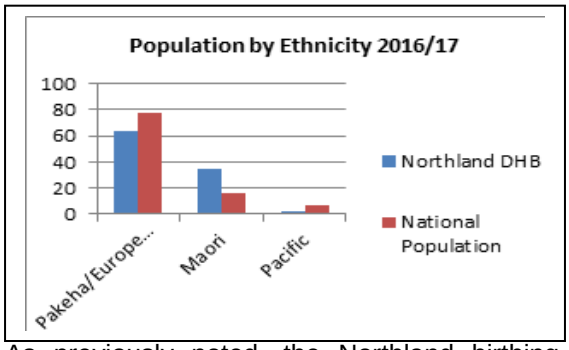
Ethnicity of Women Giving Birth in New Zealand

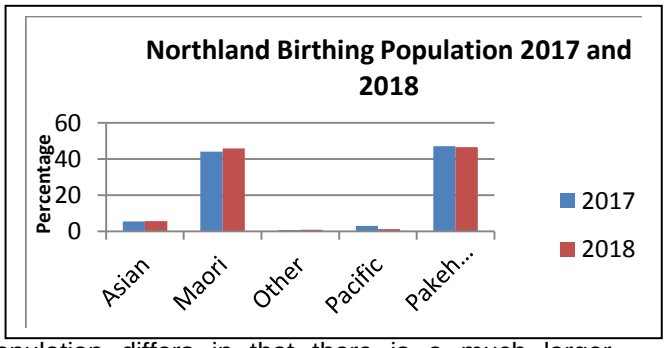
New Zealand data showing the overall percentage of women giving birth, by ethnic group, 2015 (Report on Maternity 2015, NZMOH, published 2017)



Ethnicity of Women Birthing in Northland DHB

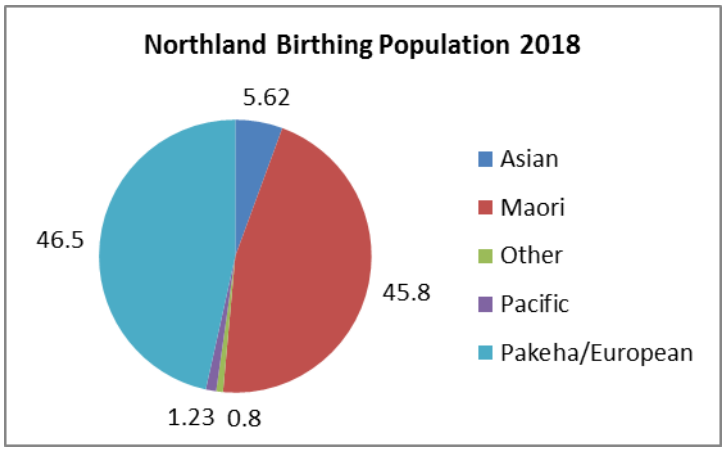
The below graph shows a comparison between the population distribution in Northland and that of the whole of New Zealand by ethnicity. While the years are different it does give an idea of the differences. As can be seen Northland has a much higher population of Māori than other ethnicities at 34.6 percent, and only 2 percent of the population are of Pacific ethnicities which is much lower than the national average of 6.5 percent. Alongside is a graph showing the Northland birthing population and changes over the last two years.





As previously noted, the Northland birthing population differs in that there is a much larger representation of Māori than the general population. Almost half of the Northland birthing population are Māori and almost 60 percent of the babies born in Northland are Māori. The population of Pacific women is very low this year at only 1.23 percent and the Asian population has increased a little from 5.3 percent in 2017 to 5.62 percent in 2018.

The below graph shows the population of birthing women in the 2017/2018 year:

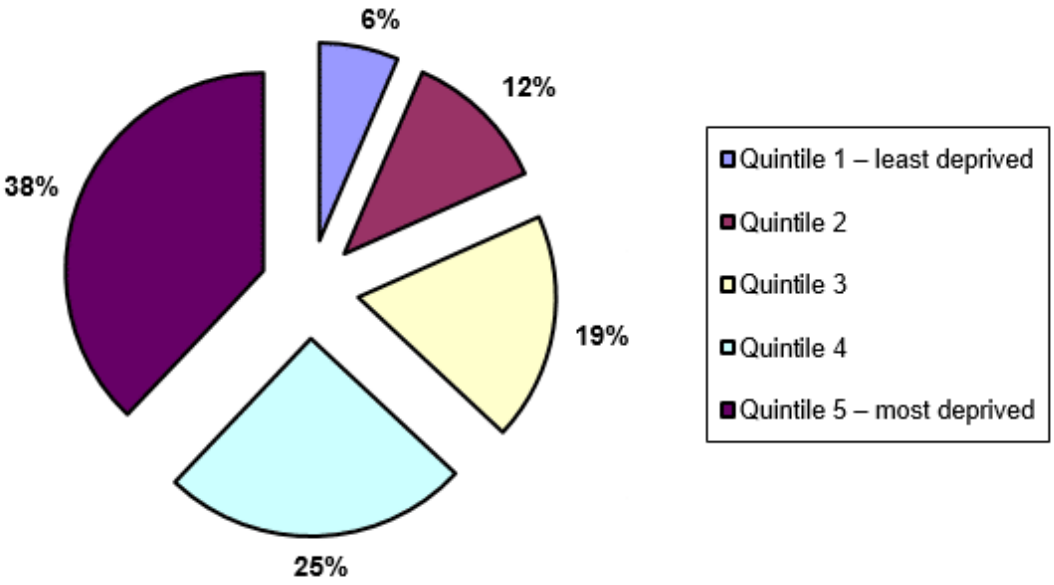


There were a total of 1980 births recorded in Northland DHB facilities in 2017/18. When we include homebirths and births at Rawene Hospital in the Hokianga; the total number of births is 2119.

Birthing Women Living with Deprivation in Northland

The below graph is copied from the New Zealand Ministry of Health website: https://www.health.govt.nz/new-zealand-health-system/my-dhb/northland-dhb/population-northland-dhb

It shows the distribution of the entire population of Northland in the 2016/17 year by Quintile where Quintile 1 is the least deprived and 5 is the most deprived.

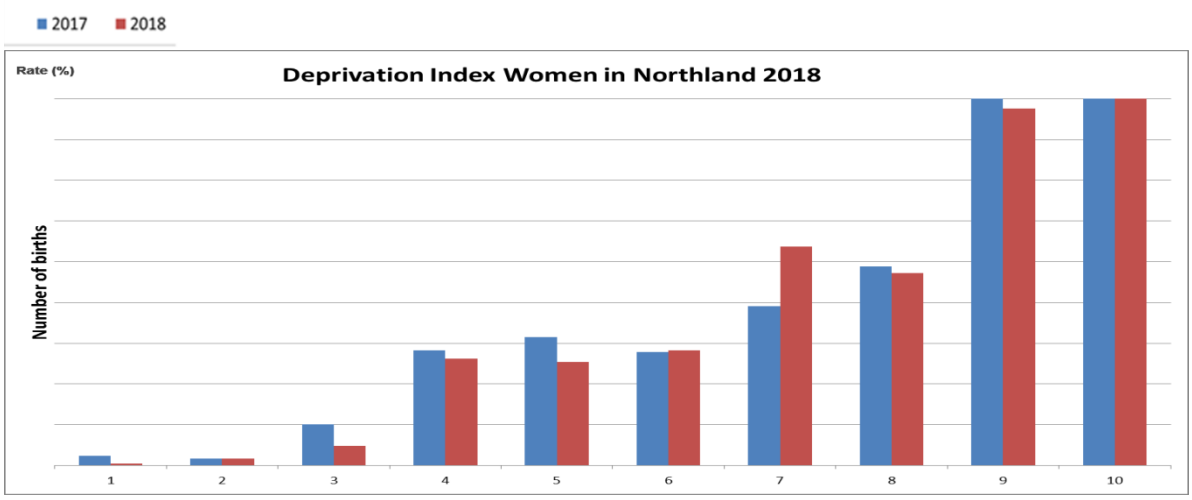


The graph shows a high percentage of people living at Quintiles 4 and 5 across the whole population of Northland.

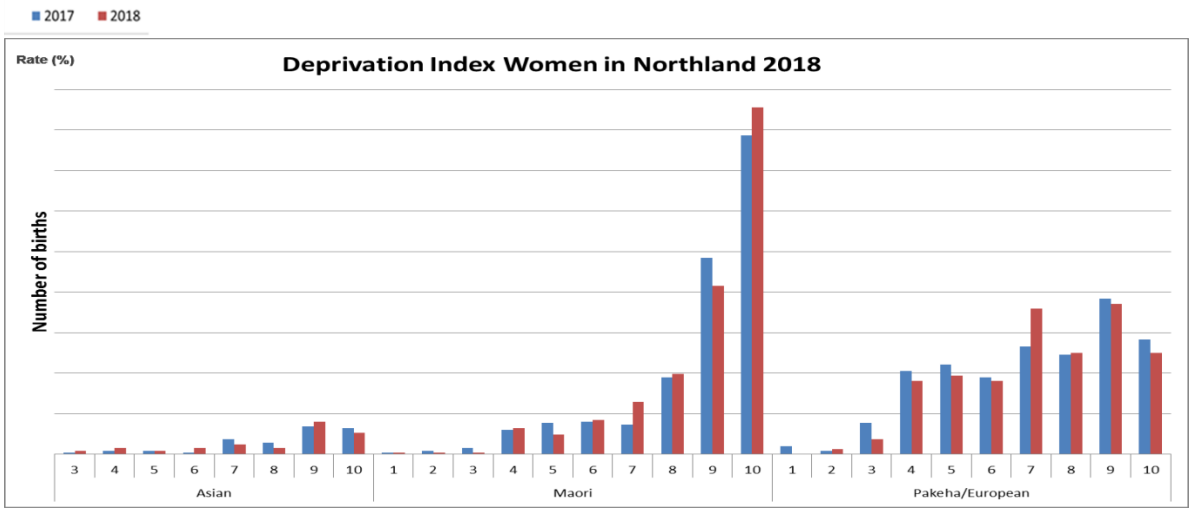
Note that the deprivation levels show the most deprived at deprivation index 9 and 10 and the least deprived at deprivation index 1 and 2.

Overall the spread of deprivation in Northland DHB birthing population has remained similar over the last two years although there are some minor trends continuing, particularly for those women living in deprivation index 4 – 7, who appear to be experiencing increasing levels of deprivation. There is a very small reduction of women living at deprivation index 8-10 which may be being driven by the

move we are experiencing of families heading north from Auckland. It will be interesting to see if this trend continues over the next year.



Birthing Women Living with Deprivation in Northland by Ethnicity

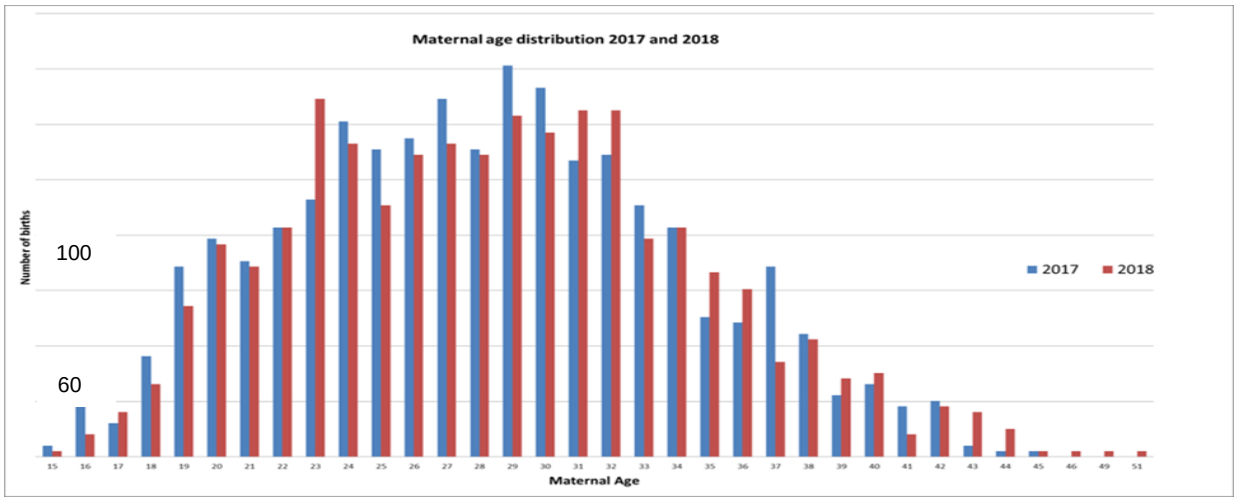


The above graph uses the same data to identify the distribution of birthing women in Northland by deprivation index and separates them by ethnicity. Māori women are living at much higher levels of deprivation than all other ethnicities although a similar picture is emerging in the gently growing Asian population in Northland. Pakeha/European women are far more evenly spread across deprivations however still most living at mid to high levels of deprivation. Overall Northland women experience very high levels of deprivation compared to many other regions. This, along with the now very fiscally challenging environment within which particularly our rural community midwives practice; contributes to difficulties women face in accessing services in a timely way. The identification of possible work to minimise the impact of this is on-going and woven throughout all projects within our Maternity Quality and Safety Programme.

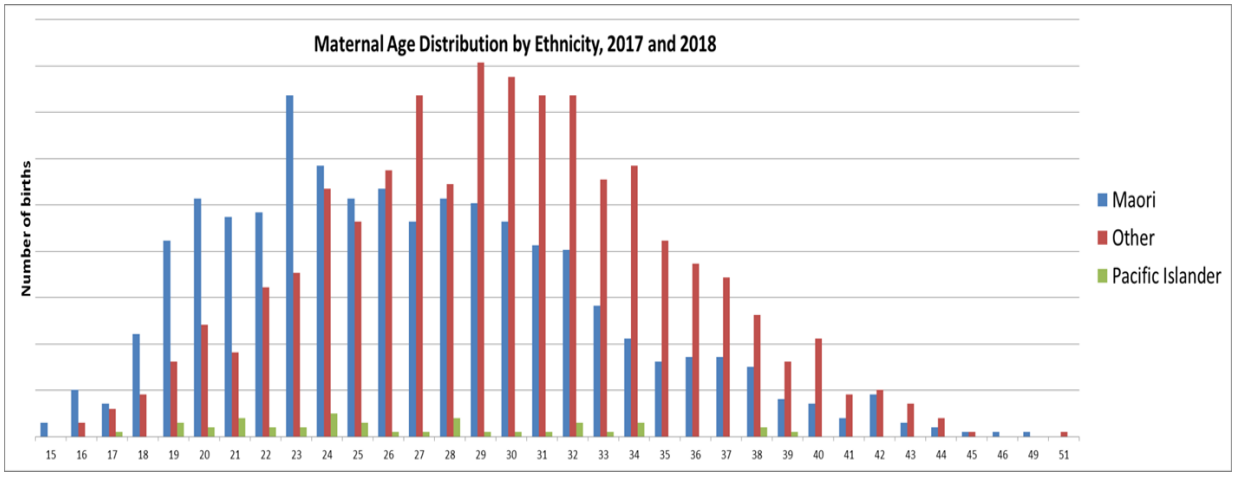
Maternal Age Distribution – Women Giving Birth in Northland

The below graph shows the distribution of maternal age in the Northland birthing population over the last two years; anecdotally there appears to be a continuing trend towards planning birth at an increased maternal age and we have also seen a reduction in the numbers of adolescent women birthing. In the last year in particular there has been a large effort to train as many midwives as possible to insert the Jadelle; a Long Acting Reversible contraceptive (LARC) device and the uptake of this service has been strong. This does improve access to reliable contraception for postpartum women and may well continue to reduce the incidence of unplanned or unexpected pregnancy. There

is an evident shift of the graph to the right between 2017 and 2018; showing that fewer women under age of 20 and 30 and an increasing proportion of women over 40 are having babies in 2018. Still however the most fertile years are between 23 and 32 years.



The below graph shows the age of women at the time they birth their babies by ethnicity. This graph includes all births for the last two years and it shows a clear tendency for Māori women to be younger and European and other ethnicities older when they give birth in Northland.

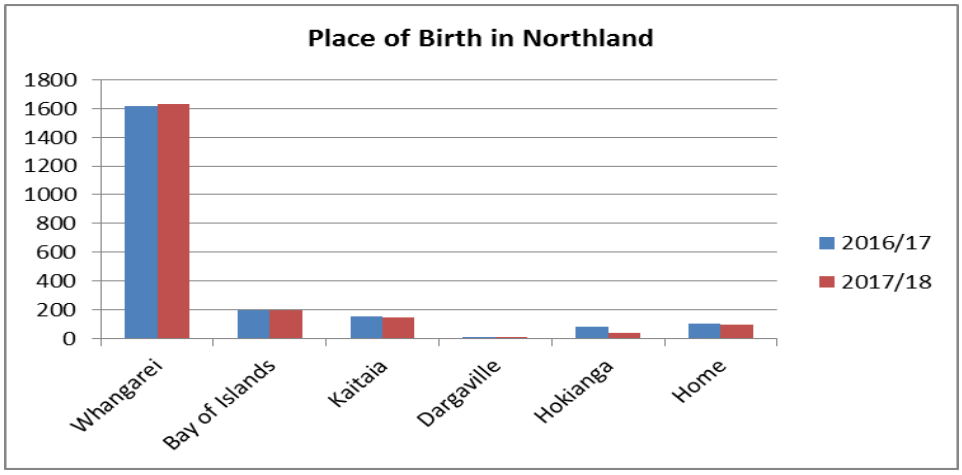


Place of Birth

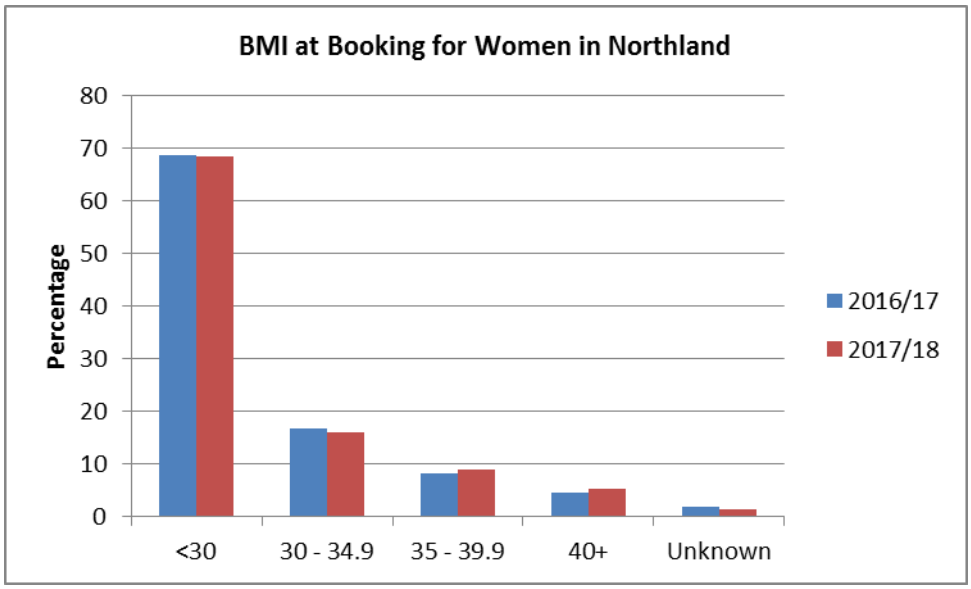
In Northland there were a total of 2119 births in 2018, 23 fewer than in 2017. 488 or 23 percent of these occurred in primary settings and of those 98 (4.6 percent) occurred at home.

The remainder occurred in Te Kotuku which is the secondary unit in Whangarei (77 percent).

There have been fairly consistent birth numbers in all units in the last three years. We did carry out an audit a year ago looking at women domiciled in the areas served by primary units and whether their actual place of birth was consistent with their clinical need, so as to look at whether women were choosing to bypass their local primary unit and birth in Whangarei. We did not then find evidence of that at that time, however there has been some anecdotal evidence suggesting that this is more commonly occurring currently and because of this we plan to repeat that audit in the coming year.



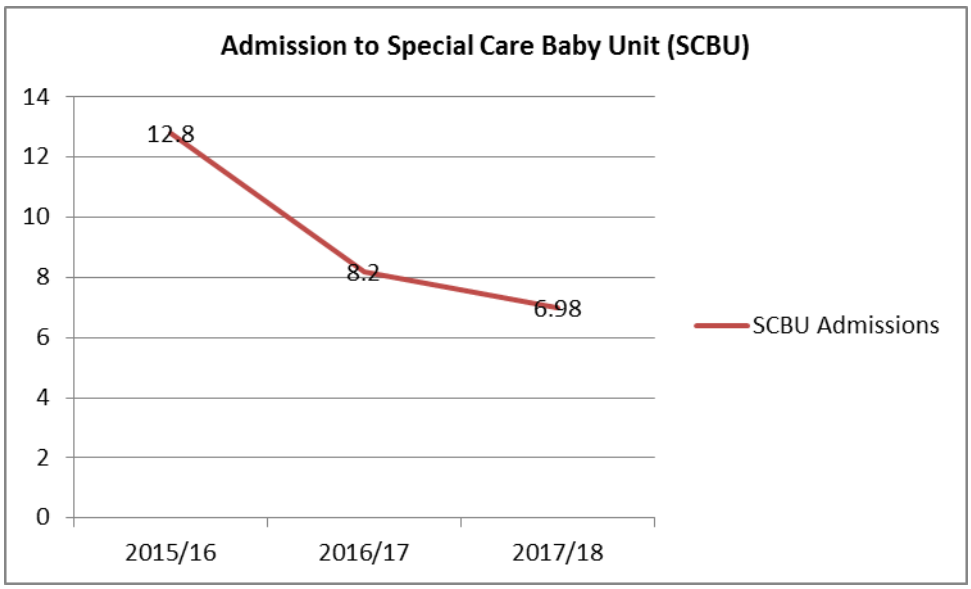
Body Mass Index at Booking in Northland



Over all ethnicities, Northland DHB has seen a minor trend towards increasing BMI over the last few years. We have not identified actual numbers as the data unfortunately is incomplete and cannot be used with any certainty.
Having noted that, the data we do have appears to identify a trend of increasing BMI amongst Māori women in particular. Hopefully better data in the next year will show a more accurate picture.

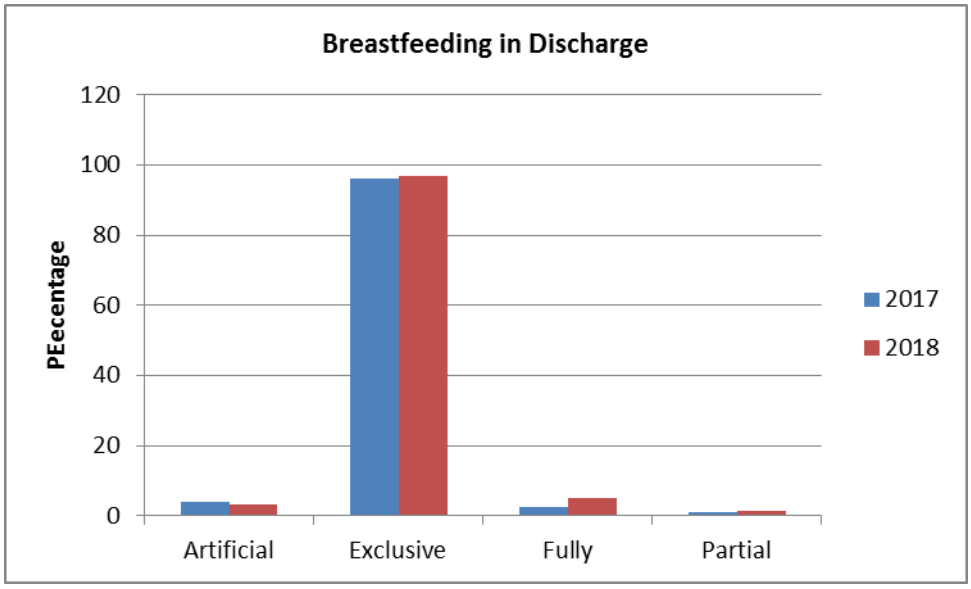
Admissions to Special Care Baby Unit

As part of our on-going project to reduce the numbers of term babies admitted to SCBU and having more than four hours of respiratory support (CPAP or ventilation); we have been working to ensure babies are not being admitted to SCBU unnecessarily along with clinical reviews of resuscitation technique, timely access to emergency caesarean section etc. We have achieved a year on year reduction in the number of babies who have been admitted to SCBU as shown in the graph below. While this is a broad measure only it is indicative of progress in this area.



Breast Feeding in Discharge from a Northland DHB Facility

Northland DHB continues to have a very high rate of exclusive breastfeeding on discharge from all units at 96-97%. The midwifery and lactation specialist workforces work very hard to ensure this occurs and to support women on-going. There also seems to be a culture of support for breastfeeding throughout the region in the population of birthing women and their Whānau; few requesting artificial feeding as an option. Those who do request formula feeding however are supported in their choice.



Maternity Services in Northland

Most of maternity care in Northland is provided by community LMC midwives supported by their DHB employed midwife colleagues and a team of obstetricians.

Primary maternity care is generally based in clinics, the women's homes or at one of Northland's four primary facilities in Kaitaia (Far North), Kawakawa (Bay of Islands), Rawene (Hokianga) and Dargaville (Kaipara). While consultant antenatal clinics regularly take place throughout the region, all secondary labour and birth care occurs in Whangarei Hospital at Te Kotuku which also serves as the primary birthing facility for Whangarei and Kaipara women.

Northland remains proud of its collaborative maternity service promoting physiological birth without intervention wherever possible. Many of the midwives in our community LMC workforce provide on-going antenatal and labour and birth care to women with complexities working with the obstetric team and alongside employed midwives when women are in Te Kotuku

In the 2017 year there were 2119 births in Northland, 23 percent of these occurred in district maternity units or at home, which is a small decrease from last year when there were 26 percent in primary units or home.

Below is an outline of services in each of the Northland DHB maternity units in Northland.

Kaitaia Maternity Unit

Kaitaia Hospital Maternity Unit is approximately two and one half hours' drive north of Whangarei. The maternity service is overseen by both the Kaitaia Hospital Operational Manager and the Northland DHB Director of Midwifery & Service Manager – Maternity.

Progress has been made in establishing a more midwifery led model of care with the recent appointment of an Associate Clinical Midwife Manager (ACMM) who provides on-site clinical leadership as well as having management responsibilities within the unit. This includes regular DHB compliance audits.

The Kaitaia facility is now mainly staffed by midwives and this will increase in line with the further development of a midwife-led service. Staffing levels are variable and due to a relatively small available workforce, are impacted significantly in the event of just one resignation. There is however a degree of optimism for an increase in the available midwifery workforce in 2019.

Women in the Kaitaia area mainly receive care by midwife LMCs although the employed midwives provide a service of last resort as needed which includes providing antenatal and postnatal care for women with complex needs who do not access a community LMC midwife.

Fortnightly visits from the Northland DHB MQSP leader has provided support and has been beneficial in developing closer ties with the secondary service in Whangarei. A trigger tool meeting for both employed and community LMC midwives occurs during these regular visits.

The DHB Midwife Educator travels to Kaitaia in order to make compulsory and elective education opportunities more accessible. Weekly antenatal clinics are provided by visiting Obstetricians.

Unexpected maternal and paediatric emergencies occurring in Kaitaia are managed in the first instance by the midwifery/nursing staff with support from hospital medical staff. The Whangarei Hospital SCBU flight nurse has provided education to the midwives in primary units on the care of unwell babies prior to the arrival of the paediatric retrieval team from Whangarei. This has been very successful and acknowledgement of the impact of the initial care of these babies by midwives in Kaitaia has been made. Some midwives have also attended the STABLE training course to further assist with this.

Antenatal classes are provided by a midwife and drop in clinics are available at the unit for antenatal checks and LARC insertion. It is intended that the unit will increasingly develop towards being more of a maternity hub.

Data
The average annual primary birth rate over the last 5 years in Kaitaia Hospital has been 140.
There were a total of 150 births in the 2018 fiscal year, 510 discharges from the unit and a further 104 women from the area birthed at Te Kotuku in Whangarei; the Kaitaia service therefore managing 254 women and babies in the year.

Bay of Islands Maternity Unit

The Bay of Islands Hospital has a primary maternity facility on site in Kawakawa. The unit is fully staffed by midwives and there is relative stability in both the employed and self-employed midwife workforce. Community LMC Midwives utilise the free clinic space in the maternity unit most days and midwives, whether employed or self-employed, are very much part of the wider team which works together well to provide a collaborative service for women.

