



Outcomes Evaluation Report:

Integrated Maternity and Child Health Services

April 2016



Acknowledgments

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Malatest International

Acronyms, abbreviations and definitions

ASH	Ambulatory sensitive hospitalisations
Awhi House	Integrated service for maternal and child health located in Turangi
BadgerNet	IT Platform. Midwives add clinical notes after birth and the babies NHI number.
BAU	Business as usual
Breastfeeding ¹	<p>Exclusive breastfeeding: The infant has never, to the mother's knowledge, had any water, formula or other liquid or solid food. Only breastmilk, from the breast or expressed, and prescribed medicines have been given from birth.</p> <p>Fully breastfeeding: The infant has taken breastmilk only, no other liquids or solids except a minimal amount of water or prescribed medicines, in the past 48 hours.</p> <p>Partial breastfeeding: The infant has taken some breastmilk and some infant formula or other solid food in the past 48 hours.</p>
CAP	Consumer Advisory Panel
Collaboration	Any joint activity by two or more agencies that is intended to increase public value by their working together rather than separately and sharing information, resources and training.
Co-location	Services are permanently or temporarily located together to provide improved access for consumers by reducing travel time and costs.
Continuum of care	Integrated system of care that guides and tracks patients over time through a comprehensive array of health services spanning all levels of intensity of care.
Cooperation	Characterised by informal relationships that exist without any commonly defined mission, structure or planning effort. Individuals share information as needed, and authority is retained by each organisation so there is virtually no risk.
CYF	Child, Youth and Family services
DHB	District Health Board
FTE	Full-time equivalent
Gestation	Time between conception and birth of a child
GP	General practitioner

¹ Ministry of Health. (2008). *Food and nutrition guidelines for healthy infants and toddlers (aged 0-2): A background paper – partially revised December 2012*. Ministry of Health, Wellington, New Zealand. <http://www.health.govt.nz/publication/food-and-nutrition-guidelines-healthy-infants-and-toddlers-aged-0-2-background-paper-partially>

Healthpoint	An online site that provides up-to-date information about healthcare providers, referral expectations, services offered and common treatments www.healthpoint.co.nz
Horizontal integration	Where organisations at a similar level come together. E.g. between primary care providers
Integrated services	Health and social services provide an efficient, person-centred continuum of care pathway that recognises and meets the needs of women throughout pregnancy, childbirth and the postnatal period, and children (0-6 years), and families across the different levels of the health system.
Inter-agency integration	Different agencies working together to wrap services around consumers
Interprofessional/interdisciplinary team	A team whose members work closely together and communicate frequently to optimise care for the patient
Intra-agency integration	Different teams within an agency working together to provide a seamless service for consumers
Inter-sectoral action	A recognised relationship between part or parts of the health sector with part or parts of another sector which has been formed to take action on an issue or to achieve health outcomes (or intermediate health outcomes) in a way that is more effective, efficient or sustainable than could be achieved by the health sector working alone.
Kia Puawai	Integrated service for maternal and child health located in Western Heights, Rotorua
LMC	Lead Maternity Carer
M&CHIP	Nelson Marlborough maternal and child health integration project
MDT	A team where each discipline contributes independently its particular expertise to an individual patient's care
New Zealand Deprivation Index	The New Zealand Deprivation Index is a measure of the level of socioeconomic deprivation in small geographic areas of New Zealand (meshblocks). It is created using Census data for eight variables. The index ranges from 1 to 10. A score of 1 indicates that people are living in the least deprived 10 percent (decile) of New Zealand. A score of 10 indicates that people are living in the most deprived decile.
NGO	Non-governmental organisation
NIR	National Immunisation Register
MAT	National Maternity Collection
PHO	Primary health organisation
PMMRC	Perinatal and Maternal Mortality Review Committee
Region/Locality	The Integration Project contract holders are DHBs but integration activities may be regional or located in a site or locality within the DHB

RNZCGP	Royal New Zealand College of General Practitioners
SIPHANS	South Island Public Health Action Network
SUID	Sudden unexpected infant death
ToSHA	Top of the South Health Alliance
Te Whanake	Lakes DHB governance group for maternal, child and youth health
Vertical integration	Integration pathways between different levels of service delivery. E.g. between primary and secondary care
WCTO	Well Child/ Tamariki Ora providers

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Executive Summary

There is evidence in the literature that integrated services have benefits for agencies, service providers and consumers. Consumers want health services that meet their needs, are connected and well-integrated. They want to experience 'one health system' regardless of service structure, funding or governance. Integration of services such as maternal and child health services is an increasingly important goal for Government because it can improve the efficiency and quality of services and outcomes for people using the services.

To learn more about what works and what benefits can result from integrating maternal and child health services, the Ministry of Health (MoH) funded demonstration pilots of integrated services at three District Health Boards (DHBs):

- Nelson Marlborough DHB (all communities in the region)
- Counties Manukau DHB (Otara communities)
- Lakes DHB (Rotorua, Turangi and Taupo communities).

The pilots ran from 30 January 2014 to 1 February 2016. Each DHB developed their own approach to integration to meet the needs of their communities.

The evaluation sat alongside the pilots. The evaluation considered the aims of each pilot and the community and provider context in which they were developed. The purpose of the evaluation was to inform MoH and the integration pilot working groups on the progress and effectiveness of the pilot activities and to develop a body of knowledge on how to create a seamless system of care to improve the consumer experience, access, and health outcomes with regard to maternal and child health services.

A logic model was developed for the evaluation to provide a theoretical framework that could be used to align the activities of the three sites. Key elements of integration were developed from a review of the literature and provided a basis for the evaluation:

- Governance and leadership
- Management and planning
- Systems
- Communication
- Workforce development
- Relationships
- Quality improvement.

An outcomes framework drawing on MoH data sets and the priorities for each site was developed and agreed with each demonstration pilot team.

Demonstration pilot achievements

At all pilot sites, the funding from the demonstration pilots provided an opportunity to improve the way maternal and child health services were provided. All three pilot sites appreciated the opportunity the funding provided for innovation and MoH flexibility in recognising the need for changes from the initial plans to respond to learnings as the pilot activities were rolled out.

By the end of the evaluation:

- The three pilot sites had completed a substantial part of the demonstration pilot activities they initially planned.
- The demonstration pilots had raised awareness of the benefits of integrated services for providers and for consumers, and awareness of how much work is required to improve integration.
- In all localities, strong relationships had been built through the pilot activities including the development of working groups and governance groups. Working together had provided the members of these groups with a better understanding of each other's organisations, roles, and scopes of practice.
- Many of the key elements of integration were in place at organisational level and were starting to reach some frontline providers and consumers.
- Innovative new integrated service models in Lakes have reached vulnerable women and improved outcomes by bringing together health and social services.
- There was strong support from stakeholders in all three locations for a continued focus on integrating services.

It was too early to demonstrate substantial changes using MoH administrative data sets due to time delays in implementing pilot initiatives that would influence changes for consumers. Time lags between data collection, checking and the release of MoH data also limited the extent to which data were available at the end of the evaluation to demonstrate differences in outcomes. However, there is evidence from the literature about the benefits of integrated services, especially for vulnerable groups. Qualitative evidence from the evaluation and limited quantitative evidence support the continued development of integrated maternal and child health services.

At all sites the integration of maternal and child services will continue after the end of the pilot but to varying extents. Continuing to support the development of integrated services is likely to improve access to services and outcomes.

Snapshot of the Nelson Marlborough pilot

The Nelson Marlborough pilot took a regional approach to review systems and processes, and develop tools to support integration with the aim of embedding integration into business as usual. Pilot activities were led by a multi-disciplinary working group that included representation from the main groups involved in maternal and child health. At the end of the

pilot, the working group was well established to provide ongoing leadership towards continuing to integrate services. Tools and resources to support integration were launched to frontline providers at the end of the pilot so there was minimal opportunity for any changes to flow through to measurable outcomes for consumers. Therefore, as expected, no substantial changes in maternal and child outcomes attributable to the pilot were observable through MoH data sets. An exception is an indication of a trend in the last half of 2015 (July – December) to younger age at referral to a Well Child/Tamariki Ora provider and at first core contact.

In Nelson Marlborough, all pilot activities were developed with the intention that they would continue beyond the pilot. The working group will become the Nelson Well Child/Tamariki Ora Steering Group. The impetus for integration has been established and activities are continuing.

Table 1: An overview of the achievements of the Nelson Marlborough pilot (Green shading indicates established activities, orange shading indicates ongoing work is required)

Elements of integration	Nelson Marlborough achievements
Quality improvement	Care pathways agreed at organisation level. Building blocks are in place for improved outcomes for consumers. Tools for integration and other pilot activities are just being rolled out to frontline staff so have not yet flowed through to consumers.
Workforce development	Workforce skills agreed. Audit of training opportunities completed but multi-disciplinary training opportunities not fully implemented.
Communication	Handover points agreed but work still required to develop communication between providers. Lack of information sharing systems is a major barrier to communication. Improved communication between organisations. Developed pregnancy information packs and wallet cards, and smartphone app to empower women to negotiate the system.
Relationships	Cross-agency relationships developed through a working group established for the pilot. Planned to continue the group after the pilot. Work still required to develop relationships at provider level.
Systems, tools and resources to support change	Developed tools to support integration - resources including a smartphone app to align with the Well Child/Tamariki Ora My Health book. Resource Centre established in Blenheim - improve information for women. Barriers within existing systems e.g. IT barriers to information sharing. Attempted to develop maternity information sharing as part of 'Manage My Health'
Management/ planning	Working group embedded integration as part of business as usual. Working group members developed an understanding of each other's roles and the ways different professional groups contribute to maternity care.
Governance/ leadership	Governance provided by ToSHA Alliance group - provides connection with regional DHB, NGOs and PHOs. Raised awareness of the need for improved integration at governance level that could support future systems changes.

Snapshot of the Counties Manukau pilot

The Counties Manukau DHB pilot was in Otara. A pilot team was developed and included project managers, and GP and midwife clinical leads. The pilot team worked closely with a wider group of Otara providers to develop relationships between providers and a range of tools and processes to support integration at a local level. The pilot provided an opportunity to develop and trial different initiatives providers identified as gaps in the local system.

Table 2: An overview of the achievements of the Otara pilot (Green shading indicates established activities and orange shading indicates ongoing work is required, grey shading indicates work not included in the pilot)

Elements of integration	Otara Achievements
Quality improvement	Monitoring dashboard developed but timely data not available to enable its use. Developed a form for general practices to audit early maternity care. Developed and trialled initiatives and resources to support integration. Home-based and family focussed antenatal education improved access to education. Care pathways to social sector providers developed for women with complex/multiple problems.
Workforce development	Workforce development was not a specific focus. However, stakeholder working group meetings and mix and mingle sessions helped providers understand each other's roles.
Communication	Midwifery directory-helped general practices to link women to midwives (early engagement). Pregnancy information packs and journey cards - assist with communication consistency in the information given to pregnant women. Provider information updated on the information website Healthpoint. Integration trial with social sector providers has early indications of success.
Relationships	Providers reported improvements as a result of the integration project but specific ratings of communication/trust/effective working relationships between professional groups did not improve. Mix and mingle sessions well received by midwives. Poor attendance by GPs.
Systems	Multiple PHOs and contracts required engagement at provider level. Care pathways were developed and systems for linking women to social service providers.
Management/ planning	Employed project managers allowed time to be put into relationship building but lacked the support they needed at the start of the project. Core management group and stakeholder working group contributed to building relationships and raising the profile of integration. GP and midwife clinical leads (0.1FTE) essential. Consumer input through case studies and consultation. Co-design approach had limited
Governance/ leadership	Project timing was difficult. Restructure of DHB maternity and child services and lack of alignment of the project with other DHB priorities limited project impact.

At the end of the pilot, there have been some changes in indicators that services are more connected that align with the timing of the pilot:

- Reduction in the number of third trimester registrations with a lead maternity carer (LMC)
- A possible trend in fewer low birth weight babies (less than 2.5kg)
- Increased notifications of births with Well Child/Tamariki Ora (WCTO) providers.

Funding for working group salaries ended on 1 February 2016. Provider relationships established through the pilot are likely to continue and to be supported by the clinical leads through new roles or their business as usual activities. The tools and resources developed by the pilot have been taken over by other parts of the DHB and will continue to be produced.

Snapshot of the Lakes DHB pilot

The Lakes pilot was led by a DHB portfolio manager working closely with a project manager. The pilot developed a maternal, child and youth governance group and two new integrated maternity and child health services where different providers were co-located: in Turangi and in Western Heights in Rotorua. A further service was planned for Taupo.

Development of IT systems and workforce were also part of the original pilot plan but were not completed by the end of the pilot.

Data from the new integrated services provided evidence of improvements in:

- Access for vulnerable women – new approaches such as the integrated services in Turangi and Western Heights are reaching vulnerable women
- Reduction in the number of third trimester registrations with a LMC
- Access to health promotion services.

Following the pilot, the governance group and the two new integrated services established as part of the pilot will continue. The governance group will continue to focus on pilot workstreams that are still to be completed.

Table 3: An overview of the achievements of the Lakes DHB pilot (Green shading indicates established activities and orange shading indicates ongoing work is required)

Elements of integration	Lakes DHB achievements
Quality improvement	Service specifications included reporting criteria. Improved access for vulnerable women in Turangi and Rotorua (Western Heights). A further site is planned for Taupo. The pilot enhances knowledge about establishing integrated services.
Workforce development	New workforce roles identified for integrated services. There is need for training for integrated workforces (scopes of practice, information sharing). Providers at the integrated services are learning about each other's roles and scopes of practice. Workforce workstream not yet progressed but is ongoing work for Te Whanake.
Communication	Co-location of providers at the new integrated services improved communication between providers. Joint management meetings with DHB provide a forum for development and problem solving. MDT meetings for information sharing about clients.
Relationships	Co-location at the new integrated services facilitated development of working relationships between co-located providers. In Western Heights relationships built with general practices in the locality.
Systems	Innovative approaches to funding and establishing 'work arounds' to Section 88. Delayed establishment of IT information sharing systems - dependent on others.
Management/ planning	Contracted project manager working closely with DHB lead provides effective project management.
Governance/ leadership	Developed a cross-sector maternity, child and youth governance group - Te Whanake that is recognised as providing leadership across these population groups.

Demonstration pilot challenges and mitigations

All sites found that it took longer to establish their demonstration pilot activities than they had anticipated. The main reason for delays was the time it took to build relationships within working groups and to develop the integration activities they had planned. In Nelson Marlborough establishing the consumer advisory panel took longer than expected. However, establishing the various groups was an essential element of the pilots.

All pilot sites identified systemic barriers which stand in the way of integration. The main gaps in national systems to support integration included the way maternity care is funded which made it difficult to support the more intensive care very vulnerable women required, lack of IT systems to support communication, and some examples of lack of interagency collaboration. The demonstration pilots developed innovative ways to 'work around' the limitations of existing systems. Innovation required strong links back into senior management and governance groups. Lakes DHB's development of new integrated services provided an

innovative approach to service delivery that is reaching vulnerable women and linking them to services, and seems to be effective in improving outcomes.

Attempts to improve electronic information sharing between providers largely failed. Other types of information sharing tools developed by the demonstration pilots in Otara and Nelson Marlborough have been well received and will help some consumers to self-manage their own care. Tools that will be maintained include Otara's directory of midwives, Otara and Nelson Marlborough's pregnancy packs and wallet or journey cards, and a smartphone Well Child/Tamariki Ora app developed by Nelson Marlborough.

Poor relationships between professional groups are a substantial barrier to integrating services at provider level. Pre- and post-pilot surveys in Nelson and Marlborough demonstrated that some providers considered there was a lack of confidence, trust and communication between the providers responding to the survey. Further improvements in communication and relationships between providers are essential to progress integrated maternal and child health services. The pilot sites had developed multidisciplinary training opportunities, and 'meet and greet' sessions that were contributing to building relationships within and between professional groups.

Integrated services are expected to improve the quality of consumer care. Many of the demonstration pilot initiatives had not had time to embed in provider practices and to influence outcomes for consumers. Providing feedback about consumer perspectives and outcomes is an effective quality improvement strategy. In Nelson Marlborough, feedback from the consumer advisory panel established through the pilot was effective in influencing change and contributed to bringing some groups together. Otara developed an audit linked to MedTech patient management systems and the second pass of the audit was underway at the end of the pilot. Lake's DHB service provider reporting provided some information about the extent different activities were influencing quality improvement.

Key learnings about delivering integrated services

Learnings from the demonstration pilots provide valuable information to support work to further integrate maternal and child health services.

Governance: Changes at system level are required to integrate services. Effective governance with broad representation by people who are able to make decisions for their organisations provide the mandate to make changes at an organisational level.

Looking ahead: The MoH team can support integration by providing guidance about effective governance models for integration and taking this into account in the expectations they set in contracts. One governance group for maternal, child and youth services with broad representation avoids the duplication that was reported in some districts. Operational groups for specific projects could report to the governance group.

Management: Broad cross sectoral working groups at operational level enable relationships to be built and the conversations that support change. It takes time for working groups to develop the trusting relationships that are needed and funding this time is important,

especially for the self-employed workforce and NGOs. Resources for a project manager, or at least a project administrator, supports other members of a working group and assists in communicating changes to the sector.

It is essential to adequately support multidisciplinary representation in managing integration projects. Support may include payment for working group members, for training in project management and for the time required to establish multi-disciplinary groups.

Looking ahead: MoH can contribute to new initiatives by providing guidance on the strengths and challenges of different approaches to project management. Flexibility in funding allocations and timing are important for pilot projects. It is essential to adequately support multidisciplinary representation in managing integration projects. Support may include payment for working group members, but support is also required for training in project management and recognition of the time required to establish multi-disciplinary groups.

Bringing in the consumer voice: There is growing evidence to support the relationship between consumer engagement and improved outcomes from health care. In Otago and Nelson Marlborough, the project managers provided examples of how consumer feedback had changed the direction of the project or contributed to planning. In Nelson Marlborough, the consumer advisory panel was described by working group members as one of the key achievements of the integration pilot.

Looking ahead: The MoH has a role in emphasising the importance of partnerships with consumers in developing new initiatives – in raising awareness of the value of consumer input, engagement and participation, and guidance about how to achieve effective partnerships.

Systems to support integration: Integration needs to be supported by systems that enable healthcare organisations and frontline providers to deliver integrated services. There are systemic factors that if addressed at central agency level would pave the way for integration: funding and information sharing systems, alignment of policies and standards for similar services across agencies, sharing of information expectations, setting expectations around the development of strong partnerships, and flexibility in contracts to allow increased engagement with socially complex high needs population groups. In the districts, integration is supported where there are flexible contracts that recognise the time required to set up new services, agreed protocols and referral/care pathways.

Looking ahead: New systems are required to support integration e.g. funding models, information sharing systems and privacy regulations. Most of the systems challenges to integration identified through the evaluation will need to be addressed at central agency level. Some barriers require inter-agency agreement (e.g. what information can be shared) whereas other barriers relate to funding legislation and the need to look at joint funding initiatives.

Relationships between providers: Effective working relationships between different professional groups and initiatives that promote or require partnership and collaboration are essential in improving the services women and children receive. A number of historical, current and systemic factors influence relationships between providers from different professional groups. There is need for a concerted focus on building provider relationships to break down silos and improve outcomes for women and their children. Effective strategies

include working together, joint representation at all levels in a service, developing understandings of each other's roles and scopes of practice in an integrated system.

Looking ahead: Improving relationships between different professional groups and supporting initiatives that promote or require partnership and collaboration are essential in improving the services women and children receive. Central government agencies could assist with relationship development by setting expectations for integration and recognising in contracts the time required to build the relationships that are essential for integration activities.

Communication: Lack of communication between providers is evidenced by consumers who frequently express frustration about having to repeat their stories. Pregnancy packs, tracking tools and the smartphone app were well received by providers and consumers in two of the localities. These are self-management tools and designed to be developed into national tools with potential for some tailoring to suit each region. Information sharing systems support communication between providers, and between providers and consumers.

Looking ahead: Pregnancy packs, tracking tools and the smartphone app were well received by providers and consumers in two of the localities. They are all self-management tools and designed to be developed into national tools with potential for some tailoring to suit each region. There is the potential for these tools to be disseminated nationally.

Improving IT systems to support integrated care will help improve communication between providers and ensure consumers do not 'fall through the gaps' at transition points. Improved IT systems will also reduce the burden on consumers to have to keep repeating information.

Workforce development: New workforce skills and roles are required to support integration. Potential topics for workforce development for providers working in integrated services would include understanding the role of an integrated service, scopes of practice of other professional groups, governance and management skills, understanding information sharing policies and processes as well as the clinical skills required. New roles include the 'host' role that the integrated services in Lakes DHB have found essential and a clinical coordinator role. In the two services established the host role has been described as a 'motherly' person, ideally with a health professional background in maternity or WCTO services.

Looking ahead: MoH could contribute by communicating information to the sector about workforce competencies for integrated services.

There is the potential to work with health professionals' organisations and colleges to include some of the workforce competencies for integration into continuing education programmes.

Quality improvement: Quality improvement can be enhanced through continuous improvement processes. Good information about service delivery and outcomes underpins continuous improvement. There is still a lot to learn about what works in integrating maternal and child health services. Knowledge can be built by continuing to evaluate services and consistently monitoring outcomes.

Looking ahead: The sector needs more information about outcomes of different service delivery models to inform quality improvement. Measuring outcomes is difficult. Developing an outcomes framework for integrated services and data collection templates would help

providers and their organisations to collect the information needed for quality improvement. Building monitoring into service delivery contracts will provide information about what works.

New integrated service models at Lakes DHB: The two different approaches to providing integrated maternity and child health services developed through Awhi House and Kia Puāwai have provided a greater understanding of the key elements in an integrated service model. Qualitative and quantitative information from the evaluation have demonstrated the benefits of the approaches. Although each service has developed to meet the needs of their local communities, there are many similarities in the experiences in establishing the services that were common to both, and reported in evaluations of other integrated services that have been published in the literature.

Looking ahead: It is important to share learnings from the two integrated sites established as part of the Lakes pilot as they provide valuable information for others seeking to establish integrated services. Support from MoH in sharing the information would assist new sites to be established and also provide understandings of the establishment and ongoing costs that need to be included in contracts.

1. The Integration Demonstration Pilots

Pregnant women, children and their families have contact with a number of different health service providers during the pregnancy and postnatal periods, and during the first few years of childhood. Limitations of existing service coordination can reduce the efficiency and quality of services.

There is evidence that integrated services have benefits for agencies², service providers and consumers. Consumers want health services that meet their needs, are connected and well-integrated. They want to experience 'one health system' regardless of service structure, funding or governance.³ Correspondingly, integration of services such as maternity and child health services is an increasingly important goal for Government because it can improve the efficiency and quality of services. Providing services as 'One Team' is priority Four of the 2016 New Zealand Health Strategy.⁴

In May 2013, the Ministry of Health (MoH) conducted a closed *Expressions of Interest* process with all 20 DHBs to identify those willing to more closely integrate maternal and child health services. Three DHBs were selected to trial different initiatives to improve the integration of these services. The pilots ran from 30 January 2014 to 1 February 2016 and involved the Counties Manukau DHB (Otago communities), Lakes DHB (Rotorua, Turangi and Taupo communities), and the Nelson Marlborough DHB (all communities in the region).

A key principle of integration is that there is no single organisational model or approach. Different locations may develop different models of integration that meet the needs of the health providers and communities in their locality. In the demonstration pilots each DHB developed their own approach to integration to meet the needs of their communities.

1.1 Theoretical framework for integration of maternal and child health services

Integration occurs at multiple levels and it is necessary to consider what needs to be in place at each level to support integration. A generic logic model was developed for the integrated services project, based on information from a literature review (Figure 1). The logic model sets out the inputs, activities and outputs for each stakeholder group (central government agencies, District Health Boards (DHB), service providers and consumers). Each is considered under the following categories: governance and leadership; management and planning; systems; communication; workforce development; relationships; and quality improvement.

² Tomlinson, K. (2003). *Effective interagency working: a review of the literature and examples from practice*. National Foundation for Educational Research, Berkshire, England.
<https://www.nfer.ac.uk/publications/91081/91081.pdf>

³ Oliver-Baxter, J., Brown, L., O'Connor, J., Lunnay, B., & Bywood, P. (2013). Integrated care: What can be done at the micro level to influence integration in primary health care? *PHC RIS Policy Issue Review – Report 5*. Primary Health Care Research & Information Service, Adelaide, Australia.
http://www.phcris.org.au/phplib/filedownload.php?file=/elib/lib/downloaded_files/publications/pdfs/phcris_pub_8417.pdf

⁴ Ministry of Health. (2016). *New Zealand Health Strategy: Future Direction*. Ministry of Health, Wellington, New Zealand. <http://www.health.govt.nz/publication/new-zealand-health-strategy-2016>

However, the logic model does not imply that all components are necessary, essential or achievable within the pilot integration project timelines.



Figure 1: Logic model for integrated maternal and child health services

1.2 Snapshot of the pilots

A brief overview of what each pilot aimed to achieve is provided below with full details in Sections 12 to 14. In the overview figures, darker shaded boxes indicate a stronger project focus.

Nelson Marlborough: The Nelson Marlborough pilot aimed to achieve regional change that would improve maternal and child health services for providers and women in the region. Priority areas identified by service providers were consistent with those identified by consumers and included:

- Weak connections between services resulting in:
 - Poor referral rates and follow-up between providers
 - Poor customer service at multiple points in the system
 - Vulnerable people falling through the cracks
 - Lack of knowledge of services (for both consumers and service providers)
- Access issues especially for rural and vulnerable families
- Engagement issues
 - Lack of support for vulnerable consumers
 - Lack of knowledge around pregnancy and healthcare.

An overview of the approach to the Nelson Marlborough pilot is provided in Figure 2 below.

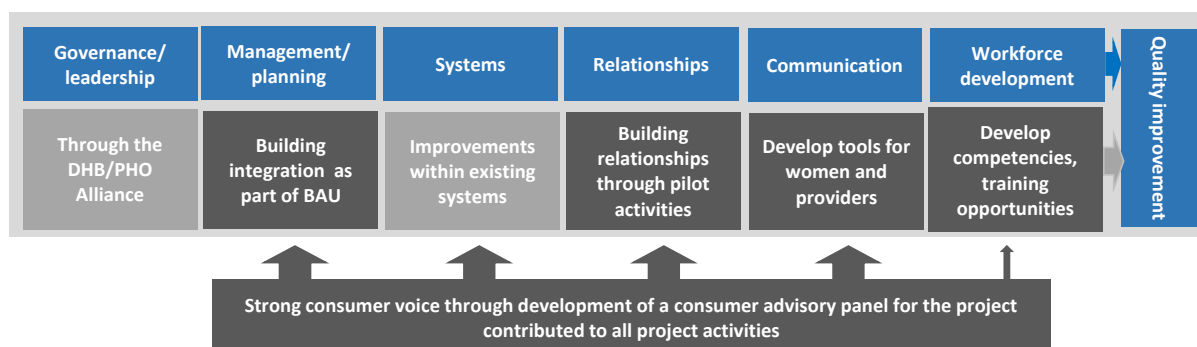


Figure 2: An overview of the Nelson Marlborough integration pilot planned activities

Counties Manukau: The Counties Manukau pilot aimed to reach all providers, women and children in Otara. It was developed to meet the identified needs of the Otara locality with its predominantly Pacific and Māori population. Many of the community's families have deep-rooted and complex health and social needs. Service delivery is also complex with four primary health organisations (PHOs) and a number of NGOs delivering a range of health and social services to the community.