Extension of services in the past year now enables women with diabetes in pregnancy to be seen in the Mid North rather having to travel to Whangarei for all their clinic visits and obstetric scans are also now available at the hospital once a week.

The lactation specialist services previously only based in Whangarei have now been extended to Bay of Islands Hospital. These clinics commenced in February 2018 and are held at the maternity unit every Friday.

Community involvement by the Mid North maternity service includes hosting activities such as the 'Big Latch On' and providing a tent at Waitangi Day celebrations every year where women go to breastfeed their babies, have a snack, get information about the local maternity service and to catch up with their midwives. Due to the generosity of the local community, every baby born at Bay of Islands Hospital is gifted knitted garments and a kaupapa Māori 'onesie'.

At present the Bay of Islands Hospital is undergoing a rebuild and although this does not include the maternity unit, there is some refurbishment taking place.

Data
There were a total of 198 births for the 2018 fiscal year, 735 discharges from the unit and 258 women from the area birthed in Whangarei. The service in the mid-north therefore provided care for 456 women and their babies.

Dargaville Maternity Unit

Dargaville Hospital is also the home of a primary maternity unit however currently provides only antenatal and postnatal services. In the last year there were no community LMC midwives living in the area but a few of those based in Whangarei did provide service for some women. Most women in the area are provided with care based on the DHB coordinated care model by two midwives making up 1.0 FTE. Women birth their babies at Te Kotuku in Whangarei. These midwives provide postnatal home visits for women including for those women who have received antenatal and labour and birth services from a Whangarei based midwife. Dargaville is excited though to note that there are two new

community LMC midwives in the area who are planning to provide community LMC continuity of care from late in 2018.

Currently ultrasound scanning services are not provided in Dargaville and women have to travel to Whangarei to access antenatal scans. There is a visiting Obstetrician and Gynaecologist who holds a Gynaecology clinic in Dargaville and occasionally may see pregnant women however most women travel to Whangarei for specialist appointments.

The midwives in Dargaville work closely with Plunket and Tamariki Ora providers along with other local support services including Oranga Tamariki.

There is work to do in the Kaipara region to further develop the service in the coming two years and options are currently being considered. Some of the planned improvements include the intention to provide antenatal education with the support of Te Ha Oranga, consideration of implementation of a mobile scanning option, increased use of technology to extend specialist care, offer the support of lactation specialist midwives/nurses and consider future planning for the unit itself.

Data

From 1 July 2017- 30 June 2018 94 women who were booked under the coordinated care service in Dargaville, gave birth at Te Kotuku in Whangarei and one in Dargaville. More than half of these women utilized the Dargaville unit for inpatient postnatal care, while others chose early discharge home from Whangarei and some remained in Whangarei for their postnatal stay.

A total of 173 women from the Kaipara district gave birth in Whangarei suggesting that 79 women booked with Whangarei-based LMC midwives for their care. It is important however to note that some of the Kaipara district is equidistant from both units and there are some parts of the Kaipara district which are closer to Whangarei, so some of these women will continue to book for care in Whangarei even as the community service becomes more available in Dargaville.

Te Kotuku - Whangarei

Clinical Midwife Manager – Te Kotuku

The Te Kotuku maternity unit incorporates all maternity services in Whangarei Hospital; this includes the primary birthing service for Whangarei and all the secondary maternity services for Northland.

The secondary ante natal service for Whangarei, including an ultrasound clinic, is co-located; this area will be enhanced in the next few months with the planned development of a purpose built ultrasound room to permanently house this service.

The ‘Butterfly Room’ for Whānau experiencing a baby loss is being utilised as required. There is an on-going partnership with the local SANDS group who are supplying small baskets and ‘memory boxes’ for all women. Good use is also made of a ‘cooling-mat’ which was gifted to the unit by a generous benefactor. This is placed in the basket to keep the baby cool until mum and baby are discharged. We are moving towards offering all women experiencing a baby loss after 20 weeks gestation the opportunity to utilise this room as currently some birth in a surgical environment.

Staffing has improved this year; especially welcoming was the appointment of two new graduate midwives from the AUT satellite programme, who started in early May. They have settled in well and are being supported by the other staff to grow their midwifery skills and confidence. We continue to recruit staff as vacancies arise and also assist with recruitment onto the bureau for those midwives who want to do casual work however Te Kotuku is currently fully staffed.

Antenatal Clinics and Medicine in Pregnancy Clinic

The antenatal clinic attendance has remained stable over the past year. The introduction of a scan clinic within the antenatal clinic environment has increased accessibility to scans and there has been a definite improvement in the time management of clinics. Every effort is made to coordinate a scan appointment with a specialist appointment which enables better consistency and improved communication. Approval has been given for the development of a purpose built scanning room /

after-hours assessment room in one of the previously undeveloped sections of the new unit and final plans are currently being signed off by management.

We have seen good attendance at the anaesthetic clinics held monthly on Wednesday afternoons. The benefit of this clinic for women is rather than being seen acutely on the ward they have time to talk through and make a plan for their own care.

There is a plan to implement a maternal mental health triage and counselling clinic in October which will be held once per month in the antenatal clinic and once per month in the community-based Te Puawai Ora rooms. This will be managed by the maternal mental health psychologist and other clinicians and will coincide with the implementation of a new referral pathway and improved access to mental health triage and services for antenatal women particularly those who do not currently meet access requirements for existing services.

Northland DHB Diabetes in Pregnancy Service 2018

The demand for management of diabetes in pregnancy (gestational, Type 1 and 2) continues to be a core and important aspect of Northland DHB diabetes service. The diabetes in pregnancy team is committed to ensuring that all pregnant women referred to the service receive care that is woman centred, timely and closer to home. The aim of the service is to see women within one working day of receiving a referral as engaging women as quickly as possible improves ante natal and perinatal outcomes.

July 2017 through June 2018 saw 86 women referred to the service of whom 80 percent had GDM. 32 percent of these women identified as Māori. Referral numbers have increased by 230 percent over the last six years.

In order to improve access to care, women are now under the care of the Clinical Nurse Specialist (CNS) closest to their home including the Mid North, Kaipara and Far North as well as Whangarei. A new addition to our team is a kaiawhina who supports women who are experiencing challenging circumstances or barriers to accessing care. She provides practical support such as transport to appointments and psychosocial support

There is a new dietician who has come on board to provide education and support for diabetic women with a plan to widen this service for women with a BMI >40 and antenatal booking HbA1c between 41-49

The Northland DHB diabetes team has now completed its three year involvement in the Target study. This study aimed to provide clinical evidence for optimum glycaemic control which contributes to good perinatal outcomes for mother and child. The findings are yet to be published.

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Northland New Born Hearing Screening

Due to the programme allowing screening to three months of age, we currently have completed figures up to the end of March. Therefore the annualised figures in this report pertain to April 1, 2017 to March 30, 2018

2,139 (98.4 percent) were offered screening and 35 (1.6 percent) babies were missed as they were unable to be contacted.

69 (3.2 percent) declined the screening offer, 101 (4.7 percent) Did not attend their screening appointment, 1,982 completed screening (91.16 percent).

1,898 (out of 1,982) passed hearing screening test (96 percent), 84 did not have a clear response and were referred to Audiology and 17 passed but had risk factors and were referred to Audiology for targeted follow up.

Of those referred to Audiology, 19 were identified as having various types of hearing loss.

The new born hearing screening and Audiology teams work closely together and have established systems to assist clients to access Audiology assessment including the use of Kaiawhina.

The service is provided in all district and Whangarei hospitals and community clinics are also available in Whangarei, Kerikeri and Kaikohe. We offer home visiting when it is identified that there is no other option and if we have an available screener.

Community Maternity Services in Whangarei

Te Puawai Ora

Te Puawai Ora (TPO) is the hub of the Northland DHB maternity community services.

Lactation Services

From July 2017 through to July 2018, the lactation team provided 835 consultations through the drop in clinic which averages 5-10 clients each day.

As of February 16th 2018, a lactation clinic was initiated at the Bay of Islands Hospital. This clinic is run on a rotating roster by one of the five team members based in Whangarei. It is modelled off the clinics run at Te Puawai Ora and provides a free drop in clinic held every Friday in the maternity ward. A total of 86 patients have been seen over the 25 week period.

Again this year, The Big Latch On in Whangarei was held at Toll Stadium. 81 Mums turned up to partake in the event with 85 counted latches due to twins and siblings. A great turn out and show of support for World Breastfeeding week.

In September 2017 Multiple Birth Group was commenced. The group was set up as a support network where the mothers, partners, babies and Whānau meet to discuss feeding, baby development and coping strategies. Antenatal women are referred to the group by community LMC

Midwives'. We have developed a lending service as well, which includes books, feeding pillows, clothes, prams, cots, bassinettes etc. We have had eight antenatal women in this period and numbers attending postnatally range between four and ten women with babies aged six weeks to two years. This service is proving to be very successful so far.

Childbirth Education

22 Childbirth Education Classes were held at Te Puawai Ora
Five x Tuesday evening classes (six week course) = 60 women
Five x Wednesday evening classes (six week course) = 60 women
12 x weekend classes (Sat and Sun) = 144 women

Each Monday during the school term, an open coffee group is facilitated at Te Puawai Ora by the childbirth education team. Any pregnant woman or women in the early postnatal period are welcome to attend. A new range of topics have been delivered this year which are advertised on the popular Childbirth Education Facebook page. These include workshops such as the 4th Trimester, the Brain Wave Trust ("growing great brains"), sleeping and settling, infant, first aid and baby massage.
Groups average 12-14 parents per session with the occasional 30-36. Fathers and grandparents have started attending these sessions as well.
40 Monday coffee groups have been held at Te Puawai Ora this year with 549 women and babies attending.

The Harmony childbirth classes for teenagers continue. These classes are held each school semester at The Pulse which is a hub for community services aimed at young families in Whangarei. The classes are run in conjunction with Te Ora Hou who provides transport for the young parents. Kai is also provided at each class.

Last year a range of strategies were explored as to how we could re-engage with this group and achieve a higher attendance at the classes. The tactics that were applied have been successful with the attendance rate remaining at a steady 10 + pregnant teenagers per semester. There has also been an increase in the number of partners coming along to join in this group. This is a pleasing result as this specific age group really benefits from the tailored services that are available to them.

The Baby Start Baby Box initiative has been implemented with the young women to encourage them to attend each class and complete the work book that has been created for them. At the end of the course, they keep the book which provides a great reference point for future services and includes contact numbers, tips and important information about their pregnancy and postnatal journey. As an

incentive to achieve this, they are then each gifted with a Baby Box from Baby Start at the end of the course which contains provisions babies need for the first 100 days of life. We are incredibly thankful to Baby Start for this contribution to young families.

4 Childbirth Education Classes held at the Pulse
Four x Harmony Classes for Young Parents (7 week course) = 32 women

Due to the increase in numbers of the Harmony classes, there has also been an increase in attendance at the Yummy Mummy's Teen coffee group. Our childbirth educator covers a variety of topics with the young mums such as baby massage, contraception, safety for their children, introducing solids, budgeting and cooking. A great rapport has been developed between the team and these girls and they feed back that they are relaxed and happy to discuss any issues that may present for them at the time.

Kai is provided at each session which gives the mums a chance to meet others in similar situations and discuss their babys' development with the attending Plunket nurse. The mums have developed a private Facebook page to keep in touch with each other and provide support to each other in between coffee groups all whilst posting some very inspiring parenting articles on their page.

40 Tuesday morning coffee groups for young mums held at The Pulse
Approximately 320 young mums and their babies have attended Yummy Mummy's.
Community Maternity Social Worker

Te Puawai Ora has a community based social worker from Monday – Wednesday. The social worker mainly receives referrals from LMC's, Emergency Department at Whangarei Hospital, community midwife, Violence Intervention Programme (VIP), Otangarei clinic, Te Whare Ora Tangata.

Community Midwife

The community midwife provides care within the coordinated care model for women who are unable or unwilling to access community LMC midwifery care. This averages 4 women each month. Women are given the choice to be seen either at Te Puawai Ora, home or the drop in clinic in Otangarei.

Long Acting Reversible Contraception (LARC)

Two staff members from Te Puawai Ora have been trained in the insertion of LARCs. This service is provided for all women and forms part of the wider DHB programme to train staff throughout the region in order to make this form of contraception readily available. Communication is sent to the GP following the procedure. Many women are accessing this service every week.

SUDI Services

A SUDI prevention coordinator joined the TPO team in June. Over the past few months she has reviewed some of the SUDI prevention processes and is working on further developing the safe sleep distribution including bolstering up our weaving wananga around Northland.

The safe sleep flow chart, safe sleep policy and safe sleep tool box (online NDHB) are under review and Northland DHB has recently submitted the SUDI prevention action plan 2018/2019. SUDI prevention training roll out and follow on bedding (three months +) will be other areas of focus in the near future.

Looking forward, there is intent to continue to address focus areas and endeavour to ensure this service is maintained for those Whānau most at risk. The focus areas are:

1. Smoking cessation support
2. Mama/ Whānau who have a baby in SCB
3. Teen parents
4. Engaging Māori hapu mama / Whānau
5. Healthy homes/ Manawa Ora referrals

Countdown Kids Hospital Appeal 2017

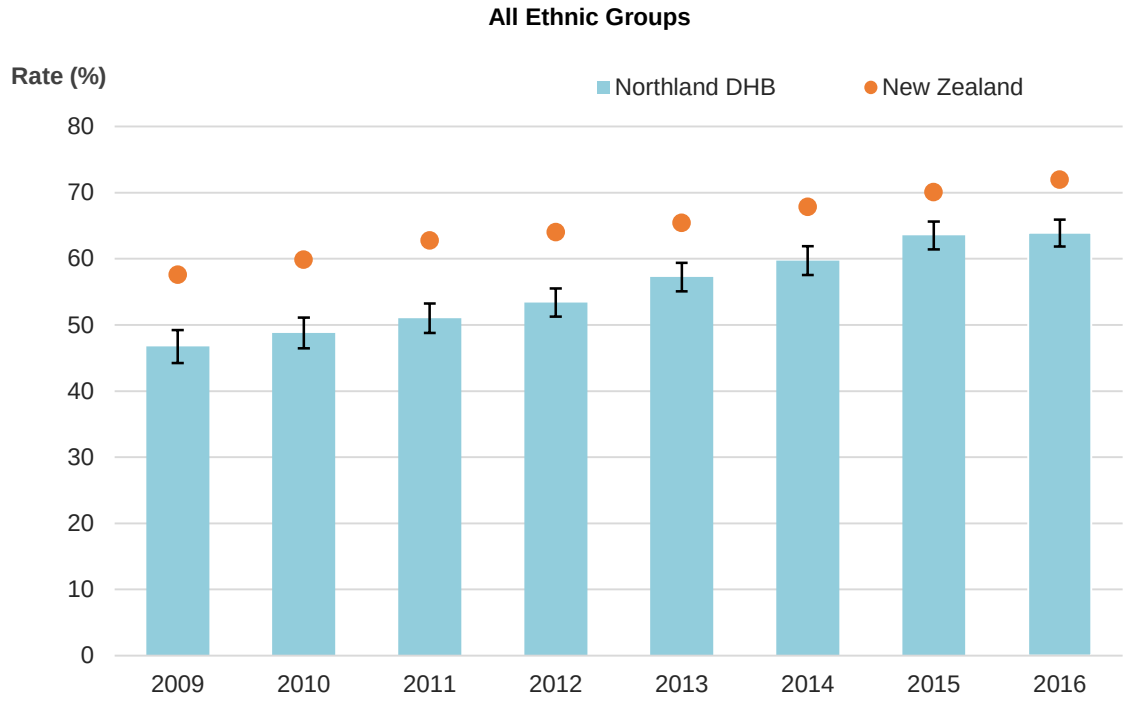
The TPO team arranged a very successful fundraising evening function which raised funds for the Countdown Kids Hospital Appeal. This was well attended and the local community was generous in donating appealing auction items.

Te Whare Ora Tangata

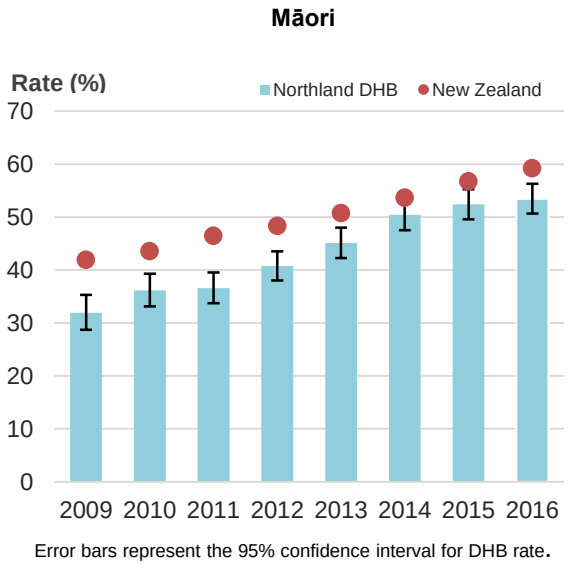
Te Whare Ora Tangata is Northland DHB's maternal and infant multidisciplinary and multiagency case coordination forum and is led out of the TPO service. Summary of this project is included in the project update

Summary of Northland DHB self-review against the National Maternity Clinical Indicators

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



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



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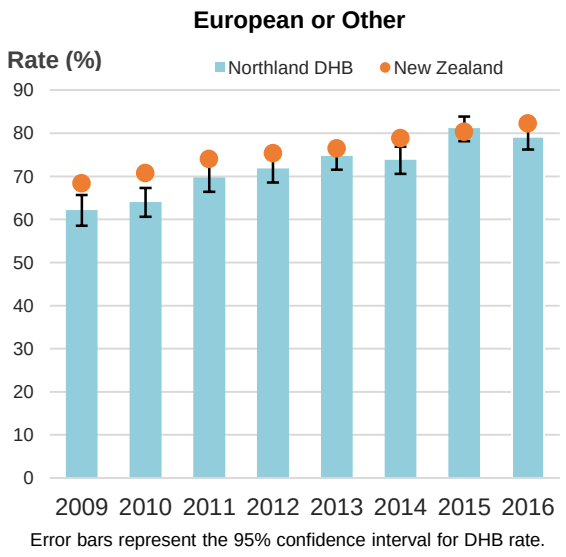
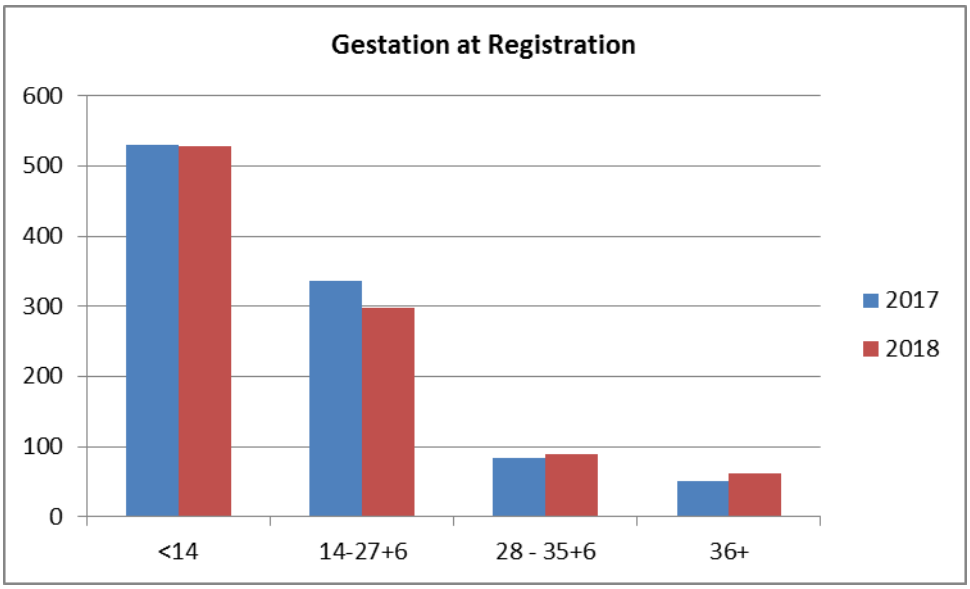
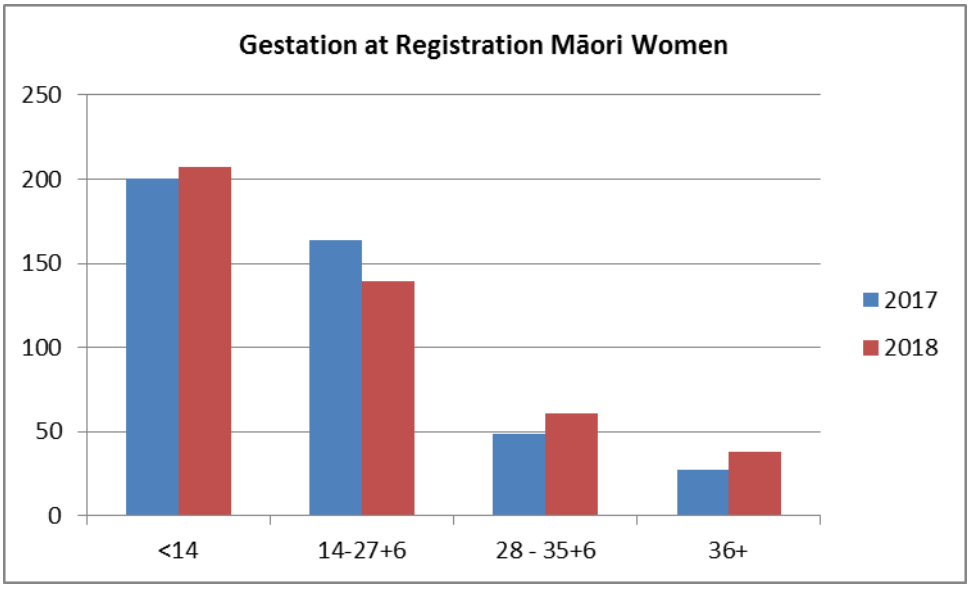


Error bars represent the 95% confidence interval for DHB rate.

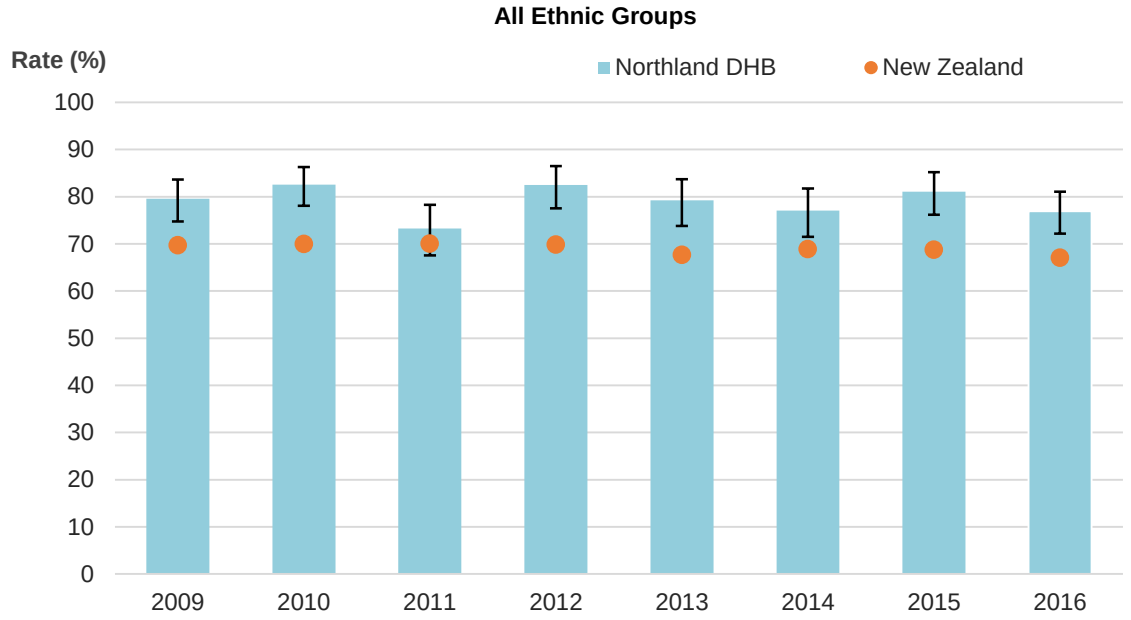
We again see a very small overall increase in first trimester registration with a lead maternity carer. It is a shame to see we are moving further behind with Māori registrations and a new initiative to increase numbers is just about to be launched. Anecdotally midwives are telling us that they have particularly, in the last two years, started to see a significant number of women booking late who have recently moved to Northland from Auckland. The most concerning issue associated with this is that in many cases women have not sought care in Auckland prior to shifting so are accessing care very late. We are well below the rest of the country in this indicator of a national average of 71.9 percent. See later in document summary of work in this area. The numbers in our internal system are shown below

however we note as that this data is incomplete it does give a general picture of registrations. Also note that the Northland DHB system does not identify time at first registration but time at first registration with a Northland provider. There is a significant amount of data missing here but the picture does correspond with national data showing an increase in later registrations despite a small increase in early registrations for Māori women.

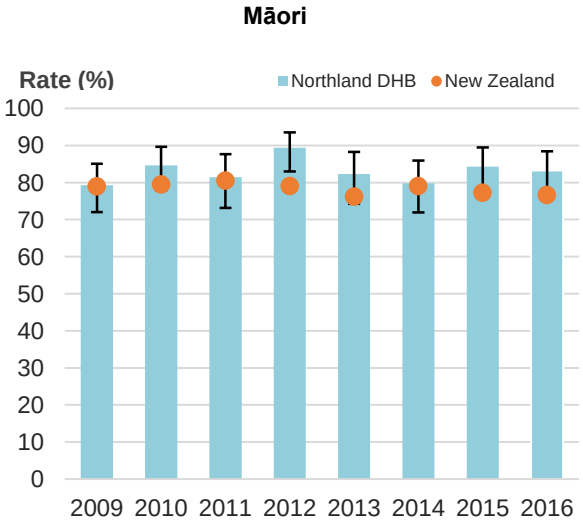




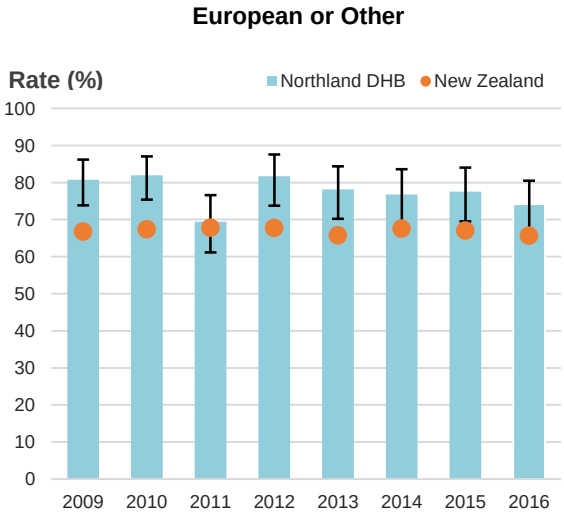
Indicator 2: Standard primiparae who have a spontaneous vaginal birth



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



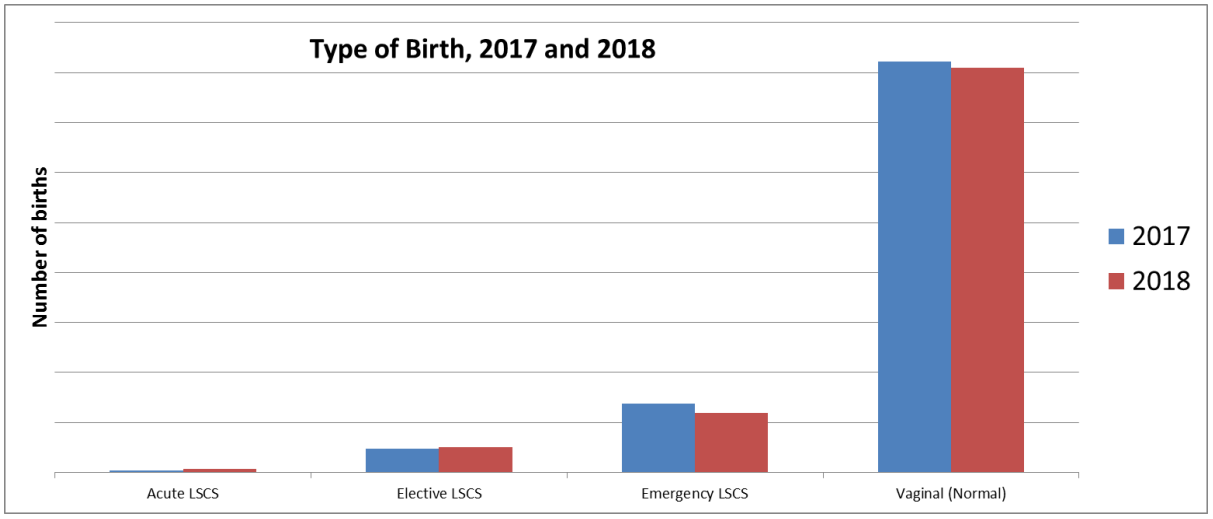
Error bars represent the 95% confidence interval for DHB rate.



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

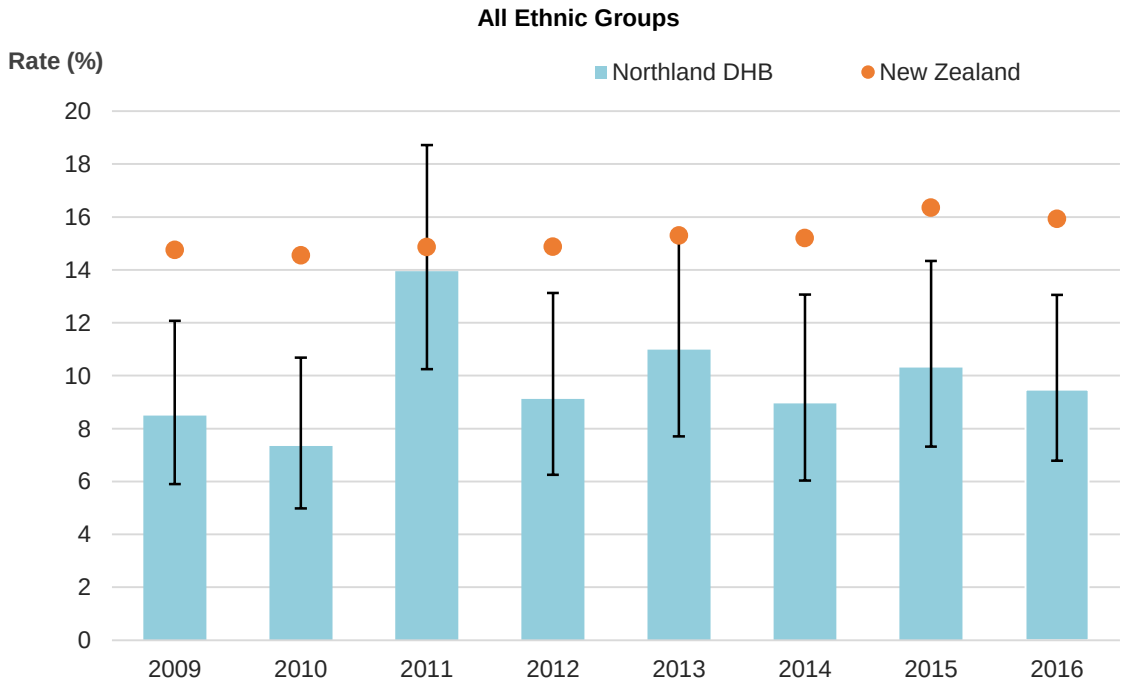
In Northland the spontaneous birth rate is higher than the NZ average across all ethnicities in the standard primiparous woman and when all women are considered. We have however seen a drop in the standard primiparous rate in our secondary hospital in Whangarei this year from 74.5 percent in 2015 to 69.7 percent in 2016. The overall numbers may be increasing due to an increase in elective LSCS but this is an unlikely driver in the standard primiparous population. The increase in our Asian, particularly Indian population does seem to be creating some change in this area and requires on-going audit.

The graph below shows a comparison of all births in Northland DHB by type and by year. (Note that this does not include homebirths or births at the Hokianga unit.)

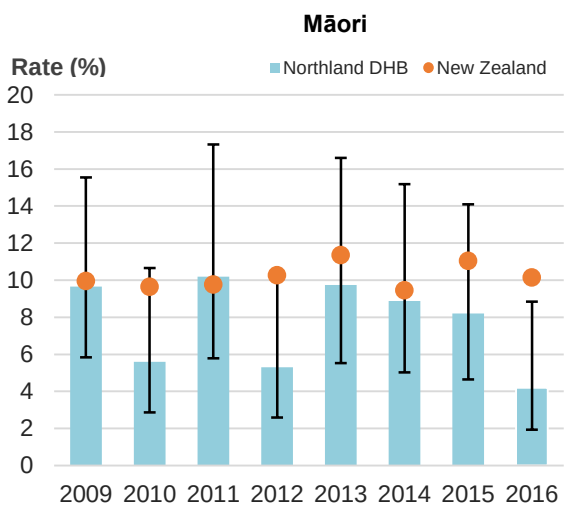


There has been little change over the two years with perhaps a slight increase in elective LSCS along with a reduction in emergency LSCS but numbers are small.

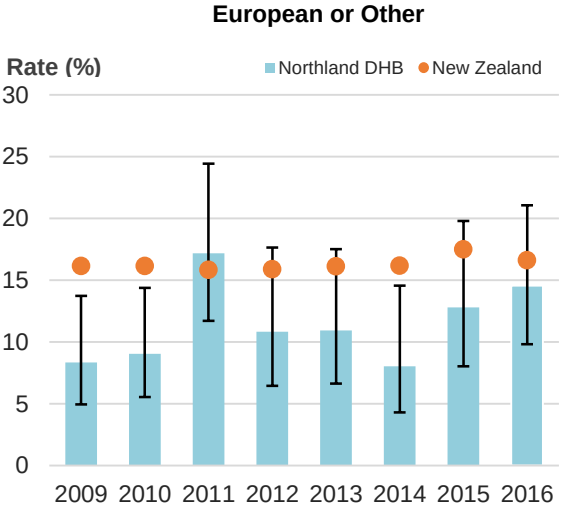
Indicator 3: Standard primiparae who undergo an instrumental vaginal birth



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



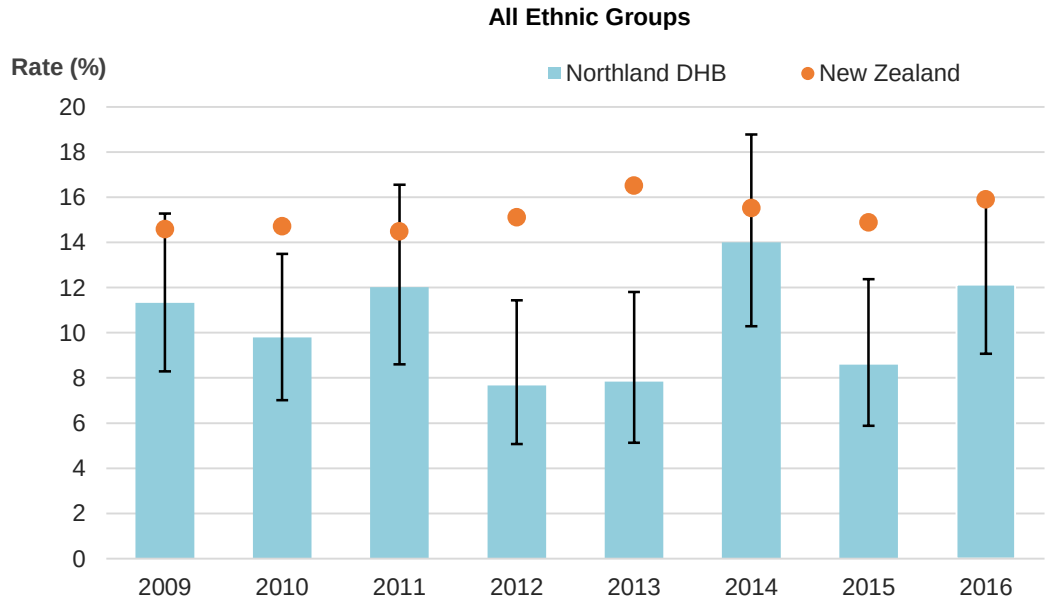
Error bars represent the 95% confidence interval for DHB rate.



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

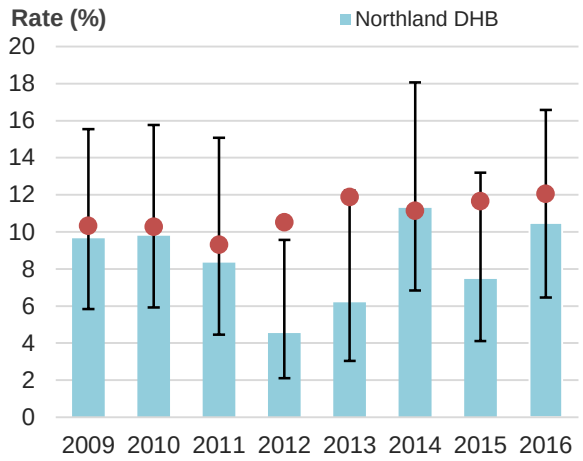
Northland consistently has a comparatively low rate of instrumental birth (9.5 percent) across ethnicities however this year the rate for Māori women is particularly low at only 4.2 percent. The discrepancy between Māori and all other ethnicities of >10 percent is startling and needs further consideration.

Indicator 4: Standard primiparae who undergo caesarean section



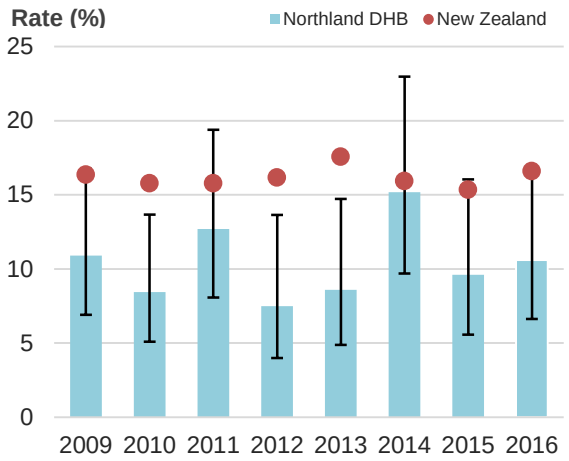
Error bars represent the 95% confidence interval for DHB rate.

Māori



Error bars represent the 95% confidence interval for DHB

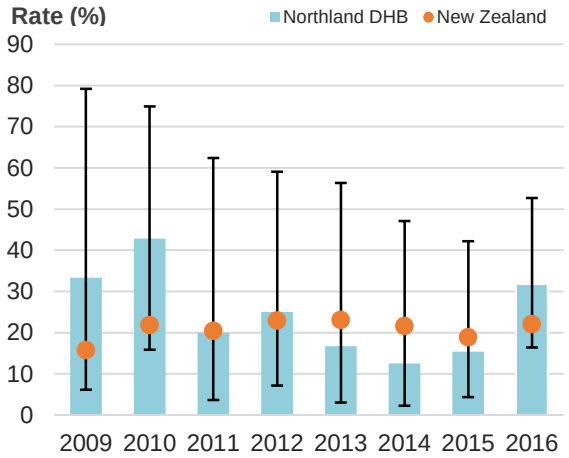
European or Other



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

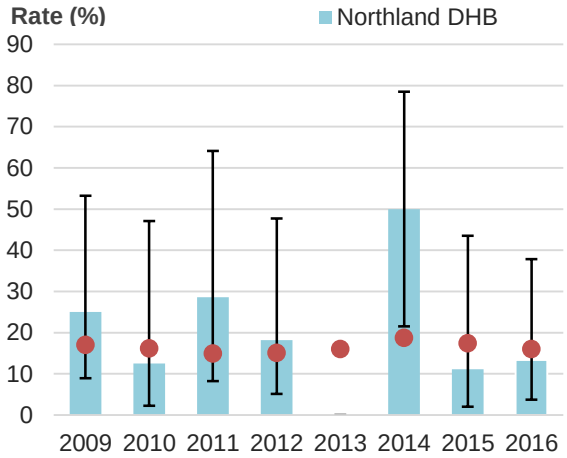
Northland DHB has seen a significant increase in the population of Indian women birthing in Northland and these women appear to have a higher than average rate of caesarean section (31.8 percent). This year we will look at an audit of caesarean sections by ethnicity to see if we can identify what is driving these differences. The rate of other Asian standard primiparous women is also higher than other ethnicities at 13 percent and in 2017 our Asian population increased to 5.6 percent.

Indian



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

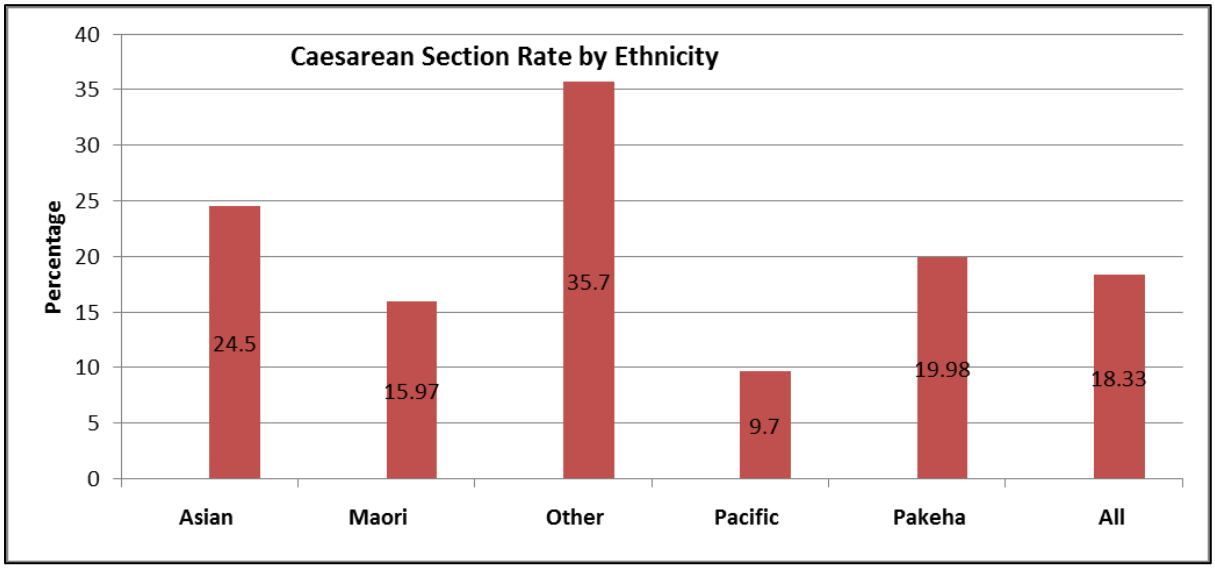
Other Asian



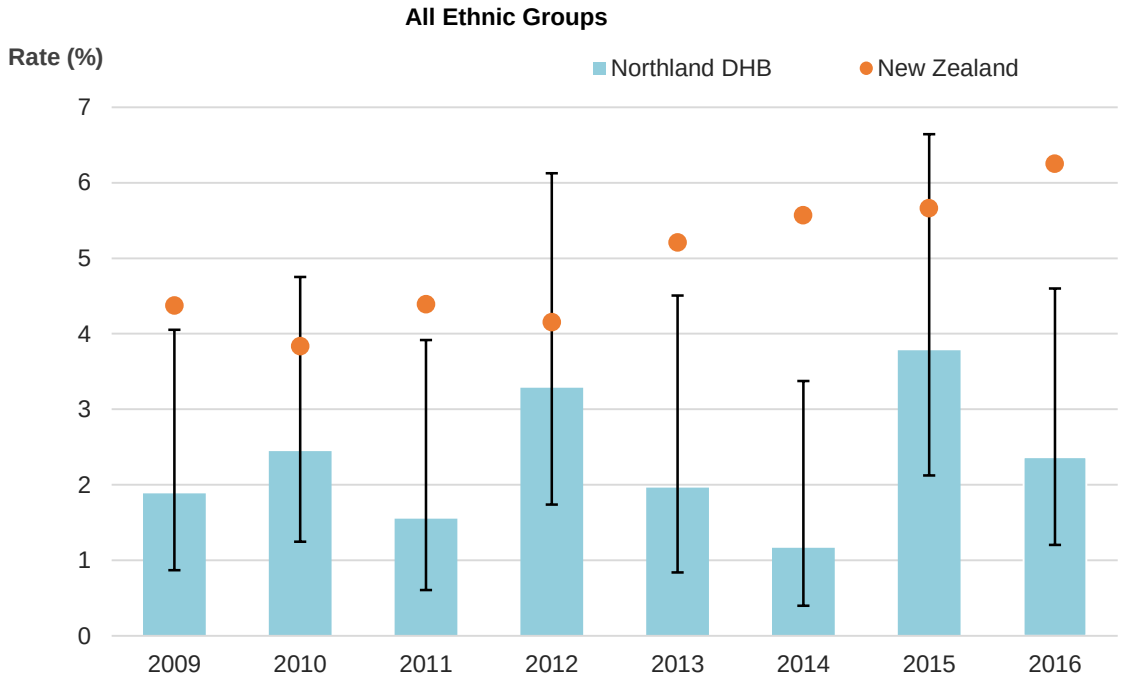
Error bars represent the 95% confidence interval for

When we look at the overall percentage of caesarean section by year the numbers have not changed in the last two years. The LSCS rate in 2017 was 18 percent and in 2018 it is 17.5 percent. The national average in the 2016 dataset was 28 percent. Midwives and doctors working in maternity in Northland do remain committed to and supportive of keeping birth normal wherever possible and continue to work collaboratively to achieve this in a safe way.

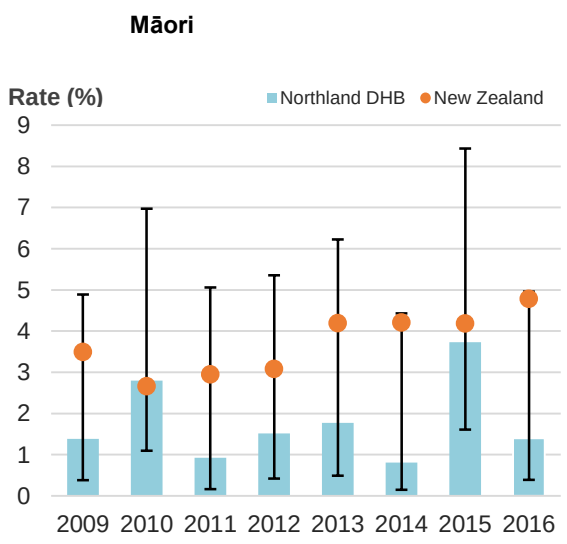
The below Graph shows the percentage of all Northland DHB caesareans within each ethnicity set. The rate of others will mostly include Indian women as our data did not separate them out so again we see a comparatively high rate of caesarean section in our Asian and Indian population, similar rates in Māori and Pakeha/European populations and lower rate in the Pacific population, bearing in mind that there has been no statistical analysis identifying confidence intervals and the populations of Asian and other women and in particular Pacific women are comparatively small. Note that the overall Northland caesarean section rate here excludes births in Hokianga and home births, when these are added, the Northland DHB region has a rate of 17.5 percent.



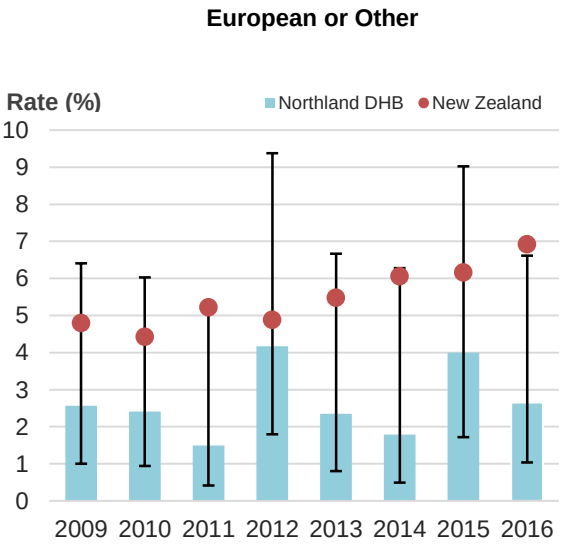
Indicator 5: Standard primiparae who undergo induction of labour



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



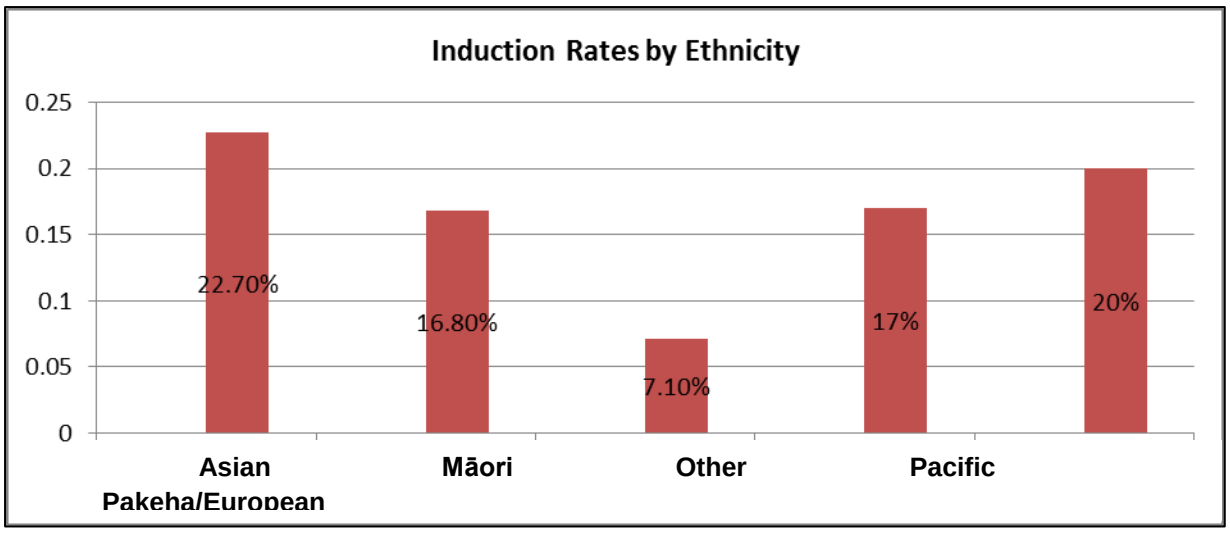
Error bars represent the 95% confidence interval for DHB rate.

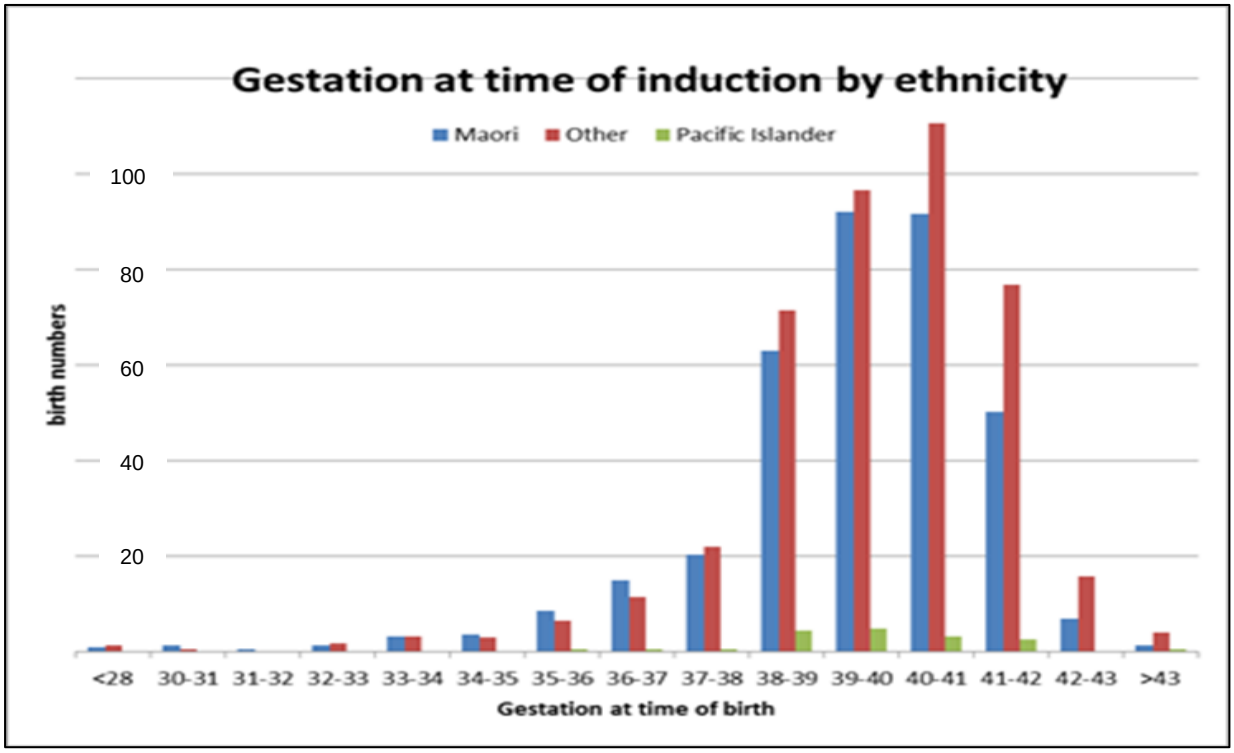


Error bars represent the 95% confidence interval for DHB rate.

Northland continues to see a comparatively low rate of induction in the population of standard primiparous women as we would expect and is well below the national average. What we were particularly interested in looking at were the difference in rates by ethnicity, particularly as we had identified a significantly higher caesarean section rate amongst Asian women in the Northland population. The graph below shows the induction rate as a percentage of all births within each ethnicity and shows a higher rate in the Asian population.

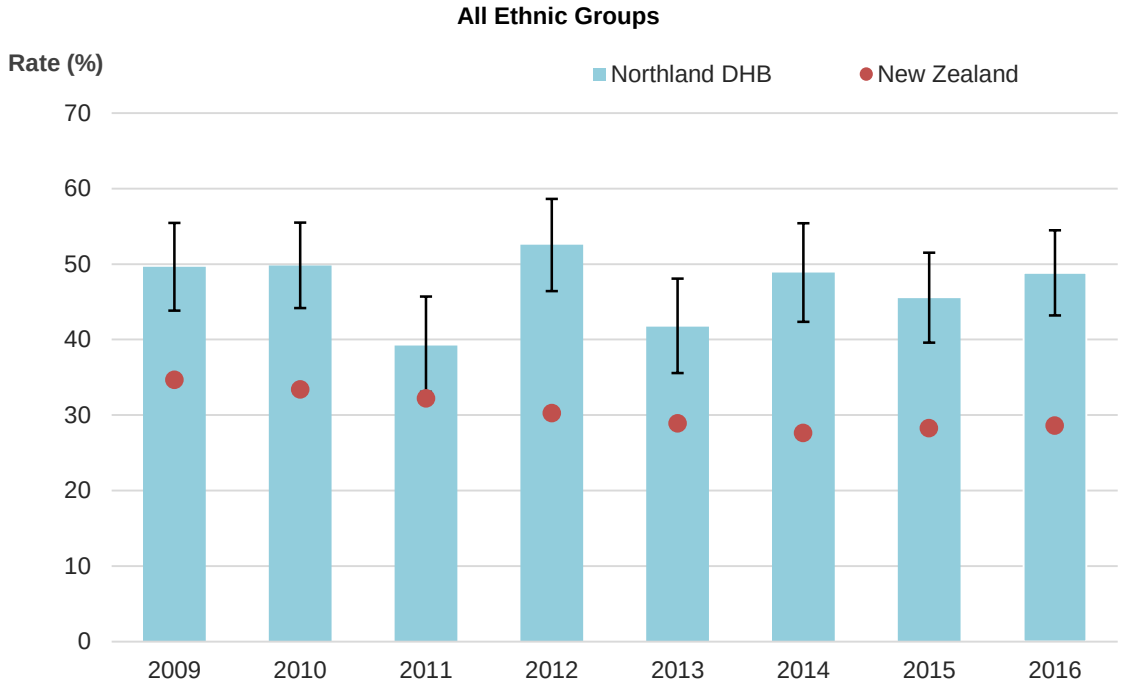
The overall rate of induction across all ethnicities for all women in Northland in 2017 was, 18.7 percent, similar to 2016 and 2017 where the rate was 18 percent. The last national average noted in 2015 national data was 23.8 percent.