An overview of the approach to the Otara pilot is provided in Figure 3 below. The pilot had three main objectives:

- joined up health and social services
- planned healthy pregnancies
- healthy early years.

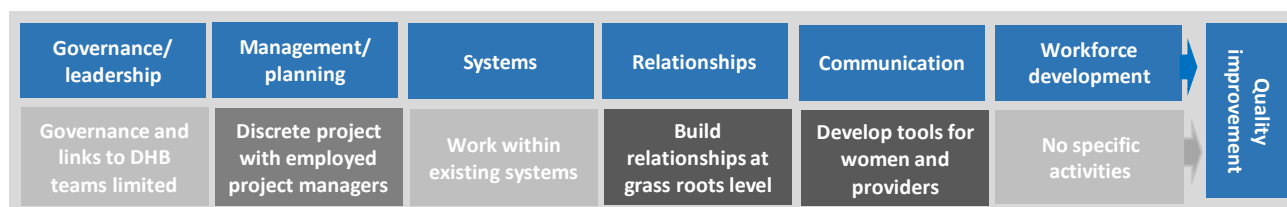


Figure 3: An overview of the Otara integration pilot planned activities

Lakes DHB: The Lakes DHB overarching outcome for the integration project is to have integrated and coordinated maternal and child health services that support improved health outcomes and reduced inequalities in the target population group. The specific maternal and child health challenges for the Lakes population include:

- Late access to maternal health services
- Non-attendance at antenatal assessments and antenatal education
- No lead maternity carer
- Smoking, drug and alcohol abuse during pregnancy
- Teen pregnancies
- Premature and IUGR babies
- High SUID rates
- Children at risk of rheumatic fever
- Unmet perinatal mental health needs.

The Lakes integration pilot comprises four workstreams that aim to provide a governance function to sit over maternal, child and youth health services, an innovative approach to integrated service delivery through new services located in Turangi, Western Heights in Rotorua and Taupo, as well as IT systems and workforce development to support integration. An overview of the Lakes pilot is shown in Figure 4 below.

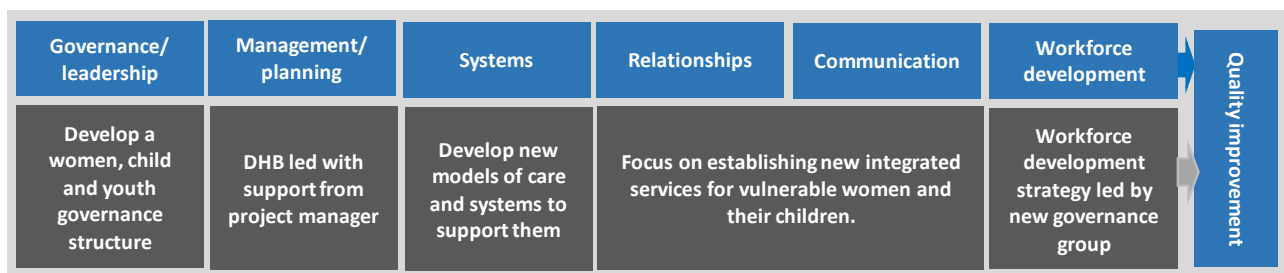


Figure 4: An overview of the Lakes DHB pilot planned activities

2. The Evaluation

2.1 The purpose of the evaluation

The evaluation was commissioned by MoH to run concurrently with the delivery of the pilots. The purpose of the evaluation was to inform MoH and the integration pilot working groups on the progress and effectiveness of pilot activity and to develop a body of knowledge on how to create a seamless system of care to improve the consumer experience, access, and health outcomes with regard to maternity and child health services. MoH's intention was that the evaluation would provide information that is useful to the participating DHBs and other stakeholders as well as to MoH.

2.2 Evaluation approach

There were three phases to the evaluation:

- A formative evaluation provided information to help with pilot site planning
- Three process evaluations provided feedback on progress including evaluation of different pilot site initiatives
- The final outcomes evaluation that aimed to demonstrate outcomes achieved as a result of the pilots.

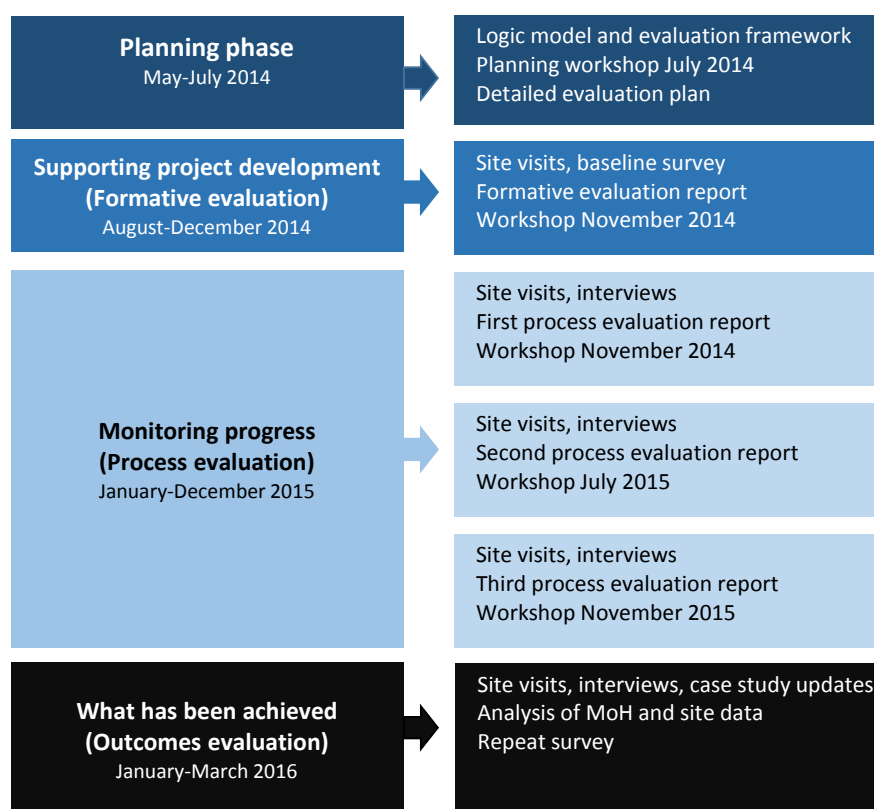


Figure 5: An overview of the evaluation approach

The logic model provided a way of aligning the different approaches taken by the DHBs and a framework to guide the evaluation. Aligning the approaches into a common set of categories facilitates interpretation of the evaluation findings and application of those findings to developing integration programmes in other localities.

2.3 Evaluation data collection

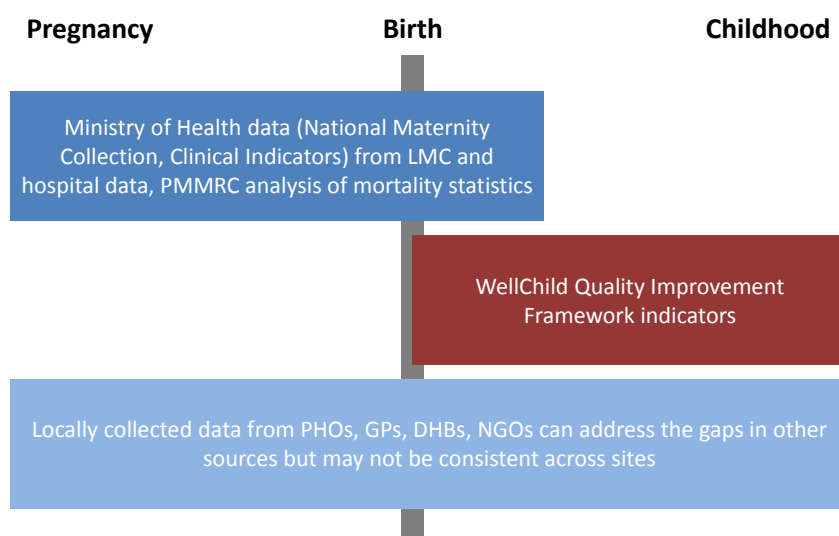
Information for the evaluation was sourced from:

- Quarterly interviews with the project manager(s) and key members of the working groups
- Review of monthly and quarterly progress reports and newsletters provided by the pilot sites
- Site visits
- Interviews with representatives from the governance groups
- Evaluation of different initiatives developed by the pilot visits – including site visits, interviews with providers and consumers, and surveys of providers and consumers
- Pre- and post-surveys of providers in Otara and Nelson Marlborough
- Analysis of MoH data sets.

Details of the numbers of interviews are provided in Appendix 1 and also in the formative evaluation and process evaluation reports, and in evaluation reports prepared on the case studies of pilot site initiatives.

2.4 Outcomes measures

Outcomes measures were developed and agreed with the regional teams. The intention was that outcomes measures would be based on administrative data, reporting that was already in place and new data to be sourced from local organisations.



Data collected at the new integrated services were provided by Lakes DHB and analysed to examine time trends in key measures since the service was established.

A number of datasets were requested from MoH, to examine time trends in key measures from 2010 to the end of 2015, (or earliest and latest available within these timeframes). Data were requested at the highest level of disaggregation (unit records with domicile code and quarterly). Data availability at this level was limited with a large proportion only accessible at the DHB level.

Data received from MoH included:

- National Maternity Collection: unit records with domicile codes, monthly from January 2010 to December 2015 (final half of 2015 is preliminary data only and subject to change)
- Well Child/Tamariki Ora (WCTO): unit records for all pilot site areas (with domicile codes), from January 2013 to December 2015
- Well Child/Tamariki Ora (WCTO) supplementary analysis of timeliness of referral to WCTO provider and age at first core contact (analysis courtesy of MoH)
- Number of pregnant women offered advice to quit smoking (provided by MoH Smokefree team): DHB quarterly data from July 2013 to December 2015
- Number of preventable hospital admissions (provided by MoH National Health Board): unit level data with domicile code, monthly from January 2010 to December 2015
- Newborn enrolment with PHO by 3 months (provided by MoH Business Services): DHB level, quarterly from January 2013 to December 2015
- Immunisations up to date at 8 months and 24 months (provided by MoH National Immunisation Register): DHB level, quarterly from January 2010 to December 2015.

Where data were provided at unit record level (each record represents a mother or child) and the child's date of birth was known or derivable, data were analysed by the quarter in which the baby was born. This applied to all analysis of the National Maternity Collection and unit record WCTO data provided for the purpose of the evaluation. Note that the supplementary analysis of WCTO data on the timeliness of referral to a WCTO provider and age at first core contact that was provided by MoH does not report by child birth quarter, instead using the WCTO 6-monthly reporting period

The only other unit record dataset (preventable hospital admissions), did not include child date of birth, hence this dataset was analysed by the quarter in which the admission occurred. All other data were available at aggregated level (quarterly and/or DHB) only. Further details of the MoH data sets used for each outcome measure are provided in Appendix 5.

2.5 Reporting

Regular workshops with the MoH and pilot site teams provided a forum for sharing information, and discussing challenges with each other and the MoH team. Reports were provided for each phase of the evaluation. Brief reports about the evaluation of the different initiatives were provided to the pilot teams. The current report is the final evaluation report. It summarises the activities and achievements of each pilot as well as providing an overview of what worked well, challenges and areas for future development.

2.6 Ethics

The Health and Disability Ethics Committee summary flowchart⁵ was used to determine whether the evaluation fell within the scope of the Health and Disability Ethics Review Guidelines. Based on the flowchart formal ethics review was not required. The conclusion was that as an evaluation it was out of scope for the Committee and this conclusion was confirmed by MoH. Review and consent was sought and obtained from the relevant DHB ethics processes for data collection in their localities. Ethical principals were adhered to in all phases of the data collection.

2.7 Strengths

The key strengths of the evaluation approach were:

- The development of a logic model and evaluation framework to provide a theoretical foundation for the evaluation.
- A mixed methods approach to data collection that included feedback from a range of stakeholders. Information from different sources enabled triangulation of findings.
- Consultation during the planning phase, including stakeholder input into the evaluation approach, and development of questions for the interviews and surveys.
- Flexibility in approach and timing to fit in with the evolution of pilot activities and changing timelines.
- Feedback from the pilot site teams confirmed the value of the phased approach with regular reporting, the evaluation of the different initiatives and of the information sharing workshops.

I certainly used your reports to go to the maternity, quality and safety group and saying, "This has been a suggestion from your report that the DHB provides a consistent pack to all women". So that was incredibly useful to make the case for doing this. (Otara working group)

⁵ Health and Disability Ethics Committee. (N.D). *Does your study require HDEC review?*
<http://ethics.health.govt.nz/system/files/documents/pages/HDEC%20scope%20summary.pdf>

[The evaluation] made me get things done So I want to make a recommendation to the Ministry that it's been a really helpful part of the whole process. Its added urgency to make big decisions. (Nelson Marlborough working group)

The limitations of the approach included:

- At all pilot sites, establishing the integration initiatives took longer than expected, resulting in delays in implementing some initiatives. The end date for the demonstration pilots could not be changed. This limited the extent to which initiatives were rolled-out to local providers and the potential for them to result in changes for consumers.
- Delays in roll-out to providers and consumers limited the extent changes could be tracked using the various MoH administrative data sources. Some MoH data were not checked and available for approximately six months after data were collected. Therefore, data from some sources could not be expected to demonstrate changes as it had been collected before initiatives were rolled out. Qualitative data and local data have been used as an alternative where available.

3. Leadership and Governance

Key elements of leadership and governance for integration

The literature about integrated services notes the importance of leadership and organisational integration.⁶ Developing new service models and ways of working requires leaders who have a clear vision about what the service should look like and preparedness to be flexible, accept that mistakes will be made and respond with solutions. The literature also notes that integration is strengthened when opportunities are given to midwives and other health professionals to participate in strategic planning, developing new processes, and in discussions around professional roles and responsibilities⁷. Broad representation on governance groups is a way of achieving this:

- Necessary agencies are identified and represented in governance groups and there is clarity of agency roles.
- Governance group members have a shared vision based on jointly held values and set clear goals and expectations for organisations.

What happened in the demonstration pilots

	Nelson Marlborough	Otara	Lakes
Plans	The Top of the South DHB PHO alliance group (ToSHA) that formed at the same time as the start of the pilot.	Governance to be provided by the Otara Locality Leadership Group.	Developing a governance group was a specific pilot workstream.

⁶ Ham, C. & Curry, N. (2011) *Integrated care: What is it? Does it work? What does it mean for the NHS?* The King's Fund, London, England.

http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/integrated-care-summary-chris-ham-sep11.pdf

⁷ Psaila, K., Fowler, C., Kruske, S., & Schmied, V. (2014). A qualitative study of innovations implemented to improve transition of care from maternity to child and family health (CFH) services in Australia. *Women and Birth*, 27(4), e51-e60.

What happened	The workstream group reports to the governance group. ToSHA oversight has contributed to DHB, PHO and NGO awareness of the pilot and the importance of integration.	The Otara Locality Leadership Group merged with the larger Mangere Locality Leadership Group. The Otara pilot was of less importance to the merged group.	A new governance group, the Te Whanake Governance Group, was established as part of the integration project. Te Whanake has broad representation across the maternal, child and youth services.
Outcomes	ToSHA took time to develop a governance role. At the end of the pilot, the importance of a governance group in keeping integration of services as a priority was recognised by the working group members.	Lack of a clear governance function and lack of alignment with DHB priorities limited the pilot achievements.	Members consider Te Whanake is very effective. Decision-makers sit on the group and it is recognised as taking the lead on maternal, child and youth work.

Learnings from the evaluation

The different governance models at the three demonstration sites provide an opportunity to understand the strengths of the different approaches.

Effective governance is important in making pilot projects count and in sustainability of effective initiatives. Support from a regional governance group is required for regional change in systems. Without the mandate of a governance group the integration initiatives are limited to a 'bottom-up' approach resulting in more localised changes.

Future projects need to have clear links with a governance group. (Otara)

Using existing regional governance structures for integration projects has advantages in that the groups are formed and are able to provide a regional perspective. However, existing groups may not include all the professional groups that need to be involved in an integration project.

A governance group that sits over different programmes and services for maternal, child and youth services has the advantage of being able to include the broad cross-sectoral representation that supports integration.

There are some difficulties in achieving broad representation:

- Governance for integration projects has the potential to be strengthened by inclusion of social sector providers and NGO providers including Māori and Pacific providers. However, lack of NGO and other organisations' senior management representation in a locality can make this difficult to achieve.

- Participation from self-employed practitioners (LMCs, GPs, and practice nurses) at governance level is difficult because timing of meetings may not align with the availability of DHB staff and funding for their time may be required.
- Governance groups take time to establish and for members to develop the trust necessary for open discussion. Providers may need guidance to focus on consumers and step away from their operational roles and their potential competition for funding.

Stakeholders described Lakes DHB's Te Whanake group as effective. Members described the following as contributing to its effectiveness:

- Effective leadership
- Having a dedicated project manager to keep the group together
- Clarity that the group's function is about governance and not operations
- The people on the group at the right level in their organisations to make decisions
- The group being the right size and providing a positive space for discussion.

The Ministry of Health's leadership

The three pilot teams have all acknowledged the value of the integration pilots to their regions. The pilots have provided an opportunity to trial new initiatives.

The Ministry took a hands off approach which was great. (Nelson Marlborough working group)

Looking ahead:

The MoH team can support integration by providing guidance about effective governance models for integration and taking this into account in the expectations they set in contracts.

One governance group for maternal, child and youth services with broad representation would avoid the duplication that was reported in some districts. Operational groups for specific projects could report to the governance group.

4. Management

Key elements of management for integration

Theoretical success factors based on information from the literature include:

- Management commitment to integration and a positive regard for workers from all agencies
- Clear and realistic aims based on needs analysis/evidence of local situations
- Action plans in writing and include realistic timeframes and tasks
- Change is adequately resourced including time to commit to integration activities
- Monitoring systems and review processes are in place to address challenges.

What happened in the demonstration pilots

	Nelson Marlborough	Otara	Lakes
Plans	Project management provided by two senior established DHB roles. Working group activities as part of BAU.	A senior DHB manager has oversight of the project. Two project managers were employed for the pilot.	The project lead is the DHB portfolio manager.
What happened	A wider cross-agency working group designed and implemented integration initiatives as BAU. A project administrator was important in keeping information flowing.	Project managers and GP and midwife clinical leads formed a core working group. Aimed to co-design the pilot initiatives with a wider stakeholder group.	A project manager was employed to work with the DHB manager in developing and implementing project activities. The project manager is well supported by the DHB manager.
Outcomes	Working together in planning the project has built relationships between the members of the workstream group. Members had mixed views about whether or not a project manager should have been employed.	Co-design approach did not work as well as hoped. Most project activities led from the core working group.	The portfolio manager had the autonomy required to allow the development of innovative approaches. The project manager was key to supporting the development of the integrated services and governance group.

Learnings from the evaluation

The three pilots had different approaches to project management. An employed project manager who is well supported by a project lead or governance group has the potential to progress activities faster, especially in the work required to establish a new initiative.

*The more resources you have the more you can do... people don't have the time to do extra.
(Working group member)*

It took longer to develop initiatives as part of BAU because project leads had to fit integration tasks alongside their other activities. However, not having a project manager may result in more sustainable projects when the aim is to achieve regional change.

Otara and Nelson Marlborough established cross-agency working groups for the pilots that represented the different professional groups involved in integration. In Lakes, multidisciplinary representation was achieved through Te Whanake. A multi-disciplinary working group was formed at the integrated services as a forum for providers using the service to discuss issues and make plans.

A core team with varied backgrounds strengthened it all. (Otara)

Commitment to integration by the project managers and from the working group members increased over the course of the pilots and are reflected in the comments project managers and working group members made at the end of the pilots.

[From working on the working group] I think people have become more comfortable working with other groups and agencies etc. So there is more trust between the different groups I think. (Working group member)

Although the core project team in Otara were committed to the project, their specific roles ended with the end of the pilot. The potential risk of fixed-term management is the loss of relationships built and knowledge gained over the project. However, the GP and midwife clinical leads in Otara will continue to work in the locality and will take the learnings from the integration pilot into their existing and new roles.

In Lakes and Nelson Marlborough, integration occurred amongst managers and working group/Te Whanake members as the pilot progressed. Working together built their understanding of each other's roles and trusting working relationships formed. The relationships will be ongoing and continue to support integration in their regions.

Commitment by frontline staff is essential in developing and trialling integration initiatives. At each site, frontline staff were involved in and either led or worked closely with the project managers or workstream/working group members to make things happen. Some of the members of the working groups were employed in clinical roles and some were self-employed. Including resourcing for these roles is important to support cross-agency representation at an operational level. In interviews, some mentioned that they had not previously worked on projects and would have benefitted from an induction where they could gain a better understanding of their local healthcare system and about how projects worked.

Because I was coming in very green... I knew the areas but I did not know how the layers work. It took a little while to feel confident... an orientation session would have been very helpful...

Getting some idea of how a project evolves and what to expect will happen. (Working group member)

Lack of project management experience can also be an issue within provider organisations that may be contracted to deliver integration initiatives, often within their existing workforce.

Relating to the lack of capability within NGOs to establish new services effectively and efficiently. This is a gap that probably exists across many NGOs. (Project manager)

All three demonstration sites invested time in working alongside stakeholders in their locality to develop plans. All three sites took more time in various aspects of the planning or early establishment of integration activities than they had expected. In establishing future initiatives that bring together different agencies or professional groups it is important to acknowledge that relationship building is essential, time consuming and cannot be rushed without compromising the project. However, although planning time is important, providers on working groups can become impatient and want to see real change sooner.

We go to the meetings and we do a lot of talking and a lot of networking... which is sometimes really good stuff, but I never come away feeling as though I've moved anything forward. (Working group member)

The Ministry of Health's management of the integration pilots

The three pilot teams considered the integration pilots had been adequately resourced. The project managers reported that support from the MoH team has been useful and they have appreciated the flexibility and 'hands-off' approach to management.

Because we couldn't implement some of our initiatives it would have been awkward if the Ministry was not flexible. (Project manager)

4.1 The cost of the pilots

Adequate resourcing is one of the success factors underpinning integration. The three pilot sites considered they had adequate budget for the pilot activities and that lack of resourcing did not constrain any of their planned activities. A summary of the expenditure at each site is provided in Table 4.

Expenditure reflects the different delivery approaches and project aims. For example, a substantial part of the Otago budget was spent on salaries reflecting the employment of project managers and clinical leads. In Lakes, a substantial part of the budget supported the establishment of the integrated services with set up costs of \$23,000 to \$30,000 required for each service. In Nelson Marlborough, the focus on business as usual activities is reflected in the proportion of the total expenditure on integration activities.

Table 4: An overview of pilot site revenue and expenditure

Expense items	Otara	% total	Lakes	% total	Nelson Marlborough	% total
Revenue	\$600,000		\$380,000		\$580,000	
Total overheads and staff	\$578,164	97%	\$200,068	52%	\$135,869	23%
Consumer engagement		-		-	\$48,521	8%
Total integration activities	\$14,698	2%		-	\$140,172	24%
Resource centres/ integrated services		-	\$188,168	48%	\$64,875	11%
Total workforce development	\$1,722	-		-	\$44,500	8%
Other	\$3,895	1%		-		-
Planned 2016-17		-		-	\$147,483	25%
Total expenditure	\$598,478		\$388,236		\$581,420	
Balance/ carried forward	\$1,522		-\$8,236		-\$1,420	

Note: Categories reflect the pilot site reports. Gaps do not mean no money was spent on a category just that expenditure was not reported against that category.

Lower expenditure in the first year of the project reflects the time required to plan and build relationships to establish the pilots (Table 5). Delays at the start of the pilot pushed out much of the Nelson Marlborough pilot's expenditure to the final months of the project and some has been carried forward to the 2016/17 financial year to continue project activities.

Table 5: The percentage of pilot funding spent each year

Expense items	Otara	Lakes	Nelson-Marlborough
2013/14	14%	24%	2%
2014/15	56%	50%	15%
2015/16	30%	25%	58%
2016/17	0%	0%	25%

The expenditure summaries provide information about the costs of establishing integration initiatives. It is too early for a cost benefit analysis of the pilots as there is very limited information about savings as a result of the pilot. However, savings are likely to result from: reduction in the number of low birthweight babies in special care units, reductions in

avoidable hospitalisations, efficiencies at transition points between services such as reduction in duplicate first trimester tests and scans, and reductions in duplication of hip testing for newborns.

Looking ahead:

The MoH team can contribute to new initiatives by providing guidance on the strengths and challenges of different approaches to project management.

Flexibility in funding allocations and timing are important for pilot projects.

It is essential to adequately support multidisciplinary representation in managing integration projects. Support may include payment for working group members, but support is also required for training in project management and recognition of the time required to establish multi-disciplinary groups.

5. Bringing in the consumer voice

The importance of consumer engagement in integration

There is growing evidence to support the relationship between consumer engagement and improved outcomes from health care. The Health Quality and Safety Commission defines consumer engagement as: ‘... a process where consumers of health and disability services are encouraged and empowered to actively participate in decisions about the treatment, services and care they need and receive. It is most successful when consumers and clinicians demonstrate mutual respect, active listening and have confidence to participate in full and frank conversation. Systems that support consumer engagement actively seek input from consumers and staff at all levels of an organisation.’⁸

What happened in the demonstration pilots

	Nelson Marlborough	Otara	Lakes
Plans	Pilot planning was based on problems identified by consumers as well as health professionals. A consumer advisory panel was planned.	Case studies were planned as part of project design.	Consumer engagement through usual DHB channels e.g. the maternity quality and safety consumer group.
What happened	A consumer advisory panel was established and had input into all aspects of the pilot. There was difficulty in bringing the voice of Māori, men and very vulnerable consumers into the panel. Alternative approaches were used.	Case studies were completed. Resources were tested with consumers, for example through visits to teen parent units.	Te Whanake members considered that they brought the consumer voice to governance through the interface between their organisations and consumers.

⁸ Health Quality and Safety Commission. (2015). *Engaging with consumers: A guide for District Health Boards*. Health Quality and Safety Commission, Wellington, New Zealand.
<http://www.hqsc.govt.nz/assets/Consumer-Engagement/Publications/DHB-guide/engaging-with-consumers-3-Jul-2015.pdf>

Outcomes	Consumers informed all stages of the pilot. Their input was highly valued by the working group.	Consumer feedback changed the approach to some initiatives.	Consumer feedback has guided activities at the integrated services.
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Learnings from the evaluation

In Otara and Nelson Marlborough, the project managers provided examples of how consumer feedback had changed the direction of the project or contributed to planning. For example, feedback from young mothers in Otara that they understood contraception and how to access it but did not want to use it guided the development of initiatives to reduce unwanted pregnancies. In Nelson Marlborough a website was at first thought as a good way to distribute information to young families but the consumer panel:

...changed our mind to the need to invest in a smartphone app. (Working group)

The Nelson Marlborough pilot working group established a consumer advisory panel to help guide the direction and content of the pilot, in recognition of the importance of consumer voices when trying to improve maternity and child healthcare.

The project gave the consumer group structure. In other situations consumers sit quietly because they are not sure about organisation processes but the consumer advisory panel was set up just for them. Consumers need to be charged with something they can take ownership for. (Nelson Marlborough working group)

The consumer panel had 13 members who were currently or had recently experienced the maternity and child healthcare system. Recruitment for the panel followed a rigorous process to ensure representation of different ethnic groups and of men as well as women. Some approaches to individuals were required after the formal application process to achieve the desired composition. The members of the panel represent their own views, not the views of any consumer organisations.

The consumer voice is key... How much the consumer voice will influence what we do from here on in. The intention of all the workstream is working together to give the same info and messages. It will be fantastic if it works... We want the consumer voice. (Working group)

As the pilot was a regional initiative, the panel included consumers from both Nelson and Marlborough. The panel initially met separately and in-person. After relationships had been developed meetings changed to include some teleconference meetings. Towards the end of the pilot members dropped out of the panel and were not replaced (however, the number of consumers participating continued to outweigh the number of active working group members) and the consumer panel met with the working group as one group for the final six months of the project.

At the end of the pilot, consumer panel members and working group members were all very positive about the inclusion of the consumer panel. They considered that consumers had helped shape the project and the resources developed would not have been as successful if consumers were not part of the process.

You really need consumer input or you're not going anywhere especially in the medical world where people have such different things and experiences in that medical field. Like I had quite a good experience with my daughter and myself, but I have heard about bad experiences so I think it's a good thing to have consumer input... I think it's a really good resource for the DHB to use us and hope they do use consumers more in other aspects of health. (Panel member)

Several members of the working group described the consumer panel as the most innovative aspect of the project. Factors that contributed to the effectiveness of the panel were:

- The panel had a specific task and members were clear what that was
- Being well organised and kept up to date by the project administrator
- Being involved from near the beginning of the pilot to the end
- Being treated well, respected and given an allowance for attending meetings
- Flexibility about how meetings were run, e.g. moving to video conferencing.

Although having consumer engagement was important there were some challenges:

- Recruitment took longer than anticipated and it was a struggle to get representation from a diverse range of people.
- Learning to work together.

The working group has had to learn how to listen to a consumer group, that's been a change. And the consumers learnt how to be consumers with feedback. (Nelson Marlborough working group)

- There were some challenges in consulting with groups outside the consumer panel and bringing together the different feedback.
- Consumers dropped out over time. The reasons provided were business and family obligations and changes of circumstances. Dissatisfaction was not an issue. Towards the end of the project the decision was made to not replace consumers on the panel.

Looking ahead:

The MoH has a role in emphasising the importance of partnerships with consumers in developing new initiatives – in raising awareness of the value of consumer input, engagement and participation, and guidance about how to achieve effective partnerships.

6. Systems to Support Integration

Key elements of systems to support integration

Integration needs to be supported by systems that enable healthcare organisations and frontline providers to deliver integrated services. Aspects of systems reported in the literature as important for integration are:

- A viable financial system
- Agreed protocols, referral/care pathways, sharing of information, and procedures for integration
- Well-designed IT systems to allow information transfer and improve access to information about consumers as well as functions to enable electronic communication and passing of information between providers.

What happened in the demonstration pilots

	Nelson Marlborough	Otago	Lakes
Plans	Planned systems changes at regional level.	Planned changes in local systems.	Develop new delivery systems through new integrated services. Planned IT systems for information sharing.
What happened	The working group are addressing identified inefficiencies and challenges in current systems.	Trialled initiatives with the potential to improve local systems.	Innovative approaches to funding and service delivery through new integrated services.
Outcomes	IT issues have limited progress of some initiatives such as the 'Manage my Health' project.	Some changes to local systems including care pathways and systems for linking women to social service providers.	There have been challenges in developing IT systems to support integration by making it possible to track women and their babies.

Learnings from the evaluation

As the integration pilots are demonstration projects, they have been developed within existing national systems. Discussions between the integration pilot teams and MoH as part of the workshops identified systemic challenges at central government, DHB and provider level that made integrating services difficult.

- **Funding services** – challenges in the way funding is allocated for maternity services through Section 88. The 2012 review of maternity care in the Counties Manukau District noted that the Section 88 funding mechanism provides financial disincentives in providing care to women with complex health or social needs and that urgent consideration needs to be given to ways of supporting midwives to care for the most vulnerable and high needs women.⁹ Providers in the pilot noted that payments do not recognise the added complexity of providing care to this group. In localities such as Otara, Turangi and Western Heights most women are likely to have high and complex needs. The Lakes pilot developed innovative ways to fund integrated services and incentivise midwives to work with vulnerable women.

Some funding models incentivise caring for the easy patients and not the complex ones. (Otara)

First trimester payments may act as a barrier to early engagement with a LMC by providing an incentive to general practice to hold women and claim for the first trimester payment. This may result in duplication of tests and scans for pregnant women. In Nelson and Marlborough care pathways and transition points were agreed between providers. In Otara, the pilot developed a directory of midwives to make the handover between GPs and LMCs easier.

- **Provider contracts** – challenges reported included:
 - National level contracts that may not allow time for involvement in local initiatives or integration planning
 - Different funding streams for providers holding multiple contracts with different eligibility criteria and different reporting requirements

I don't know why social funding is not covered by health... tensions between the funders should not affect the provider... different contracts provide different demands on providers... (NGO Provider)

 - Different business models and operational policies that may lead to competition and a difficulty aligning a 'for-profit' approach with a NGO model
 - Fixed-term funding for initiatives that may create uncertainty and unwillingness to commit resources to initiatives that may disappear
 - NGO contracts that do not support workforce development on the same basis that peers in other organisations such as DHBs are supported.
- **Information sharing** – all three demonstration sites have been grappling with different approaches to sharing information. The 2012 review of maternity care in the Counties Manukau District also noted the importance of health practitioners

⁹ Paterson, R., Candy, A., Lilo, S., McCowan, L., Naden, R. & O'Brien, M. (2012). *External review of maternity care in the Counties Manukau District*. Counties Manukau District Health Board, Auckland, New Zealand. <http://www.countiesmanukau.health.nz/assets/About-CMH/Reports-and-planning/Maternity/2012-CMH-external-report-maternity-care-review.pdf>

caring for women and babies to have access to comprehensive, accurate and timely clinical information and noted that a lack of interface between electronic information systems negatively impacts on continuity of care.¹⁰

- Lack of systems for information sharing – current IT systems do not support integrated care. Effective information sharing systems would make it easier to share birth notifications between providers and help with early engagement

If we all had IT we could share information safely and securely...it would be so much simpler and easier if we could receive referrals by email. (Nelson Marlborough)

- Local attempts to develop IT information sharing systems such as the Manage my Health module were not successful within the timeframe of the pilots. The IT component of the Lakes pilot was stalled waiting on IT system development elsewhere.
- Lack of understanding about what information can be shared – there is a need for clarity and simple guidelines for front line staff about information sharing similar to the UK approach¹¹. What information can be shared seems to be less clear between health and social sector providers than within a sector.

Professionals can get over cautious. [Central government] don't put out legal guidelines. NGOs manage this space and manage it according to their rules. (Nelson Marlborough provider)

Nonsense around the Privacy Act has stymied a lot of access. We just carry on. If you can't check on name, address and contact details of an at risk child it's very frustrating. (Nelson Marlborough provider)

- **Lack of alignment of central agencies** – Pilot teams provided the following example of where lack of alignment of central agencies created problems in localities:
 - Multi-agency funding of services – Lakes and Nelson Marlborough DHB have identified the importance of pregnant women having a dental check to support health outcomes for their child. In Lakes DHB pregnant women were receiving dental services and many required extensive dental repair work. Dental services are currently funded by both MoH and MSD. A joint investment approach was suggested by one pilot site.

¹⁰ Paterson, R., Candy, A., Lilo, S., McCowan, L., Naden, R. & O'Brien, M. (2012). *External review of maternity care in the Counties Manukau District*. Counties Manukau District Health Board, Auckland, New Zealand. <http://www.countiesmanukau.health.nz/assets/About-CMH/Reports-and-planning/Maternity/2012-CMH-external-report-maternity-care-review.pdf>

¹¹ Department for Children, Schools and Families. (2008). *Information sharing: Guidance for practitioners and managers*. Department for Children, Schools and Families, Nottingham, England. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/277834/information_sharing_guidance_for_practitioners_and_managers.pdf

Some of them haven't seen a dentist for about five years and they've got about a zillion fillings that need doing. (Provider)

- Different standards and policies – including different targets and thresholds.

Agencies provide different advice e.g. changing babies on the floor versus changing them on changing tables where there is a risk of them rolling off. (Provider)

Looking ahead:

New systems are required to support integration e.g. funding models, information sharing systems and privacy regulations. Most of the systems challenges to integration identified through the evaluation will need to be addressed at central agency level. Some barriers require inter-agency agreement (e.g. what information can be shared) whereas other barriers relate to funding legislation and the need to look at joint funding initiatives.

7. Relationships between Providers

Key elements of relationships for integration

Effective relationships between providers are necessary for effective delivery of an integrated service. Effective relationships require:

- Agencies and providers to understand the roles and skill sets across the different maternity and child provider disciplines and to be aware of what each other can contribute
- Frontline staff agree to work together and that status issues and hierarchies are addressed
- Trust in other providers.

Although trust and collegiality can be built through team building exercises, interprofessional patient meetings and educational sessions, it also needs to happen through working together and recognition that with very complex cases, different providers need to work together as any one provider is unable to do it all.¹²

What happened in the demonstration pilots

	Nelson Marlborough	Otara	Lakes
Plans	Working together on the pilot would build relationships across the sector.	The core working groups aimed to build relationships between local providers.	A focus on building relationships at governance level and through the new integrated services.
What happened	Members of the working group said the pilot has helped to establish effective relationships between different health professional groups. Pilot initiatives included arranging meetings between professional groups.	The project team has worked actively in bringing local providers together through stakeholder meetings. Connecting with practice nurses has been an effective way to engage with general practices.	At the two integrated services there was a focus on building relationships between providers using the services and with providers who may refer women. Building relationships was an important aspect of developing

¹² Lawn, S., Lloyd, A., King, A., Sweet, L. & Gum, L. (2014) Integration of primary health services: Being put together does not mean they will work together. *BMC Research Notes*, 7(66), 1-10.
<http://bmcresearchnotes.biomedcentral.com/articles/10.1186/1756-0500-7-66>

			the services and took considerable time.
Outcomes	As a result of the pilot meetings have been held between professional groups to provide an opportunity for groups to get to know each other. No change in relationships between the pre- and post-pilot surveys.	Meetings and communication are likely to be contributing to improved relationships between providers. No change in relationships between the pre- and post-pilot surveys.	Stakeholders commented that building local relationships through the new integrated services was also having a wider impact on relationships between providers.

Learnings from the evaluation:

Building stakeholder relationships has been part of each integration pilot. Building relationships has started with relationships in governance and working groups established for the pilot. Relationship building has extended to a lesser degree to a wider group of providers through pilot activities such as 'mix and mingle' sessions and discussion meetings.

Pre- and post-pilot surveys of health professionals completed as part of the formative evaluation demonstrated substantial issues at the start and end of the pilots with respect to a lack of collaboration, communication and trust between providers. Feedback from the pilots suggests that at least some providers are aware of the need to improve relationships. In response to the survey health professionals from each provider group commented about the need to break down silos, build relationships and improve communication. Initiatives that are likely to contribute to building relationships continue to be implemented.

Relationship problems were described by health professionals as:

- Historical grievances about the roles of midwives and GPs in maternity care that are still influencing relationships more than twenty years after changes to funding models were introduced.
- Funding systems that encourage competition between providers
People are competing for their entities in a low trust environment. They are putting their energy into getting bigger and competing for patients. (Otara provider)
- Lack of systems to make communication easy and each group considering it another group's responsibility to take the lead on communication.
- Lack of understanding about each other's roles and the challenges and constraints each is working under, including lack of recognition of the extent maternity care is a focus of their role and workload.
- Health providers focus on their own roles and not on consumer centred care.

Effective working relationships between service providers are essential for integration. Poor relationships between different professional groups of frontline providers are therefore one of the main barriers to integration. Given the views of survey respondents, specific strategies to develop relationships or to remove perceived barriers may be necessary. Some strategies can be implemented at local level but some require changes that are led nationally.

Findings from the evaluation suggest that building relationships between providers will be challenging and will require:

- Considerable time – The time required to re-build professional relationships and achieve a new culture of partnership and collaboration took longer than the pilot timeline.
- Increasing recognition of the need to build relationships.
Relationships need to be built by people talking and realising they have commonalities and there are possibilities for a new way of working...You can't force people into that. (Otago)
- Putting the focus on consumers. In the Nelson Marlborough pilot, some changes such as meetings between provider groups to discuss ways of working together have been attributed to messages from consumers about gaps in communication.
- Awareness of each other and each other's roles – talking to each other and appreciating each other's professional responsibilities.
Midwives – they have the same problems as us! In poor areas they have too many people to see... that was quite revealing. (General practitioner)
- Systems and tools that promote relationship building and collaboration – Multidisciplinary team meetings (MDT) were examples of providers coming together to take a patient centred approach
Groups get closer if you put the patient in the middle. (Otago)
- Opportunities for communication – Otago and Nelson Marlborough had developed opportunities for combined workshops, 'mix and mingle' sessions and similar meetings set up with a workforce development component but also with the aim of developing relationships and providing a forum for communication.
We still need that one to one communication. That brings down so many barriers. (Otago GP)

Looking ahead:

Improving relationships between different professional groups and supporting initiatives that promote or require partnership and collaboration are essential in improving the services women and children receive.

Central government agencies could assist with relationship development by setting expectations for integration and recognising in contracts the time required to build the relationships that are essential for integration activities.

8. Communication

Key elements of communication for integration

Communication is important in building relationships between all levels of a health system: within and between agencies, healthcare organisations and providers. Providers also need to be able to share information about consumers. Developing a shared electronic health record is highlighted in the literature as an effective support for integration.¹³ Co-location of organisations also helps promote communication between frontline staff and can make services more accessible for consumers.

What happened in the demonstration pilots

	Nelson Marlborough	Otara	Lakes
Plans	Communication was planned through the development of care pathways and tools to support integration including IT communication.	The core working group aimed to develop and agree care pathways and communication points.	Focus of communication was through the governance group and integrated services.
What happened	Points of communication on care pathways were agreed. Developed standardised pregnancy information packs, pregnancy journey wallet cards, child health journey wallet cards, a WCTO smartphone app.	Points of communication on care pathways were agreed. Development of a pregnancy information pack and pregnancy journey card. A LMC Directory is helping consumers to locate midwives and general practices to help consumers find a midwife.	Regular meetings between wider stakeholder groups involved in the integrated services. MDT meetings at the integrated services provide a forum for communication about individual consumers.

¹³ Psaila, K., Fowler, C., Kruske, S., & Schmied, V. (2014). A qualitative study of innovations implemented to improve transition of care from maternity to child and family health (CFH) services in Australia. *Women and Birth*, 27(4), e51-e60.

Outcomes	Wallet cards and a smartphone app let consumers know about what is available and aim to enable self-management.	Evaluation of pregnancy packs and pregnancy journey cards confirmed their effectiveness for providers and consumers.	Regular meetings have been effective ways to discuss issues and problem solve.
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Learnings from the evaluation:

Effective communication is required between agencies, provider organisations and individual service providers to support integration.

Representation on workstream/working groups developed communication between the different provider organisations. In some cases, where there was no local representation at senior manager level this communication was at an individual level rather than an organisation level. Communication between provider organisations was discussed as a particular problem in localities, such as Otara where there are multiple organisations. In Otara there are four different PHOs that are considered by interviewed stakeholders to not communicate with each other. Funding models and patch protection were cited by some as barriers to communication between provider organisations. Others noted different organisational cultures and ways of working.

Communication between providers at transition points is particularly important to ensure that consumers do not 'fall through the cracks'. Consumers with high needs for services were considered the most vulnerable to becoming lost in the system. Effective communication and information transfer at transition points means consumers do not have to repeat their stories to multiple providers.

Agreeing care pathways and communication points has been a focus in Nelson Marlborough and Otara, and for the integrated services in Lakes DHB. Different health professional groups have worked together to agree points of contact.

In Lakes, the two integrated services took time to establish and agree information sharing processes and approaches. One of the Lakes providers was able to develop an IT solution with additional funding from a grant. At the other integrated service, there was ongoing discussion about what information could be shared between co-located providers.

Although communication points were agreed in Otara and Nelson Marlborough, in practice there were still issues at the end of the pilot. A lack of IT systems that could be used to share information was one of the reasons for ongoing difficulties. Complaints about difficulty in sharing information came from all provider groups, with each having a tendency to expect the other to take the initiative.

Otara and Nelson Marlborough both developed similar approaches to communication and information sharing:

- Pregnancy packs were developed in both pilots to provide a comprehensive and consistent package of information about pregnancy for women in the first trimester

of pregnancy. Positive feedback from providers and consumers suggest these are worth continuing. Over the last 18 months in the Nelson Marlborough area over 1,100 pregnancy packs have been sent out to GP practices, midwives and other providers. There has been increasing requests for more packs as the project has progressed.

- In Otara, a directory of midwives has been well received by consumers and providers. The directory provides contact details and a description of local midwives. This helps women decide which midwife to contact and helps general practices link women to midwives and to contact midwives. A second edition of the directory has been produced with an increased number of midwives.
- As IT systems to support information exchange are not in place, the different sites have developed solutions such as pregnancy information cards that consumers carry. The cards record information about their GP and midwife and to take with them between appointments were developed as an alternative to IT solutions. Early indications are positive but longer follow-up is required to assess the value of the card.
- A major achievement for Nelson Marlborough in the last part of the project as the development of a smartphone calendar app. This has just been launched with very positive early feedback. The app aligns with the Well Child/Tamariki Ora My Health Book and provides links to a range of information. It has the potential for further development and is already being used outside of the Nelson Marlborough region.

Looking ahead:

Pregnancy packs, tracking tools and the smartphone app were well received by providers and consumers in two of the localities. They are all self-management tools and designed to be developed into national tools with potential for some tailoring to suit each region. There is the potential for these tools to be disseminated nationally.

Improving IT systems to support integrated care will help improve communication between providers and ensure consumers do not 'fall through the gaps' at transition points. Improved IT systems will also reduce the burden on consumers to have to keep repeating information.

9. Workforce Development

Key elements of workforce development for integration

New skills and new workforce roles are required to support integration. Central government agencies and provider organisations support integration through:

- Recognition of workforce requirements, roles and responsibilities for integration
- Allocation of resources for workforce capacity and capability building to support integration
- Aligning job descriptions with integration
- Providing opportunities for multi-disciplinary meetings/ training.

What happened in the demonstration pilots

	Nelson Marlborough	Otara	Lakes
Plans	Workstream 4 had a specific focus on workforce development.	Workforce development was not a specific focus.	Workstream 4 was the development of a maternal and child health workforce.
What happened	Workforce competencies developed and agreed: child development; child protection; health promotion; nutrition; cultural safety. Audit of training opportunities completed and added to SIPHANS training database. Family friendly accreditation standards have been developed and only just begun to be implemented. Early feedback is positive.	Multi-disciplinary training sessions are being held and are helping to build relationships within and between health professional groups.	New workforce roles identified for integrated services. Providers at the integrated services are learning about each other's roles and scopes of practice. Competing project priorities slowed progress on development of the workforce strategy but it is ongoing work for Te Whanake.
Outcomes	Multi-disciplinary training opportunities not fully implemented. Issues with SIPHANS are being resolved.	'Mix and mingle' sessions were well attended by midwives but not GPs.	Establishment of integrated sites has provided information about workforce skills for integration.

Learnings from the evaluation:

Integration of maternal and child health services requires a workforce that can support integration. Workforce development topics include understanding roles, scopes of practices, information sharing, how to work together in an integrated service, as well as competencies associated with care provisions such as child protection and family friendly practices. New roles such as 'house hosts' were identified through the pilot initiatives.

Workforce skills and competencies for integration have been developed from the evaluation findings and drawing on Nelson Marlborough's work on core competencies and Hoeg et al.'s work and include¹⁴:

- Skills related to working as part of an integrated workforce
 - Collaboration and teamwork – functioning as a member of an interprofessional team
 - Scopes of practice and information sharing
 - Care planning and care co-ordination – integrated care plans and information exchange
 - Systems oriented practice – functioning within the organisational and financial structures of an integrated healthcare system
- Core competencies and skills
 - Health literacy – effective communication with families
 - Cultural competence and adaptation
 - Screening and assessment – brief evidence based screening and assessment
 - Intervention – brief focussed intervention services
 - Practice based learning and quality improvement
 - Informatics – the use of information technology to improve services
- Competencies and skills related to maternal and child health
 - Child development – bonding and attachment, anticipatory guidance
 - Child protection – family violence, safeguarding children, shaken baby prevention
 - Health promotion – skin to skin, safe sleep, immunisation, Smokefree, oral health
 - Nutrition – breastfeeding, introducing solids, obesity

¹⁴ Hoeg, M.A., Morris, J.A., Laraia, M., Pomerantz, A. & Farley, T. (2014). *Core competencies for integrated behavioural and primary care*. SAMHSAA – HRSA Centre for Integrated Health Solutions, Washington DC, USA.

http://www.integration.samhsa.gov/workforce/Integration_Competencies_Final.pdf

High quality integrated services depend on teams that have an effective and collaborative learning network. Operationalising workforce development plans is in the early stages at the demonstration sites. Workforce development strategies relate to:

- Workforce capacity
- Developing the skills the workforce requires for integration
- Planning new roles that may be required for vulnerable consumers such as care navigators
- New initiatives to address the needs of consumers e.g. Family Friendly Accreditation standards.

A detailed description of the workforce requirements for an integrated service are provided in section 10. One aspect of workforce development that was highlighted through the evaluation was that workforce development for new ways of delivering services can be difficult in provider organisations who have to work initially at least within their current staff. NGO providers may have particular difficulties in workforce development that relate to short term contracts that do not include competitive provision for recruitment and/or workforce development.

We cannot match DHB salaries and perks. (NGO provider)

Looking ahead:

MoH has a role in communicating information to the sector about workforce competencies for integrated services.

There is the potential to work with health professionals' organisations and colleges to include some of the workforce competencies for integration into continuing education programmes.

10. Quality Improvement

The key elements of integration described in previous sections contribute to improvements in quality that flow through to consumers. Quality improvement can be enhanced through continuous improvement processes. Good information about service delivery and outcomes underpins continuous improvement.

	Nelson Marlborough	Otara	Lakes
Plans	Targets set at the start of the project.	Develop a monitoring dashboard to track project progress.	Reporting requirements for new integrated services linked to WCTO frameworks.
What happened	Targets tracked as part of BAU.	The dashboard depended on MoH data sets. Time lags in providers reporting data to MoH and data checking mean the MoH data sets do not provide 'real time' data. The project team worked with local providers to establish systems to support quality audit.	Time was required to develop reporting templates.
Outcomes	Tracking targets will be more meaningful after integration initiatives are embedded in practice.	Quality audit systems have provided information for general practices to improve their systems.	New integrated services are providing data but there is the potential to improve reporting.

Learnings from the evaluation

There is an established literature about the value of continuous feedback in improving quality of practice.

The MoH has established the New Zealand Maternity Standards that are part of the Maternity Quality Initiative. The Well Child/Tamariki Ora Quality Indicators provide feedback to DHBs about performance against a range of child health indicators that can be used to track trends over time.

'Real-time' feedback is useful in continuous improvement and tracking outcomes of pilot projects but requires local data collection and reporting systems. National reporting systems take time to obtain data from provider organisations, check the data and report it. National data may also be available only for larger population groupings than are included in a pilot. Small populations have the potential to make less common outcomes identifiable. Tracking changes can be difficult where small numbers are involved or where rates are already high.

The Otara pilot developed a monitoring framework and reporting dashboard for their pilot but found this was not useful because of the time delays in obtaining data noted above and lack of availability of some data for Otara. To provide data for quality improvement for individual Otara providers, the Otara project manager and GP liaison developed a clinical audit. They drafted a set of questions about early maternity care e.g. vaccinations and time to contact a midwife. The project manager went into the practices and pulled the information from the practice management systems and reported back to practices. The idea is that practices track progress through a follow-up audit.

In Lakes the integrated services are reporting against a number of measures aligned with the WCTO QIF. It has taken time to develop a reporting template and providers prioritise their clinical roles. Accurate reporting for quality improvement is most meaningful if it also informs service delivery by being meaningful for the provider.

Patient management systems include a wealth of information but providers may not have the expertise to use this information analytically as part of quality improvement. Extracting data using anything other than standard queries takes time to develop.

Looking ahead:

The sector needs more information about outcomes of different service delivery models to inform quality improvement. Measuring outcomes is difficult. Developing an outcomes framework for integrated services and data collection templates would help providers and their organisations to collect the information needed for quality improvement.

Building monitoring into service delivery contracts will provide information about what works.

11. New Integrated Services at Lakes DHB

The two different approaches from Awhi House and Kia Puāwai have provided a greater understanding of the key elements in an integrated service model that can be used in setting up future co-located or integrated services. Although each service has developed to meet the needs of their local communities, there are many similarities in the experiences in establishing the services that were common to both, and reported in evaluations of other integrated services that have been published in the literature.

The table below summarises some of the points to consider in developing an integrated service.

Table 6: Components of an integrated service

Components	Comment
Service design, leadership and management	
Leadership	<p>Committed leadership is necessary from governance level through to the individual providers that contribute to the integrated service. Leadership is necessary to develop the service model and align perspectives of the different providers to that service model.</p> <p>Evidence from the literature supports a governance group that includes representation across the different service provider professional groups. Development of a vision, mission statement and strategic plan provide a good foundation for a shared understanding of the service.</p>
A shared understanding of the service model	<p>A shared understanding of what the service will look like, who it will partner with, eligible clients and how it will be governed and managed are important topics to agree in setting up a service. There is a need to revisit and discuss the service model as a service moves from the establishment phase and grows.</p> <p>In Lakes, service development meetings have provided a forum for problem solving and discussing issues.</p> <p><i>Shared agreement on a vision is very important and anyone coming needs to fit in with the vision. (DHB)</i></p>
Flexibility in service design	<p>Providers developing integrated services need the flexibility to establish the way the service is delivered to meet the needs of their community.</p> <p><i>They should be bottom up and designed with and for the community. The implication of this is that they will all be different. (Provider)</i></p> <p><i>Based on the community voice and a shared vision. (DHB)</i></p>

Funding	<p>Funding must be adequate to cover the provider's costs. Funding must include set-up funding and the time required for stakeholder engagement and to build relationships and establish processes (e.g. patient management systems, referral pathways). Trusting and collaborative relationships between providers are essential for providers to provide integrated care. Without this there is a risk that providers will be co-located but not work together any more effectively than if they were not co-located.</p> <p>A new provider may not be aware of the time required and funders may need to be explicit in allocating funding for relationship building.</p> <p>Where integrated services target populations that are very vulnerable and have complex needs it is likely to be necessary to incentivise professional groups to locate at an integrated service delivery site. For example, through free or subsidised rents.</p>
Management	<p>Monthly meetings have been key in ensuring the different provider groups get to know each other, work together and jointly solve problems as they arise. The literature notes it is important that one role does not dominate meetings. In Lakes this has been achieved through an independent chair (the DHB). Studies have found that the providers at the integrated services need to be merged or organisationally integrated¹⁵.</p>
Administration	<p>Administrative and/or project management support are essential to establish processes and allow the health and social service providers to focus on their professional roles.</p> <p>Contracting a service to an established organisation has the advantage that an infrastructure is in place. Depending on the size of the service a house manager may be required. Williams et al. (2006)¹⁶ found that at the co-located sites in their study, a committed practice manager was essential.</p>

¹⁵ Ham, C. & Curry, N. (2011) *Integrated care: What is it? Does it work? What does it mean for the NHS?* The King's Fund, London, England.
http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/integrated-care-summary-chris-ham-sep11.pdf

¹⁶ Williams, J. Shore, S. E. & Foy, J.M. (2006) Co-location of mental health professionals in primary care settings: three North Carolina models. *Clinical Paediatrics*, 45(6), 537-43.