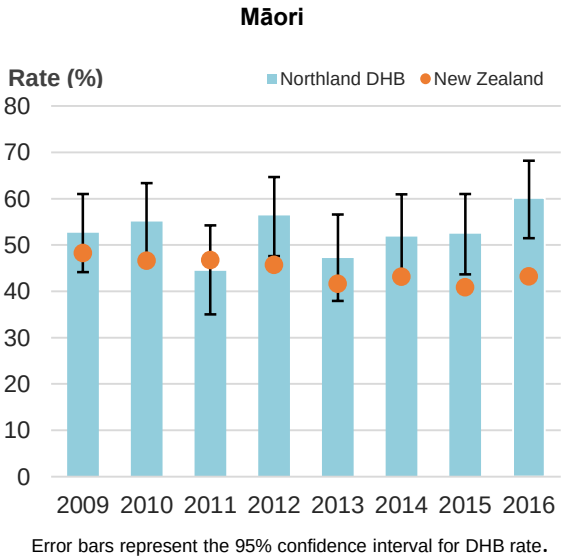


It is also interesting to look at the timing of induction and it to see a difference by ethnicity. Māori women tend to undergo induction of labour at earlier gestations. This may well be related to identified small for gestational age babies in a population with a very high prevalence of smoking but further audit is required to fully understand this finding.

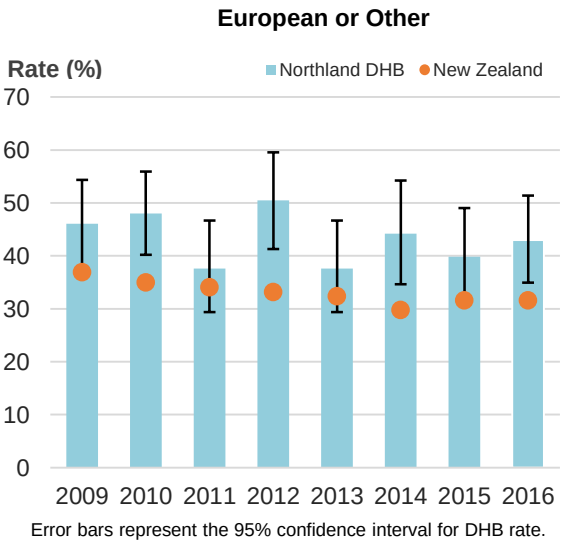
Indicator 6: Standard primiparae with an intact lower genital tract (no 1st-to 4th degree tear or episiotomy)



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



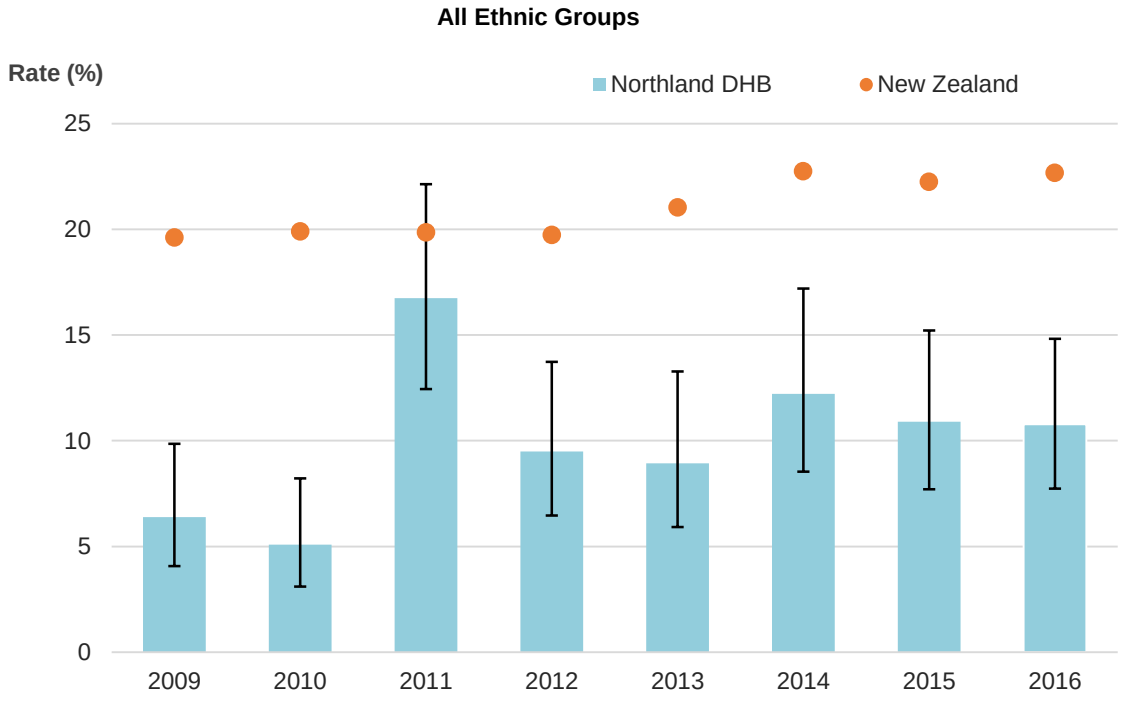
Error bars represent the 95% confidence interval for DHB rate.



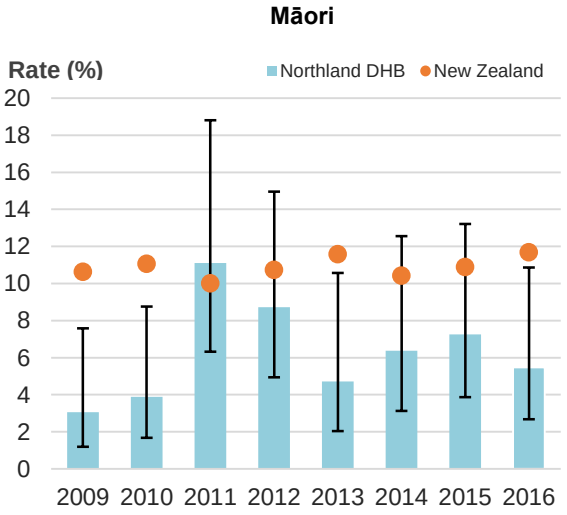
Error bars represent the 95% confidence interval for DHB rate.

Northland continues to have a relatively high level of intact perineum for all women of 49 percent with 60 percent of Māori women experiencing an intact perineum in the standard primp group. However noted is the much lower rate amongst Asian and in particular Indian women. Asian,(excluding Indian), 30 percent and Indian, 27 percent. Again these two groups are highly represented in the group receiving intervention.

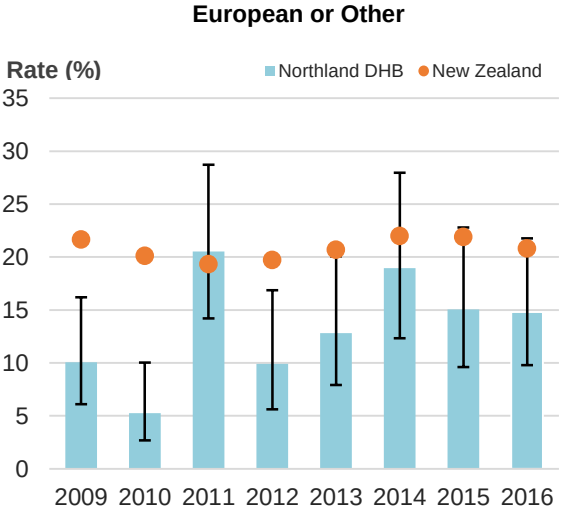
Indicator 7: Standard primiparae undergoing episiotomy and no 3rd or 4th degree perineal tear



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



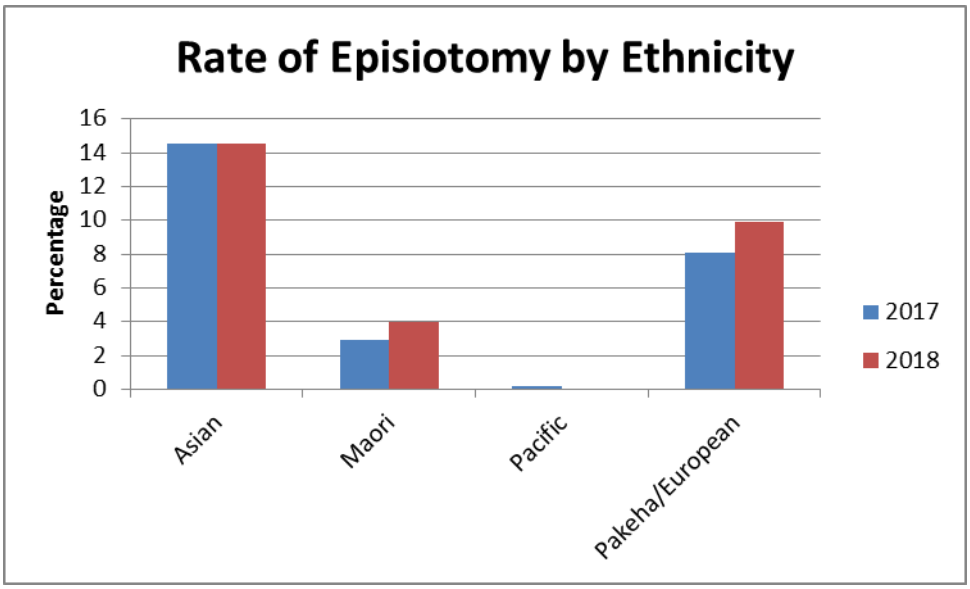
Error bars represent the 95% confidence interval for DHB rate.



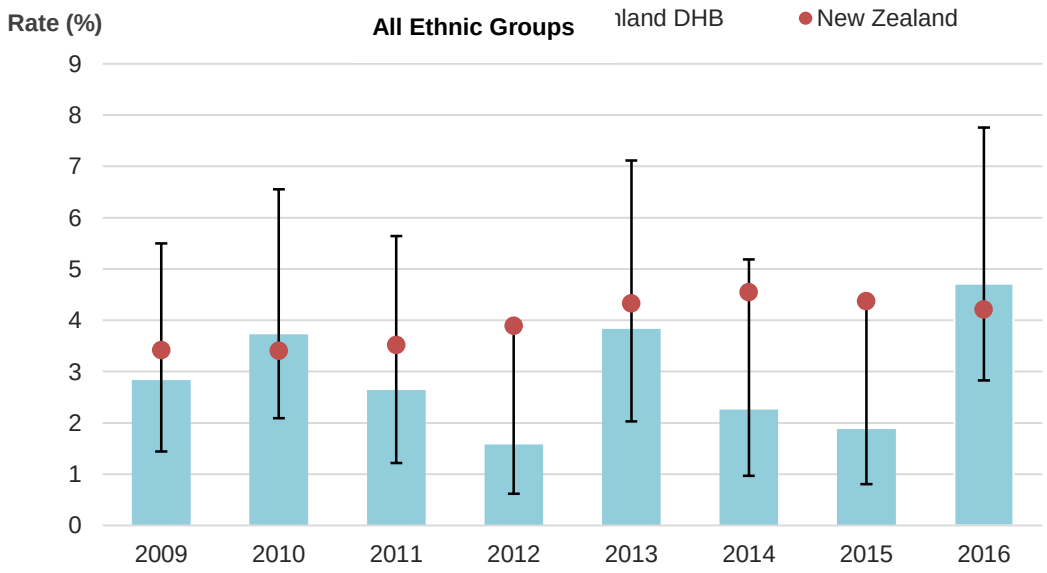
Error bars represent the 95% confidence interval for DHB rate.

Northland DHB has historically had a low rate of episiotomy compared to the national average and 2016 was no different in the primiparous population. We note that there has been an increase by one and two percent respectively for both Māori and Pakeha/European ethnicities and that the rate of episiotomy is significantly higher amongst the Asian population again this year. Notable in the standard primiparous population the rate is 23 percent in that group, still well below the national average but significantly higher than any other ethnicity. This contrasts with all other ethnicities and needs further consideration.

The graph below shows the rate of episiotomy within each ethnic group for all women birthing in Northland DHB facilities and appears to show significant differences by ethnicity. Note however there has been no analysis for statistical significance applied to this data and the Asian population is small compared to others.

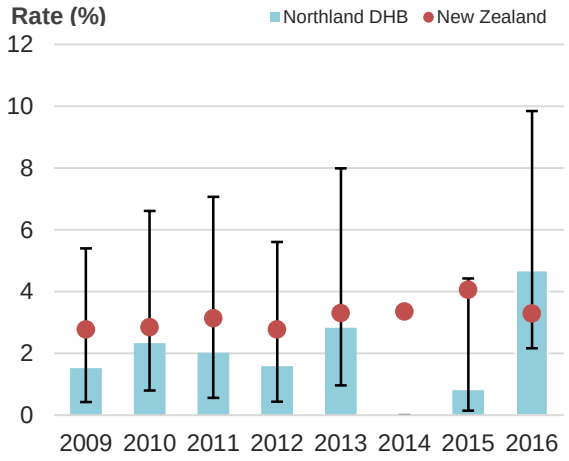


Indicator 8: Standard primiparae sustaining a 3rd or 4th degree perineal tear and no episiotomy



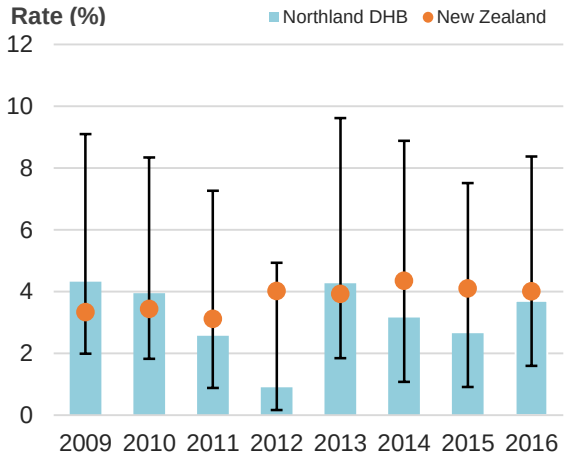
Error bars represent the 95% confidence interval for DHB rate.

Māori



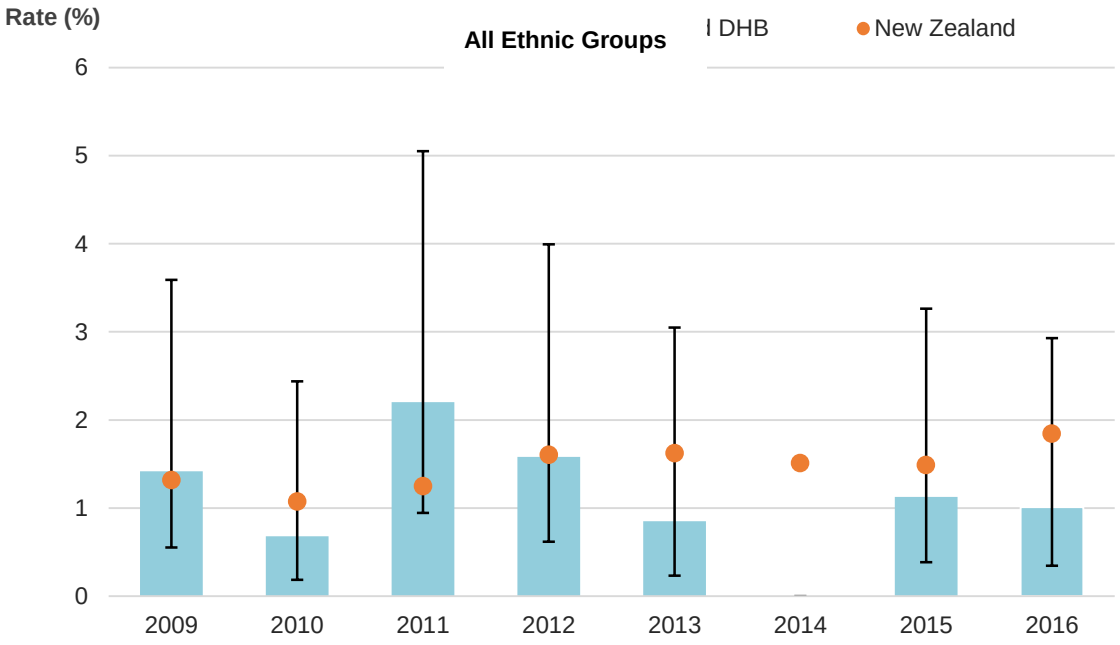
Error bars represent the 95% confidence interval for DHB rate.

European or Other

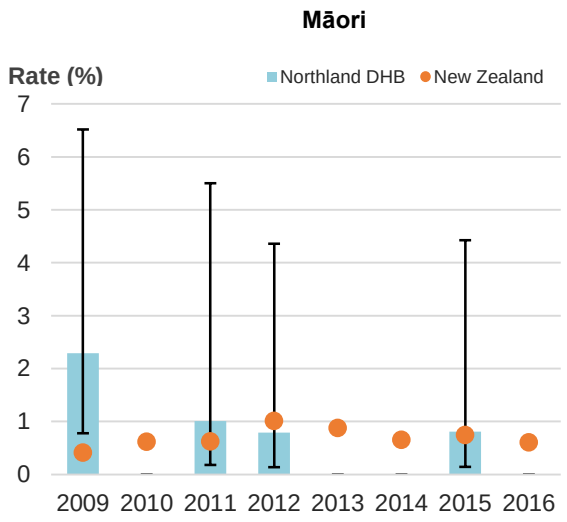


Error bars represent the 95% confidence interval for DHB rate.

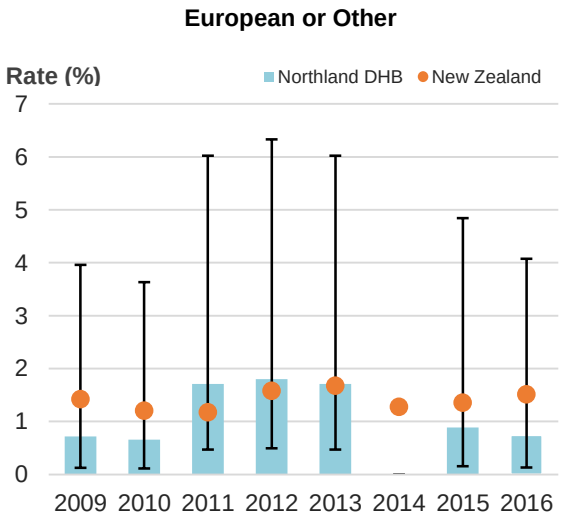
Indicator 9: Standard primiparae undergoing episiotomy and sustaining a 3rd or 4th degree perineal tear



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



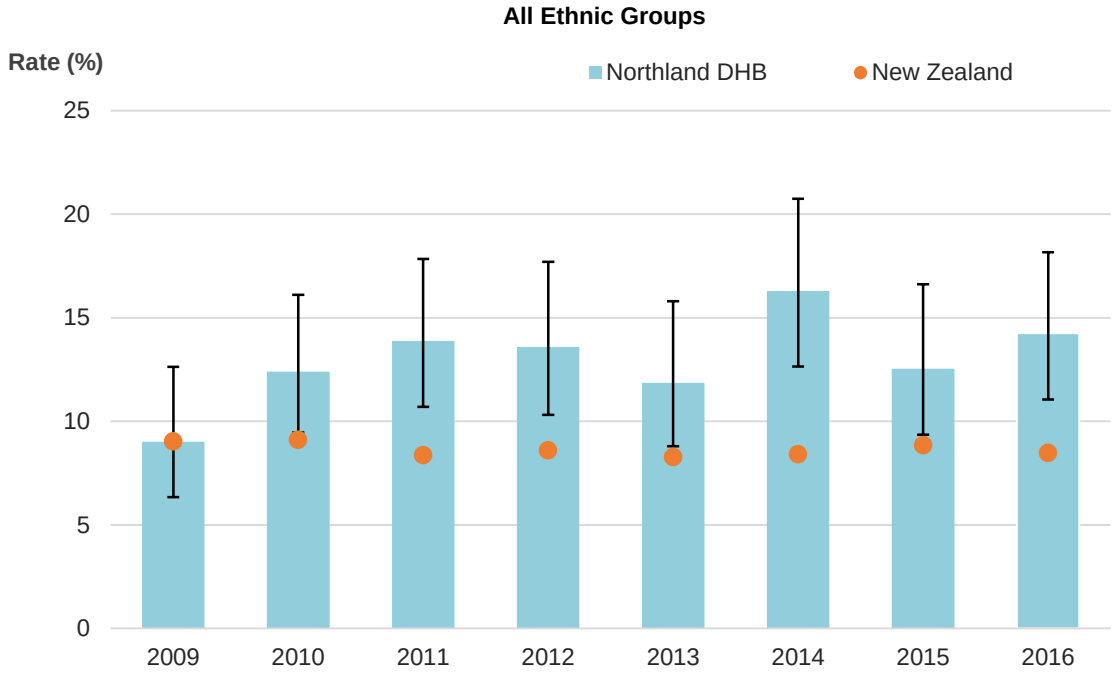
Error bars represent the 95% confidence interval for DHB rate.



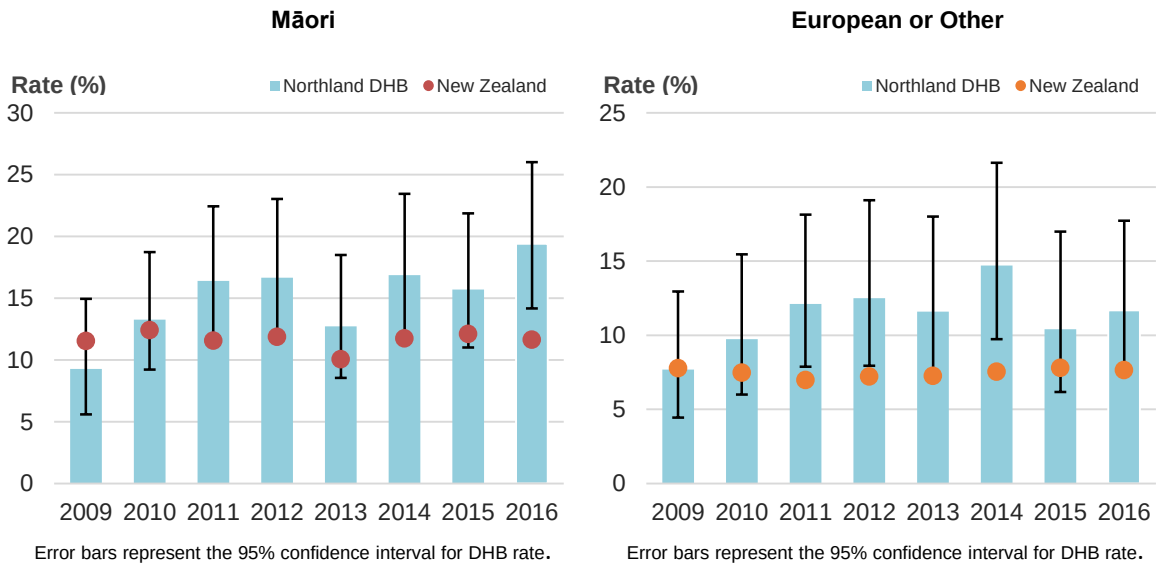
Error bars represent the 95% confidence interval for DHB rate.

Women birthing in Northland DHB facilities have a rate comparible with the rest of the country. There does appear to have been an increase this year although numbers are small so the significance of this is not clear.

Indicator 10: Women having a general anaesthetic for caesarean section



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

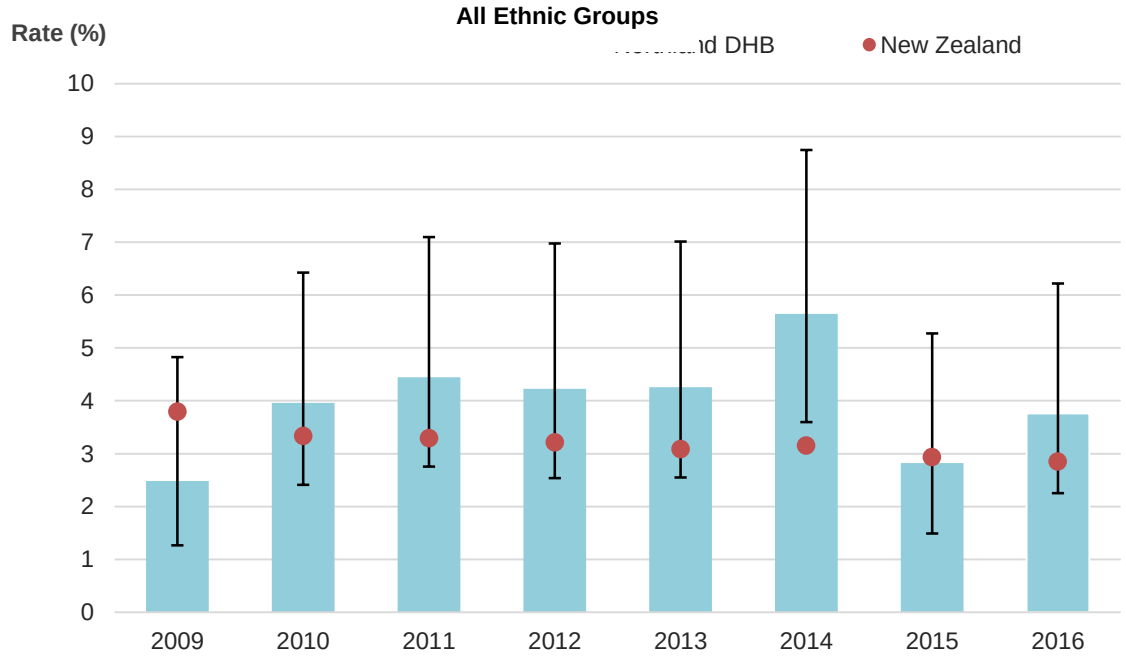


Error bars represent the 95% confidence interval for DHB rate.

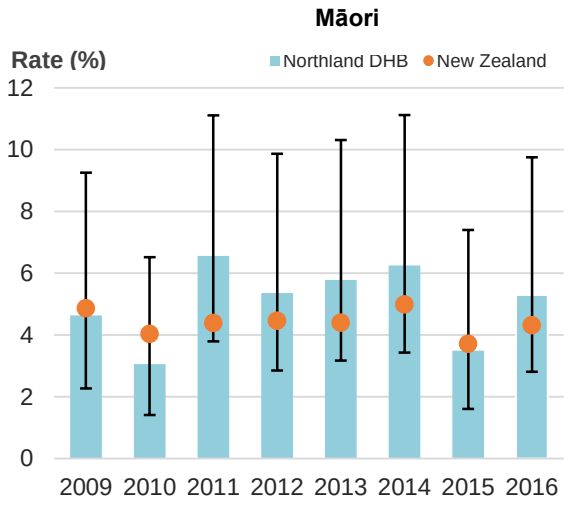
Error bars represent the 95% confidence interval for DHB rate.

Northland DHB continues to see a relatively high number of women experiencing general anaesthetic for their caesarean section. We believe this to be in the main related to our low rate of elective and caesarean sections overall. What is visible more so this year however is what appears to be a growing disparity between Māori women and NZ European women which is almost eight percent. Although it does not appear to be statistically significant it does look like a trend which is worth auditing as it may be related to the ability of Māori women to gain quick and timely access to care. Asian, Indian and Pacific women have very low rates of general anaesthetics with caesarean section although numbers are small.