Integrated service characteristics

<p>The location and accessibility</p>	<p>An integrated service needs to be located in the community that will use it. Location is important and an integrated service must be accessible and ideally on main bus routes. The provision of transport to the service has been an important element in Rotorua.</p> <p>A street front or natural attraction such as a playground has the potential to draw people in but a back section or less obvious location provides privacy. In Turangi, privacy has been very important to women using the service.</p>
<p>The atmosphere</p>	<p>The 'homely feeling' is important and this means that the ideal size of services is as a smaller community centred resource. A house host has an essential role in creating a welcoming atmosphere.</p> <p>Cultural competence of the providers is also important in ensuring the atmosphere is appropriate for the different ethnic groups using the service.</p>
<p>Communication and promotion</p>	<p>A shared understanding of the client group and how to bring them into the service is necessary. Different approaches may be necessary depending on the client group. A midwifery component is essential in bringing women into an integrated service.</p> <p>Provider referrals and word-of-mouth are the main ways that women enter an integrated maternity and child health service. Active communication to providers and the community about what the site offers and how to engage is essential in setting up a site and developing a client group.</p> <p>It can take time for word to spread that a new service is a good place to go. The word spread rapidly in Turangi because the midwives were central to the service. In Western Heights there was more limited midwifery clinic time.</p> <p>Marketing expertise/advice and a budget for promoting the service are likely to help with the establishment of a new service.</p>
<p>Innovative service delivery</p>	<p>A strength of integrated services is that they allow providers to develop services to meet the needs of the group they are providing care to. Flexible and high-trust contracts create a funding environment where this is possible.</p> <p>Examples in the services established at Lakes include photography vouchers as incentives to complete WCTO appointments.</p>

The workforce

Workforce	<p>Integration sites require some different roles and skills about how to be part of an integrated service as well as competencies specific to vulnerable and high needs consumers. Roles essential to an integrated service include:</p> <ul style="list-style-type: none"> • Midwives are located at an integrated service • A house host role – the person in this role is important in creating the atmosphere of trust and ‘home’. Nursing or lactation consultancy qualification will add to this role • Clinical coordinator role – to link the providers and consumers • A range of social service providers and health promoters • A transportation role – as the first face of the service quality controls need to be in place and the role may not be suitable for a volunteer. • A workforce that reflects the population it serves and/or provides culturally competent services. • Continuing medical education (CME) for people who work at integrated sites would include a focus on working as part of a multidisciplinary team.
House host	<p>The house host is an important role. From experience, the role works best if the person has a background in nursing, midwifery or as a lactation consultant or similar. A clear role description and the need to prioritise the role as ‘front of house’.</p> <p>Cultural engagement is important and the house host has the added benefit of improving the understanding of other providers about care for vulnerable mothers. A house host who does not live in the area may help alleviate women’s privacy concerns</p> <p>The role becomes more challenging as the number of services increases.</p>
LMCs	<p>A key learning has been the importance of the LMC in bringing women and children into the services and the need to invest in LMCs for the services.</p> <p><i>Supporting LMCs is acceptable and necessary. (DHB)</i></p> <p><i>The midwives’ role is so critical. We need good clinically competent experienced people who know how to connect to the community. (Provider)</i></p>
Volunteers	<p>Learning about the role of volunteers and the need to ensure privacy. More appropriate to help with special events rather than day to day activities.</p>

Communication between providers	<p>Communication between providers may require setting up systems such as electronic referral forms or shared notes or parts of notes and agreeing scoped of practice and what information to share.</p> <p>Client enrolment/registration forms may need to refer to information sharing protocols.</p>
Measuring outcomes	
Measuring outcomes	<p>Measuring outcomes is important but challenging. Developing an effective way of capturing the difference the new service is making can be difficult given small numbers of women and the time it may take to achieve outcomes. Reporting templates that are focussed on counting outputs can be frustrating for providers. Developing key performance indicators collaboratively with a focus on outcomes for women and children is likely to be most effective in achieving timely and accurate reports from providers.</p> <p>IT support may be required to develop new types of reporting templates for integrated services. Integrated services are a new approach and there are no 'off the shelf' packages to support reporting.</p>

Looking ahead:

It is important to share learnings from the two integrated sites established as part of the Lakes pilot as they provide valuable information for others seeking to establish integrated services.

Support from MoH in sharing the information would assist new sites to be established and also provide understandings of the establishment and ongoing costs that need to be included in contracts.

12. Maternal and Child Health Outcomes

The logic model developed for the evaluation provides a framework for understanding the differences the pilot projects have made by considering whether the activities and outputs are in place to support integration. The previous sections of this report have discussed each element for each pilot site based primarily on qualitative data and comparison between pre- and post-pilot surveys of local providers (in Otara and Nelson Marlborough).

The evaluation also aimed to report progress against outcome measures based on MoH data sets that were developed and agreed with each team at the start of the pilots. The small numbers of consumers directly influenced by the changes, delays in implementing activities and the lag time in the completeness of the data sets has meant that changes are difficult to detect using the quantitative data available.

The evaluation used the following MoH data sets to determine if the demonstration pilots had resulted in any changes in outcomes for women and children:

- The Well Child/Tamariki Ora Quality Improvement Framework
- The New Zealand Maternity Standards
- The New Zealand Maternity Clinical Indicators.

For the Lakes pilot, additional data are available from the quarterly report provided by the two integrated services.

Outcomes for each pilot based on quantitative data are summarised in Table 7 below. A full list of the analysis of data against the outcomes measures agreed with the pilot sites at the start of the project is appended (Appendix 5). Charts are provided for each pilot site in the relevant sections of the report.

Across all sites, the project teams were proud of what they had achieved and committed to continuing the integration activities. They recognised while a lot had been achieved there, was more to do:

Rome wasn't built in a day. We keep striving towards a goal but we can't get it all. (Project team – Otara)

Table 7: Maternal and child health outcomes

Nelson Marlborough		
<p>No changes are yet evident in outcomes for consumers. Integration initiatives were rolled out to frontline providers at the end of the pilot so changes would not yet be evident in the data. Nelson Marlborough is already above the national rates for many measures and this may make it difficult to detect changes in some outcomes. However, integration initiatives such as the family friendly accreditation, consumer held care plans and smartphone app are likely to improve consumer satisfaction with the system through improved access to self-management tools. Workforce development and improvements in communication have the potential to result in efficiency gains.</p>		
Outcomes	Indicator	Commentary
Pregnancy outcomes	Engagement with LMC by 12 weeks LMC registration	There has been a slight increase over time in registration by 12 weeks (74% in Q4 2013 to 78% in Q4 2015), but this is consistent with the national change (no change evident at DHB-level attributable to project). Rate of registration with LMC within first trimester has consistently been around 10% above national average.
	Maternal tobacco use at two weeks	Provision of advice to quit smoking consistently high (92-100%) and smoking at two weeks lower than national average (fluctuating around 10% but no declining trend).
Child outcomes birth to six weeks	Reduction in proportion of babies born with low birth weight/pre-term births	Average birth weights slightly above national level and no change evident.
	Exclusively or fully breastfed at two weeks	Breastfeeding at two weeks and at discharge from LMC consistent with national rate at around 79% and 72% respectively at the end of 2015.
	Enrolment with a PHO	Rate of enrolment with PHO by three months in Nelson Marlborough follows and slightly exceeds the national pattern (70% and 67% respectively at the end of 2015)

Healthy early years	WCTO engagement	Increasing trend in rate of notification to WCTO provider, reaching 92% at the end of 2015 consistent with national trends. Improvement in timeliness of referral to WCTO provider and first core contact in latter half of 2015.
	Immunisations up to date at eight months	Increasing trend in immunisation rates follows national trend, but remains slightly lower at 92% in Nelson Marlborough at the end of 2015, compared to 94% nationally.

Otara

The Otara pilot aimed to make changes at provider level that would improve outcomes for consumers. It was established in a locality with multiple providers and a population with high and complex health needs. The project built relationships between local providers and developed tools and resources that will continue to be supported by the DHB. Improved relationships and awareness of other providers may be reflected in a reduction in the number of women not registering with a midwife until the third trimester of their pregnancy.

The role of WCTO Lead was not fulfilled as the mainstream WCTO provider (Plunket) and other NGO WCTO providers did not have the capacity to undertake this role. As a result, there was little focus in the pilot on WCTO services.

Outcomes	Indicator	Commentary
Pregnancy outcomes	Engagement with LMC by 12 weeks LMC registration	Fewer late registrations (29% registering in third trimester or after birth at the end of 2013; none in Q4 of 2015 (and average for the year only 5%)); and suggestion of an increase in the proportion registering within the first trimester (increasing from 21% in Q4 2013 to 44% in Q4 2015), but rates remain lower than the overall DHB and national rates (72% at the end of 2015).
	Maternal tobacco use at two weeks	Fluctuating rate of smoking at two weeks; decreasing trend is evident, although this is also observed more widely across the DHB.

Child outcomes birth to six weeks	Reduction in proportion of babies born with low birth weight/pre-term births	Average birth weights fluctuate, but typically slightly higher than DHB and national average (3.5kg in Q4 of 2013 and Q4 2015 in Otara, compared to 3.4kg national average). Proportion with low birth weight (<2.5kg) also fluctuates but overall appears to be decreasing.
	Exclusively or fully breastfed at two weeks	Rates of breastfeeding at two weeks fluctuate from between around 60-80%, but are typically lower than for the DHB as a whole and national rates (71% in Otara, compared to 75% for Counties Manukau and 79% nationally at the end of 2015). Similar pattern with lower than average rates observed for breastfeeding at discharge from LMC (58% for the last quarter of 2015 in Otara, compared with 74% nationally).
	Enrolment with a PHO	Data only available at DHB level and consistent with national pattern although rates slightly lower for Counties Manukau at 63% at the end of 2015, compared to 65% nationally.
WCTO engagement	Rates of notification Core contacts	Rates of notification of birth with WCTO provider have increased since the start of the pilot in Otara (55% at the end of 2013 to 88% at the end of 2015).
	Immunisations up to date at eight months	Immunisation rates at eight months in Counties Manukau (data only available at DHB level) have increased (90% Q4 2013 to 95% Q4 2015) in line with the national trend to exceed the national average from Q3 2014 (at around 94%). Rates of immunisation at eight months in the most deprived areas of Counties Manukau (dep 9-1017) have increased from 86% Q4 2014 to more closely align with overall DHB rates in Q4 2015 (94%).

¹⁷ Deprivation - the average socioeconomic deprivation of an area. An individual's address is matched to the level of deprivation for that area. Dep 1-2 has the lowest level of deprivation, Dep 9-10 the greatest level of deprivation.

Lakes

The Lakes pilot provided considerable information about what is needed to establish and maintain integrated services for maternal and child health. Outcomes data were provided in quarterly reports from the new integrated services and demonstrated the services were reaching vulnerable women and their children. Comparison of outcomes from the sites to DHB and national trends is limited by small numbers and because the services target very vulnerable women.

Outcomes	Indicator	Commentary
Pregnancy outcomes	Engagement with LMC by 12 weeks LMC registration	Reduction in late registrations with a LMC in Turangi (20% of registrations in third trimester in Q4 2013; 6% in Q4 2015); and evidence of earlier registration at Awhi House (mean gestation reduced from 22.4 in first year (2014) to 16.7 in 2015). Rate of registration with LMC by 12 weeks in Western Heights shows increasing trend in line with Lakes and national trend, but rate remains lower in Western Heights (50% at Q4 2015 compared to 72%).
	Maternal tobacco use at two weeks	The number and proportion of mothers smoking at two weeks fluctuates in Turangi, but has remained typically higher compared to Lakes DHB area as a whole. Approximately half (49%) of the total identified as smokers at Awhi House were recorded as offered nicotine replacement therapy. Fluctuating but decreasing trend in proportion smoking at two weeks in Western Heights (61% Q4 2013, 25% Q4 2015). Half of those identified as smokers at Kia Puāwai were offered NRT/advice to quit.

Child outcomes birth to six weeks	Reduction in proportion of babies born with low birth weight/pre-term births	<p>Large fluctuations in average birth weight evident in Turangi (low of 3kg in Q4 2013, peak of 3.7kg in Q1 2015), but trend suggests an increase which more closely aligns with the DHB and national averages (around 3.4kg at the end of 2015). The number of babies born with low birth weight (<2.5kg) has been consistently low in Turangi, with a maximum of two per quarter since Q1 2012. No low births were recorded from Q3 2014 onwards, with the exception of just one in Q2 2015.</p> <p>There is a slight increasing trend in average birth weight in Western Heights but there are still some with low birth weights (4 out of 21 births in Q4 2015).</p>
	Exclusively or fully breastfed at two weeks	<p>100% breastfeeding exclusively/fully at birth in final quarter of 2015 at Awhi House.</p> <p>88% breastfeeding exclusively/fully at birth at Kia Puāwai across all reporting periods.</p>
	Enrolment with a PHO	Nearly all Hapū Māmā clients who gave birth in 2015 at Kia Puāwai had their child enrolled with a GP (62, 93%) and WCTO (65, 97%).
WCTO engagement	Rates of notification Core contacts	<p>Notification of birth with WCTO provider reached 100% in Turangi from Q4 2014 to Q3 2015 inclusive. (Data on core contacts inconclusive – small sample).</p> <p>Notification of birth with WCTO provider in Western Heights reached 100% in the last two quarters of 2015. (Data on core contacts inconclusive – small sample).</p>
	Immunisations up to date at eight months	<p>Immunisation rates at eight months increased in the most deprived areas of Lakes (dep 9-10) from 88% in Q4 2013 to 94% in Q4 2015.</p> <p>Increasing trend in immunisation rates in the most deprived areas (i.e. dep 9-10) in Lakes exceeds national trend (such that rates in Lakes exceed national rates throughout 2015).</p>

13. Appendix One: Nelson Marlborough DHB

Vision: All whānau across the Nelson Marlborough region experience a positive journey with maternity, child health, and social services to support them to thrive, achieve their goals and have strong connections with their families, whānau and communities.

The aim of the Nelson Marlborough integration pilot (M&CHIP) was to improve health outcomes during pregnancy and throughout early childhood through a cohesive delivery of whānau centred accessible co-ordinated services. The pilot team considered that all women have the potential to be vulnerable at some point in their pregnancy or in the early childhood years.

Although the DHB administers the funding, the working group have emphasised throughout the project that the pilot is a regional activity and not a DHB project.

Consumer consultation has been a focus of all stages of the pilot. Consumer consultation and clinician feedback informed the need for the pilot. The original proposal emphasises consumer engagement:

The Working Group acknowledges the mothers, fathers, and grandparents who took the time to share with us their experiences and views of our child health and maternity services. We could not propose an integrated approach without consumers informing and underpinning its development; we will not implement any new approach without them guiding the way.

*He aha te mea nui o te ao?
He tangata! He tangata! He tangata!*

Consumer feedback has been summarised into a report, *Collating Consumer Voices* by Julie Varney¹⁸. The M&CHIP workplan was developed based on consultation with consumers and service providers about what is working well and where the gaps are in maternity and child health services. Consumer feedback was gained throughout the pilot from a consumer advisory panel developed for the pilot.

13.1 Governance and leadership

The Top of the South Health Alliance (ToSHA) provided governance to the pilot. ToSHA includes representation from Nelson Marlborough DHB, Kimi Hauora Wairau Marlborough Primary Health, Nelson Bays Primary Health, Te Piki Oranga (Māori health provider), a community pharmacist and the Chairs of the two PHO Clinical Governance Groups. The working group has been effective in putting integration onto the governance agenda and intend to maintain it as an agenda item.

¹⁸ Varney, J. (2015). *Collating consumer voices: a report on feedback received in preparation for the Nelson Marlborough 'Maternity and Child health Service Integration Demonstration Site' proposal to the Ministry of Health*. Nelson Marlborough District Health Board, Nelson, New Zealand.

In the early stages of the pilot, ToSHA was recently established and still cementing their governance role and functions. Consequently, it took some time for ToSHA to get up to speed with the project and make a clear delineation between ToSHA's governance role and the management function of the working group. By the end of the pilot, the working group recognised the value of governance group engagement with integration.

13.2 Management

A multi-disciplinary working group has been established and integration pilot activities were provided through working group members' usual roles. Leadership for the working group was provided by the DHB Service Manager, Women, Child and Youth and a new clinical director who has a specific focus on integration.

There were some major changes in leadership during the project. The initial project lead left half way through the pilot and there was a delay before a new project lead was appointed. A local restructure of Plunket impacted on some project activities.

Working group members identified the need for more engagement with Māori providers. There were local restructures of the PHOs, Plunket and Māori providers that impacted on some project activities. During the pilot, Māori providers restructured to form one organisation, Te Piki Oranga. During the restructure their focus was on the needs of the new organisation and that limited engagement with the working group, although they were part of the working group and included in all communication about meetings.

Despite personnel changes the remaining working group members were able to make progress, helped to some extent by the same people remaining on the group but representing different organisations.

I'm really proud of the group as a whole coming together and working collaboratively. I haven't seen this in my 30 years of working in health. (Working group)

So we had really big things interrupt. We had really key people leave and go but we've done really well. (Working group)

A project administrator had an important role in supporting the working group and consumer advisory group and in ensuring communication flowed between the groups, to the governance group and to the evaluators. Funding for the project administrator stopped at the end of the pilot.

In reflecting on the project, although all working group members were positive about the group some felt that more commitment from organisations to protect FTEs for the pilot activities and/or funding a project manager would have moved things along faster.

There is so many things happening with so many tight timeframes. All the doers have their fingers in a lot of pies so everyone is really busy. (Working group)

We needed the PHO and DHB to commit to the role – to having a set number of FTEs for the project. (Working group)

[Changes include] that the process would have been well served by engagement of a skilled project manager. That not all key organisations that 'signed up' for the project followed through with commitment to support key managers to remain involved. (Working group)

Following the end of the pilot the working group will split into an alliance group for child and youth health, a Well Child/Tamariki Ora group in both Nelson and Marlborough. NMDHB are also hopeful to keep the group meeting six monthly, for at least another year, to begin to see the outcomes of the strategies put in place. Consumers will sit on these groups.

13.3 Consumer advisory panel (CAP)

Consumers were an integral part of M&CHIP activities through a co-design approach. A consumer advisory panel (CAP) was established for the pilot to provide a voice for consumers to help drive the direction of the M&CHIP and to ensure that the pilot made a difference for consumers. Panel members were parents who were experiencing or had recently experienced the maternity and/or child healthcare system.

The CAP initially met by themselves but in the later stages of the project they met jointly with the working group. The main ways the CAP has been involved in the pilot are summarised in section 5.

The consumers and the working group members learnt a lot through the pilot about how consumers can strengthen projects. Many working group members described working with the consumer panel as a highlight of the pilot.

Establishing and maintaining the panel was not without its challenges. The CAP took more time to become established than anticipated which flowed through to some delays in pilot activities. Recruiting consumers from vulnerable groups, Māori and Pacific consumers and men was difficult. Similar challenges are reported in other consumer engagement settings. Concerted efforts achieved male representation for part of the pilot. The working group sought consultation through the Iwi Health Board and one-to-one consultation.

We didn't succeed in Māori consultation and working with vulnerable groups. (Working group)

Consumers were most engaged in planning and designing tools to support integration. Some felt they did not know enough to comment on changes to systems. Numbers in the panel dropped off towards the end of the pilot as people moved away or had other responsibilities and were not replaced. Dissatisfaction was not a reason for leaving as consumers interviewed at various stages of the pilot were satisfied with their role.

The CAP may not continue after the pilot but remaining members are consumer representatives/advisors on other DHB initiatives. The working group hope that the pilot has shown the wider health sector that consumer input is achievable, helpful and worthwhile. It is hoped that consumer panels will play an important role in more projects in the future Table 8.

Table 8: What the consumer panel contributed to the pilot

Component of pilot	Consumer panel input
Systems to support integration	Consumer input helped decide which initiatives would be worthwhile and what they would look like. Consumers on the panel noted that their ability to provide meaningful input about health systems is limited as they do not have sufficient knowledge of how the systems work.
Communication between agencies and between different service providers	The consumer panel provided information, based on their own experiences, about what was working and what was not working Messages from consumers about gaps in communication between providers helped to bring together meetings of providers from different professional groups.
Workforce development	The CAP helped to develop the framework and the standards for the Family Friendly Accreditation self-assessment tool as well as the identification of the core workforce competencies for integrated healthcare.
Relationships	Positive and constructive relationships developed between the CAP and the working group. The consumer panel's input into the Family-Friendly Accreditation was aimed at creating better relationships between maternity and child healthcare workers and consumers.
Quality improvement	The CAP helped to ensure that the quality improvement of maternity and child healthcare was targeted on what the consumers saw as the issues. Consumer input shaped the tools developed by M&CHIP such as the wallet cards, fridge magnets and smartphone app.

13.4 Nelson Marlborough approach

Figure 6 below was included in the Nelson Marlborough proposal to demonstrate the different elements required to achieve regional integration of maternal and child health services.

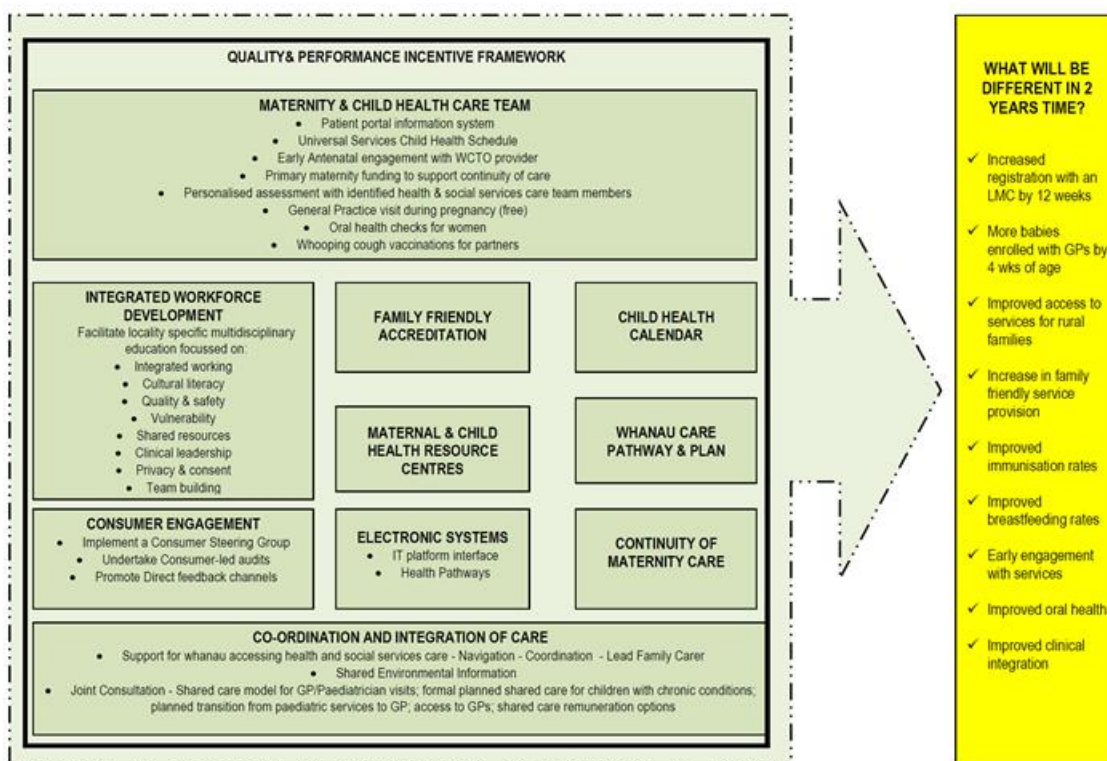


Figure 6: Overview of the elements of integrating maternal and child health services in Nelson Marlborough

13.5 Work stream 1: Core health team for maternal and child health

Workstream 1 focussed on agreeing consistent communication points and processes between GPs, LMCs and WCTO providers.

13.5.1. Agreeing communication points

A workgroup of GPs and LMCs identified three key communication points which are critical to achieve between them. They are at the confirmation of pregnancy, at birth and at the six-week handover. Additionally GPs were encouraged to acknowledge communication provided by the LMCs as they would any other referrer. This two-way communication has been encouraged throughout the project however work needs to continue to enable this, such as the development of electronic communication tools.

The pilot is emphasising the need for the LMC to complete the first trimester tests as they have the training to provide women with the advice they need.

M&CHIP want to push the message that LMCs are specialists in their area and any late handover from GPs is resulting in some testing being missed or duplicated. (LMC – survey)

GPs are more aware that they need to be aware of who is pregnant in their practice... There has been a shift in attitudes by some GPs. One is keeping a register of pregnant women and sending that to LMCs. (Working group)

13.5.2. Registration with a GP during pregnancy

The possibility of a free GP visit was explored. The aim was to link women with GP in the late stages of pregnancy. However, funding was not available for a free visit. An alternative has been promoting a free visit to the practice nurse for vaccinations.

Some working group members and midwives noted challenges for pregnant women in obtaining healthcare during pregnancy.

I would also like pregnant women to have free GP care when pregnant as so many women are relying on their LMC to give them advice about things that are out of our scope of practice i.e. colds, gastrointestinal upset. This would help reduce the ED admission rate in Nelson. (LMC – survey)

13.5.3. Developing a birth notification form

A birth notification form has been developed to notify GPs, WCTO and other providers of a birth. When the newborn enrolment form is received it can be set up in the general practice systems and used to generate a reminder about the six-week check. However, to the end of the project midwives were providing assurances the forms were being used and GPs were complaining they were not receiving them or were not aware of receiving them. A more 'eye-catching' form has been developed to help ensure the form is noticed by practices and they respond appropriately. The enrolment forms also go to the WCTO providers. A longer-term solution is an electronic system.

The forms still have gaps – missing NHIs and contact numbers and sometimes clinical information. (Well Child/Tamariki Ora provider)

Communication between midwives and GPs [is] still very bad. Only a few inform GPs when they see a new pregnant woman. Notification of birth is sporadic. (GP – survey)

Less emphasis on midwives' communication with GPs e.g. at birth, via newborn registration form, by three weeks again... and more willingness for GPs to share info with midwives. (LMC)

13.5.4. Early pregnancy packs have been developed as a tool for early engagement

Pregnancy information packs for consumers have been developed to improve the consistency of information going to women in early pregnancy. Packs include information about GPs, PHOs and LMCs, and a range of brochures/pamphlets relevant to pregnancy. Practices can add other information to the packs. The packs also include a flyer urging women to 'get organised' with a checklist of activities. Packs differ slightly between midwives and GPs and are available over the whole region.

The packs are compiled and distributed by the DHB's public health unit in response to orders from providers. Over a 15-month period since an initial mail-out there have been 546 additional packs ordered by general practices and 238 packs ordered by midwives. In response to the post-pilot survey of providers, 88% of respondents who used the packs found the

pregnancy pack ‘quite’ or ‘very useful’ (Figure 7). The possibility of a late pregnancy pack is now being explored.

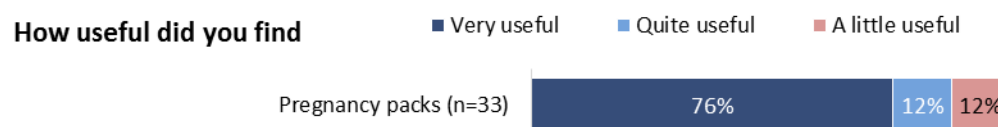


Figure 7. How useful respondents found the pregnancy packs (Source: Post-pilot survey)

13.6 Workstream 2: Tools to assist co-ordinated care

Workstream 2 focussed on developing tools that would assist co-ordinated care by making information sharing easier.

13.6.1. Support for vulnerable women

The working group has a better understanding of a care navigation model following a presentation to the working group from the Māori provider Ti Piki Oranga about their care navigator function. The care navigator explains consent, enrolls women and explains how the service works. There are weekly MDT meetings to assess what each woman needs. The role needs to be based in a service, and the navigator able to visit people in their homes or where they feel comfortable.

Only a few providers responding to the post-pilot survey had used care navigators and most had found them to be useful (Figure 8).

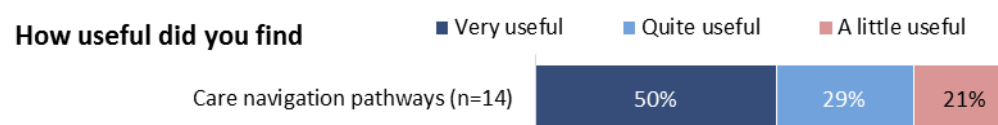


Figure 8. How useful respondents found the care navigation pathways (Source: Post-pilot survey)

The need for navigation for vulnerable women was commented on in the post-pilot survey of providers.

Stop working in silos ... but rather, let's get together, sit down and figure out who can do what. I have had so many clients who are sick of services by the time they get to me because they have been thrown back and forth from service to service, telling their story over and over again...Have a LEAD AGENT who will work with the whānau, collate and hold all information and navigate through health pathway. Rather than [a] child falling through the gaps. (NGO provider – survey)

The pilot did not progress expansion of the care navigator role. However, a case management development and support (SAFER) pathway for referrals developed for high risk women who need ‘wrap around’ support has been redeveloped to identify women earlier, provide them with more support during pregnancy. SAFER forms part of education programmes for midwives and key agencies meet regularly to discuss referrals and share information.

13.6.2. Manage My Health

Attempts were made to modify the 'Manage My Health' module that is part of the MedTech patient management system to share information between parents, GPs, LMCs and WCTO providers. The GP, with the woman's consent, invites LMCs and other providers to access the system. Despite considerable efforts by the M&CHIP team, the MedTech system is not yet working adequately. GPs and midwives support the system but it will only work if it is easy to use, especially the consent processes.

Attempts to establish a computer communication portal appear to have failed. (GP – survey)

13.6.3. Consumer held care plans (pregnancy and Well Child diary card and fridge magnet)

A range of material has been developed to enhance communication between providers and providing information for families. The consumer advisory panel had a major role in co-designing the tools and resources and all have a consistent theme.

The consumer insight has been invaluable, we've ended up with robust resources, [and] it also validates the resources we've made. They add such a valuable aspect to the whole project and to get their input while things are being created makes so much more sense than going to them at the end of the process. (Working group)

Examples include:



Have a smart phone? Get the Well Child App!
You can keep track of everything to do with your baby. Scan dates, immunisations, contact details, & set reminders for appointments.



- Wallet cards for consumers (My Care Plan Pregnancy and My Care Plan Well Child). The wallet cards contain information for pregnant women and their healthcare providers.
- Fridge magnets that reflect the Well Child Care Plan – a limited number have been printed for more vulnerable women responding to feedback from women that fridge magnets would be helpful.
- The wallet cards and fridge magnet provide a similar resource to the smartphone application for those who do not have access to a smartphone.

The tools have just been printed and promoted so awareness is still low. The majority of respondents from the post-pilot survey who were aware of them found the tools 'quite' or 'very useful' (Figure 9).

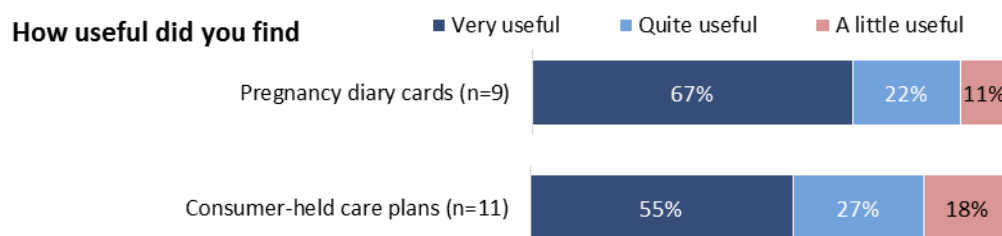


Figure 9. How useful health care providers found the pregnancy diary cards and consumer held well child care plans (Source: Post-pilot survey)

13.7 Workstream 3: Core child health service calendar for birth to six years



After exploring different options for a core services child health calendar, the pilot has developed a smartphone calendar application in collaboration with the Nelson Marlborough Institute of Technology. The app provides a calendar of Well Child appointments and includes links to other relevant information. The content of the app was developed by the working group and the consumer advisory panel. Content is aligned with the Well Child/Tamariki Ora My Health book but the app is not intended as a replacement to the Well Child/Tamariki Ora My Health book.

There is more information than in the Well Child book. It's quite clever. I think they have done a good job. (WCTO provider)

The app was launched in late 2015 and promoted to providers during roadshows in February and March 2016. Stickers advertising the app will be put on the cover of the Well Child/Tamariki Ora My Health book before it is handed out to new mothers.¹⁹

As at 24 March 2016, the app had been downloaded 694 times. Initial feedback about the app has been very positive. Women like the convenience of an app and all post-pilot survey respondents who had used the app said it was 'quite' or 'very useful' (Figure 10). As the app was launched at the end of the evaluation period, evaluation feedback is very limited. Given the profile of the tool further evaluation of users' experiences of the app is recommended.

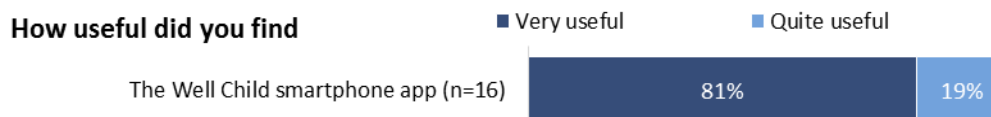


Figure 10. How useful respondents found the Well Child/Tamariki Ora smartphone app (Source: Post-pilot survey)

The app has already received press coverage and interest from other DHBs. Some providers outside of the Nelson Marlborough district have had women asking about the app but staff are not aware of the app and need a chance to go through it.

Alignment with the Well Child/Tamariki Ora My Health book means there is potential to scale the app nationally, if it proves successful locally. For example, to include health promotion and prevention messages. Discussions have started about including child safety messages in the app such as 'Your baby is now three months old and could easily roll off a changing table'.

¹⁹ The link to the app is <https://itunes.apple.com/nz/app/well-child-app/id1076413440?mt=8> or <https://play.google.com/store/apps/details?id=nz.govt.nmdhb.wellchild&hl=en>

I get emails daily from nearly every DHB asking for the PR info. They are all really keen to help us so I don't think it will stay as a trial in our region which is fine. It is available internationally. (Project team)

13.8 Workstream 4: Workforce development

Multidisciplinary training is recognised as providing opportunities for health professionals from different disciplines to come together, recognise each other's roles and build trust and relationships. The pilot completed a stocktake of training opportunities.

The majority of respondents (86%) found multi-disciplinary training sessions 'quite' or 'very useful' (Figure 11).

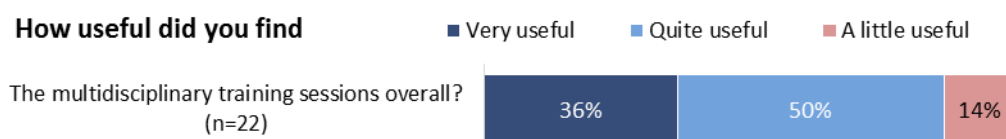


Figure 11. How useful respondents found the multidisciplinary training sessions (Source: Post-pilot provider survey)

The working group has agreed to contribute partial funding for provider training in the use of a newborn simulator (SimNewB) and MoH has approved the purchase. The intention is that the simulator will provide opportunities for multidisciplinary training.

A calendar of training opportunities includes information relevant to WCTO, GPs, practice nurses and LMCs. The calendar is provided online through the South Island Regional Training Hub (SIPHAN). Providers have reported problems with SIPHAN but the project team is looking into these.

It just lets us know on the day...like a reminder of things you already know about. It's just always been hopeless... I'm on the verge of unsubscribing. (Provider group)

The working group also looked at the workforce competencies required for integration and child focussed service delivery. Core competencies for workforce development have been developed and comprise:

- Child development – bonding and attachment, anticipatory guidance
- Child protection – family violence, safeguarding children, shaken baby prevention
- Health promotion – skin to skin, safe sleep, immunisation, Smokefree, oral health
- Nutrition – breastfeeding, introducing solids, obesity
- Cultural safety.

13.9 Workstream 5: Maternal and child health resource centres

Developing resource centres as one place consumers could go for advice and information about maternity and child health services was part of the original plan. Centres were proposed for Richmond, Nelson and Blenheim. However, finding sites and host organisations has been difficult.

This part of the project has been harder than we ever thought. I thought it would be easy but it's been the hardest. (Project team)

In Richmond a centre has been established where provider staff are co-located. Plans for Nelson are still ongoing with the likely host being the NMDHB Public Health Service. Lack of interest from the PHO was described as reflecting a lack of focus on maternity care.

Resource centre development in Blenheim was slowed by a restructure of Plunket who were the original hosts. The Blenheim Resource Centre has now been established under contract with Kimi Hauora Wairau Marlborough PHO. The hub currently houses public health, Barnardos' child and family services²⁰, child development services and the community mental health team. Midwives run a clinic on Fridays and there is a paediatric clinic run once a month.

Resource Centre development will also be led by Te Piki Oranga, who have four sites across the top of the South Island. This will enable them to have the same processes and systems as the mainstream hubs and they will have increased awareness and easy access to resources that become available. This has previously been an issue for them.

The building holds the public health resources for the area. The spaces in the building can be booked at no cost for clinics, classes, information sessions and other community needs. The building also offers phone and computer facilities including free Wi-Fi. Reception staff help consumers with finding people and booking or changing appointments with health providers.

'Spokes' or outreach facilities are planned for Picton, Seddon, Renwick and Havelock. Sites for these 'spokes' are currently being investigated.

Providers report that having all the organisations in the same building has helped them work together. An example of this is that the Pacific Liaison staff from the PHO have helped the public health nurses to engage with Pacific clients.

The majority of respondents who were aware of the resource centres found them 'quite' or 'very useful' (Figure 12).

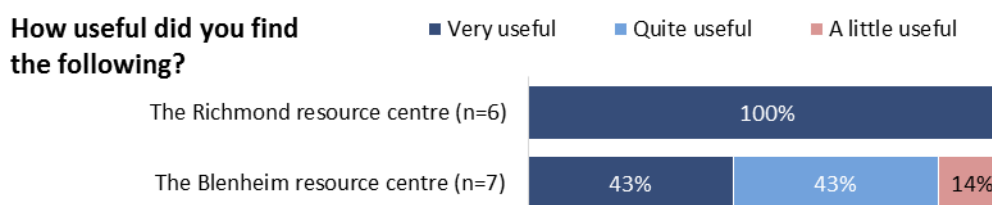
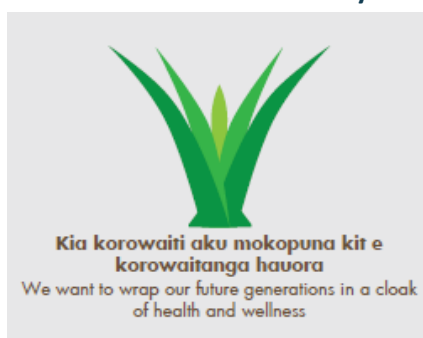


Figure 12. How useful respondents found the Resource centres

²⁰ Barnardos. (2016). <http://www.barnardos.org.nz/>

13.10 Workstream 6: Family-friendly accreditation



A family-friendly accreditation process and brochure has been developed as a major project initiative to remove access barriers for women and children.

Family-friendly accreditation is a self-assessment based on a checklist of 12 attributes of a family-friendly practice. The brochure includes a scoring system and spaces for organisations to note how they could improve. The process and checklist was developed through extensive

consultation with providers on the working group and with the Iwi Health Board who gifted the phrase 'Kia korowaiti aku mokopuna kit e korowaitanga hauora' to support the concept. There were some challenges in developing a process that met the needs of the different potential user groups. There was considerable debate about the amount of information that would be included in the self-assessment.

The checklist covers aspects of:

- Clients/whānau/child/tamariki (the flax leaves) a harakeke model representing whānau, parents and tipuna with the infant/child at the heart of the family – whether practices empower clients, actively engage with clients, provide holistic care, improve co-ordination of services for clients.
- Organisational culture – whether clients feel welcomed and comfortable, whether appointments meet clients' needs, whether services are child centred, whether support is provided about feeding.
- Facilities – accessibility, whether the facility is welcoming and comfortable, adequacy of space and whether certification requirements are up to date.

Family-friendly accreditation was promoted towards the end of the pilot through the PHOs and working group members. Although the family-friendly accreditation was developed with healthcare providers in mind, there has also been interest from businesses and organisations such as the City Council and Chamber of Commerce.

Feedback from providers who had worked through the process was positive (Figure 13).

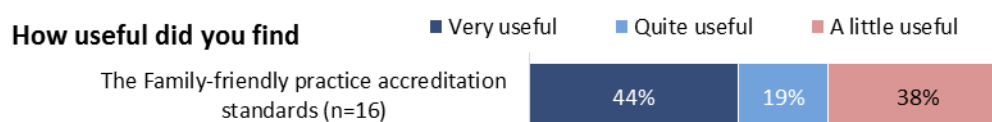


Figure 13. How useful respondents found the family-friendly accreditation

Providers have used the family-friendly accreditation assessment differently. Some were completed by the practice manager, some in groups and some separately and then discussed. For those who scored it separately and then discussed it, the discussion provided awareness of other people's roles. Most had identified some aspect of their practice that they could improve or at least warranted further discussion.

If we had to do a bunch of work to get that much out of it, it wouldn't have been worthwhile but because it was a relatively simple exercise and it brought a few bits and pieces up so yes it was worth doing. (Practice manager)

It certainly does make you think a wee bit. (WCTO provider)

I found it very useful to go through and see what the practice did and we did make some changes. (GP)

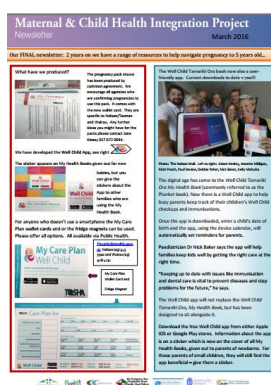
We completed this exercise at the last full practice meeting in January. Quite interesting and got lots of chatter going in the room! Attached are our results as you can see breastfeeding is on the agenda! (General practice)

One gap in the accreditation assessment mentioned by a few providers is acknowledging cultural differences.

More Tikanga and Te Reo Māori content and symbols. (Social service provider – survey)

The challenge for the future will be to put in place processes to facilitate annual review. General practices suggested building family friendly accreditation into existing quality processes such as the RNZCGP's Cornerstone²¹ accreditation.

13.11 Promoting the integration project



The sector has been kept up to date about the pilot via a regular email newsletter. Just over one-quarter of respondents to the post-pilot survey (24) were aware of the newsletters. Over half of them found the newsletters 'quite' (42%) to 'very useful' (17%).

In early 2016, working group members held presentations about M&CHIP and its initiatives as part of a roadshow around the region. The roadshows reached 136 attendees at nine presentations. A range of different providers attended including NGO and Māori providers.

Roadshows have helped inform the sector about the new resources such as pregnancy packs, the Well Child/Tamariki Ora app and hard copy resources, family-friendly accreditation as well as the resource centres. There is the need to continue to promote the new resources to providers and a further eleven presentations are planned over the coming months. One provider requested more specific direction about next steps.

It's great learning about this great project ... but I need to get back to my work and tell my staff in 10 minutes what they actually need to do with this information they are giving me. So it would have been nice to make it clear what the role of general practices was in all of this. I felt I spent 20 minutes trying to figure out what they wanted us to do. (Practice manager)

²¹ CORNERSTONE is an accreditation programme specifically designed by the Royal New Zealand College of General Practitioners for general practices in New Zealand. Accreditation is a self-assessment and external peer review process used by health care organisations to accurately assess their level of performance in relation to established standards and to implement ways to continuously improve the health care system.

One working group member suggested that it may have been useful to do more Roadshows at the beginning and during the pilot.

13.12 Budget and expenditure

The Nelson Marlborough pilot spent less than the initial budget and have requested the budget be carried over to the 2016/17 financial year. Reduced expenditure was a result of delays in the start of the pilot. The BAU approach meant that there was little cost in the first year of the project (2% of the budget was spent in the first year). Details of how the project budget was spent are provided in Section 4.1. The greatest proportion of the budget (43%) was directly spent on integration initiatives and activities.

13.13 Sustainability

The M&CHIP was set up with a business as usual approach and an aim to achieve regional change. Recognition of the importance of change and that there is a lot more to do to develop integrated services will provide the momentum to continue.

The project allowed the light to be shone on problems we didn't know existed. (Working group)

Everyone who is involved is really committed to keeping it going. (Working group)

Initiatives to help integrate maternal and childcare were not pursued if they were not sustainable.

An important message for the project is that everything has to be embedded as business as usual. (Working group)

Dissemination of workforce development training will continue through the SIPHANS network. Pregnancy packs are now a part of business as usual and are put together and disseminated by the DHB public health team. The DHB will take over responsibility for resources such as wallet cards, fridge magnets and family-friendly accreditation processes. Funding for resource centres will continue.

13.14 Outcomes

Summary: The Nelson Marlborough pilot aimed to make changes to the overall system that would influence the activities of frontline staff and flow through to improved outcomes for all women. Consumer involvement was a focus of the Nelson Marlborough project and was seen by stakeholders as a very positive part of the project. The work required to achieve system-wide change extended beyond the time available in the pilot project. However, relationships have been established, changes are occurring, there is support for integration and the impetus to continue. Tools and resources were not rolled out to providers until the end of the integration pilot so it is too early to expect to see measurable changes for consumers. Hence, no changes were observed in maternal and child health outcomes.

The Nelson Marlborough pilot aimed to improve integration for all women across the region. While the working group acknowledged the amount of work required to do this they wanted to embed integration as business as usual for all consumers.

The project was a big unwieldy beast. We couldn't narrow it down and we wanted to embed it in business as usual. We knew we were reaching for the stars but there was willingness to give it a go and at least start some processes. (Working group)

Key learnings and highlights from the working group included:

- The magnitude of the change required and the time it takes to achieve culture change

I've learnt things take a long time to do. Nothing is quick. (Working group)

- Working together and learning about each other's roles

I think it's really easy to see situations through your own organisation's eyes but really hard to know the other perspectives. And until you sit around the table with people with the other perspectives you don't know you need it. So that's been really good. (Working group)

I hope that it'll continue in our own roles, so when I sit in a group now I notice if there is a group missing whereas before this I wouldn't have realised it. (Working group)

Some of the benefits are intangible but incredibly important. The way people are working together and the benefits they see in working like that. (Working group)

- Involving consumers

So we are asking that question all the time "How can we get consumer input into this?" (Working group)

- Working as part of a project team

I learnt how to be a project manager. And a lot about IT, more than I ever thought I would be! (Working group)

I think we learnt about how important cross sector alliances are, so working together is so much more effective than working in silos. (Working group)

13.14.1. Improvements as a result of the pilot

The working group have completed most of the activities they set out to complete in the pilot.

By and large we achieved what we wanted – although we didn't manage free core visits to GPs and oral health and the shared record didn't go well. (Working group)

We are making an impact (Working group)

Things have improved but they could be better. (Nurse – survey)

Approximately one-third of respondents in the post-pilot survey thought the project had resulted in improvements over the last 12 months (Figure 14). However, many were not sure. This result is unsurprising given the roll-out of the tools and resources had just started at the time of the survey. Those that were directly involved with the project were more positive about seeing changes.

In the past 12 months there have been improvements in...

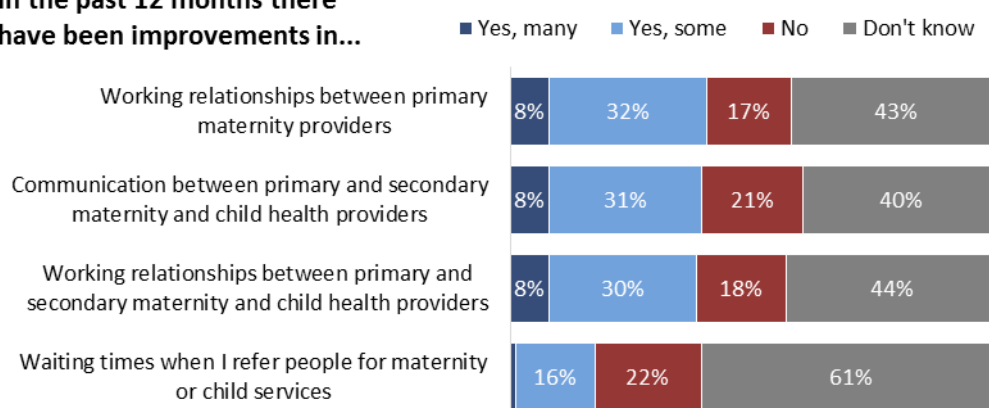


Figure 14. Reported improvements over the last 12 months (Source: Post-pilot survey n=87)

Comments in response to the survey included:

The pilot is just the start of an ongoing journey to dismantle the silos. Strong consumer focus and input transforming services to meet consumer needs through co-design is a key attribute of success for this project. (DHB doctor – survey)

Keep up the efforts, it's great that this is being worked on. (GP – survey)

The outcomes for the project need to be considered as stages in a change process where it is necessary to:

- Build awareness of the need for change
- Provide the infrastructure and environment for change
- Provide tools and processes to support change
- Implement changes in frontline providers.

13.14.2. Awareness of the need for change

The pilot has influenced changes in awareness and attitudes within the governance and working groups.

We have started on the journey and that can sometimes be the hardest part. (Working group).

There is a foundation of support for integration. In response to the survey, almost all of those who had been involved in the pilot in some way and approximately two-thirds of those who were not involved agreed with statements about the benefits of integrated care (Table 9).

A seamless transition from LMC to WCTO with ongoing information sharing between GP and social services if required. (DHB midwife – survey)

Table 9: Pre- and post-pilot survey attitudes to integration (Source: Pre- and post-pilot surveys of local providers)

Statements included in the pre- and post-pilot surveys	Percentage strongly agreeing or agreeing		
	Pre-pilot (n=82)	Post- involved with project (n=19)	Post- not involved with project (n=68)
Integrating care ensures clients/patients receive appropriate care	89%	90%	66%
Integrated care is a worthwhile investment of service provider time, energy and resources	88%	90%	74%
Delivering integrated care is a priority in our practice/service	76%	95%	66%

13.14.3. Providing the infrastructure and environment for change

Information sharing is an important aspect of an integrated system. Few responding to the post-pilot survey who were not involved with the project considered information sharing was in place. Few considered that there was a viable financial system to support integrated care (Table 10).

Incentivising collaborative working [is needed]. Current financial incentives are not conducive to integrated working. (GP – survey)

The need for improved information sharing was a frequent comment in the post-pilot survey by all professional groups:

Better communication to GPs! Often women self-refer to a midwife and we sometimes hear nothing for the whole pregnancy and even significant things are not passed on. Sometimes we get very little information about deliveries too. (GP – survey)

Greater sharing of patient information amongst health professionals. (Māori provider – survey)

Some GPs [communicate] but some don't. I would like GPs to respond to my requests for more information on pregnant clients. (LMC – survey)

More collaboration between services: including resources, skills/knowledge, sharing caseloads (with closer communication) and financial aid when referrals are made from government organisations to NGOs/Social Services. (Manager – social service provider)

Table 10: Pre- and post-pilot survey attitudes to the infrastructure to support integration (Source: Pre- and post-pilot surveys of local providers)

Statements included in the pre- and post-pilot surveys	Percentage strongly agreeing or agreeing		
	Pre-pilot (n=82)	Post-involved with project (n=19)	Post-not involved with project (n=68)
Information sharing between service providers meets my needs	40%	42%	24%
Maternity care plans reflect an integrated approach to clients'/patients' needs	52%	68%	28%
Integrated care is supported by a viable financial system	39%	26%	22%

An important aspect of the environment to support integration is relationships between providers. The pre- and post-pilot surveys explored attitudes to different aspects of provider interaction by asking providers to indicate the extent they agreed or disagreed with statements about aspects of integration. Responses demonstrate that further work is required to build the environment for integration (Table 11).

Establishing communication between practitioners has been a huge one, we all knew it but just how hard it is to address and fix has been huge. Logically it shouldn't be that hard but understanding the big wheel when you are the little cog can be really hard. (Working group)

Communication is the big gap and the project did not achieve on that. If it's not happening, then there will be people falling through gaps. (Working group)

The shared care model is a great idea but it's so far away from actually happening for actual people so that's disappointing. (Working group)

Multi-disciplinary training opportunities and meetings between different health professional groups are one way the project will continue to provide opportunities for professional groups to engage.

Table 11: Pre- and post- pilot survey responses about provider interactions (Source: Pre- and post-pilot surveys of local providers)

Statements included in the pre- and post-pilot surveys	Percentage strongly agreeing or agreeing		
	Pre-pilot (n=82)	Post- involved with project (n=19)	Post- not involved with project (n=68)
Primary providers:			
Regularly communicate	47%	52%	44%
Regularly consult about patient care	48%	47%	40%
Collaborate in decision-making	49%	47%	31%
Work together effectively	48%	47%	37%
Trust each other	54%	53%	44%
Primary and secondary providers:			
Regularly communicate	57%	69%	41%
Regularly consult about patient care	52%	68%	38%
Collaborate in decision-making	53%	47%	35%
Work together effectively	53%	47%	34%
Trust each other	56%	53%	41%
Health and social service providers:			
Regularly communicate	51%	42%	35%
Regularly consult about patient care	49%	42%	32%
Collaborate in decision-making	50%	42%	32%
Work together effectively	50%	37%	35%
Trust each other	49%	42%	34%

13.14.4. Providing tools and processes to support change

The tools and resources developed by the pilot have been well received and there is the potential for them to make a difference by providing the information women need to self-manage their care.