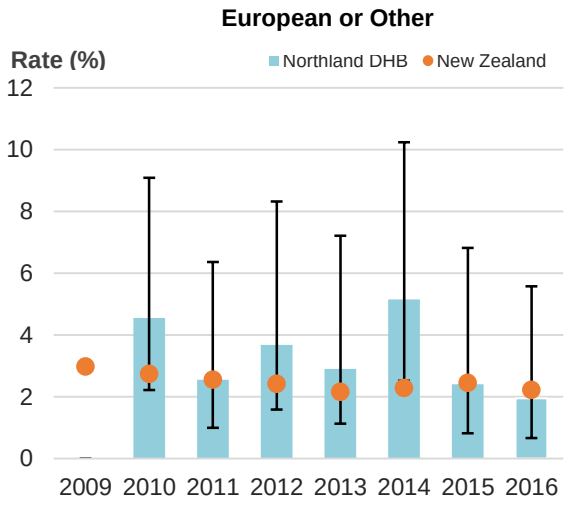
Indicator 11: Women requiring a blood transfusion with caesarean section



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



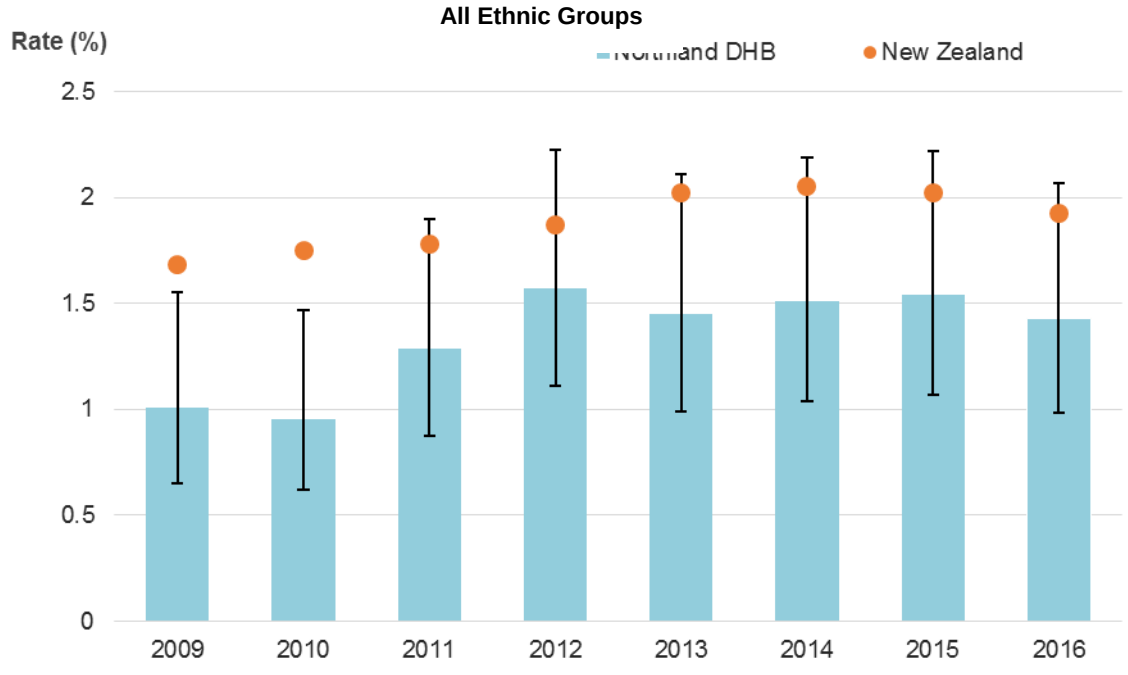
Error bars represent the 95% confidence interval for DHB rate.



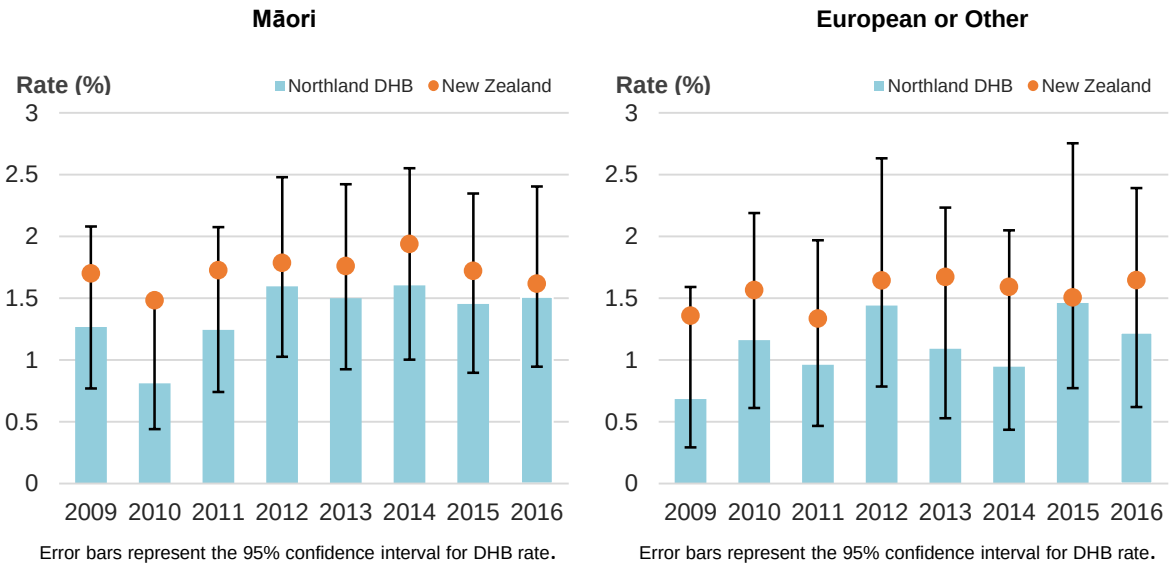
Error bars represent the 95% confidence interval for DHB rate.

Northland DHB sits within the confidence intervals of the national rate for women requiring a blood transfusion with a caesarean section. Although the numbers are small there does appear to be a large difference between Māori women and European women and a review of access to care and treatment such as iron transfusions antenatally may be warranted.

Indicator 12: Women requiring a blood transfusion with vaginal birth



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



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

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

Northland DHB remains below the national average and within confidence intervals for all ethnicities. Rates have remained consistent over the last few years. Postpartum haemorrhages above 1500mls are triggered in Northland DHBs regular trigger process and reviewed within the trigger meetings and/or M&M meetings. Compliance with the guidelines for management of postpartum haemorrhage is audited each year and there are generally high rates of compliance. The guideline is to be reviewed this year as there have been some suggestions for change based on recommended best practice. That will be undertaken in the next six months.

Indicator 13: Diagnosis of eclampsia at birth admission

There were no cases of eclampsia in Northland recorded in 2016.

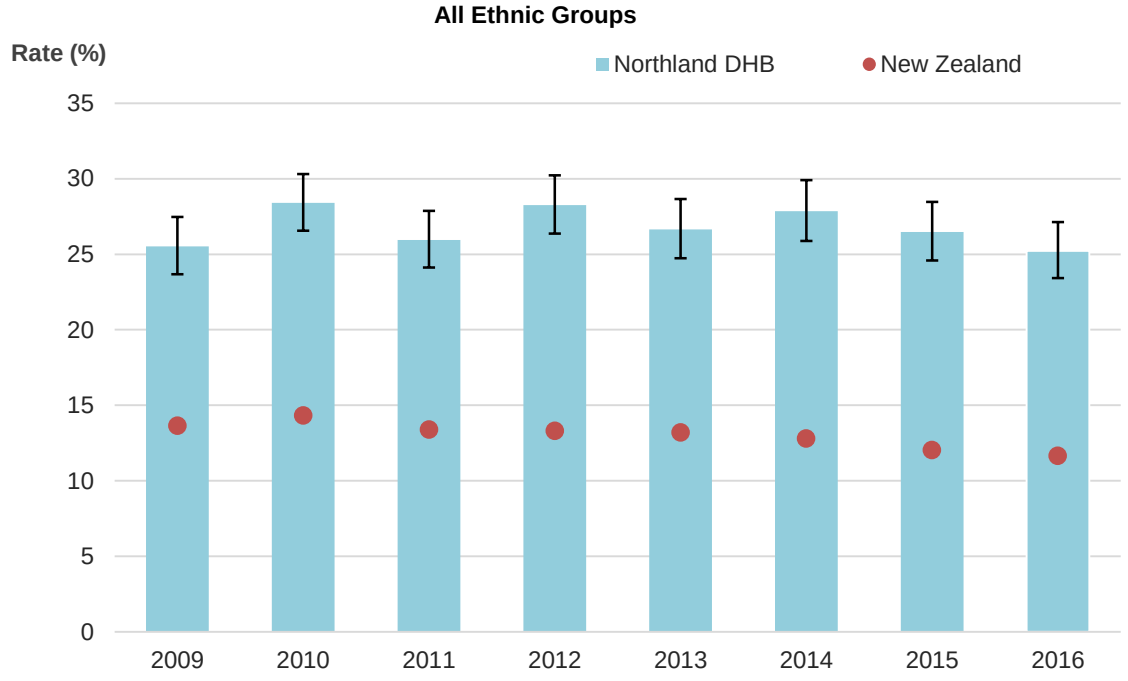
Indicator 14: Women having a peripartum hysterectomy

There was one peripartum hysterectomy undertaken in 2016 in Northland

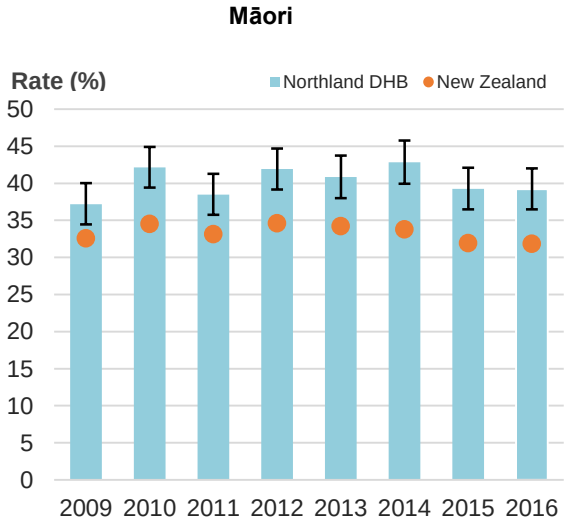
Indicator 15: Women admitted to ICU and requiring ventilation during the pregnancy or postnatal period

There were no cases of women admitted to ICU and undergoing ventilation in pregnancy or the postnatal period in Northland in 2016

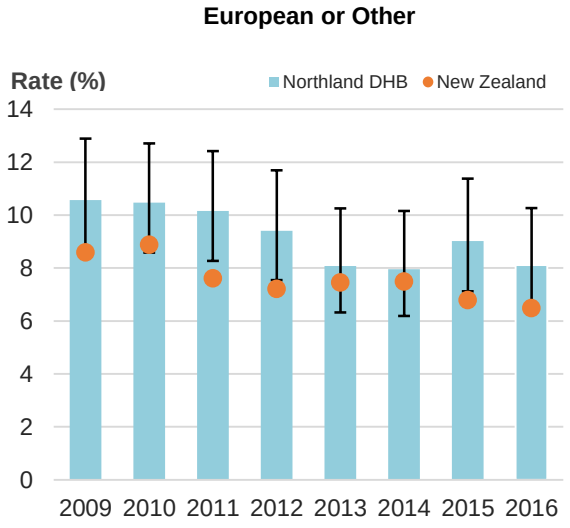
Indicator 16: Maternal tobacco use during postnatal period



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

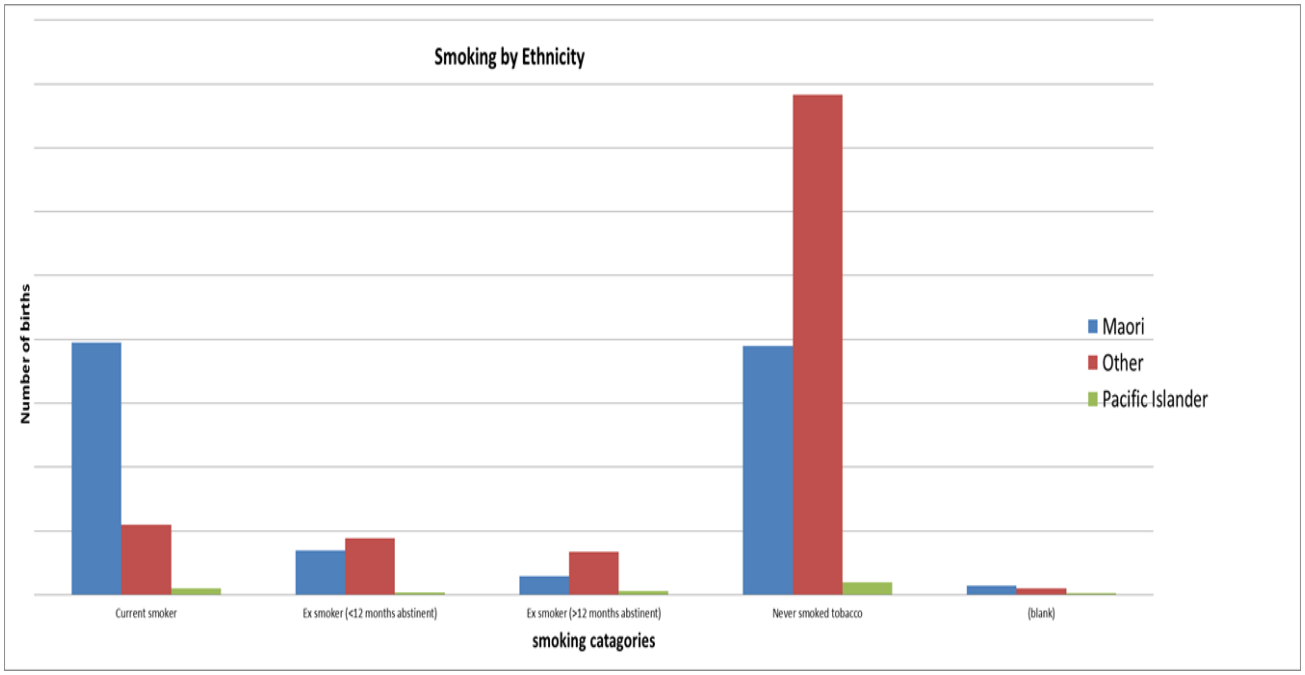


Error bars represent the 95% confidence interval for DHB rate.

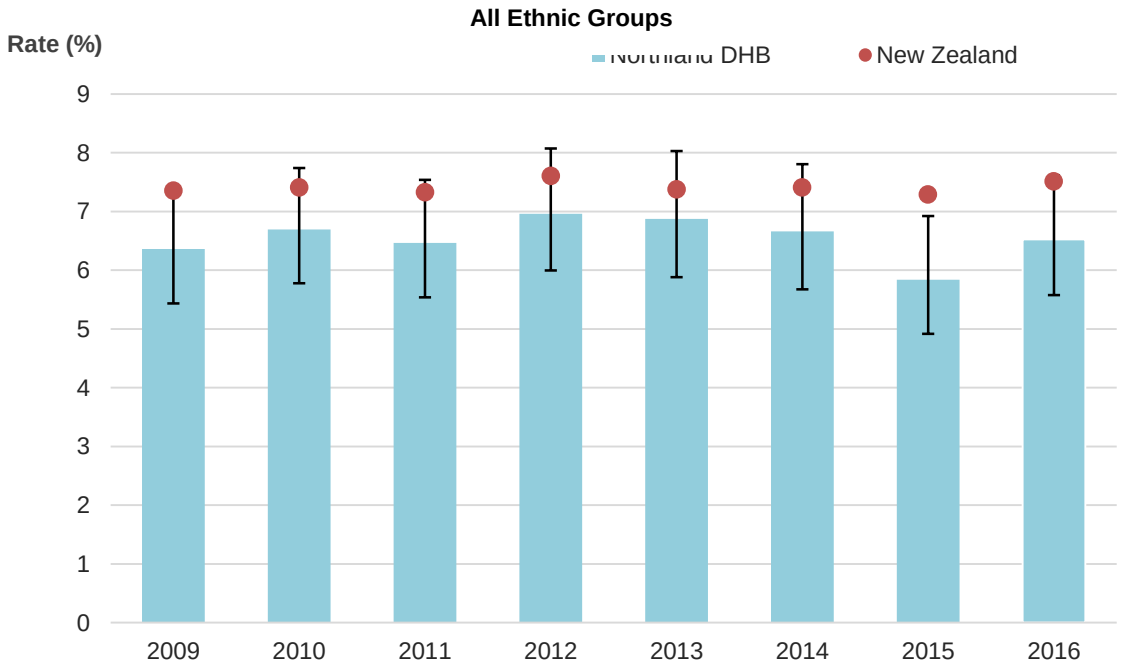


Error bars represent the 95% confidence interval for DHB rate.

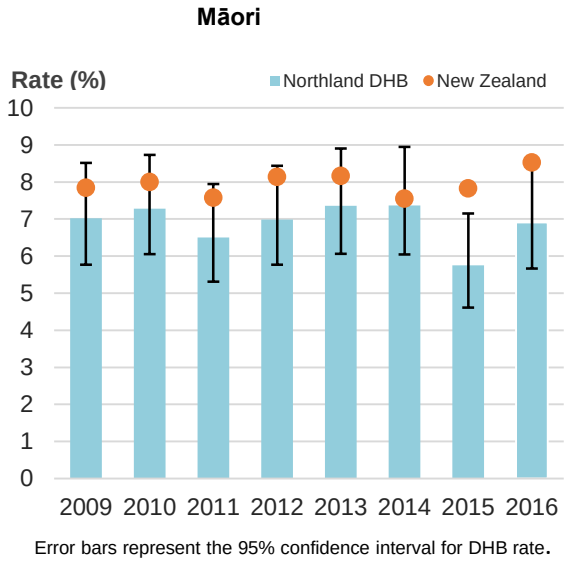
Northland DHB continues to experience a high number of women smoking during their pregnancy and identified as smoking two weeks postpartum. Northland midwives, General Practitioners and the DHB continue to work hard to reduce smoking in pregnancy and for all Northlanders with a strong programme to support cessation of smoking. Currently we are not seeing a significant decline and have a further public information campaign about to start encouraging women to quit. The very large difference between European women who smoke (eight percent) and Māori women who smoke (39 percent), continues to be concerning. The graph below shows smoking categories for all women inpatient in Northland DHB units.



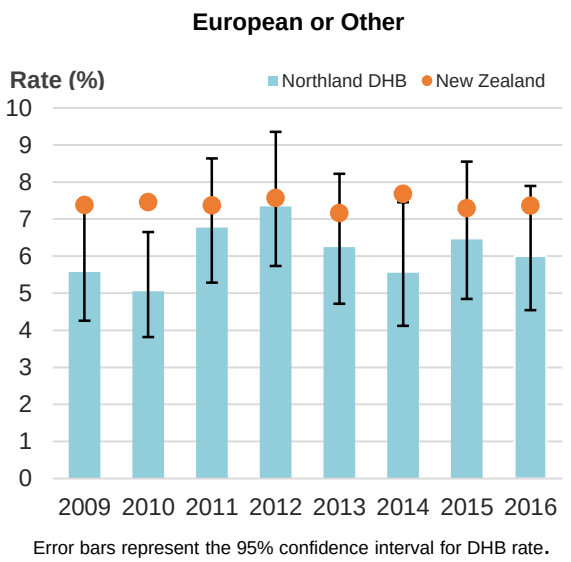
Indicator 17: Preterm birth



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

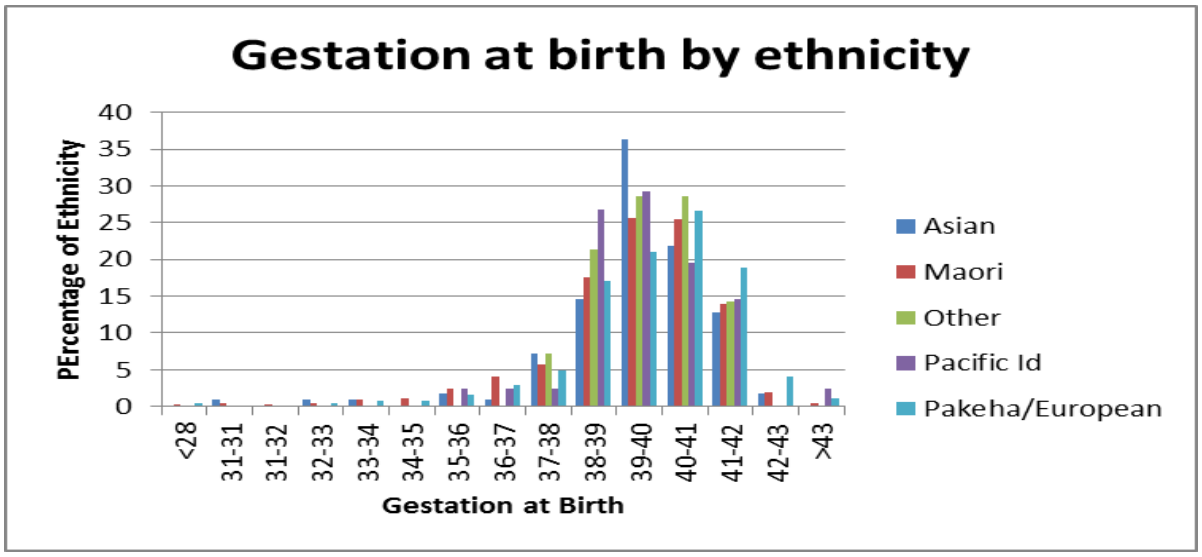


Error bars represent the 95% confidence interval for DHB rate.



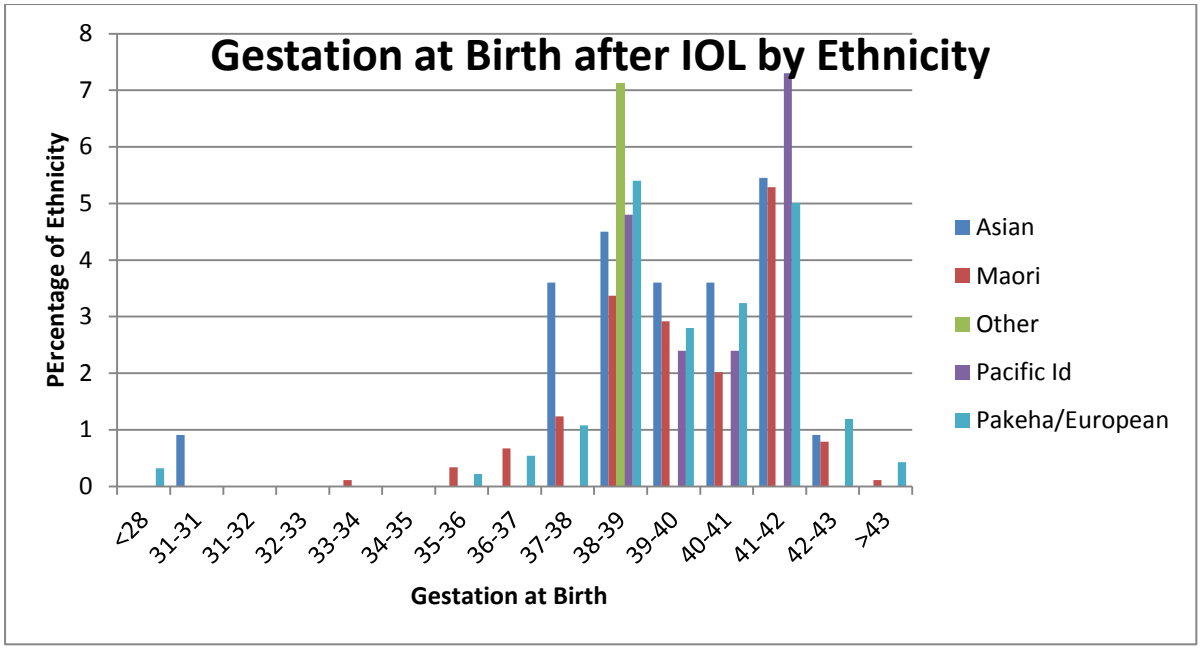
Error bars represent the 95% confidence interval for DHB rate.

Northland DHB continues to see a consistently below average rate of preterm birth across all ethnicities. We continue to have very high rates of continuity of care albeit sometimes commencing in the mid trimester. While this indicator particularly looks at preterm birth (<37 weeks gestation) we think it is also important to review the numbers of babies being born between 37 and 40 weeks particularly those born after induction of labour or by caesarean section so as to ensure babies are not being born early with the associated iatrogenic impacts without good reasons. The following is a summary of some of that work.

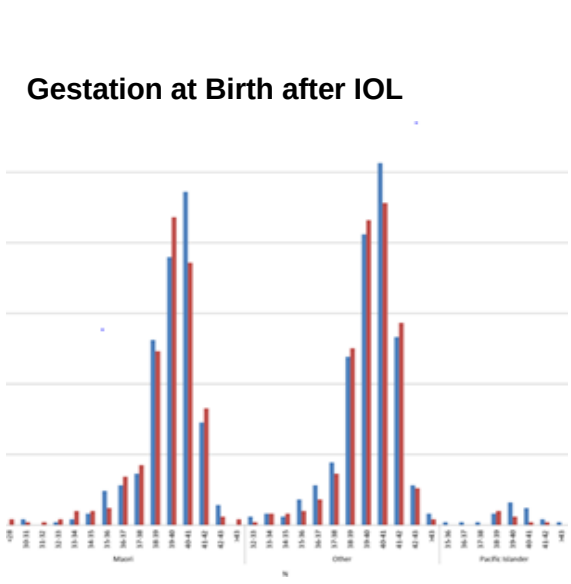


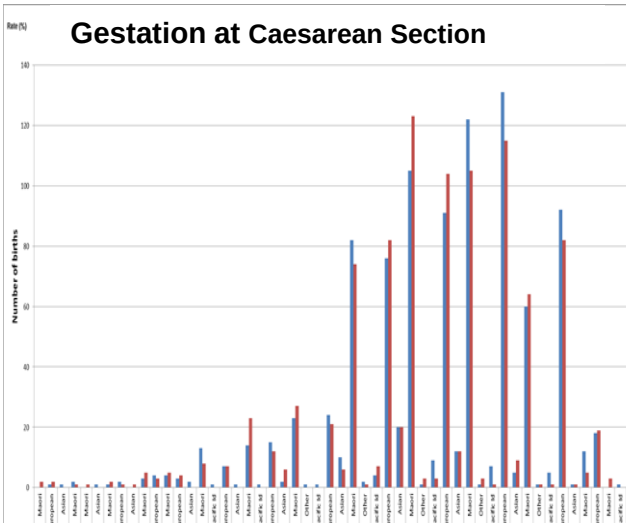
The above graph shows a fairly even spread of gestation of birth shown as a percentage of each ethnicity with perhaps a slight overrepresentation of Māori between 34 and 37 weeks and Pakeha/European in post 40 week gestations. This may be influenced by the high smoking rate in the Māori population as small for gestational age (SGA) babies are identified and born early.

When we look at the same graph including only those births after induction of labour we do see a slightly different picture with a large number of inductions at 38-39 weeks and the expected large group at 41-42 weeks. The induction rate for Asian women is larger than all others at 22.57 percent and we see a far greater percentage of Asian mothers being induced at 37 weeks than other ethnicities. This group also has a higher caesarean section rate. This group is highly represented in the gestational diabetes group which may be driving this but this needs further audit and review.

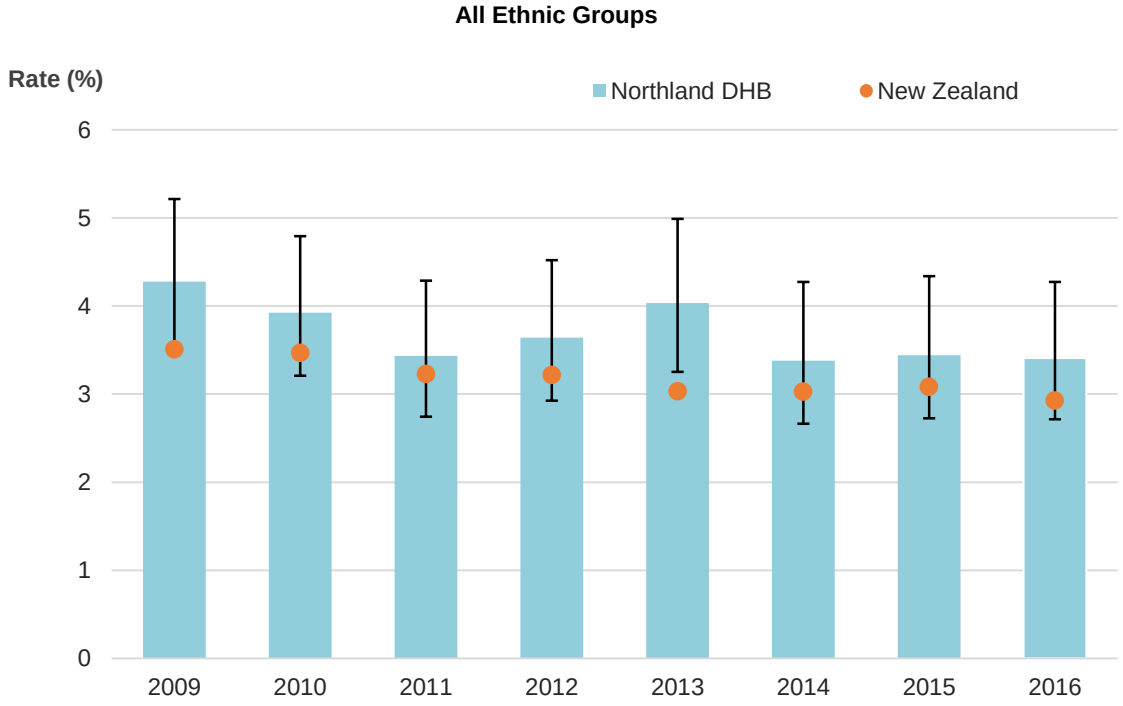


We should be seeing a reduction in the inductions prior to term with the implementation of the new Gestational Diabetes National Guidelines. It is likely that the inductions at 38 – 39 weeks are influenced by this group of women but it is interesting to look at the data by ethnicity and unlike last year where there was a clear reduction in inductions prior to 38 weeks and an increase between 39 and 41 weeks which occurred just after the introduction of the new national guidline. This year we see an increase in inductions for Māori women between 36 and 38 weeks and at 39-40 weeks. In other ethnicities we see a reduction in inductions before 38 weeks but an increase between 38 – 40 weeks. Again our concern is that this is related to access issues for our Māori women limiting their ability to remain compliant with recommendations when they have GDM and highly represented in the SGA group but further audit is required to truly identify reasons. This is planned for the coming year.