So we've provided the tools to address the problems but it's about the uptake of it now. (Working group)

The project has been successful in promoting a self-management approach to pregnant women – giving them the power to self-manage. (Working group)

Thanks for reaching out to better the health, life, education for better self – life-time skills. Handing back their life and health and education to the individual with better skills to manage. (Nurse – survey)

There is interest in extending the use of the tools throughout the South Island.

The group are very interested in the M&CHIP resources and would like a copy of this material. When you have a chance, can you please send the template for the wallet cards, fridge magnets etc. that I can send to the other regions and they can insert their own regional logos. (Regional manager)

13.14.5. Implementing changes in frontline providers

One of the main ways the project aimed to influence consumers was through making changes to systems and the way frontline staff provide services to families. The pilot was just starting to reach frontline staff towards the end of the pilot through the roadshows where the tools and resources to support integration were launched. Therefore, the foundation for substantial changes for consumers was only just in place.

13.14.6. Maternity and child health outcomes

MoH data sets have been used to examine any changes in the outcomes the pilot aimed to achieve. The baseline was the end of the October to December 2013 quarter, prior to the start of the project. Data are available to the end of the October to December 2015 quarter but the later data may still be incomplete.

Pregnancy outcomes - Early engagement with services

The rate of registration with a LMC within the first trimester in Nelson Marlborough consistently exceeds national rates by around 10%. There has been an increase over time in the proportion registering by 12 weeks, from 74% at the end of 2013 to 78% at the end of 2015. However, this increasing trend is consistent with the national trend. There were no changes in the percentage of women registering with a LMC in the second and third trimesters.

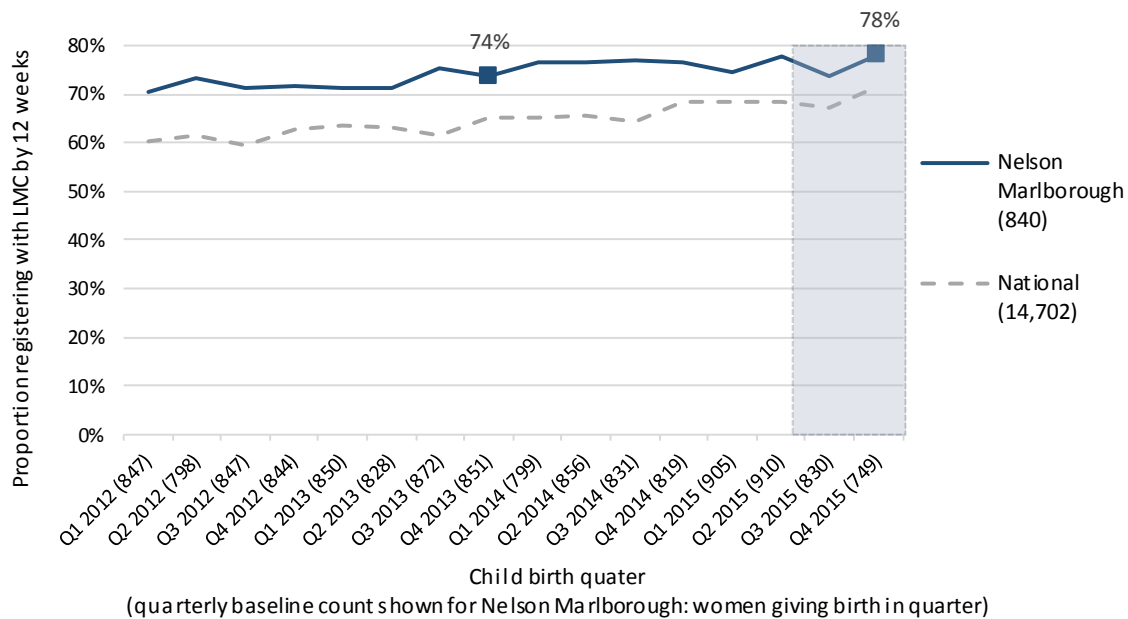


Figure 15. Proportion of women registering with LMC by 12 weeks in Nelson Marlborough and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Nelson Marlborough; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

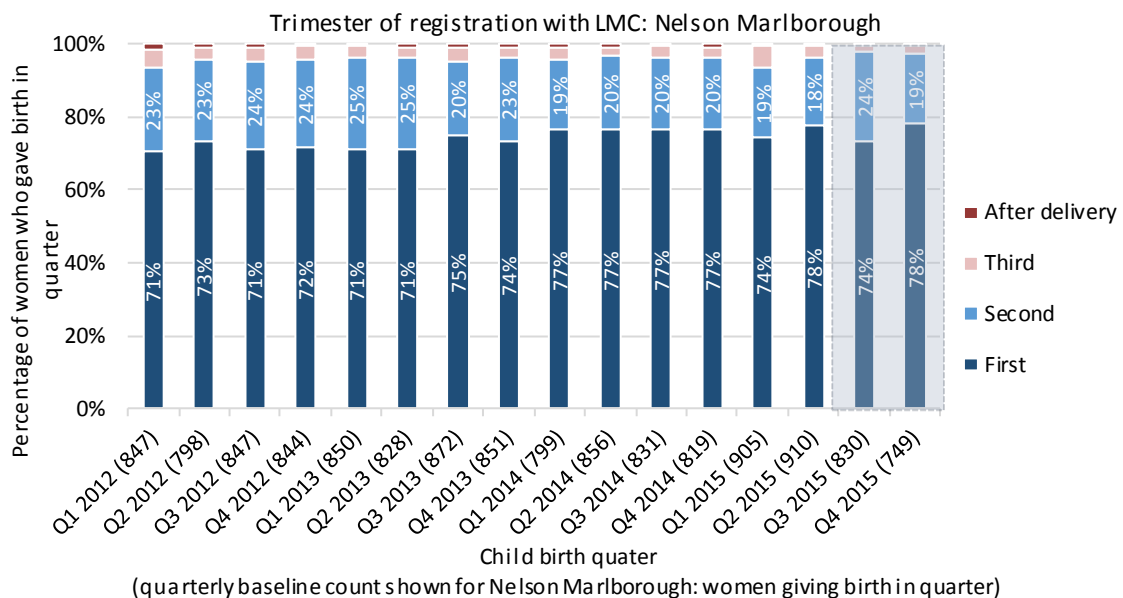


Figure 16. Trimester of registration with LMC in Nelson Marlborough (base count of number of women who gave birth in each quarter shown in brackets on x-axis; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Healthy pregnancies

There were no changes in maternal tobacco use at two weeks. Nelson Marlborough has consistently had maternal smoking rates that are below the national rates. However, National Maternity Collection data suggest rates may be increasing in Lakes, while the national trend shows a slight decline.

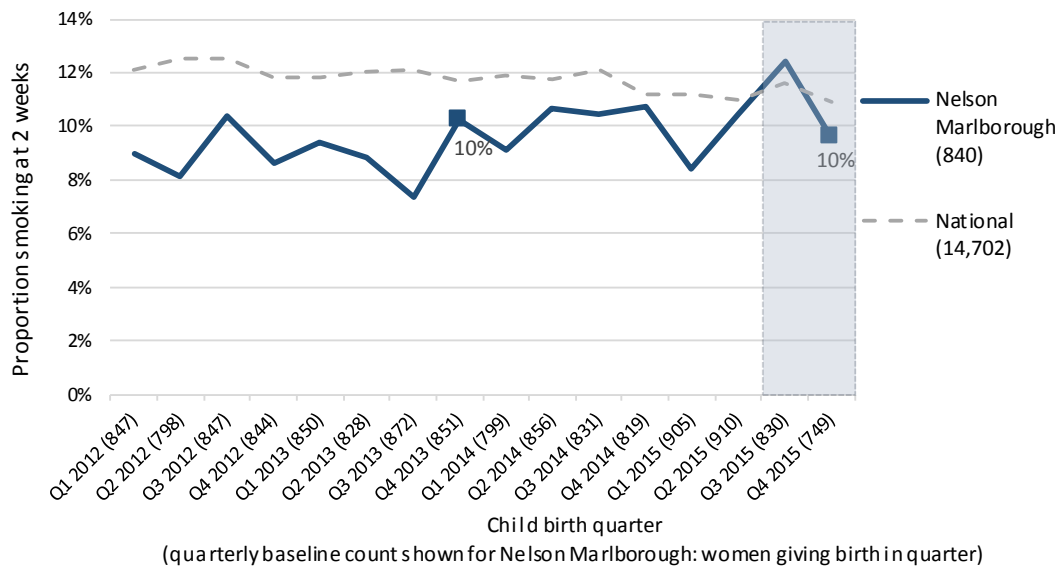


Figure 17. Proportion smoking at 2 weeks in Nelson Marlborough and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Nelson Marlborough; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Birthweight and breastfeeding

There were no changes in the proportion of babies born with low birth weight.

Rates of exclusive or fully breastfeeding at two weeks or discharge from LMC in Nelson Marlborough are the same as national trends.

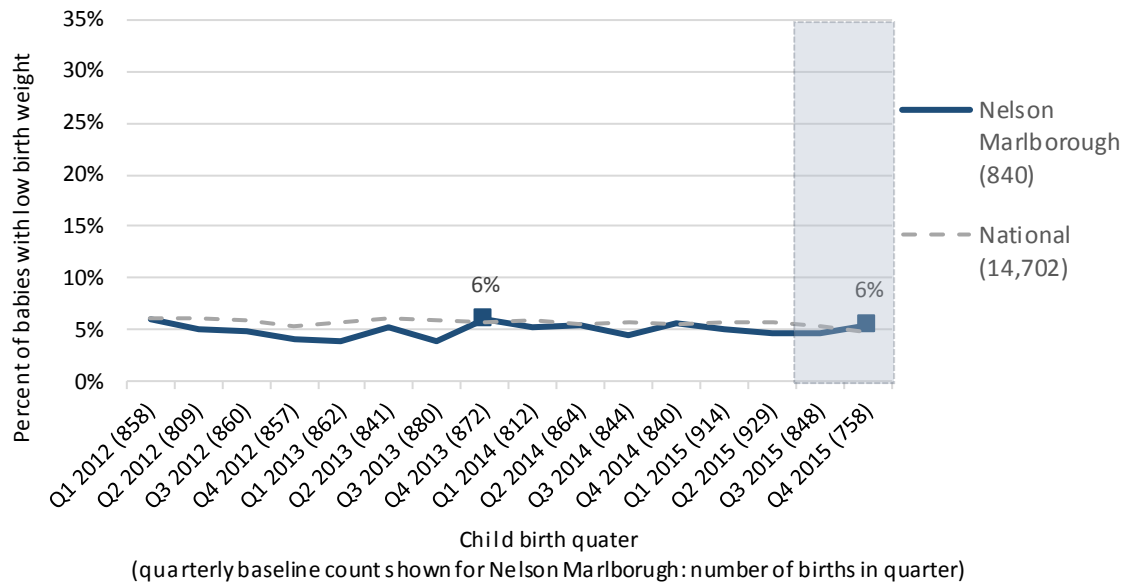


Figure 18. Proportion of babies born with low birth weight (<2.5kg) in Nelson Marlborough and nationally (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly count for Nelson Marlborough; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

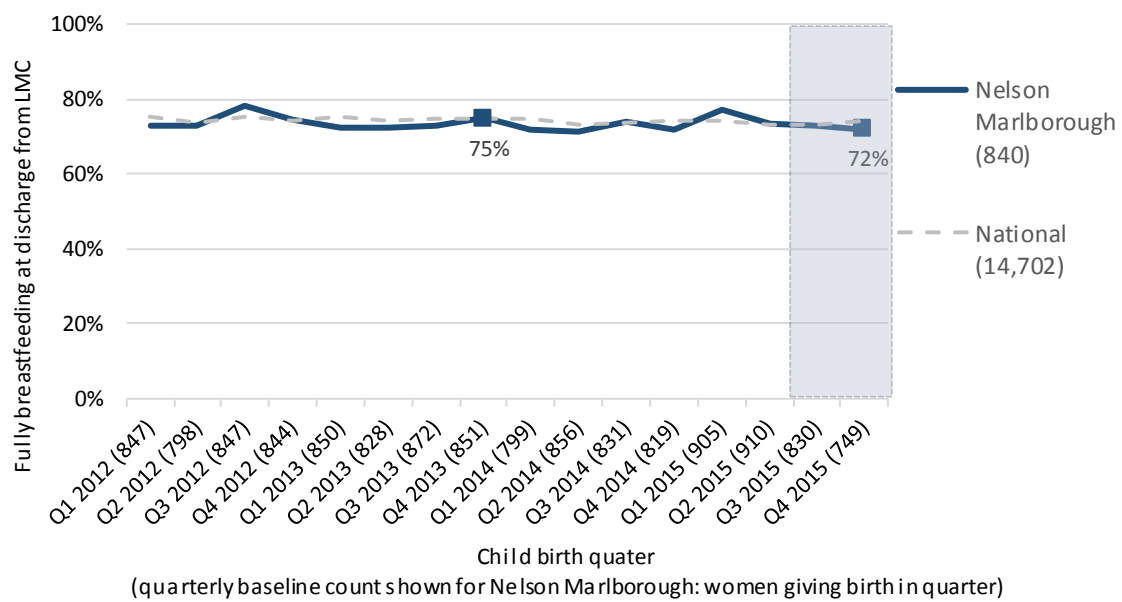


Figure 19. Proportion of breastfeeding on discharge from LMC in Nelson Marlborough and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Nelson Marlborough; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Healthy early years

Referrals from LMC to WCTO providers have increased slightly over the pilot period but increases are consistent with national trends. There is also an indication in the second half of 2015 (July – December) of some improvement in timeliness of referral to a WCTO provider and timeliness of first core contact in Nelson Marlborough, which is not evident nationally trend (Figure 20)²². Whilst the data suggests some improvement, this was not observed ‘on the ground’:

It hasn't improved our referral timings and the information received. Some are fantastic and some are not. (WCTO)

The proportion of babies with complete immunisation at eight months has increased over the pilot period but fluctuates markedly. National rates have also increased over the pilot period.

Proportion of new babies²³ referred to WCTO provider by the age of 28 days

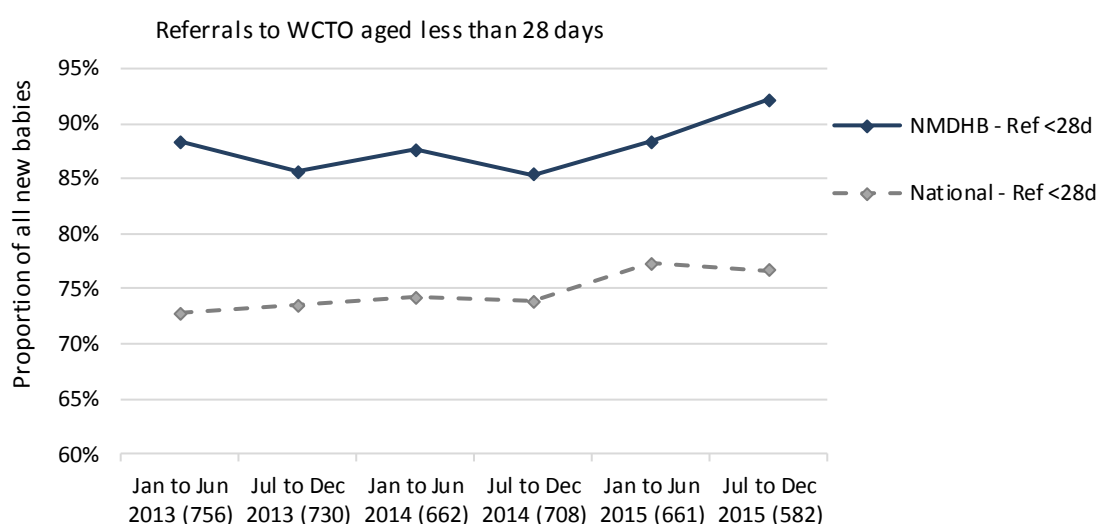


Figure 20. Proportion of new babies referred to WCTO provider in Nelson Marlborough and nationally by the age of 28 days (x-axis shows count of new babies for Nelson Marlborough by WCTO data reporting period;) (Source: MoH WCTO data; analysis courtesy of MoH)

²² Analysis was provided by MoH and data for July to December 2015 post-dates WCTO unit record data provided for the evaluation.

²³ The denominator for this analysis is the number of new babies in each 6-monthly reporting period. ‘New babies’ are defined as those with a birth date 6 weeks before the start of the reporting period to 6 weeks before the end of the reporting period (e.g. for July to December 2015, a new baby is any born from 15/05/2015 to 15/11/2015)

Proportion of new babies²⁴ receiving first core contact by 42 days and 29 days

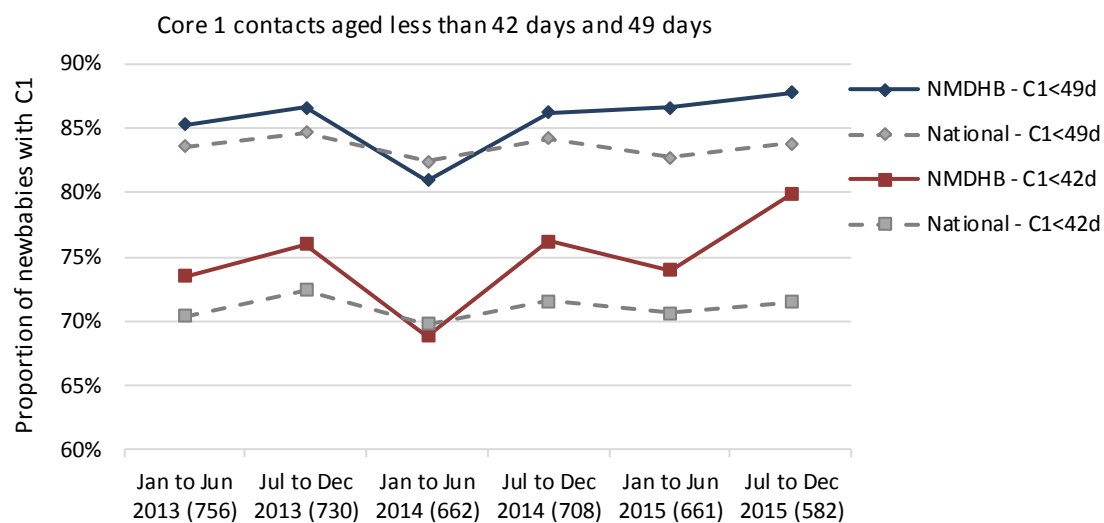


Figure 21. Proportion of new babies receiving their first core contact by 42 days and 29 days in Nelson Marlborough and nationally (x-axis shows count of new babies in Nelson Marlborough in each reporting period) (Source: MoH WCTO dataset; analysis courtesy of MoH)

²⁴ As above, 'new babies' are defined as those with a birth date 6 weeks before the start of the reporting period to 6 weeks before the end of the reporting period (e.g. for July to December 2015, a new baby is any born from 15/05/2015 to 15/11/2015)

Immunisations up to date at 8 months

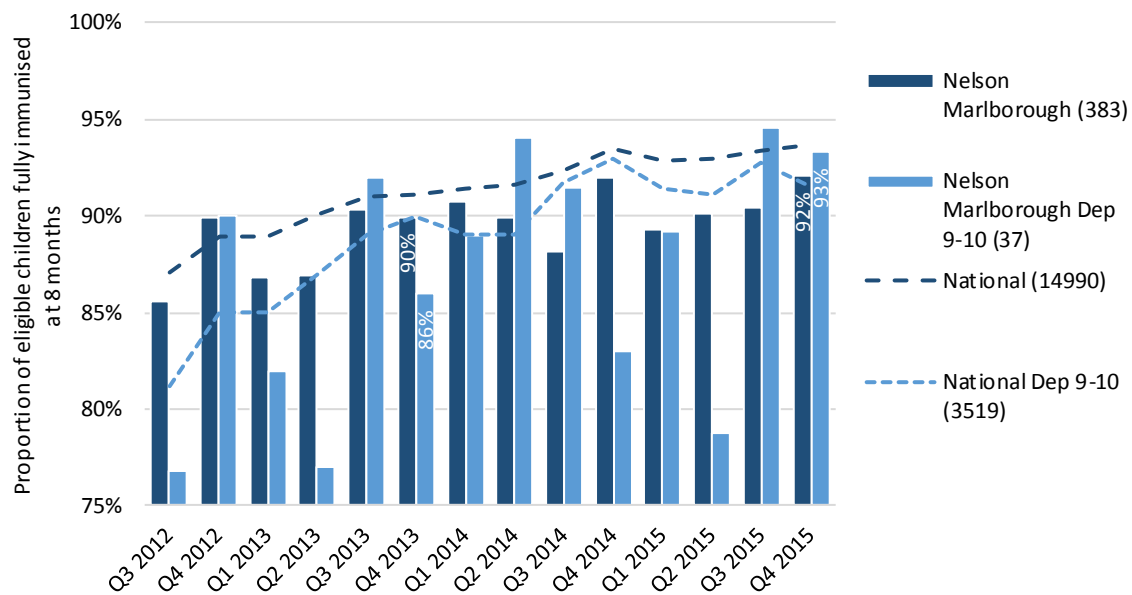


Figure 22. Quarterly proportion of children who turned the milestone age of 8 months and had completed their age appropriate immunisations in Nelson Marlborough as a whole; and deprivation areas 9-10 (note small sample size – average quarterly base count 37). National rates are shown for comparison. (Legend shows quarterly average number of eligible children (quarterly average base count of number of children turning the milestone age in each area)) (Source: MoH National Immunisation Register)

14. Appendix Two: Counties Manukau DHB (Otago)

Vision: To provide the best start in life for children in Otago by providing quality, integrated care which addresses their social determinants of health.

The Counties Manukau DHB demonstration pilot was located in Otago and was developed to meet the identified needs of the Otago locality with its predominantly Pacific and Māori population. Many of the community's families have deep-rooted and complex health and social needs. Service delivery is also complex with four primary health organisations (PHO) and a number of NGOs delivering health and social services to the community.

The proposal for the integration pilot was developed in part to respond to findings in the 2012 external review of maternity care in Counties Manukau that noted difficulties for pregnant women in Counties Manukau in accessing co-ordinated lead maternity care that is consistent with their needs.²⁵

The pilot had three main objectives:

- joined up health and social services
- planned healthy pregnancies
- healthy early years.

14.1 Governance and leadership

By the time funding was secured for the pilot, the lead at the time of the proposal had moved to a new role. The first year of the pilot saw a number of changes that limited the extent that pilot activities were integrated into the DHB's governance and work programmes and the pilot evolved as a discrete project managed by an employed project manager and quality improvement manager. Changes included:

- restructuring of the CMDHB's youth, child and maternity team
- merging of the Otago locality leadership group with the larger Mangere locality leadership group
- DHB priorities for change were focussed on a long term chronic conditions project.

Lack of direction from senior DHB managers was identified by the project managers as a risk throughout the pilot. This was compounded because the project was not embedded in the youth, child and maternity team in the DHB or well connected with other maternity and child health projects such as the First 2000 days and the maternity quality and safety groups.

²⁵ Paterson, R., Candy, A., Lilo, S., McCowan, L., Naden, R. & O'Brien, M. (2012). *External review of maternity care in the Counties Manukau District*. Counties Manukau District Health Board, Auckland, New Zealand. <http://www.countiesmanukau.health.nz/assets/About-CMH/Reports-and-planning/Maternity/2012-CMH-external-report-maternity-care-review.pdf>

The locality governance group was there but it was not the right one. (Project team)

It's important to have the right people on your side, right from the beginning. (DHB manager)

Lack of connection with the wider DHB led to a focus on working with local providers (a 'bottom-up' approach).

We were forced into a 'bottom-up' approach. (Project team)

However, one stakeholder thought that the relative independence from the DHB provided the pilot team with the opportunity to work closely with local providers and to be innovative in what they developed.

I think they would have had an easier time if they did work together but I wonder whether the results would have been quite as good. (Stakeholder)

It needs to be a diverse group for integration. You can't just have a health lens. There are always social issues for vulnerable families. (Te Whanake member)

14.2 Management

The pilot was led by a core group comprising the project manager and project manager quality improvement, and midwife and GP clinical leads. The clinical leads were employed for four hours per week, but considered that one day per week would be a more realistic amount of time. The group had hoped to also include a WCTO lead but had not been able to recruit anyone to the position.

Using the pilot funding to employ project managers was seen as an advantage because it provided dedicated resource to work on building relationships between providers.

[It] is a time intensive process to set up opportunities for stakeholders to talk with each other. (DHB manager)

The core group consulted with a wider stakeholder working group that included health professionals (GPs, midwives, nurses), and NGOs (Family Start, Plunket, Otara Charitable Health Trust). Inclusion of a wider range of social services in the group was discussed but it was difficult because of the specific locality focus of the project. The stakeholder group was kept informed through two-monthly meetings, emails and newsletters. While stakeholders attended the meetings reasonably regularly and were positive about the pilot, not all were aware they were part of a working group.

The stakeholder meetings were always awesome...the interest was there to the end... [The meetings] provided visibility – people will talk if there is visibility. (Project team)

It has been a pleasure. I learned a lot myself...The core team ended up as friends... we worked hard to ensure a common front by meeting regularly and having pre-meetings [before the stakeholder meetings] to have a common agenda. (Project team)

A substantial amount of time at the start of the project was invested in planning and designing project activities. The aim of the project was to use a co-design approach with local providers. However, the co-design approach had limited success.

In reality it wasn't a co-design as hoped at the start. (Project manager)

We had a rough time to start with to sell the project to stakeholders and prove it was going to be money well spent. (Project team)

Members of the stakeholder working group were mostly local providers in clinical roles and lack of experience in working on projects and lack of time may have contributed to difficulties in using a co-design approach. Some considered the planning stages took too long.

When I started it was extremely frustrating because things moved slowly. (Project stakeholder)

A stocktake of Otara maternity and child health services and outcomes, and case studies with women provided the foundation for the pilot activities. Consumers' voices were brought into the pilot through case studies with local women. Resources were also tested with consumers, for example through visits to teen parent units.

14.3 Workstream 1: Keeping people well

14.3.1. Improve access to contraceptives and family planning

The review of maternity care in Counties Manukau noted widespread barriers to timely and affordable access to contraception.²⁶ The initiative aimed to improve awareness about contraception and access to information. However, the pilot was put on hold following feedback from consumers that the reason for young women not using contraceptives was that they did not want to use them.

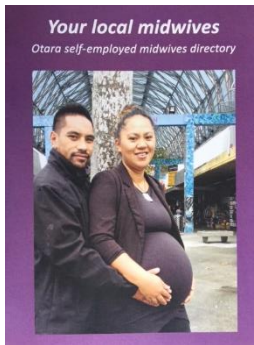
14.3.2. Pharmacy free pregnancy test pilot

The pilot provided a free pregnancy test and offered an incentive of a \$15 grocery voucher if pregnant women went to a GP within two weeks after having a pregnancy test. The Otara team concluded that the pilot did not achieve the objective of getting women to engage with their general practice. However, the project contributed to building relationships between general practices and pharmacies.

14.3.3. Raising community awareness of accessing maternity care early

Key messages were developed and tested with teen mothers and pregnant women. The activities were then put on hold until the DHB-wide early engagement campaign was ready to be rolled out.

²⁶ Paterson, R., Candy, A., Lilo, S., McCowan, L., Naden, R. & O'Brien, M. (2012). *External review of maternity care in the Counties Manukau District*. Counties Manukau District Health Board, Auckland, New Zealand. <http://www.countiesmanukau.health.nz/assets/About-CMH/Reports-and-planning/Maternity/2012-CMH-external-report-maternity-care-review.pdf>



A directory of midwives was developed and distributed to general practices to help GPs and practice nurses link pregnant women to midwives. The directory has been well received and a second version including twice the number of midwives (up from 13 to 21 individual midwives and 1 group practice) has been printed and 800 copies distributed. The directory will be maintained by the DHB midwifery liaison after the integration pilot ends. Women and providers noted the value of the directory.

So we've got all the numbers there and we can just call them and find out if there's anything that we want to find out from them. (Practice nurse)

14.3.4. Localising other DHB initiatives to Otago

The integration team provided advice to a range of other CMDHB initiatives with the aim of contributing an Otago perspective. Initiatives included:

- Smokefree pregnancy pilot
- Regional SDUI action plan
- Infant nutrition project
- TAHA's Tapuaki antenatal classes.

The progress of localising initiatives varied and was outside of the control of the integration project team.

14.3.5. Parenting education sessions

Pilot drop-in antenatal education and information sessions at clinics was not well attended by women.

Pacific women don't want to talk about personal things in front of strange people let alone other men if someone's bringing partners along – they would rather do it with their trusted health professional – the midwife they've trusted well. (Midwife)

The pilot was modified to provide home-based sessions. Topics covered pregnancy, the birth and postnatal care. Key messages about smoke free, car seats, safe sleep and nutrition were discussed. Women were able to request more sessions and the educator went to some homes several times.

The project has raised awareness of the benefits of home based antenatal education. Nine midwives have referred women: a total of 48 visits.

Of all the midwives I've met at sort of meet and greet – I certainly didn't get everybody but those that did engage certainly sent people back over – it's just those high risk families and if we can target them, I think it's a very positive outcome. (Educator)

Feedback from women was very positive: all said they understood more, 97% that they received useful information and 93% that the session had made it easier for them to get/understand pregnancy care.

So I'd be sitting, talking and educating the whole family and so it's been a really positive experience. (Educator)

14.4 Workstream 2: Proactively finding women and children in need

14.4.1. Design, develop and implement assessment tools for pregnant women, including mental health and social needs

Pregnancy guidelines were developed through consultation with midwives and GPs.

Midwives were surveyed to find out what they needed to support the social service needs of their clients. One of the aims of the project was to make information available to providers about social services in the locality.

There are lots of social services in the locality but none knew what each other was doing. (Project team)

The integration team has worked with social service NGOs, and 25 Otara and Mangere providers now have their profiles up on HealthPoint²⁷. Each provider updates their own data and are sent reminders by HealthPoint.

14.4.2. Clinical audits – development of the maternity advanced form

The project manager and GP liaison developed a clinical audit. They drafted a set of questions about early maternity care e.g. vaccinations, time to contact a midwife. The project manager went into the practices and pulled the information from the practice management systems and reported back to practices. The idea is that practices will do a follow-up audit to track progress. The audit was set up so CME points could be earned from the activity.

Another way to improve that first antenatal visit is by using that Advanced Form to make sure that everything's been covered... It would be of immense value to complete the loop and see how far they have come ... the practices have done work to bring the numbers up. (GP Liaison)

14.5 Workstream 3: Enabling access

Enabling women and children to access quality integrated treatment and care by developing care pathways, information sharing systems and care co-ordination roles

14.5.1. Design, develop and implement a care pathway for pregnant women and families with high/complicated needs.

The integration pilot promoted the Otara Health Charitable Trust's (OHCT) Kaitohutohu service²⁸ for social services coordination to midwives and GPs.

²⁷ Health Point. (2016). *Maternity Services*. <http://www.healthpoint.co.nz/maternity>

²⁸ The OHCT Kaitohutohu service provides free support in the home for families experiencing complex health and social issues and focuses on linking individuals and whānau to appropriate community services best suited to support their needs.

Our role is to make sure that the services that we're trying to link them up with are quality services...appropriate services that are specific for that client and their family. (Otago Health Charitable Trust).

Midwives are saying at least we have someone we can send women to and are starting to use and understand the services more. (Project team)

Clients were supported over a three to four-week period, and in some complex cases up to two months, to access Pepi-pods²⁹ and education/information about safe sleeping, as well as local organisations and programmes to address concerns relating to housing (overcrowding and cold/damp homes), parenting, budgeting, health (e.g. smoking cessation), physical activity and food parcels³⁰.

They were really good. They brought the Pepi-pod, the little thing for baby to sleep on and some baby clothes...Before and after baby was born. (Client)

I just needed help to look for a house. They gave me the number for Housing New Zealand and I called...I can't afford rent. (Client)

14.5.2. Other activities

The Otago pilot team contributed an Otago perspective to CMDHB's healthy attachment, development and appropriate parenting skills project; a resource has been developed and is on the Werry Centre website and will be used in training.

14.5.3. Design, develop and implement an information sharing system

The project designed, trialled, modified and distributed pregnancy information packs and pregnancy journey cards.

The pregnancy pack was developed in response to the case studies and the needs assessment completed by the Otago Integration pilot team in 2014. The pregnancy pack aimed to educate clients about pregnancy and motherhood and empower them to navigate the health system and make informed decisions and choices.

The pregnancy pack was well received by pregnant women and by health providers. Two-thirds of women included in the evaluation of the pilot continued to find the pregnancy pack useful as their pregnancy progressed. During the pilot the packs were compiled by providers. In response to feedback from the evaluation, the DHB took over the compilation and distribution of the packs. Volunteers at Middlemore put the packs together.

I'm hoping as they give out each pack and talk through it, they will automatically be put on the recall for the Boosterix vaccine for example. We have done a sheet, a laminated sheet to go with each pack, well to go to the practice nurses... on what to say to discuss with the packs. (GP Liaison)

Clinical champions distribute the pregnancy packs.

²⁹ A portable sleep space for babies.

³⁰ Despite the range of services available locally, there remains a gap in the provision of maternal mental health services (pre- and post-natal depression) within Otago.



Here's your packs and here's your discussion points about them and this is what we want you to do when you give out a pack and we've sent out the weight gain during pregnancy guidelines – so that's laminated and that goes with the instructions on discussion about the pack to the practices nurses. (GP Liaison)

A pregnancy journey card provided a checklist for clients about health needs and requirements during pregnancy and aimed to enhance communication between health professionals during an individual's pregnancy. The pregnancy journey card has been redeveloped as the cover of the new pregnancy pack.

Not all midwives supported the pregnancy pack and journey card. Some had their own booklets for tracking progress.

So the DHB – they're trying to be so prescriptive about things is really against the philosophy of midwifery. Everything is individualised in partnership with women... We have our own specific packs ... A lot of us actually translate our own information into Samoan and Tongan. I have translated a pack that actually addresses the needs for those women – not a middle-class Palagi pack. (LMC)

14.5.4. Supporting integration by building relationships between providers

Meetings of the stakeholder working group, joint (midwife and GP) mix-and-mingle sessions and the midwife meetings were part of the approach to build relationships between providers and facilitate information sharing. The opportunities to meet have been well received by midwives but fewer GPs have attended them. The project manager noted that the meetings are reaching midwives outside of Otara who have clients in Otara.

When I very first started some of the GPs were coming and then it became a non-event for the GPs so actually it didn't bring the GPs and the midwives together. Some of the practice nurses were designated as the people to attend those meetings and so it really sort of put midwifery not on an equal... with the GPs which is not actually really what we need. (Project Manager)

The last mix and mingle session was held in mid-December 2015 as a project wrap up.

14.6 Workstream 4: Monitoring

Monitoring the effectiveness of care by developing and implementing a measurement framework for child and maternal health improvement.

The project developed a dashboard to monitor the effectiveness of maternity care. Delays in the data, the need for provider level data, and the need to develop ways of bringing in indicators that are meaningful for health and social services make tracking data difficult. At provider level, individual practices find it difficult to extract data and none have regular reporting processes that would inform the integration project.

14.7 Budget and expenditure

The project was completed within budget. The bulk of the budget was used to employ the core working group and most project activities were completed by this group. Details of how the project budget was spent are provided in Section 4.1.

14.8 Sustainability

The Otara pilot was set up as a demonstration project with employed project managers. All project team members' roles ended in February 2016. The need to continue the pilot activities was frequently mentioned.

The project raised the Otara profile and the problems women had in navigating the system. And made it a little easier for some...it needs to continue. (Project team)

Team members have transferred project knowledge to members of the Child Youth and Maternity team through regular meetings. All documentation is held in the DHB's shared document management system which this team can access.

The initiatives developed through this project have been fully implemented and transferred into business as usual, with the exception of the home visiting antenatal education pilot.

- LMC Directory and networking meetings to be continued by two newly appointed roles: DHB Self Employed LMC Midwifery Liaisons
- Pregnancy pack and the journey care that provides the cover will be managed by the DHB Maternity General Practitioner Liaison and distributed through the PHOs. The Liaison's address will be on the back of the packs for reordering. The project budget has covered initial print runs of the journey card. The cost of the pregnancy packs will be covered by the maternity quality and safety committee for six months. The cost is estimated at \$10,000 per year.
- General practice clinical audits – General practice staff to continue this work.

Antenatal education home visiting will cease at the end of the project. The project team envisages that this model will be incorporated into the upcoming re-tendering of services at CMDHB. There is enthusiasm to continue the model and a curriculum is being developed and there will be a tender mid 2016 for home visits for parenting education.

The project working group will not keep going. However, relationships may be maintained. The project managers had a key role in communication between practices that will no longer be possible so the gap will need to be filled by the GP and midwife clinical liaison positions or by the providers themselves. The mix and mingle session will continue as a way of people getting together.

Now that we have our nurses locality meeting as well once a month – I'll try and let our team leader, whoever it is – the leader that was looking after locality nurses team meetings – I told her if she can bring that up in another meeting – whoever wants to discuss about the antenatal care we can get together or talk about it when we have our nurses locality meetings. (Practice nurse)

14.9 Outcomes

Summary

The Otara pilots aimed to make changes at provider level that would improve outcomes for consumers. It was established in a locality with multiple providers and a population with high and complex health needs. The project built relationships between local providers and developed tools and resources that will continue to be supported by the DHB. Improved relationships and awareness of other providers may be reflected in a reduction in the number of women not registering with a midwife until the third trimester of their pregnancy.

Although the project was a little slower to start than stakeholders would have liked, by the end of the project most felt real progress had been made. Almost all (88%) respondents to the post-pilot survey were aware of the pilot.

Towards the end we were really making progress. (Project team)

Different stakeholders had varied opinions about the highlights of the pilot.

Supporting early engagement with a midwife. Early engagement is often up to the practice nurse. (Project team)

I think for me is now we've got the new packs in and everyone - and the process now is consistent for all the other patients and other clinics as well. (Practice nurse)

The pregnancy packs will be the legacy of the project. (Project team member)

The biggest mix and mingle achievement was getting the midwives together and comfortable in their own group. (Otara)

Connecting midwife to midwife and support networks for self-employed midwives was very successful. (Project team)

14.9.1. Joined up health and social services

Delivering integrated care was a priority for most of the survey respondents in the pre- and post- surveys. In the pre-survey almost all respondents supported the need for further integration of providers (primary, secondary and social sector).

An integrated system would stop people 'falling through the cracks' of the current system. There needs to be a full needs analysis and accountability to ensure people are not passed along like a 'hot potato'. (Midwife – survey)

A key focus of the integration pilot was working with local providers to build the relationships, trust and communication that would support integrated maternity and child healthcare and improve outcomes for women.

Overall improvements in working relationships and communication as a result of the project were commented on in interviews and in the project closure report.

The [project team] have done a fantastic job of bringing providers together and improving clinical trust and competency ...people are much more aware of each other now. It has made a difference. (DHB manager)

In the project closure report the project team notes that: “for the small scale and relatively small in scope initiatives implemented in this project we believe that professional barriers do not exist.”

Pre³¹- and post³²-pilot surveys provided information about changes over the pilot period and improvements in relationships were noted by the majority of survey respondents (

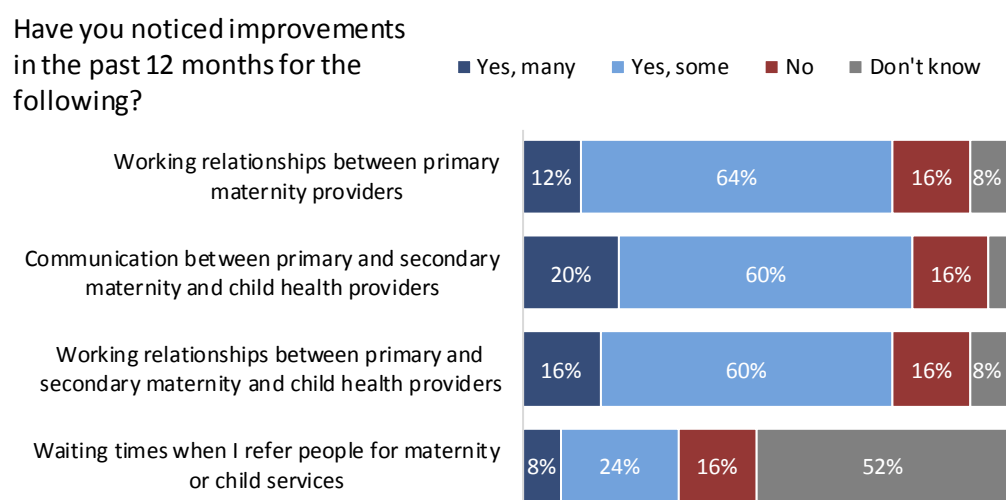
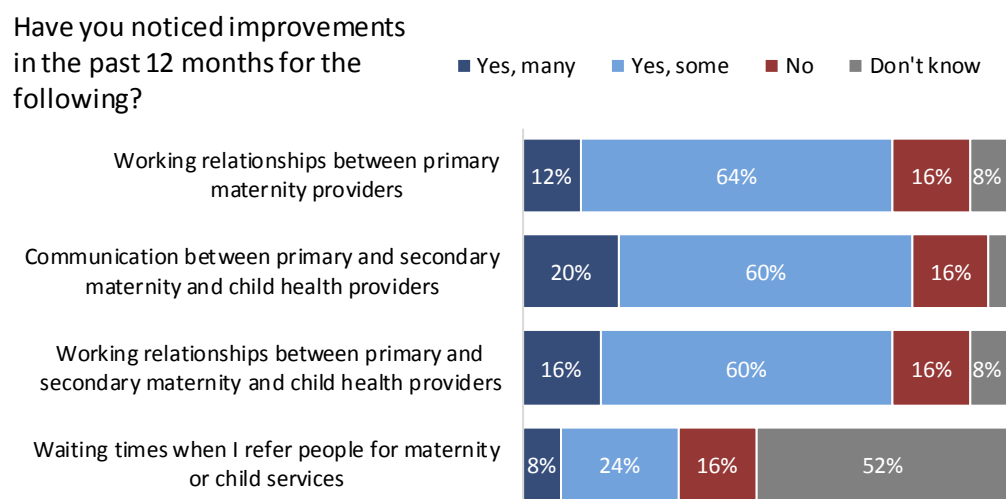


Figure 23). Many but not all respondents to the pre and post-surveys were the same people.



³¹ The pre-pilot survey was completed by 5 midwives; 6 GPs; 6 managers; 3 other providers. Of these 6 worked in the DHB or hospital; 1 in a LMC practice; 5 in general practice; and 8 for other primary providers.

³² The post-pilot survey was completed by 6 midwives; 7 GPs; 8 managers/administrators; 4 other health or social sector professionals. Of these 8 worked in the DHB or hospital; 4 in LMC practices; 8 in general practices; and 5 for other primary providers. Most 88% of respondents were aware of the pilot and 13 had worked directly with the pilot team.

Figure 23. The extent survey respondents noticed improvements in the past 12 months (Source: survey of providers; n=25)

Relationships between providers were the key theme from all provider groups in comments about integration in the survey.

Midwives and GPs knowing each other better and referring directly between themselves. (Doctor – survey)

More appetite from GPs and LMC midwives to actively engage regarding pregnant women and babies in their care. Too much disconnect. (Manager – survey)

A relationship manager that brokers between maternity and child health services and social service providers. (Social service provider – survey)

Comparisons between pre- and post-survey responses for specific aspects of relationships and communication between different types of providers showed no improvements between primary providers or between primary providers and social sector providers (Table 12). However, there was an improvement across most statements about how primary and secondary providers work together. This may reflect the long term chronic conditions programme in Counties Manukau which has worked to develop communication between primary and secondary providers. Secondary providers were more likely to disagree with statements about how primary providers worked together and how primary healthcare providers worked with social sector providers.

The lack of improvement in specific aspects of relationships between the pre- and post-surveys may be explained by the following comment:

The Otara project has brought problems to the surface ... The project has started conversations – people are talking. (Project team member)

It is possible that the raised awareness of the need for integration has resulted in a more critical assessment of what is in place.

Table 12: Pre- and post- pilot survey results about provider interactions

	Percentage strongly agreeing or agreeing with the statement	
	Pre-pilot (n=20)	Post-pilot (n=25)
Primary providers:		
Regularly communicate	35%	32%
Regularly consult about patient care	25%	28%
Collaborate in decision-making	25%	20%
Work together effectively	35%	24%
Trust each other	35%	28%
Primary and secondary providers:		
Regularly communicate	30%	68%

Regularly consult about patient care	25%	60%
Collaborate in decision-making	25%	44%
Work together effectively	25%	40%
Trust each other	40%	28%
Health and social service providers:		
Regularly communicate	30%	32%
Regularly consult about patient care	30%	28%
Collaborate in decision-making	35%	28%
Work together effectively	35%	28%
Trust each other	45%	24%

Interviews with providers suggest they feel better supported as a result of the pilot and the support, initiatives such as the 'mix and mingle' sessions, and resources developed.

In response to the post-pilot survey, most primary providers had used the pregnancy packs and the directory of midwives and mostly found they were useful (84% and 77% respectively) (Figure 24). There was less awareness of the other initiatives that had been developed. There was mixed feedback on the usefulness of these other initiatives.

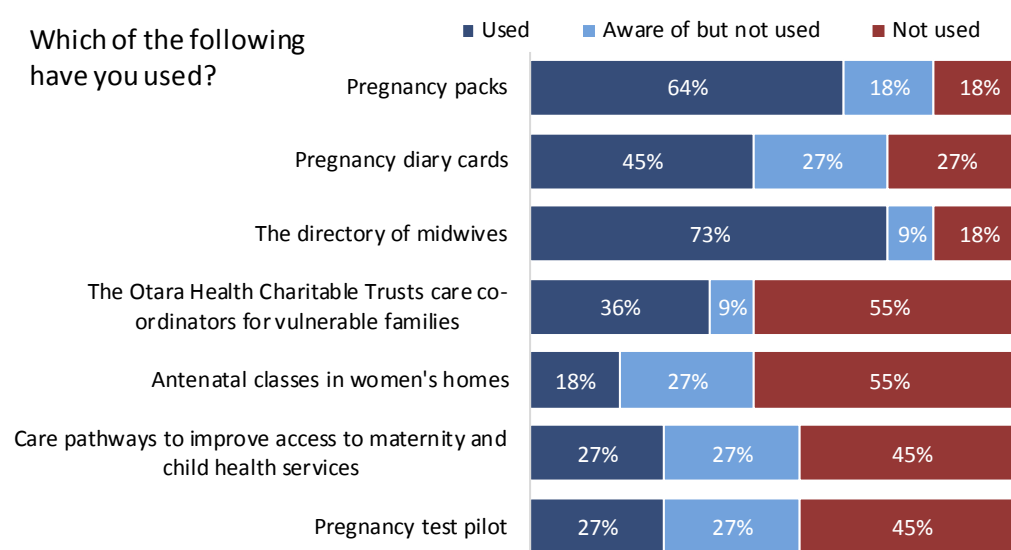


Figure 24. Awareness of tools and resources developed for the Otago integration pilot (Source: post-pilot survey primary providers n=17)

The project didn't achieve enough with GPs and getting them to think in a positive way about changes to maternity care... GPs and midwives need to have a common ground to come together. (GP)

Approximately half the survey respondents (55%) had attended a multi-disciplinary training session and of those who attended one-quarter (27%) found them very useful and another 45% found them quite useful.

There was little difference between the pre-and post-surveys in response to specific questions about whether the tools and processes to support integration were in place.

In the post-pilot survey, most were aware of where to refer women for health promotion services such as smoking cessation and for health needs during pregnancy. Nearly two-thirds (60%) agreed that maternity care plans reflect an integrated approach and nearly half that integrated care is supported by a viable financial system. Few (20%) considered that information sharing between providers met their needs (Figure 25).

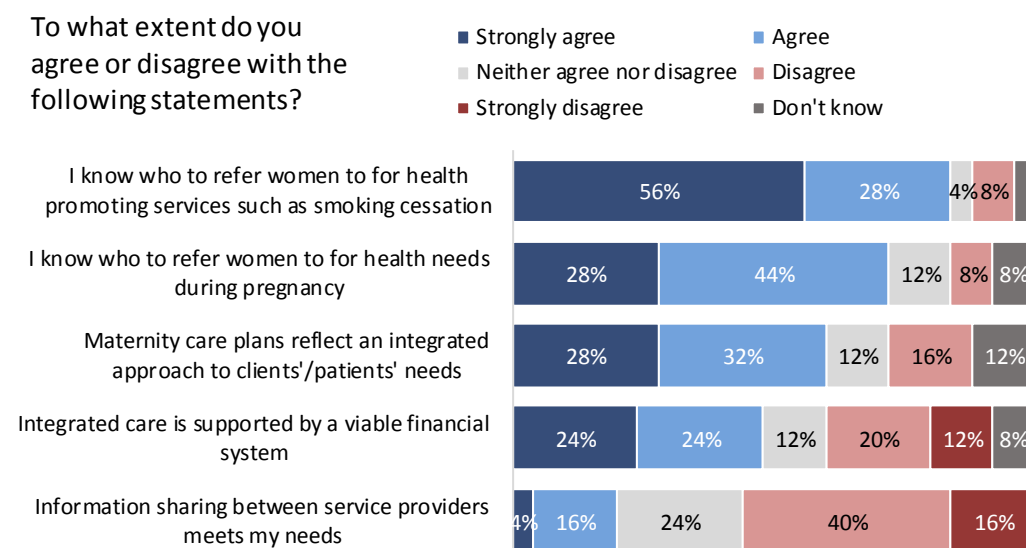


Figure 25. The extent different aspects of infrastructure to support integration is in place (Source: Post-pilot provider survey)

In response to the survey, providers frequently commented about systemic issues that were barriers to integration including:

- A lack of infrastructure
For collaboration to work in order to further develop and maintain effective integrated maternity and child health services through a collective impact approach, investment is required to ensure the necessary infrastructure itself is in place. (Manager – survey)
- Section 88 funding
Has to be more supportive infrastructure for the community midwives, Section 88 doesn't help integrate them at all. (Midwife – survey)
- The lack of shared electronic records
There has to be one electronic health record visible to all providers to ensure there is no duplication, wastage and the right things are happening. (Doctor – survey)
It will take continual effort from providers to learn to collaborate and communicate. IT systems which talk to each other would be a huge start as we are all busy with large caseloads and workloads and do not have time to speak on the phone. We care for complex families with

high health needs – there needs to be recognition of the extra resource these families take from providers including self-employed midwives. (Manager – survey)

[I would like to see] better communication all round. A shared health file. (Manager – survey)

Pregnancy outcomes - Early engagement with services

There appears to be a reduction in the percentage of third trimester registrations with a LMC and suggestion of an increase in the percentage registering in the first trimester (21% in Q4 2013 to 44% in Q4 2015), but rates remain lower than for the wider DHB and national rates.

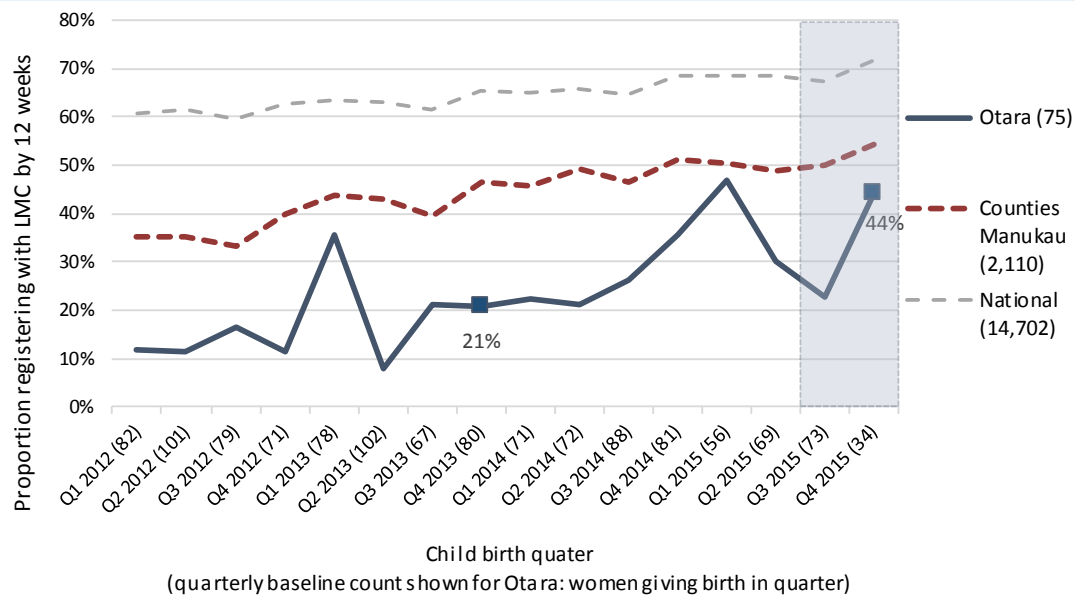


Figure 26. Proportion of women registering with LMC by 12 weeks in Otago and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Otago; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

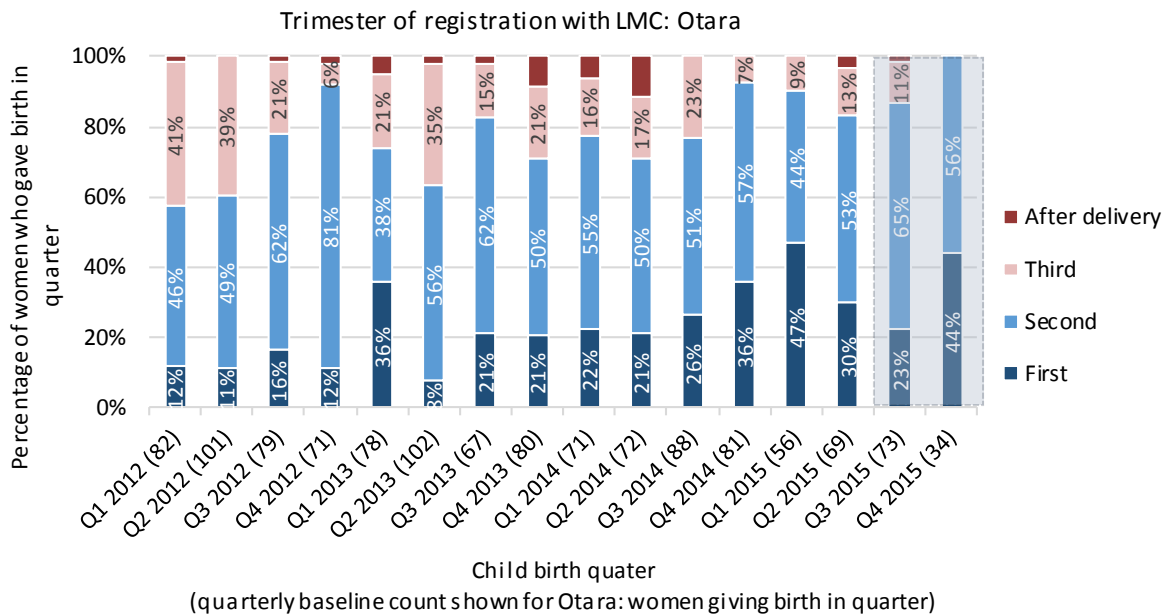


Figure 27. Trimester of registration with LMC in Otara (base count of number of women who gave birth in each quarter shown in brackets on x-axis; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

14.9.2. Planned healthy pregnancies

Rates of maternal tobacco use have fluctuated in Otara, though a slight decreasing trend is evident at DHB and national level. Provision of advice at DHB area level was consistent with national rates since Q1 2014.