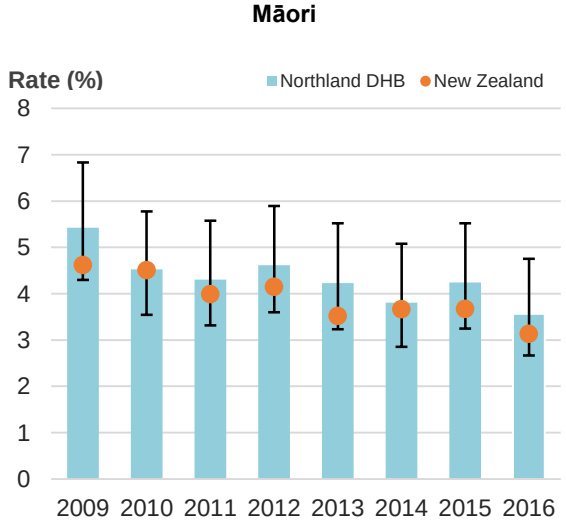




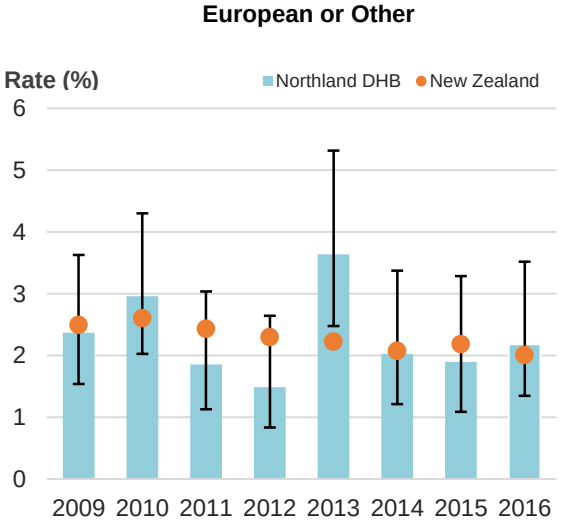
Indicator 18: Small babies at term (37–42 weeks' gestation)



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



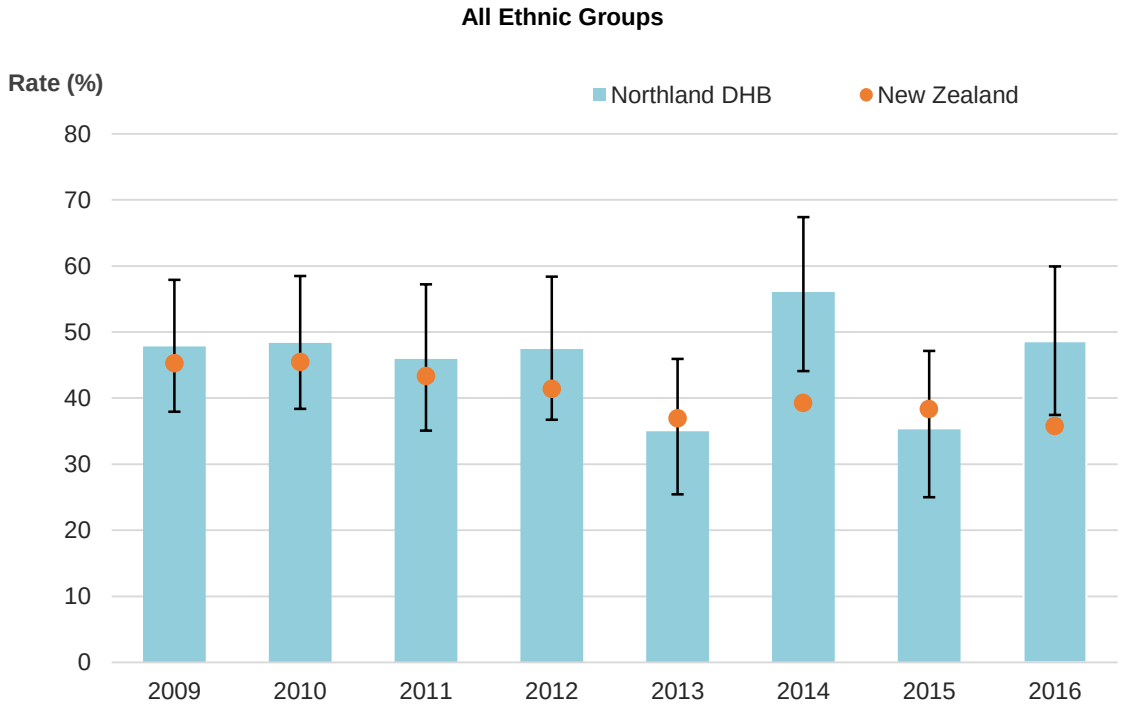
Error bars represent the 95% confidence interval for DHB rate.



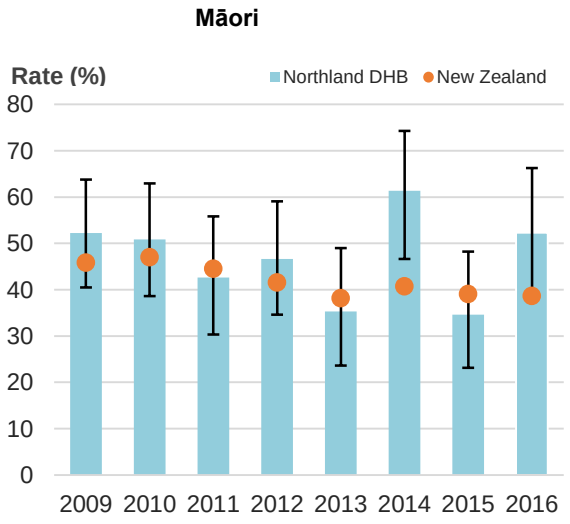
Error bars represent the 95% confidence interval for DHB rate.

Northland DHB has rates similar to the national average of babies born small for gestational age at term. It is noted that numbers are very small but Asian and Indian women are more likely to have babies identified as small for gestational age compared to the national average than other ethnicities in Northland. Many of our community midwives are using the Growth Assessment Programme (GAP) tool however some use other methods of identifying SGA. We believe the high level of continuity of care is likely also to improve the ability of practitioners to identify SGA.

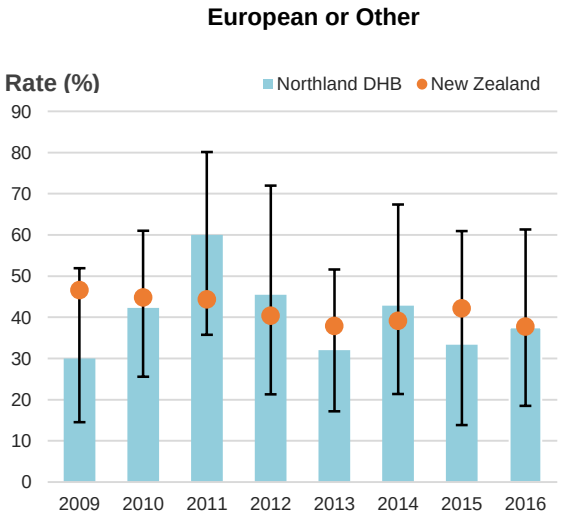
Indicator 19: Small babies at term born at 40–42 weeks' gestation



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



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

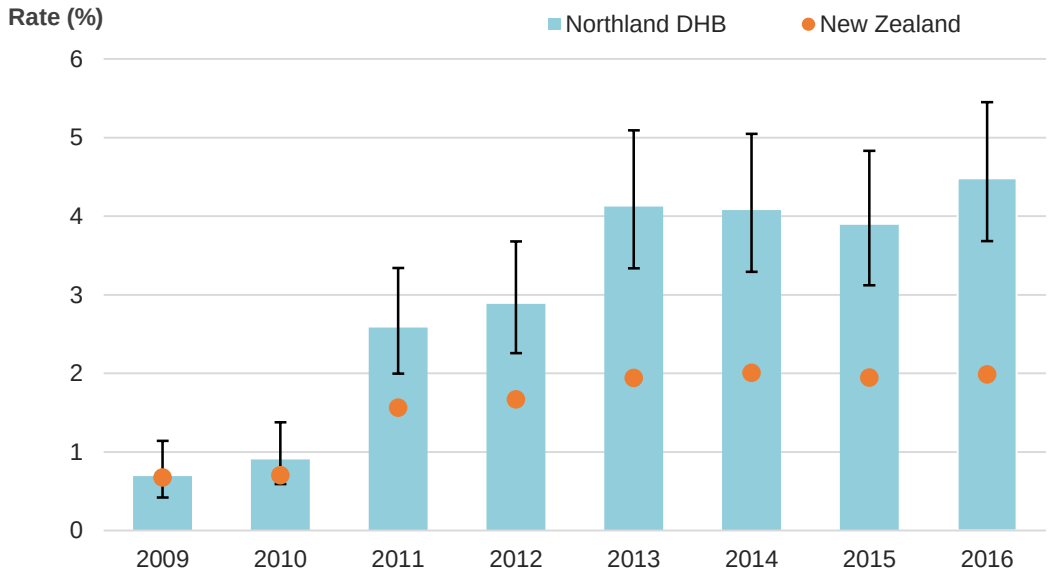


Error bars represent the 95% confidence interval for DHB rate.

Northland has higher than average percentage of small for gestational age babies born at between 40 and 42 weeks particularly in Māori and Asian populations. Northland will be looking to implement the Growth Assessment Programme (GAP) in the next year and it will be interesting to see if this reduces the number. It is worth noting that our culture is not to intervene unless necessary so higher numbers getting to term does not necessarily indicate they were not identified only that they birthed at or after 40 weeks. It would be a useful audit to look at this group of babies and note whether they had been identified in the antenatal period and if so look at management thereafter.

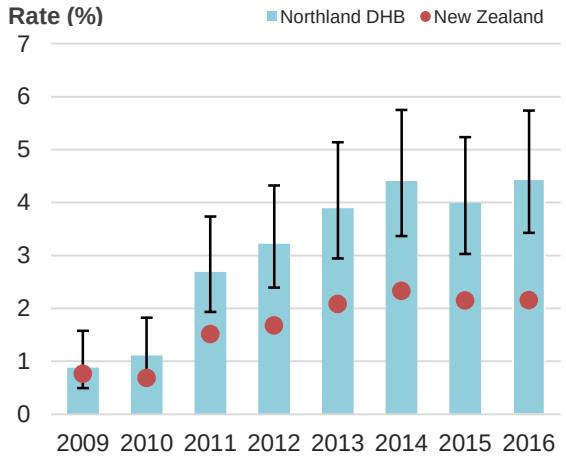
Indicator 20: Babies born at 37+ weeks' gestation requiring respiratory support

All Ethnic Groups



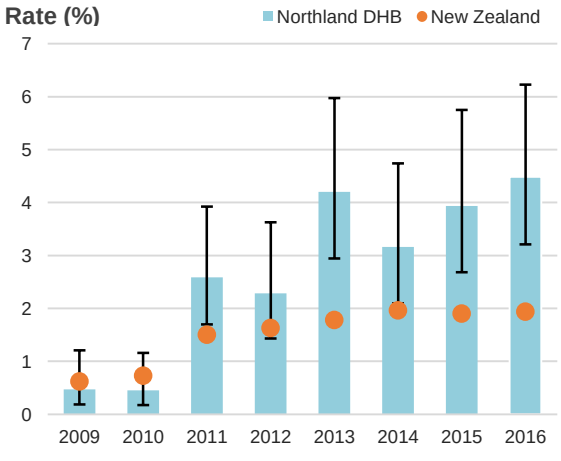
Error bars represent the 95% confidence interval for DHB rate.

Māori

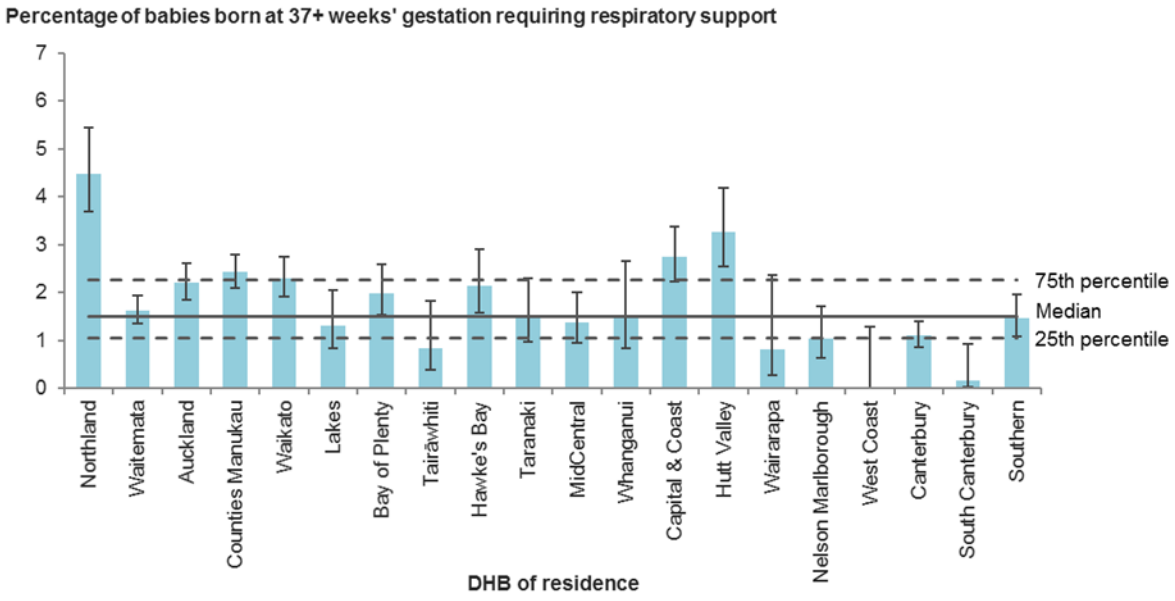


Error bars represent the 95% confidence interval for DHB rate.

European or Other



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



This is the indicator we are most concerned about in Northland. Northland DHB has consistently been an outlier compared to the rest of New Zealand on this indicator since 2011. We have looked at all counting processes and had multidisciplinary meetings including medical, midwifery and nursing staff to discuss local practice. We are now looking to review every identified case from this year to try to identify themes which might contribute. We have this year welcomed a new paediatrician in Whangarei who has noted some differing practice in terms of babies started on CPAP and continued on same for over four hours so this may be contributing but unfortunately we remain unsure about the driver of this statistic. We have an absolute focus on keeping babies with their mothers where at all possible so do not want to see babies being kept unnecessarily on CPAP if that is what is happening. We also want to ensure it is being used appropriately in every case when needed.

Although we understand that many of these babies are not affected by drug use we do know that the use of methamphetamines in Northland is high compared to other regions and are concerned about the potential impact that is having on babies. Whether this has any relationship to the number of babies needing respiratory support we do not know but we are considering options to review this in the next year.

In 2017/18 we prioritised babies who were transferred to Special Care Baby Unit (SCBU) at term for multidisciplinary discussion within our trigger tool process and have had great buy-in from the paediatric team along with our own team in carrying out this work.

The total number of babies transferred to SCBU has reduced each year for the last three years as is shown in the graph on page 23. This may well be in part to the work undertaken in this area.

Projects and audits completed and progress update for on-going projects

Projects Update June 2018

1. Kaupapa Māori Antenatal Education Progamme

Context
In 2015/16 one off funding through the Māori Health Plan for SUDI Prevention enabled a continuation of our programme of work in this area with our partners at Whakawhetu and an opportunity to expand the hapu wananga. There were two approaches to delivery of the wananga, the two day wananga Te Mata O Mua, expanding the programme into Whangarei in partnership with Ngati Hine Health Services and the one day Marae-based wananga; both programmes being facilitated by Māori midwives with local service providers co-facilitating delivery of the content.

Format of the Programme
Both programmes include delivery of key messages that support wellbeing in pregnancy. The one day wananga focussing more on SUDI prevention and including weaving of wahakura waikawa, and the two day wananga on Matauranga Māori principles of traditional Māori birthing practices and after-birth care. There is a special focus on the role of the Whānau and the important role of tane. Learning is enhanced with the practical sessions including making ipu whenua, te miro muka and discussion about wahakura waikawa.

Programme Evaluation
In 2016 both programmes were externally evaluated and recommendations formed the basis for development of a successful business case application for sustainable funding to further develop and expand the two day kaupapa Māori programme across Northland.

Nga Wananga O Hine Kopu
A programme leader has been appointed. The partnership model includes key stakeholders from Iwi/Hapu, Tamariki Ora and health promotion services, with midwives leading delivery of the programme. Utilising a train-the-trainer approach, a programme manual is being developed with unique teaching resources to support facilitation of the content. Nga Wananga o Hine Kopu is a key contributor to our SUDI reduction strategy in Northland.

SUDI Prevention
In SUDI prevention we continue to work with the Northern regional DHBs in development of a five year regional action plan. Current areas of focus for Northland are to expand and enhance our current model of distribution of safe sleep spaces, establish a regular and sustainable model for delivery of weaving wananga, embed the Safe Sleep Champions model and refresh the programme of workforce education about SUDI risk factor assessment and safe sleep practice.

Media collateral supporting both programmes includes short videos of the key messages for pregnancy and infant wellbeing, designed to be suitable for use on social media.

We plan to officially launch Nga Wananga o Hine Kopu whilst hosting a Northern regional SUDI Prevention hui in October this year.

2. Te Whare Ora Tangata

Referrals

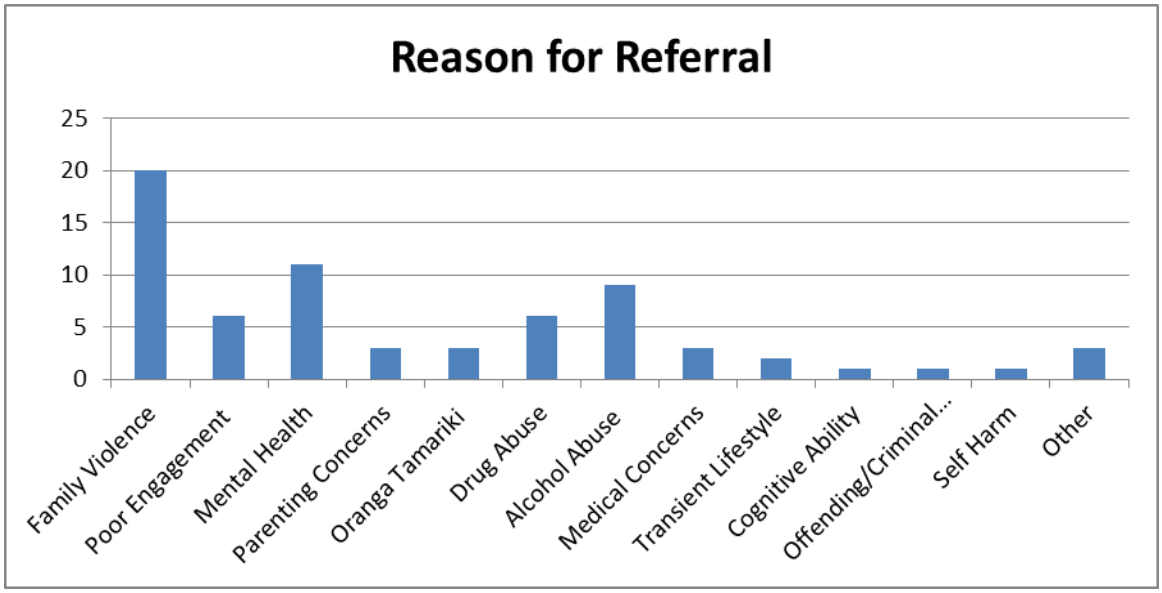
Te Whare Ora Tangata began receiving referrals, and had the first hui, in September 2016. As this is the first report that has been completed, the data given covers the range of September 2016 to August 2018. Going forth, the annual report will be generated every August and contain 12 months of data.

Te Whare Ora Tangata received 70 referrals from September 1st 2016 – 1st August 2018. 50 percent of these referrals came from a number of sources, such as Oranga Tamariki, VIP team, He Tupua Waiora and The Children's Team. The remainder came from Lead Maternity Carers.

Throughout this period of implementation there has been coordination with Te Aka Ora Forum in Waitemata DHB as this is what Te Whare Ora Tangata has been modelled on. Te Aka Ora has also made referrals to Te Whare Ora Tangata for women who are transient.

Families

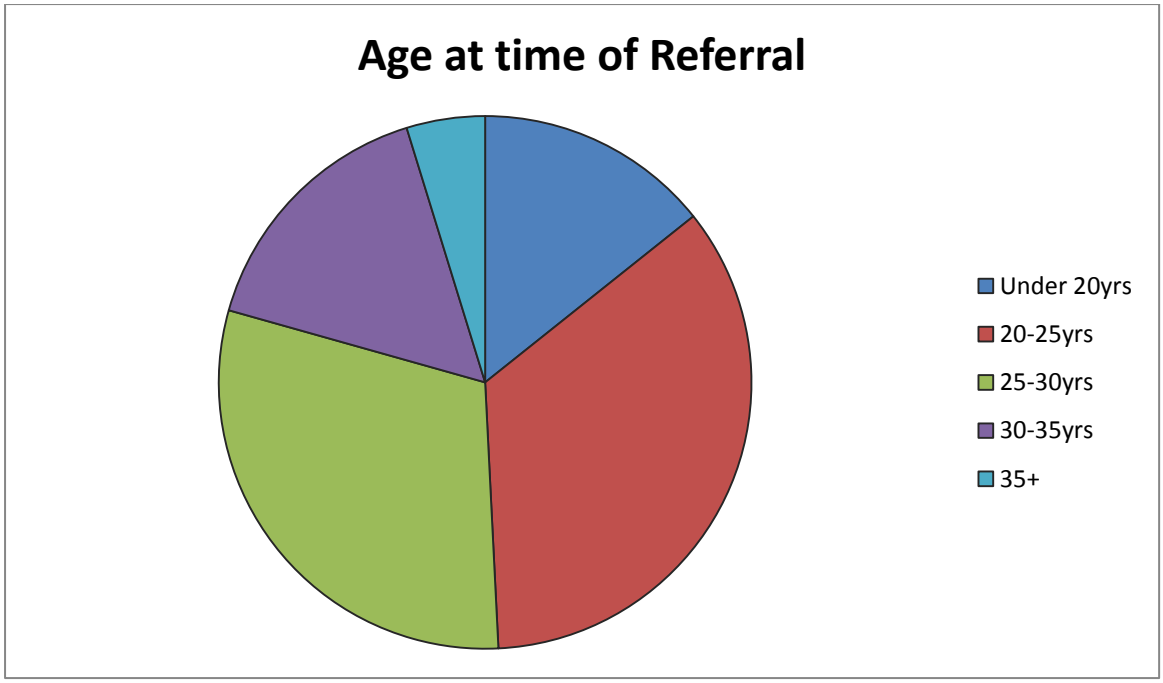
Most of the families referred to Te Whare Ora Tangata have been referred for a number of reasons. However, for the means of providing statistics, the most significant referral reason has been identified below.



Māori hapū māmā were over represented in referrals to the forum, being 74 percent. The majority of the remaining women identified as New Zealand European, with 1.4% identifying as other. This is in contrast to the overall birthing population of Northland where Māori make up 44-49 percent, and NZ European 43-46 percent.

Teen mothers made up 12.8 percent of the referrals (compared to seven percent of the total birthing population). The majority of the referrals sit in the 20-25 year age range (31.4 percent). This sits closely to the total number of women in this age group birthing overall in Northland. Te Whare Ora Tangata has identified a gap in the services provided for those women in this age range as they aren't young enough to access the plethora of teen services available but are not yet fully independent .

Three percent of referrals were from the 35+ age range, with this age group making up 15 percent of the total birthing population.



Outcomes
Referrals have been made from Te Whare Ora Tangata to many services, such as He Tupua Waiora, Salvation Army, Maia House and Te Ora Hou social work services, Merivale Whānau Development Centre, Man Alive, Paediatric Outreach in Kaitaia, Hine Kōpū Program, Manawa Ora, Adult Mental Health, Maternal and Infant Mental Health, Jigsaw, Family Start and The Children's Team.

A focus of the forum is to ensure all women are registered with a GP and all babies with a Well Child Provider (WCP) prior to discharge from Te Whare Ora Tangata. For discharge purposes, a referral form from Te Whare Ora Tangata to Well Child Providers has been designed and approved and has commenced use to provide relevant history to Well Child Provider Services.

Discussions surrounding contraception have taken place and have been encouraged through LMCs, with free and easy access to LARCs, being made available at Te Puawai Ora.

There has been a close association with BabyStart, a charity who provide Baby Boxes to mothers in the forum. These boxes contain clothing, merino wraps, nappies, bedding and parental care products. This means mothers can direct their funds to other essential needs such as housing, bedding, food and heating.

Efforts to establish good relationships and open communication with Oranga Tamariki social workers have been made. As a result, there has been a significant increase in information sharing and attendance at the forum.

Northland DHB has recently undertaken a review of this service and some recommendations have been made to streamline the service. These recommendations are currently being reviewed and an implementation plan will be developed and changes made in the next year.

3. Smoke free Activities

Incentives and Inhalators projects for pregnant women to increase successful quit smoking attempts in Northland 2017 -2018

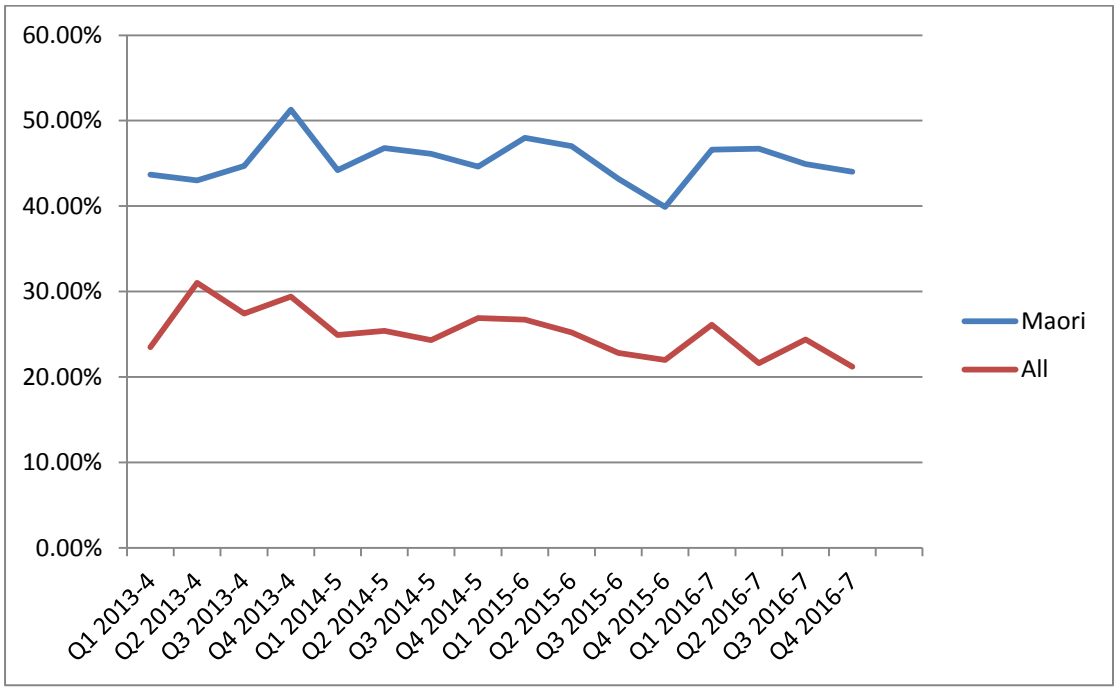
Evaluation of the Data:
This evaluation sits with the Qualitative Evaluation carried out by Amanda Smith

Background:
Pregnant women, Māori and youth are groups identified by the Ministry of Health for priority focus for Smoking Cessation Initiatives, and interventions for pregnant women need to address the urgency of the negative health impacts smoking has on the unborn child and the pregnancy.

Smoking in Pregnancy negatively impacts most pregnancy outcomes. It contributes to miscarriage, preterm delivery, small for dates babies, placenta praevia, abruption, antenatal bleeding, still birth, and after the birth smoking contributes to SUDI, respiratory problems in infancy, glue ear, learning and behaviour difficulties.[1]

Smoking rates in Northland for pregnant women at booking with a LMC have been persistently high and have shown no reduction in Māori women smoking in recent years. Approximately 50 percent of women birthing in Northland are Māori. The chart below shows the smoking rate for Māori has not reduced therefore the reduction in the 'All' category (below) can only be accounted for by a decrease in smoking by non-Māori women. For this reason interventions must prioritise engagement with Māori women.

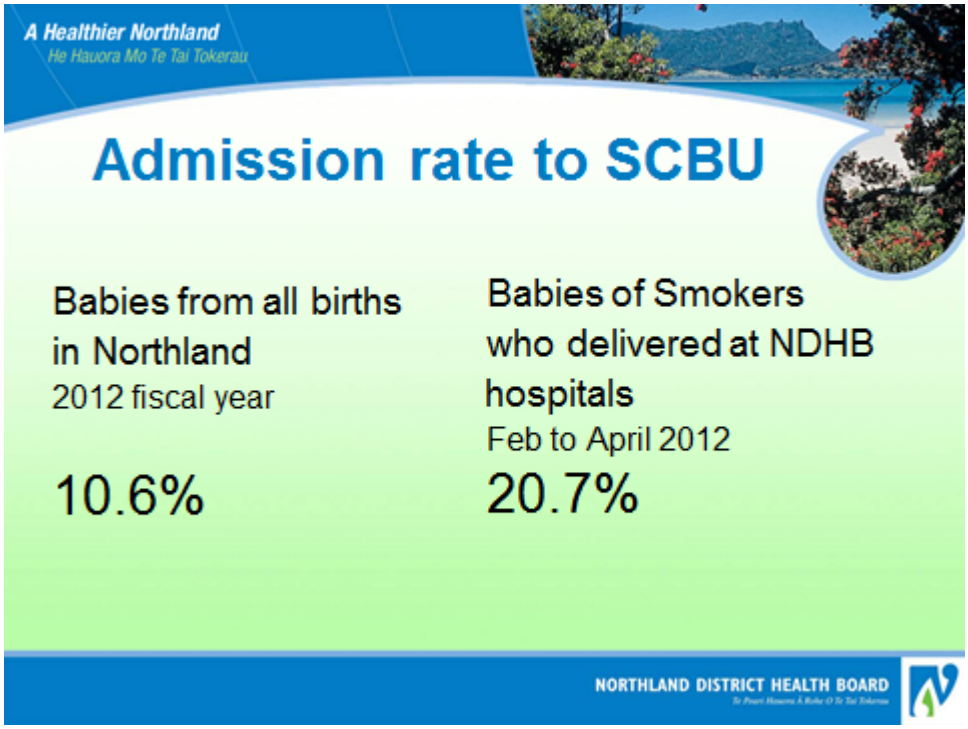
Smoking Prevalence of pregnant women in Northland at booking with LMC over 4 years



[1] Effects of smoking during pregnancy: Five meta-analyses
Anne Castles, MA, MPHa, E.Kathleen Adams, PhDb, , Cathy L Melvin, PhDc, Christopher Kelsch, MA, MPHd, Matthew L Boulton, MD, MPHe

In 2012 an audit of women who smoked who birthed in Northland DHB facilities over a 3 month period revealed that babies of mothers who smoke in Northland are twice more likely to be admitted to SCBU than babies of mothers who did not smoke.

Comparison of admission rates to SCBU 2012



While this data is older there is plenty of evidence that smoking in pregnancy is harmful.

Most pregnant women want to do what is best for their baby. There are several issues for pregnant women that make quitting more complex.

When a woman is pregnant her body metabolises nicotine 50 percent faster than when not pregnant.[2] This can be experienced by the pregnant woman as a desire to smoke more than usual (to achieve the blood nicotine levels she needs for her comfort from nicotine withdrawal symptoms). More highly dependent smokers have more difficulty quitting. By virtue of being pregnant she likely becomes a more highly dependent smoker.

Pregnant women who smoke are usually aged between 15 and 40 years. They are young and they experience minimal personal negative health effects from smoking and smoking is part of peer group and Whānau social activities. Most young people are influenced by peers and Whānau/partners who smoke and have more ambivalence about maintaining changes in behaviour.

Māori women who smoked in pregnancy in a recent study lived with at least one other who smoked, and also said it was easy to smoke while socializing and at work. [3]

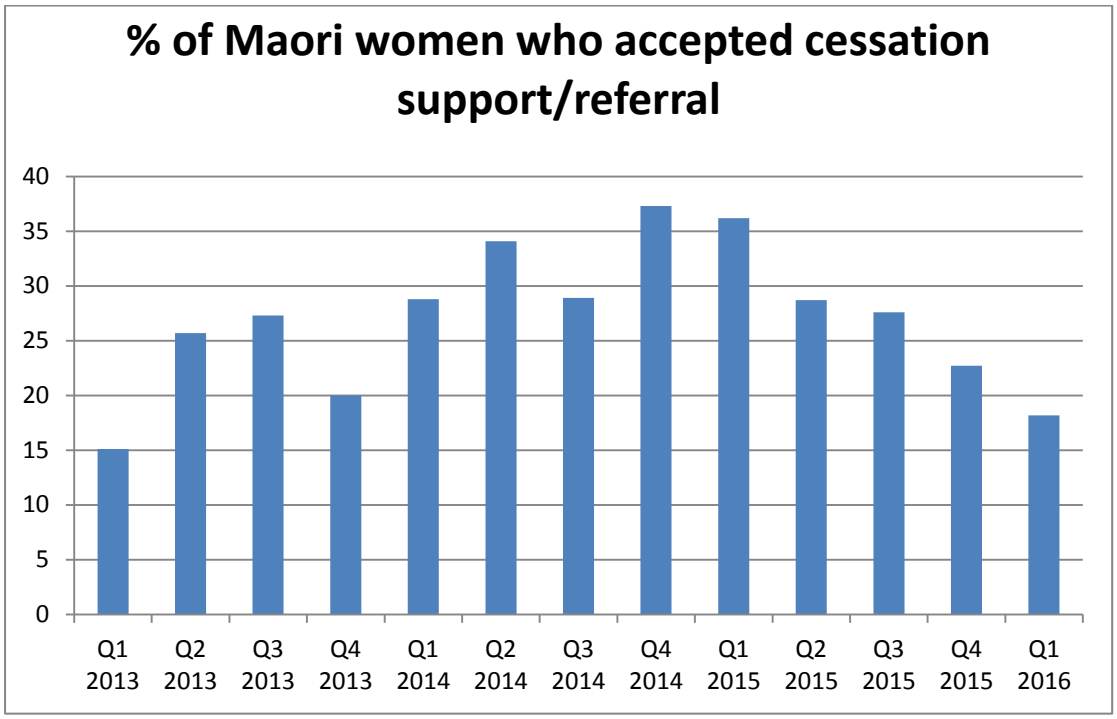
Midwives in Northland repeatedly report that their clients who smoke more often have other complex issues simultaneously impacting in their lives e.g. stress, housing security, drug and alcohol use, poverty, low levels of education and less opportunities for self-efficacy, family violence, unemployment, poor nutrition, low activity levels and reports of boredom.

Do Incentives Work?

[2] Accelerated metabolism of nicotine and cotinine in pregnant smokers.
Dempsey D1, Jacob P 3rd, Benowitz NL.

[3] Why Māori women continue to smoke while pregnant
Marewa Glover, Anette Kira

The following chart is of several years of Midwifery and Maternity Provider Organization (MMPO) data showing midwifery booking data and the difference in referral rates to quit services during the middle years when previous incentives projects were being offered in Kaitaia and Kaikohe and briefly in Whangarei (Q4 2014).



Each incentive project was different and was localized to the specific areas in Northland.

There is recognition of a need for innovative projects that make quitting smoking more attractive and that take into account the context of the lives of young women who smoke and this has led to the roll out of these two projects.

Nicorette Inhalators:
The Nicorette Inhalator is a plastic device containing nicotine and levomenthol which is sucked into the mouth and absorbed via the buccal mucosa in the mouth. It provides nicotine equivalent to one cigarette if used as directed for 20 minutes. It also provides a cigarette type device to hold and deliver to the mouth, and a change in breathing pattern (helpful when one is stressed) and it can be used in social situations so the user stays connected with partner, Whānau or peers while not smoking herself.

Inhalators were purchased by Northland DHB Public Health Unit and samples were given to most midwives and 20 midwives took starter packs to give to women to encourage quit attempts and/or referral to Smoking Cessation Services.

Inhalators were also provided to Toki Rau Stop Smoking Service's across the eight sites in Northland. They were offered to pregnant women along with other subsidised Nicotine Replacement Therapy (NRT) products and behaviour support to assist quit attempts.

Incentives:
Incentives usually take the form of a gift or voucher for achievements towards quitting and achieving being smokefree.

This incentives project was initially funded by Northland's Primary Health Organisations and further funding was from Northland DHB.

The Vision:
Provide Nicorette Inhalators and Incentives to increase engagement in Smoking Cessation Programmes by pregnant Māori women who smoke, increase the numbers setting a quit date and being successfully quit at four weeks post quit date.

Audience:
All pregnant women who smoke in Northland with a priority for Māori women and a target of 80% for Māori women.

Objectives:
To provide the option of free access to Nicorette Inhalators and to increase the attractiveness of quitting by providing incentives.

- Increase engagement by pregnant women who smoke in a Quit Smoking Programme
- Increase numbers signing up and setting a quit date
- Increase quit rates at four weeks post quit date

Delivery:
Kaitaia and Hokianga sites (Te Hiku Hauora and Hauora Hokianga) commenced projects in February 2017 as a short pilot, followed in April 2017 by Kaeo, Kaikohe Kawakawa Dargaville and part of Whangarei (Te Runanga o Whaingaroa, Te Hauora o Ngapuhi, Ngati Hine Health Trust, and Te Ha Oranga). Kia Ora Ngatiwai, in Whangarei commenced on 1 June.

Smoking cessation service practitioners recorded voucher receipt by women who were eligible and also a record of progress for pregnant women

Midwives received information and training and most midwives took Inhalator samples and 20 midwives took Inhalator starter packs to give to women who smoked. Starter packs could be given to encourage a woman to accept a referral and also to support a quit attempt among women who did not want a referral to a quit service. Some midwives agreed to record data.

Change of Schedule after 3 months:
The schedule of vouchers changed on 1 June 2017 after feedback from SSS practitioners that the original schedule of $50 voucher at first visit often did not often result in a commitment by women to make a quit attempt. The decision to change the schedule was unanimously agreed at Patu Puauahi meeting and became

-a small gift for attending first appointment with smoking cessation service practitioner
-$100 Warehouse voucher for carbon monoxide validated smoke free at four weeks post quit date
-$50 Warehouse voucher for carbon monoxide validated smoke free at eight or 12 weeks post Quit date.

This schedule continues to the end of the project.

Limitations of the Data:
This data is limited in its validity because of:

- Difficulty in obtaining uniform pre project baseline data for all of Te Tai Tokerau.
- Changes in SSS reporting templates during the project from Jade to Arawhanui
- Recruitment of new staff at beginning and during projects who needed time to learn quit work and reporting processes.
-Unexpectedly during the projects several midwives in Northland stopped using the Midwifery and Maternal Provider Organisation's (MMPO) reporting system and as a result MMPO data became less reliable for comparison with previous years.

However some data is available from the new Arawhanui database for Toki Rau Stop Smoking Services and the written records for the pregnancy projects provided by the Toki Rau stop smoking service practitioners.

Pre pregnancy project data from

Te Hiku Hauora in Kaitaia

October to December 2016 (Q2)
Four Referrals for Hapu mama all from LMCs
Three could not be contacted one had a miscarriage
No target quit dates set.

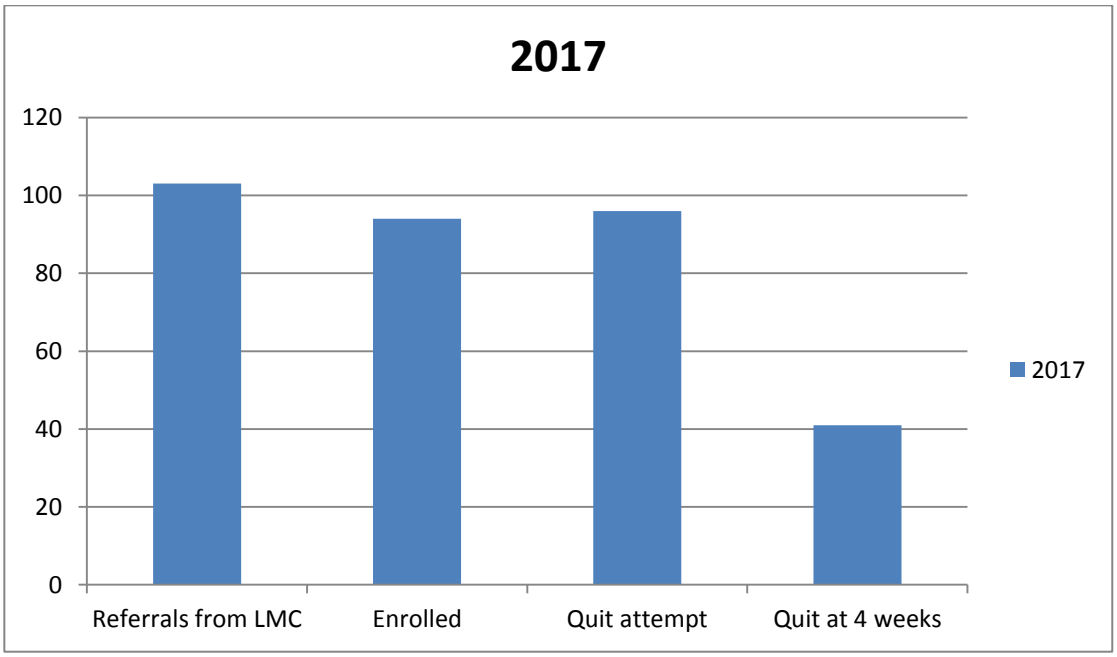
Hauora Hokianga

Hokianga Midwives refer all smokers to their quit service
March to May 2016 (Q4)
15 referrals to quit service – 13 Māori, two non-Māori
Three women enrolled – two Māori, one non-Māori
Number quit at three months – 0 Māori, one non-Māori

From these two three month snapshots of pre-project data we can see that successful quits for pregnant women referred to quit services was low and, in these instances, no Māori women were successfully quit.

The Project Data:

Data for the 2017 year for all Toki Rau sites
Arawhanui database -Toki Rau SSS for pregnant women: Jan-Dec 2017



103 94 96 41

LMC midwives are likely to be the main referrers of pregnant women and there will be other referrers however this is not shown on the database.

Data from hapu mama project record sheets – from eight individual Toki Rau Sites from commencement of projects- February 2017 till May 2018.

Service/Region	Set Quit Date	Quit at 4 weeks post quit date	Quit at 8-12 wks post quit date	Mama Given inhalators	Number of $50 vouchers given out.
Te Hiku Hauora	27	6	1	26	22
Hokianga Health	21	8	5	10	21
NHHT Whangarei	9	8	9	16	25
NHHT Kawkawa	4	0	0	4	0
Te Ha Oranga Dargaville	8	1	1	10	3
Te Hauora o Ngapuhi.	17	6	1	11	35
Te Runanga o Whaingaroa	5	2	1	4	6
Ki A Ora Ngatiwai	17	7	3	15	17
Total:	**108**	**38**	**21**	**96**	**129**

Lilac shaded services started projects in February 2017
Blue shaded services started in April 2017
Peach shaded service started in June 2017.

Discussion:

These projects would have shown clearer effectiveness if a delay in start-up allowed for better collection of pre project baseline data. However it was decided that previous incentives projects for pregnant women to quit in Northland, Counties Manukau, England and also a research project by Marewa Glover at Auckland University, have all already shown the effectiveness of offering incentives to increase quit rates for pregnant women.

Research for offering free Nicorette Inhalators would have had value but would have required significant delay to establish a reliable baseline and would have needed to be a separate project and therefore further delaying making incentives available to women.

During planning it was decided that as a priority services would be extended with the formation of a new Toki Rau – Stop Smoking Service partnership, including eight sites, many new practitioners, and an evolving data recording process so as to ensure better access for pregnant women in Northland and improved data collection and analysis.

Providing Inhalators and information about incentives to midwifery practices and other services also raised the profile of the new Toki Rau services.

Cautious conclusions:

In the year prior to the project commencement very few pregnant women managed to quit with quit smoking service support in Northland

During the project

- 108 pregnant women signed up with Toki Rau SSS to make a quit Attempt
- 96 women tried the Inhalator from the SSS
- 129 vouchers were given out = $5450.00
- 38 women were validated to have quit at 4 weeks post quit date

Incentives and Inhalators has increased signups with SSS and increased quit rates for pregnant women in Northland.

Recommendations:

-Continue to fund Incentives and Inhalators projects to support pregnant women to quit smoking.
-Support Toki Rau SSS to deliver quality quit support to pregnant women and Whānau.
-Link Toki Rau SSS with Antenatal Wananga
-Link Toki Rau SSS with providers of safe sleep spaces.
-Consider activities specific for pregnant women to quit. As an example - Karawhiua.
-Given that smoking in pregnancy is the most significant contributor to SUDI, consider broadening the time frames for women so that mothers of newborn babies and infants can also benefit from the Incentives and Inhalators.
-Explore ways to support young Māori women to make healthier decisions and not start smoking.

4. Maternal Morbidity Pilot (on behalf of the Health Quality Safety Commission)

Background

Northland DHB was requested by the Health Quality & Safety Commission (HQSC) to undertake a pilot of a recently developed maternal morbidity process. Substantial information was provided by HQSC including a tool kit, documentation templates and a recommended check list to guide the process. Access for advice was readily available from HQSC during the pilot.

Review Committee

A temporary committee was established to conduct the pilot comprising

- Director of Midwifery – Service Manager, Maternity
- Clinical Midwife Manager
- Obstetrician
- Associate Clinical Midwife Manager
- LMC midwife
- Māori midwife
- Consumer representative from Maternity Clinical Governance committee
- Maternity Quality & Safety Programme (MQSP) Leader

Three meetings were required to undertake all reviews. Not all members were in attendance at all meetings.

Identification of cases for review

A decision was made to review those events which were considered to carry significant maternal morbidity. These included Intensive Care Unit (ICU) admission, postpartum haemorrhage (PPH) in excess of 2000mls, eclampsia, hysterectomy following birth, uterine rupture or any other morbidity considered to be major. For the months of December 2017 – March 2018 inclusive, seven cases were identified – one woman who experienced eclampsia and six who had a PPH of greater than two litres.

Other suggestions made by HQSC of cases to be included in the pilot were omitted as these less significant outcomes are currently being reviewed in the Northland DHB maternity service trigger tool process which has been an on-going feature of the MQSP over the past years.

Process

The seven women and their Lead Maternity Carer midwives were notified in writing of the pilot. Clinical records held by the midwives were requested in addition to hospital records. Women were offered the opportunity to provide feedback on their experience, either in writing or a face-to-face meeting. All midwives provided photocopies of their records and three women requested a meeting.

All three meetings with women took place in their homes in areas throughout Northland. Notes were made during the meeting and then emailed back to the women for their approval and consent to present to the meeting when their case was to be discussed. It was made clear to women and those with her that this review process was not a disciplinary process; that apportioning blame was not the purpose of the reviews and the desired outcome was to uncover preventative actions in the future.

Preparation of Information

The case summary template supplied by HQSC was utilised for preparation of each woman's timeline. Three members of the committee participated in this aspect. Each case summary was then sent to the relevant LMC midwife to ensure accuracy although not within the timeframe suggested. The case summaries related to the agenda were then distributed to members of the committee prior to the meeting and were also copied into the review tool template in preparation for decisions arising from the meeting.

Review Meetings

At the first meeting the 'woman's story' was read prior to discussion of the timeline (as advised) however it was felt that her recall of events directed the views of the members of the committee in a direction that proved to be inaccurate. In subsequent meetings, this was read after the timeline had been discussed. Differences in perception were noted but overall the perspective of the woman added significant depth to discussion. As advised, the woman's ethnicity was not disclosed.

Each case was presented by the person who had prepared the case summary. Following discussion, the review template format directed conversation to highlight areas that were managed well; to consider further background information if relevant; to identify contributory factors, main issues of concern and opportunities for quality improvement and then to decide if the outcome was potentially avoidable. Finally, any subsequent actions were agreed by consensus.

Main Findings

Aspects of events which went well included

- Appropriate management of postpartum haemorrhages as per Northland DHB guideline;
- Evidence of excellent collegial support in rural areas within both the LMC and district hospital environments;
- Category 1 emergency caesarean section decision to delivery time within recommendation;
- Examples of excellent documentation;

- Excellent reflection and learning by a midwife;
- Helpful recommendations following a de-brief session.

Contributory Factors were categorised as organisational or management factors (4), personnel factors (5) and barriers to engagement or access (3) involving

- Confusion in relation to helicopter transfers e.g the use of a helicopter for transfer from Bay of Islands Hospital to Whangarei; the need for two helicopters when both mother and baby are unwell;
- The skills of volunteer ambulance staff when confronted with an unexpected homebirth involving shoulder dystocia;
- Delay in arrival of ambulance;
- Smoking;
- Higher than expected blood pressure in relation to a woman's young age despite her BP actually falling within the parameters of normal;
- Busy ward;
- Presence of antenatal risk factors and subsequent inappropriate place of birth;
- Deterioration of a woman's condition during transfer;
- Late engagement with antenatal care and further delay in having scan and blood test.

Actions and opportunities for quality improvement included

- Provide education opportunities to rural ambulance staff;
- Encourage ambulance stations in rural areas to keep a list of contact details of midwives in the community (with their consent);
- Clarify process of helicopter transfers with ICU;
- Write letter of acknowledgement to operations manager and midwives regarding high level of collaboration in managing an emergency situation involving both mother and baby;
- Case presentation to M&M meeting of eclampsia;
- Support continuity of care model in DHB community midwifery service;
- Reinforce importance of early engagement project;
- Peer review of all antenatal scans undertaken during a woman's pregnancy to possibly detect the unreported presence of a fibroid which, at the time of manual removal of placenta, was thought to be the cause of a PPH;
- Use of pregnancy risk form in all antenatal clinics;
- Clarify and inform midwives in primary units about availability of O Negative blood;
- Remind all staff to notify consultant if there is any deterioration of a woman during transfer;
- Communicate with manager / operations manager of D&A rehabilitation facility about provision of contraception and access to midwives for antenatal care.

Some of these actions had already been initiated following previous case reviews of these events.

Potential Avoidability

Of the seven cases reviewed, one was considered to be potentially avoidable. This related to the place of birth in the presence of a known risk factor.

Comments about the Maternal Morbidity Review Pilot

Woman's Perspective

The Northland DHB committee set up for the purpose of undertaking the pilot agrees that the opportunity to include the views of women adds depth to the review process. As stated, we found that feedback from the women during the meeting was more beneficial to be considered at the conclusion of the timeline of the event. From the feedback received from women at the time of their interviews, it was also apparent that they appreciated the opportunity to talk with and be heard by an independent health practitioner about their experience. This is however a time consuming feature of the process and will require additional time and financial allocation.

Consumer Membership of the Review Committee
There is agreement that consumer membership of the review process is essential.

Documentation
We found the documents provided by HQSC to undertake the review to be repetitive and strongly suggest these be simplified. It is suggested that the Case Review template, the Review Tool and the Action template be combined into one complete document.

Codes for Contributory Factors
While the codes are useful in generating data which categorises potential deficiencies and identifies potential avoidability, it is our view that the codes are quite broad and nonspecific. The reviews themselves (rather than the use of the codes) are better at highlighting very specific areas where local improvements can be made.

Over time, it may become apparent that a particular code is a recurring theme and further effort and funding can go towards it.

Role of Maternal Morbidity Review
Northland DHB has an on-going Trigger Tool process in place which examines both maternal and neonatal morbidity during twice weekly multi-disciplinary meetings. This has support from both the obstetric and midwifery workforces and there is a desire for this not to be undermined. There is therefore a need to establish parameters around which outcomes are discussed in which forum and this discussion has commenced as a result of us undertaking this pilot.

5. Releasing Time to Care Programme

The Releasing Time to Care: The Productive Ward programme was developed by the National Health Service (NHS) Institute for Innovation and Improvement in the UK and was rolled out in Northland DHB in February 2017 within five clinical areas, including Te Kotuku. The programme offers a systematic way of delivering safe, high quality care to patients and aim to increase the proportion of time that midwives are able to spend in direct patient care.

We started the programme by working with staff and LMCs to create a vision for Te Kotuku. Our vision is:

“Integrated and skilled workforce who are respected, valued and well supported to provide culturally appropriate, consistent high quality care within the partnership model. The environment of the unit meets the needs of women receiving primary and secondary care as well as staff. Te Kotuku is an enjoyable, dynamic and positive workplace. Kindness is evident in all professional relationships and in the care provided to women.”

The next step we undertook was to ask staff and LMCs to identify the barriers preventing them from fulfilling the vision; what was stopping them from spending more time with their patients and having a great day at work. From those barriers we identified some projects and asked staff members to lead them to drive the changes. Various projects included:

- Creating an additional space for staff to enjoy their break, as the staff room was too small and often overcrowded;
- Setting up a communication book and a communication board to improve communication between staff members, LMCs and the leadership team;
- Auditing documentation, specifically labour and infant records and booking forms to improve the quality of the data captured by the administration team;
- Birth room standardisation to improve consistency;
- Reorganisation of storerooms to improve efficiency and reduce costs of keeping unnecessary stock;
- Standardisation of resuscitaire checklists to ensure ease of use in an emergency and to minimise confusion;
- Efforts to improve access to SCBU for mothers in Te Kotuku;

- Improvement of the staff handover process to decrease the duration and improve the quality of the information communicated.

As an on-going commitment to improvement, we have identified more projects that fit under the framework of Releasing Time to Care and these will be led by different staff members:

- Aim to move towards bedside handover in the Maternity ward;
- Work on a process to bring in recycle bins in Te Kotuku, as currently everything goes into waste bins;
- Audit and review on the use of Fluid Balance Charts;
- Review the caesarean section and induction of labour processes;
- Consider change ideas to reduce out of hours doorbell interruptions.

Eighteen months into the programme, we have definitely seen benefits for the patients and for our staff and community midwives. These projects have highlighted the importance of working together and communicating effectively for a well-functioning team. Since introducing the programme, we have seen an increase in ideas for change and improvement coming from staff members and a willingness to achieve the vision created for our service.

6. Development of Maternal Mental Health and Addiction Services – Maternal and Child Health

Tupua Waiora (Pregnancy and Parental Service)
The past six months have been challenging for the team with three staff leaving, including the Team Leader in June. Vacancies have since been filled and a leader has been recruited who is keen to develop relationships with the more rural areas of Northland as well as strengthening relationships with maternity services generally. It is intended that a clinic be established in Hokianga in the future.

Referrals to Tupua Waiora have been steady throughout the year with most coming from Oranga Tamariki.

The service continues to liaise with the Waitemata Pregnancy and Parenting Service (PPS) and a planned visit by people from this service is coming up shortly. The feedback from this visit and future training is welcomed.

Manaaki Kakano (Maternal and Infant Mental Health Service)
The Kakano team has also lost two staff members over the past six months. We have been fortunate in recruiting an experienced psychologist and an experienced community mental health nurse into the service.

Referrals to this team have also been steady, but we have noticed since He Tupua Waiora started last July, most of the referrals are now from midwives or GP's. The more acute referrals are going to the Tupua team so the criteria and the referral form for the Kakano service is in the process of being reviewed.

Data reports from the Perinatal Mental Health Governance Group show that there are low access rates for Māori. The Team Leader's development of relationships with rural health services and maternal services are actions aimed to improve these rates. The new antenatal clinics being implemented in October both at Te Kotuku and at Te Puawai Ora will increase ease and efficiency of access and enable management plans as well as improving communication between the team and community LMC midwives.

In the last year, 1 July 2017 to 30 June 2018, there were 269 referrals to Maternal Mental Health Services - 188 to Manaaki Kakano and 81 to Tupua Waiora.

7. Review of Term babies to SCBU and number requiring respiratory support for more than four hours.

Northland DHB continues to have consistently high rates of term babies requiring more than four hours of respiratory support (refer page 56)

Efforts to address this in the previous year included an audit of coding measures and meeting with paediatric staff to further examine the issue. While the coding audit did not uncover any discrepancies, the coders have reported enhanced accuracy in determining the length of time a baby requires respiratory support since SCBU introduced a specific stamp in the clinical record to more clearly define the times.

The combined paediatric/maternity facilitated meeting resulted in some suggested actions. The following have since been undertaken

- Review of neonatal resuscitation against the guidelines – this is done at every trigger tool meeting where these cases are discussed. There is a noticeable increase in the use of PEEP and the guidelines are generally adhered to;
- Region-wide use of a standardised resuscitation form – these forms which outline the resuscitative measures required for a baby are utilised in all Northland DHB birthing facilities and are assessed during each case review;
- Multidisciplinary review of all term babies unexpectedly admitted to SCBU at trigger tool meetings – there has been consistent attendance by a paediatrician and SCBU nursing staff at these meetings over the past year. There has been shared learning but seldom has it been considered that the admission was not warranted;
- STABLE study days have been sponsored by the DHB for the past two years and have been attended by core midwives and LMC midwives as well as SCBU nurses. Additional training has been provided by the SCBU flight nurse to midwives working in or accessing primary units. These occur twice yearly and have shown to make a difference in practice. Multidisciplinary education in primary units has not yet occurred but is on this year's work programme;
- All blood sugar levels measured on babies in Te Kotuku are now done using the iStat machine which is considered to be the most accurate form of testing. More babies are being effectively managed on the ward without further deterioration necessitating a SCBU admission. Dextrose gel is available in primary units and while the paediatrician is kept informed, babies with low blood sugar requiring treatment are, in the first instance, managed locally and only transferred if not responding to treatment;
- Small babies are routinely placed in a cosy cot for their initial sleep space instead of a regular cot in order to maximise thermoregulation;

Future work to address this Clinical Indicator outlier will be in conjunction with the paediatric service and will include data review, a clinical audit to review adherence to the guideline pertaining to pre-labour rupture of membranes, education of the use and impact of methatamine as well as any other issues highlighted from multidisciplinary case reviews.

8. Perinatal Mortality (perinatal deaths after 28 weeks gestation)

As a result of a review which took place in the 2017-2018 year the following measures have been put in place:

- On-going work in uncovering the reasons for late engagement. Attempts are made to identify any barriers to early engagement from every woman who births in a Northland DHB facility who is unbooked. This is by way of a cue sheet which acts as a guide to staff when having this conversation in a non-judgemental way. To date, women have stated that they knew they needed to find a midwife but for reasons beyond the influence of the health system, they didn't. This is going to be addressed further in educational material being produced within the SUDI work stream in the form of an audio visual production;
- A pamphlet on the importance of baby movements was drafted but the Guidelines Committee have made a decision to use that produced by the Perinatal Society of Australia & New Zealand. This has been emailed to all LMCs and is displayed in all DHB facilities;

- There has been an increase in the availability of scan clinics in the Mid North since the establishment of a weekly DHB service at Bay of Islands Hospital. Diabetes in Pregnancy clinics also now take place in Kawakawa and there is a dietician service covering the area;
- A pregnancy risk form has been developed and is available in every obstetric antenatal clinic in Northland. The purpose of this form, which is placed at the front of the clinical record, is to highlight any risk factors which must be taken into account by anyone providing care for the woman;
- Northland DHB is awaiting the introduction of GROW following the recommendations of the Neonatal Encephalopathy Working Group to assist in identifying small for gestational age babies;
- Each perinatal death is presented at the monthly M&M meetings by an independent person;
- Transport issues are thought to be a factor in some rural women accessing care. While the DHB runs a daily bus service between Whangarei and the district hospitals, no further development in local transport options have been developed. In each area, LMC's work with the local Māori health providers who may transport those people who are registered with their organisation to appointments.

9. Increase engagement by Women with LMC midwives in the first trimester of pregnancy

Attempting to strengthen processes which are already in place was the first approach taken to try and improve Northland DHB's rates of early engagement. The link between General Practice, LMC midwives and women was identified as a potential area for improvement as anecdotal evidence suggested that some women who have their pregnancy confirmed with a GP proceed to have a scan but do not engage further with the maternity service until much later in their pregnancy. Meetings were held with the Clinical Director of the two Northland Primary Health Organisations. Communication difficulties were agreed to be an issue and work is progressing to develop the DHB e-referral mechanisms to not only enable midwives to refer directly to the DHB via email as GP's already do, but to also enable communication between general practice and midwives. It became apparent that there were administrative barriers in GP's accessing the Find Your Midwife website, thereby preventing facilitation of direct contact with a midwife at the time a woman is in the surgery. The possibility of using a shared DHB mailbox via the e-referral system is being explored. In the meantime, GP's outside of Whangarei are being requested to copy scan reports to the local primary unit where the midwives will be able to monitor bookings and connect women with LMC midwives as required.

The SUDI project will also include messages regarding the importance of early engagement as previously described.

The rate of first trimester bookings is reported for each area in Northland at the monthly M&M meetings. There is also on-going work with administration staff to clarify the quality of the booking information. LMC midwives in Northland are now utilising a variety of documentation / claiming methods which has caused some irregularity in identifying when women first received care in the community as opposed to when hospital bookings took place. This situation is being reviewed with midwives presently.

The 'cue sheet' described above, to guide questions of unbooked women following the birth of their babies may also shed some light on our engagement outcomes.

10. Review of the service offered to women who experience a mid-trimester loss

Project name: Management of Stillbirths and Neonatal deaths over 20 week's gestation in Te Kotuku Maternity Facility

Aim
To change practice in Whangarei Hospital to enhance the experience of women experiencing a baby loss over 20 weeks gestation, by enabling them have the use of the dedicated Butterfly Room in Te Kotuku maternity facility and for women to receive care from midwives, either core or their own LMC, in collaboration with the medical team.

Objective
That all women experiencing or who are expected to have a baby loss over 20 weeks gestation, who present to the maternity service, will be admitted to Te Kotuku for care.

Background
When the planning for the new maternity building commenced in 2014 a dedicated Butterfly room was always intended to be part of the new facility.

Moving all care for women experiencing an intrauterine or new-born baby loss over 20 weeks gestation has been promoted in the Maternity Quality and Safety Plan for the Northland DHB service for the last two years. We are already seeing a change in this area as women are being offered options however the overall project currently continues.

Currently some of these women are birthing in the ED department and most in the gynaecology ward. Most planned late terminations for fetal abnormality have been managed in a general surgical ward staffed by nurses.

The registered nurse education no longer includes maternity care and as the staff demographic changes, with retirement of experienced RN's; the Nurse leader in the gynaecology unit is becoming increasingly concerned that RN's no longer have the education, experience, knowledge and therefore willingness to care for these women. It is also considered more appropriate that care be provided by midwives.

The Northland DHB Takawaenga service has also approached the maternity service asking if women could have the option to birth in Te Kotuku with a dedicated room for Whānau, rather than birthing in ED or on a busy gynaecology ward. The new unit has a dedicated space for women experiencing perinatal loss so is now well set up to provide this extended service.

We anticipate that the inclusion of women, over 20 week's gestation who fit the criteria, as above, will increase the birthing number by around 5-6 per year in Te Kotuku.

Most LMC/community midwives had expressed willingness to provide care for woman in this circumstance with support by the core midwives and medical team as needed which is a great opportunity to support continuity of care for women experiencing fetal or very early neonatal loss.

Progress
Guideline

- An updated guideline has been developed by CMM and SMO, now progressing through the maternity guideline group for final sign off

Post mortem

- Provide video prepared by PMMRC consumer representatives to Whānau to their decision-making regarding post mortem
- The process for transporting babies to Auckland for PM has been discussed with the laboratory manager, awaiting on decisions re FTE for the mortuary technicians to finalise process
- It has been confirmed that if the Maternity service manager gives permission a Whānau/family member may travel in the Northland DHB board car with the technician and baby to Auckland for post mortems which is hugely important for many, particularly Māori families who want a family member to stay with baby.

Post Change implementation audit.

- With the Takawaenga and quality service develop a survey to send to or discuss with women/Whānau who have experienced a baby loss and utilised the butterfly room in Te Kotuku
- Look at the statistics for women birthing in Whangarei hospital experiencing a baby loss and ascertain where the birth occurred

11. Review of the incidence of women receiving a general anaesthetic for a caesarean section

An audit of general anaesthetics (GA) for caesarean sections has been undertaken by the Northland DHB Department of Anaesthesia in response to this Clinical Indicator. The clinical records review covered a two year period between July 2015 and June 2017 and included elective and emergency caesareans without isolating those classified as category one.

Reasons for general anaesthesia are listed below:

Regional insufficient for surgery	27
Foetal Distress	17
Unable to place regional	7
APH	6
Not documented	4
Patient refusal/Maternal request	3
Possible rupture scar	2
Surgical request/surgical complication intra-op	2
High Spinal	1
Contraindication to regional	1
Anaphylaxis	1
Patient distress	1

There were no features of labour (induction, syntocinon use during delivery, epidural in labour) that were identified as being predictive of the need for general anaesthesia. The patient demographics varied (date of birth, age, BMI, weight, gestation, parity). In both years it was emergency caesarean sections which were associated with a higher rate of general anaesthesia.

Comparisons were made with data from Auckland DHB where the rate of caesarean section is higher but the percentage of general anaesthetics was lower than Northland DHB. When comparing general anaesthetic caesarean sections as a percentage of the total number of births (from any mode of delivery), both centres had a general anaesthetic rate of two percent for the total number of births.

An area of interest associated with this audit was the general anaesthetics for foetal distress and whether there could be any reduction of the rate in this area. The labour unit in Whangarei Hospital is a considerable distance from theatre and the audit identified that the mean and the median time for calling for the Category One caesarean section for foetal distress and arriving in theatre was 20 minutes.

Discussion of the audit findings recommended that the foetal heart rate be re-assessed by a midwife as a priority on arrival in theatre with the obstetrician and anaesthetist in attendance. This would then influence the final decision as to the advisable method of anaesthesia. This practice now routinely takes place.

12. Increase the capacity and utilisation of primary units

An audit to gain clarification of the reasons some women gave birth in Whangarei at the secondary level hospital when there is a primary unit in the area where the live is planned to be repeated this year. Meanwhile, there has been an on-going focus to support and further develop the capacity of Northland's primary birthing facilities.

A SCBU staff member is committed to provide twice yearly neonatal education to midwives working in and accessing the primary units in both Bay of Islands and Kaitaia Hospitals. This has shown to be a successful approach in enhancing the confidence and skills of employed and community midwives and will continue.

Women in the vicinity of all primary units can access antenatal obstetric clinics when required. Kaitaia Hospital has an obstetric ultrasound clinic weekly and this has now also commenced at Bay of Islands Hospital.

A full diabetes services for pregnant women has also been introduced at Bay of islands Hospital.

Many midwives throughout Northland have now been trained in the insertion of LARC and it has been agreed that the local primary unit will be used for this purpose.

Implementation of an improved maternity service for the women of Dargaville has commenced as previously outlined and a modified staffing model is being introduced in Kaitaia which will lead to a fully midwifery staffed and led unit.

Monthly meetings now take place for the midwifery leadership team throughout Northland. These meetings are chaired by the Midwifery Director and Service Manager - Maternity. The ACMM's in the primary units usually attend by videoconference These meetings aim to increase collaboration across the region and this is supported by twice monthly visits by the MQSP leader and monthly visits by the Midwifery Director and Service Manager-Maternity to district sites.

13. Improve the quality of maternity care available to Māori women

The implementation of a Kaupapa Māori antenatal education programme is now well underway in Northland. Wananga are taking place throughout the region and the programme, Nga Wananga O Hine Kopu, is aimed to be responsive to community requests. The coordinator works closely with local Māori health providers including midwives who are encouraged to participate in the classes. A train-the-trainer approach has been adopted to ensure sustainability of the programme. This programme has been very warmly welcomed by women and Whānau and feedback so far extremely positive.

The next step is for additional training around clinical practice using the principles of Turanga Kaupapa for local midwives and doctors to be undertaken so as to better prepare the workforce to meet the needs and expectations of women and Whānau.

14. Enhance opportunities for consumer participation in maternity services

As previously outlined, arrangements are underway for a series of meetings including Marae based hui to encourage community participation in the development of maternity services in Northland.

Two consumers sit on our Clinical Governance committee and there was consumer membership of a maternal morbidity review which has been undertaken

15. Streamline the process for category one caesarean sections

An audit of category one caesarean sections against the Northland DHB guidelines was presented at a M&M meeting at the beginning of 2018. This audit revealed that in 100 percent of the cases there was a documented reason for the urgent nature of the surgery; the median time from decision to delivery was 28.5 minutes with 57 percent of babies born within 30 minutes of the decision being made. Both of these aspects show an improvement from previous audits however when there was a delay, the reasons for the delay were stated in only 25 percent of cases. There was a slight reduction in the frequency of cord blood testing and this is clearly an area where improvement is warranted. Regular audits of category one caesarean sections are required and planned.

16. Improve access to postnatal contraception throughout the region including improved accessibility to long acting reversible contraception

This form of contraception is now freely available in Northland DHB facilities, including primary units. On-going training opportunities will be made available on a regular basis.

17. Summary of additional audits completed:

I. Category One Caesarean Sections

The aim of this audit was to ensure that category one caesarean patients are receiving treatment in line with international guidelines; specifically, whether the time from decision to delivery interval (DDI) was within recommended timeframes. The intention was to determine factors contributing to any delays in DDI and to compare outcomes with a previous audit completed in 2015. The outcome measures included:

- Whether the DDI was less than 30 minutes and if not, the reason for the delay documented;
- Documentation of the reason for the category 1 status of the surgery
- Whether cord blood gases were obtained

Results of the audit revealed 57percent of babies were born within 30 minutes of decision; 100 percent of clinical records recorded the reason for the category one caesarean; 64 percent of babies had cord blood taken at the time of delivery and 20 percent of those cases where the DDI was delayed had reasons identified. Compared with the previous audit, improvements occurred in cord blood gases being done and in the documented reasons for the caesarean.

This audit will be repeated to gauge on-going improvement in adherence to Northland DHB guidelines.

II. Postpartum Haemmorrhage

An audit of standards of care associated with the management of postpartum haemmorrhages greater than 1500 mls was undertaken and comparison made with the same audit performed one year prior. Improvements occurred in notification of the SHO, the administration of ecbolic drugs as prophylaxis and management and the use of the designated postpartum haemorrhage summary form.

As a result of this audit it was proposed that the presence of identifiable risk factors be included in future audits which would be completed annually.

Northland DHB 2 year MQSP Plan 2018 - 2020

MQSP Contract Requirements	Plan	Method
Local review and investigation of data (including the data presented in the *New Zealand Maternity Clinical Indicators* report)	Northland DHB maternity data is collected and uploaded to the maternity dashboard Shared accountability is achieved by reporting these outcomes along with those represented in the Clinical Indicators report with the wider maternity workforce as well as the maternity leadership team	Monthly reports will continue to be provided to the Director of Midwifery & Service Manager-Maternity for reporting to DHB management. An annual presentation of Northland DHB's clinical indicators will continue to be made to a multidisciplinary meeting. Monthly reporting of those clinical indicators where the DHB is an outlier will be included in monthly reporting Monthly M&M meetings will continue to be the main avenue for reporting of outcomes to the wider maternity workforce. Minutes of these meetings are distributed to all practitioners, both hospital and community. Maternity data forms part of reporting requirements to the Maternity Governance committee
Review of findings from formal review processes for serious and sentinel events	Serious and sentinel events will be managed by the maternity service in conjunction with the wider DHB processes HQSC will be informed of events via these same processes as well as a designated ICU doctor who carries the responsibility of reporting maternal morbidity The Director of Midwifery & Service Manager-Maternity remains a member of the DHB Reportable Events Committee	A formal pathway outlining the immediate and on-going response to adverse outcomes is under review. This will outline region-wide timely notification, an initial review of notes by the leadership team, the offer of de-brief for those practitioners directly involved and subsequent decision-making regarding the appropriate form of investigation. Findings will be discussed at M&M meetings and at Clinical Governance meetings along with any remedial actions that may result from the investigation process.
Evidence-based clinical review	Evidence based clinical guidelines will remain current through the work of the multi-disciplinary guidelines committee National guidelines, where available, will guide local guidelines	The Guidelines committee comprising the Director of Midwifery & Service Manager-Maternity, Maternity Educator, Clinical Midwife Manager, rural & urban LMC midwives & obstetricians will remain responsible for updating and formulating new clinical

	Clinical guidelines will form the basis of all review processes The DHB Trigger Tools initiative will remain the basis of review for outcomes which do not fall into a serious/ sentinel jurisdiction	guidelines. Once finalised, guidelines will continue to go through a final approval process by the Clinical Director and the Governance Committee before notification to all practitioners and uploading to the DHB Clinical Knowledge Centre accessible on the DHB intranet. Annual review, with potential modification, of the Trigger Tool process will take place in order to maintain responsiveness to outcomes. It is anticipated that the frequency of these multi-disciplinary meetings (including paediatrics) will continue to take place twice weekly in Whangarei. Trigger meetings will continue to be held at primary units in the Mid & Far North & the use of Zoom will be explored in order to enhance access to these meetings
Representation of community-based clinicians and consumers in formal and informal review processes, to ensure that their perspective is considered.	Community-based clinicians are viewed as part of the entire maternity workforce region-wide and will therefore continue to be a part of all DHB maternity committees Two consumers, including Māori representation, are members of the Maternity Governance committee	Community midwives membership to various committees will be maintained via ratification by the Northland region of NZCOM. Consumer membership will be sought via the DHB consumer council. If necessary, additional membership will be attained in order to achieve demographic coverage. General Practice will continue to be represented on the Governance committee by the Clinical Director covering both of the Primary Health Organisations in Northland.
Maintain overarching multidisciplinary governance group for the MQSP	The MQSP leader reports directly to the Director of Midwifery & Service Manager-Maternity Governance group oversight of maternity quality & safety activities	An update of MQSP activities is reported to the bi-monthly meetings of the Maternity Governance committee. The Director of Midwifery & Service Manager-Maternity also reports these activities to wider DHB management committees which she is a member of. The Governance Committee receives information on perinatal morbidity & mortality, complaints and adverse outcomes at each meeting. Members of the Governance Committee will be recipients of the Annual Report

		and Annual Plan where PMMRC, ACC and NMMG recommendations will be addressed
Collaboration and facilitation of engagement between the DHB and community LMCs and other community-based maternity practitioners	Representation and involvement of LMCs in quality improvement activities	All LMC community services are currently provided by midwives in Northland. Communication lines will be maintained, ease of access to Trigger & M&M meetings will be supported by videoconference / ZOOM capability. Quality improvement activities are shared with them and representation on working groups is considered imperative by the DHB in order to foster a unified workforce.
	Mechanisms for discussion and dissemination of data, guidelines, research & local initiatives	The Midwifery Educator distributes research updates monthly and this will continue. The main avenue for distributing outcome data and discussion of MQSP projects is at M&M meetings – the minutes of these will be emailed to all clinicians.
	Shared inter-disciplinary training & education in the management of obstetric emergencies	A timetable for these sessions to occur in Whangarei and all primary units will be established as part of the work programme for the Midwifery Educator. Training sessions for LMC and employed midwives working in the Mid and Far North primary units by SCBU nurses will continue on a twice yearly basis. STABLE Where possible, education activities will be provided free of charge to clinicians not employed by the DHB Regular community LMC midwife and DHB leadership forums and combined core and community LMC midwife and DHB leaders' forums occur throughout the region.
Defined processes for consumer engagement	Consumer representation and involvement in quality improvement activities	Consumers are represented on the Maternity Governance committee providing oversight of quality initiatives. It is anticipated that there will be consumer membership on a revised maternal morbidity committee.
	Feedback on local consumer experiences of maternity services	Feedback forms are readily available in all DHB facilities and will continue to be responded to

		in a timely manner including interviews with families in their home if requested. A repeat consumer satisfaction survey will be undertaken again this year in collaboration with the DHB Quality Improvement Directorate
	Regular communication and exchange of information with maternity consumers and community groups	Meetings / hui throughout Northland will take place – the first in the Mid-North already arranged for September 2018. These will be specifically for consumers but an additional meeting in each area will also be held for providers of maternity services including government agencies
	Ensure engagement of Māori and community groups	The Director of Midwifery & Service Manager-Maternity and the MQSP leader will work with Te Kaahu Wahine and the Māori Health Directorate to seek advice and support in developing specific services to meet the needs of Māori women and Whānau. Train-the-trainers education and the roll out of kaupapa Māori antenatal education will continue
Provision of appropriate resources, infrastructure and systems to implement and maintain the MQSP	Dedicated full-time equivalent ('FTE') positions allocated to clinical leadership roles, covering both community and hospital-based practitioners, and including both the medical and midwifery professions and is supported by consumer representatives.	MQSP is well embedded and functions as business as usual. We anticipate the appointment of a supporting quality and education role in the next few months to support some of the volume of work. This is a reassignment of existing FTE.
Current Projects		
Increase engagement by women with LMC midwives in the first trimester of pregnancy	The number of first trimester bookings will increase	A 'cue' sheet to guide conversations by DHB core midwifery staff will continue to be utilised in all facilities for women who present in labour unbooked. This is an effort to first gain insight into any barriers these women may have encountered in accessing care which can then be addressed. Primary units will be supported in collating all early scan reports which practitioners have been asked to copy the local primary unit into. Processes to then identify unbooked women locally will be developed to ensure

		antenatal care is provided. Region-wide data will continue to be presented at M&M meetings.
Review of the service offered to women experiencing a mid-trimester loss	Women who experience a mid-trimester loss will be supported to give birth in an appropriate environment	This project is nearing completion and already women are choosing to have their babies in the 'Butterfly Room' in the maternity unit in Whangarei.
Review of term babies requiring more than four hours of respiratory support	On-going investigation as to the reasons why Northland DHB is an outlier for this clinical indicator	The number of babies in this category will be presented on a monthly basis to the M&M meeting in addition to each case being reviewed with paediatric staff at Trigger meetings.
Improve pathways and processes for women with mental health and addiction conditions	Alignment and availability of He Tupua Waiora / Pregnancy and Parenting Services & Maternal Mental health Services	Collaboration between the maternity service and maternal mental health service will be on-going in order to meet shortfalls in service provision. Bi-monthly reporting by the Maternal Mental Health team to the Maternity Governance committee will be initiated Two education sessions on methamphetamine for providers of maternity care will take place Recommendations from the review of Te Whare Ora Tangata will be implemented
Increase the capacity and utilisation of primary services	Employed midwives and LMCs accessing primary units will be supported to feel part of the wider DHB maternity service	Commitment by the Director of Maternity & Service Manager-Maternity and the MQSP leader to provide a regular and reliable timetable of visits to primary units will be maintained Monthly leadership meetings including the ACMMs at primary units will continue to be accessible by videoconference DHB quality audits will be embedded at primary units Each primary unit will provide a service for the insertion of long acting reversible contraceptive Local meetings with consumers will take place to uncover attitudes of the public to giving birth locally at their district hospital primary unit Women from out of area who give birth in Whangarei will continue to be actively encouraged to return to their local primary unit for postnatal care

	All midwives working in primary units will be confident in the management of emergency situations An improved service for the women of the Kaipara area will be further developed	Multi-disciplinary education involving all staff likely to be involved in the management of maternity emergencies in primary units will be timetabled by the Midwifery Educator Training by the SCBU flight nurse on the stabilisation of sick babies prior to retrieval will continue at each primary unit twice per year. This will be augmented by a repeat STABLE workshop Education sessions provided by the Midwifery Educator will be planned on a region-wide basis. The Director of Midwifery & Service Manager-Maternity will continue to work with the Kaipara Health Service Manager in the further development of maternity services closer to home for Kaipara women.
Improve the quality of maternity care available to Māori women	Measures of equity to enhance access to high quality culturally appropriate maternity care will be implemented	The roll out of specific kaupapa Māori antenatal education will be enhanced Learning from the consultation of marae based regional hui will inform further projects The Northland DHB updated and extended SUDI project will be launched and it's new name allocated. This includes promotional material currently under development comprising an overarching song and video clip from which punchy messages encouraging early engagement and pregnancy specific public health messages will be extracted
Enhance opportunities for consumer participation in maternity services	Establishment of mechanisms to share information and receive feedback	Regional fora will be programmed beyond that already arranged for Kerikeri in the Mid-North Specific for a will be planned to seek feedback on maternity services by Māori women & Whānau
New Projects		
Achieve equitable outcomes for women and babies in Northland, thereby reducing the impact of age, ethnicity and rurality on childbirth outcomes.	It is anticipated that a number of initiatives will be undertaken to both identify and address inequitable service delivery and outcomes over the course of	All parts of the region will have opportunities to feed back during community-based consultation processes On-going work to improve data

48% of the birthing population in Northland is Maori and there are currently increased admissions to SCBU and the incidence of SGA as well as a slight increase in perinatal mortality for Maori	the next two years. This will include but is not limited to: • Prioritise and respond to issues highlighted during the on-going community consultation process • Continue work to improve early engagement particularly for Maori and adolescent women • Audits on intervention rates by ethnicity, rurality, age • Implementation of the GAP programme including required access to ultrasound facilities **Community consultation complete throughout Northland by June 2019.** **Audits completed by December 2019**	integrity Existing data will be used to review outcomes and intervention rates by ethnicity, rurality and for adolescents to identify service development opportunities
Review implementation of GDM guidelines and management processes in order to understand impact on pregnancy interventions and birth outcomes. Explore the possible correlation between GDM and an increased number of babies born between 37-38 weeks	Review of: • Compliance to policy. • Birth outcomes • Gestation of babies at the time of birth • Service integration • Women's experience **Completion December 2019**	Clinical records audit process will be developed to review integration of service, compliance with GDM management guidelines, birth outcomes and gestation at time of birth. Process to be developed to obtain feedback about the service from women. Consideration of further service development after audits complete and information analysed.
Implement consistent pathways for review of serious neonatal and maternal morbidity so that all adverse outcomes are reviewed in a timely and consistent manner. Current approaches show that identification of cases and the early establishment of	This project will establish a streamlined process which is consistent throughout the maternity service including: • Identification of cases for review • Timeliness of review processes • Multidisciplinary discussion	Work with the paediatric service to identify a team to undertake review of all cases of babies transferred to NICU. Continue the trigger process of reviewing all cases of babies to SCBU who have more than 4

appropriate review processes can be ad hoc and delayed	• Women's perspective • Identification of contributory factors and learning outcomes **Completion December 2018**	hours of respiratory support. Apply consistent processes for full review of cases of severe maternal morbidity based on the process undertaken during the test site work for HQSC for maternal morbidity review.
Establish a service for pregnant women who are Rh negative to access anti-D prophylaxis in line with national recommendations	Develop of a midwifery-led clinic for the provision of anti-D prophylaxis by referral from LMCs within Te Kotuku maternity unit in Whangarei Roll out this service throughout the region to district hospitals **Service established by December 2019**	A midwifery-led clinic will be established at Te Kotuku for Rh negative women to receive the recommended anti-D prophylaxis during pregnancy Consultation with rural LMCs throughout Northland will take place in order to assist in finding ways to ensure equitable access for all Rh negative women in the region to receive anti-D prophylaxis