Smoking rates and provision of advice

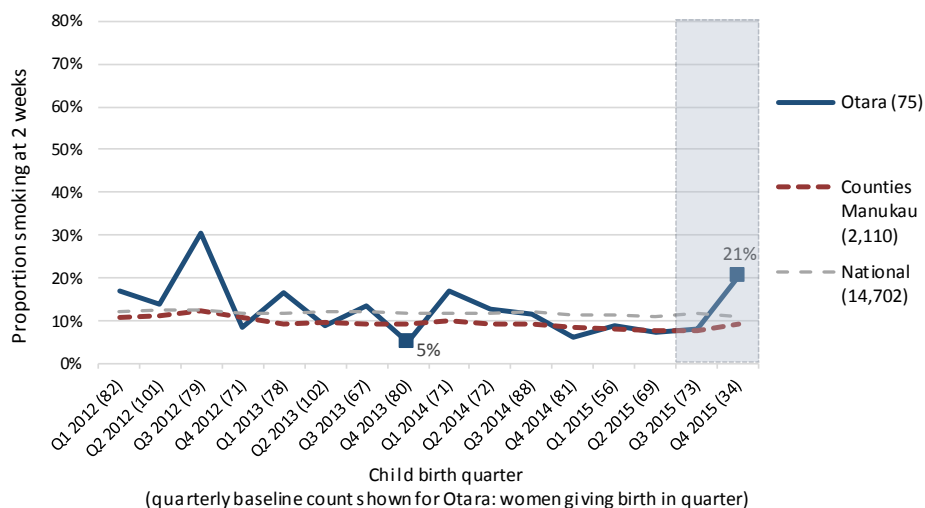


Figure 28. Proportion smoking at 2 weeks in Otara, Counties Manukau and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Otara; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

The proportion of pregnant women offered advice about stopping smoking in Counties Manukau DHB area has been relatively consistent since the beginning of 2013, with the exception of Q3 2013 (Figure 29). Provision of advice in Counties Manukau is some 3-5 percentage points higher than the national rate.

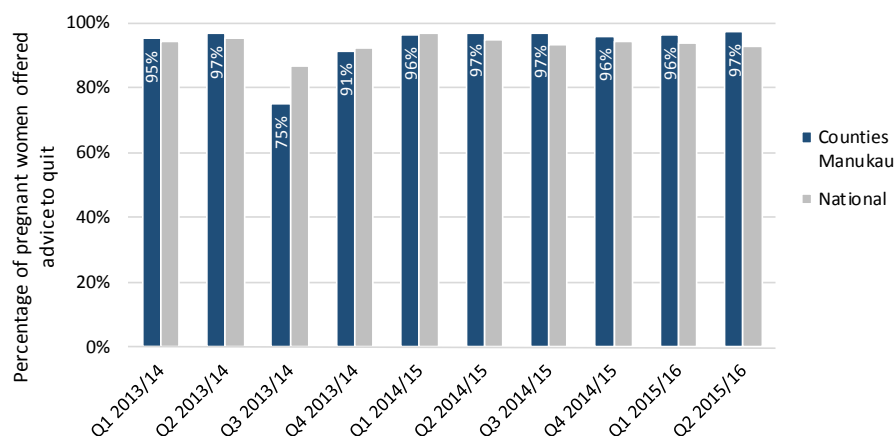


Figure 29. Proportion of pregnant women who smoke that were offered advice to quit smoking in Counties Manukau DHB and nationally (Source: MoH Smokefree team) (Counts were not provided with the smoking advice data, but to give an indication, National Maternity Collection data shows an average of around 2,000 births per quarter in Counties Manukau).

Average birth weights in Otara were higher than the DHB and national average throughout 2015 (3.6kg compared with 3.4kg respectively). The proportion of babies born with low birth weight (<2.5kg) fluctuates in Otara. A decreasing trend is evident, but also at DHB and national level (not unique to Otara).

Baby birth weight can be an indicator of smoking during pregnancy and of the quality of maternity care. Average birth weights in Otara were higher than the Counties Manukau DHB and national averages throughout 2015. The proportion of babies born with a low birth weight (<2.5kg) fluctuates, from being higher than the regional (5-7%) and national (5-6%) rate, but the data suggests a decreasing trend (i.e. reduction in the number of babies born at less than 2.5kg,

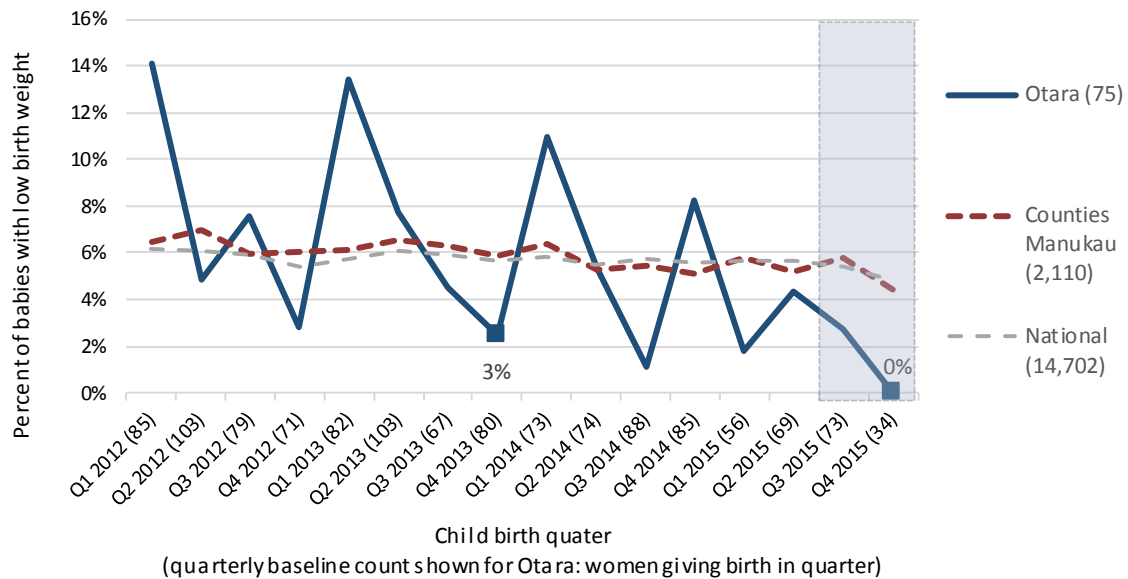


Figure 30. Proportion of babies born with low birth weight (<2.5kg) in Otago, Counties Manukau and nationally (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly count for Otago; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

14.9.3. Healthy early years

Rates of breastfeeding on discharge from LMC have decreased from 64% at the start of the pilot to 58%. Rates are consistently lower than for the DHB as a whole and national rates.

Rates of notification of birth with WCTO provider have increased at DHB level and nationally, but even more so in Otago since the start of the pilot (55%) to the end of 2015 (88%). Age at referral to WCTO, at first core contact, and proportion completing all core 1-5 contacts in their first year on the other hand show no improvement.

Immunisation rates of children at the milestone age of 8 months in Counties Manukau have increased in line with the national trend, exceeding it from Q3 2014 onwards. The data suggests immunisation rates in the most deprived areas have closed the gap with the DHB as a whole, and exceed national rates.

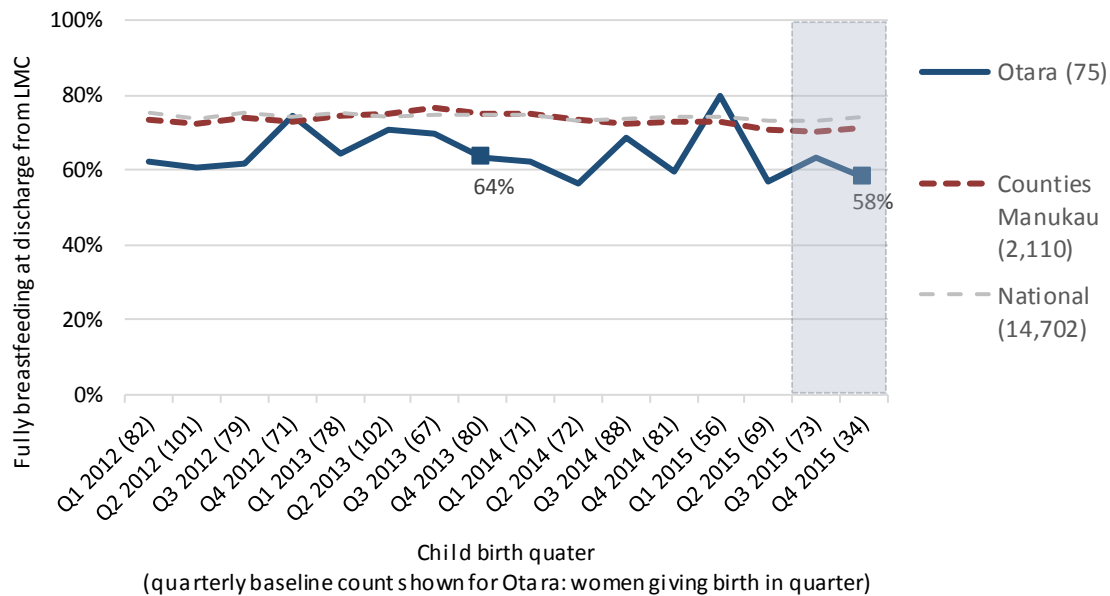


Figure 31. Proportion of breastfeeding on discharge from LMC in Otago, Counties Manukau and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Otago; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Referral to a WCTO provider

The role of a WCTO lead in the core working group was not filled as the mainstream WCTO provider (Plunket), and other NGO WCTO providers did not have the capacity to undertake this role. As a result, there was little focus in the pilot on WCTO services.

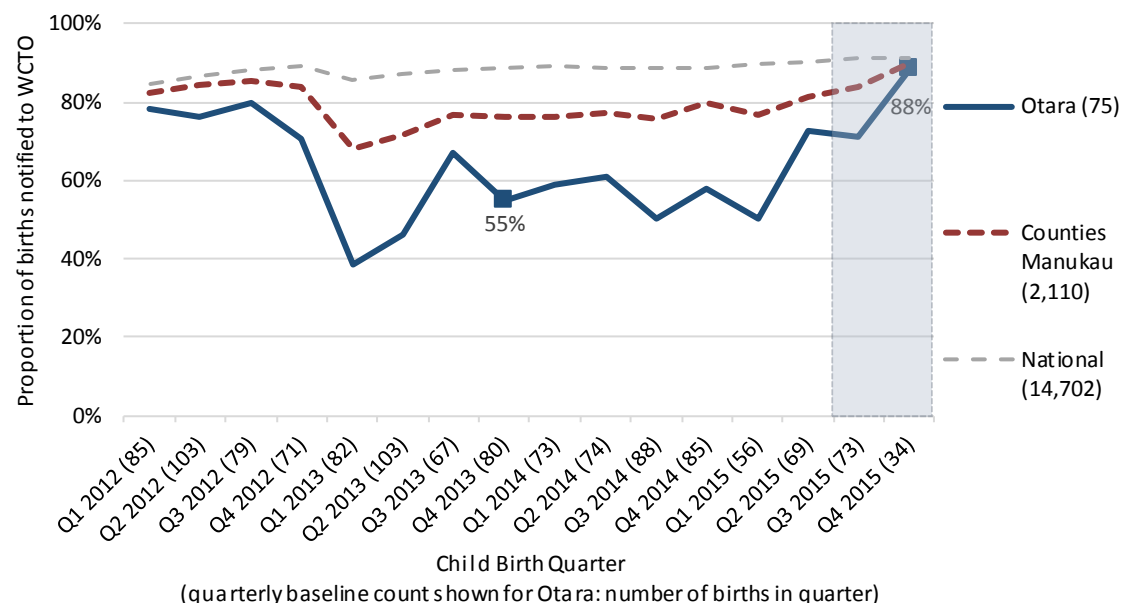


Figure 32. Proportion of births notified to WCTO provider in Otago, Counties Manukau and nationally (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly count for Otago; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

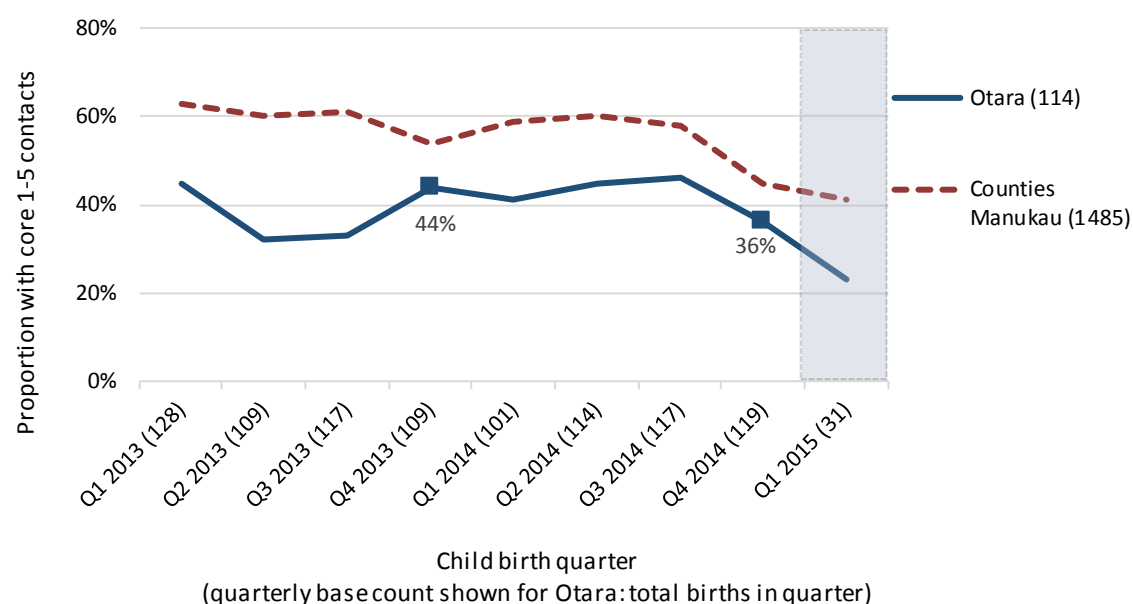


Figure 33. Proportion of children completing all core 1-5 contacts in their first year in Otago, Counties Manukau and nationally (latter for July-December 2014 only) (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly base count (total number of births) for Otago; quarter is based on child birth quarter) (Source: MoH WCTO unit record data for Otago; shaded quarters represent preliminary data)

Immunisation rates

Immunisation rates for children in Counties Manukau at the milestone age of eight months have increased in line with the national trend, exceeding it from Q3 2014 onwards. The data suggests immunisations rates in the most deprived areas have closed the gap with the DHB as a whole, and exceed national rates.

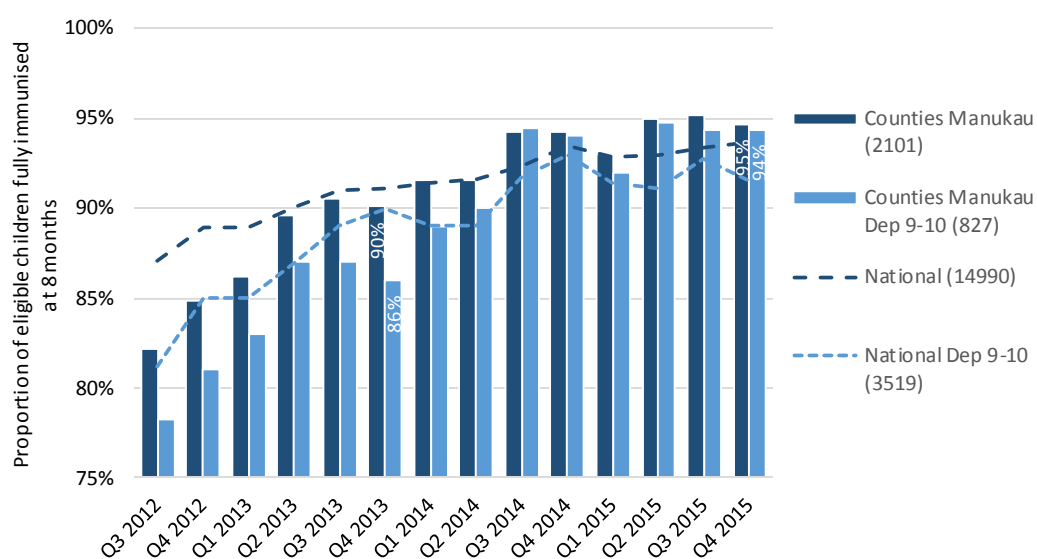


Figure 34. Quarterly proportion of children who turned the milestone age of 8 months and had completed their age appropriate immunisations in Counties Manukau as a whole; and deprivation areas 9-10. National rates are shown for comparison. (Legend shows quarterly average number of eligible children (quarterly average base count of number of children turning the milestone age in each area)) (Source: MoH National Immunisation Register)

15. Appendix Three: Lakes DHB

Vision: Healthy communities. The Lakes DHB overarching outcome for the integration pilot is to have integrated and co-ordinated maternal and child health services that support improved health outcomes and reduced inequalities in the target population group.

The Lakes DHB population is among one of the most disadvantaged groups in the country. Social problems exacerbate health issues resulting in poor outcomes for pregnant women and their babies.

The Lakes integration pilot comprises four workstreams:

- Workstream 1: Establishing a dedicated maternal, child and youth governance group comprised of representatives of a cross section of primary, secondary and tertiary providers, and community maternal and child health services.
- Workstream 2: Development of three community based maternal and child health integrated services offering a continuum of maternal and child health services.
- Workstream 3: Lakes pregnant mothers, babies and children are effectively tracked and monitored via a centralised co-ordination service.
- Workstream 4: Development and implementation of a Lakes DHB wide maternal and child health workforce programme that will address future maternal and child health workforce needs in the Lakes region.

15.1 Governance and leadership

Establishing a governance group for maternal, child and youth health was one of the objectives of the pilot and is described in section 15.3.

15.2 Management

The responsibility for the Lakes DHB integration pilot sits with the DHB Portfolio manager for Women, Child and Youth services. The Lakes integration pilot employed a project manager. Oversight and direction is provided by the DHB portfolio manager. The project manager has had primary responsibility for operationalising some of the integration initiatives. Having a paid project manager has:

- Enabled initiatives to be rolled out faster than would be possible in a business as usual model
- Facilitated communication and co-ordination between the integrated services and the DHB.

The consumer voice is provided through the maternity quality and safety consumer group. In addition, some consumer feedback is received through Facebook pages.

15.3 Workstream 1: Te Whanake (the governance group)

Recognition of the need for an overarching governance structure to provide leadership and direction to the development and delivery of maternal, child and youth health services across the Lakes region was identified by key stakeholders prior to the commencement of the maternal and child health integration pilot.

The integration programme was the catalyst for formal development of a governance group – Te Whanake. The group supersedes groups established for other initiatives for pregnant women and children such as the Children’s teams, Social Sector Trials, DHB wide initiatives such as smoking cessation and access to oral health services during pregnancy, and rapid response teams for rheumatic fever.

Te Whanake now has a structure with visibility, a logo, and Lakes DHB chief executive and Board mandate. Group members are charged with advancing an effective Lakes wide integrated maternal, child and youth health service framework to support:

- accessible and responsive service delivery
- a coordinated continuum of care
- achievement of health equity
- improved health outcomes for pregnant women, children and youth across the region.

Membership of the group includes:

- DHB – Maternal, Child & Youth Portfolio Manager; Service Manager: Women, Child and Family Service; Associate Director of Nursing (Primary & Community); Community and General Paediatrician LDHB; Director of Nursing; Toi Te Ora Public Health Service; Clinical Nurse Manager, Public Health & Screening at Rotorua Hospital
- Providers – Executive Manager: Tipu Ora, Clinical Manager: Tuwharetoa Charitable Trust; Pou Whakarite Maori Health; Clinical Leader Youth Health: Rotovegas YOSS; LMC representative
- WCTO – Plunket
- Other agency – Regional Manager: Child, Youth & Family

There is no consumer representative but stakeholders considered the consumer voice was adequately represented through the organisations present.

Interviewed members of Te Whanake considered it was progressing well.

We were proactively invited to the table. Te Whanake gives an opportunity to legitimately have our voice heard. It invites me into other people’s corner of the world and allows healthy and robust discussion. (Te Whanake member)

People around the table trust each other and that trust is increasing. (Te Whanake member)

The pace is exciting – it is the most forward thinking group I am part of. (Te Whanake member)

Lessons learnt include acknowledging the time it takes to establish a group and to build trust and confidence amongst the group and a shared sense of purpose.

We needed time to get onto the same wavelength and time to decide on the mission and goals. (Te Whanake member)

It may take a lot of time for views to become aligned. (Te Whanake member)

It also took time to establish where Te Whanake sits with respect to the two alliance groups in the locality. Agreement has now been reached that Te Whanake takes the lead on maternal, child and youth services. The DHB team emphasise the importance of including youth as well as maternity and child services into the same governance group. An additional GP from a 'mainstream' general practice background may also be included in response to a request from the TR-ALT (Team Rotorua – Alliance Leadership Team).

Stakeholders attributed the effectiveness of Te Whanake to:

- Effective leadership
The credibility of the DHB leader is important
- Having a dedicated project manager to keep the group together. If a project manager is not available then admin support is required
That makes it so much easier for us and keeps us on track
- Clarity that the group's function is about governance and not operations – a focus on systems and complexity
- The people on the group being at the right level in their organisations to make decisions
You need to be able to sit at the table with people who can make decisions. It's really important.
- The group being the right size and providing a positive space where people can brainstorm.

Potential next steps suggested by stakeholders include:

- Further extension into the primary care sector and the inclusion of a mainstream GP or a practice nurse
I would like to see its purpose more clearly understood in the local primary care sector
- Possible increased Māori representation

15.3.1. Sustainability

Continued tenure of the group going forward was considered critical given the group's remit. The DHB reports that transition to 'business as usual' has been a focus from the outset, supported by the following:

- Development of a strategic plan and associated objectives that transcend the MoH project closure date of February 2016.

- Group members engaged with awareness the governance group was a long term structure, non-aligned with the two year MoH funded integration programme.
- Continued funding of dedicated project management resource, post February 2016, to support the work of the governance group. To date this resource has enabled the group to efficiently utilise its time and complete work related to progressing the group's strategic objectives.
- Securing of a small pool of Lakes DHB funding to support costs that may be incurred by the governance group related to achievement of strategic objectives over the next 12 months. It is likely this funding will also be available to the group in the following 12-month period.
- Development of a Charitable Trust to support the work of the governance group.

15.4 Workstream 2: Development of community based maternal and child health integrated service delivery sites

A major integration activity for Lakes DHB was the development of three sites where integrated maternal and child health services would be provided through providers co-located at an established site.

Services have been established at two of three planned sites: Turangi and Rotorua. A service in Taupo is still being planned. Setting up the three services was phased so that learnings from each could contribute to the development of the next service.

The integration pilot provided funding to establish the integrated services. The Lakes DHB team was able to be innovative in setting up a sustainable approach to funding the new services. Lakes DHB has worked within existing systems to combine Section 88 funding with funding for other maternity and child health initiatives, such as the Start Well service. Midwives are paid an additional sum per baby in recognition of the high needs of many of the pregnant women and the additional scope for the midwives to contribute to healthy pregnancies.

The service objectives for Awhi House and Kia Puāwai were aligned with the WCTO quality improvement framework. The two services that have been developed to date have the same goals but have developed differently to meet the needs of their local communities.

Integrated services for Taupo are under discussion. An established multidisciplinary team in Taupo who already meet to discuss the very vulnerable children will provide a foundation for the new service.

15.4.1. Awhi House – Turangi

Turangi is a rural area 40 minutes south of Taupo by road. It has a usual population of 2,952 representing 9% of Taupo District's population. Turangi has a relatively young population with 23% aged under 15 years of age and a median age of 40.6 years. In Turangi, 61% of residents

identify as Māori and 50% identify as European.³³ Turangi is a socio-economically deprived population. Many of the health issues are the result of, or exacerbated by, social issues which in turn impact health service access and utilisation.³⁴

Awhi House opened in Turangi in February 2014, and was the first of the integrated services to be established.³⁵ The Awhi House vision is 'growing healthy communities, one family at a time because every family matters.' The mission is to 'facilitate the provision of quality maternal and child health services within the Turangi community strengthening families, healthy pregnancies, parenting and children.'³⁶

Awhi House is an important part of the Turangi community and well supported by the community.

*The community is really behind it...Prisoners are providing things like the doll's house.
(Provider)*

The service grew out of the vision of local midwives and was supported by the DHB. Awhi House started as a midwifery service focussed on very vulnerable women. As demand for the service increased the administration and day to day running of the site was taken over by Tuwharetoa Health allowing the midwives to focus on their clinical role.

Over time the service has been extended to include all women in Turangi and has grown to include a range of other maternal and child health services.

As well as midwifery care, Awhi House provides WCTO services, health promotion, and antenatal education. Awhi House also provides a safe place, food and warmth for women.

The service has been innovative in some of the ways it has worked with women and provided positive incentives to promote child health such as:

- Soup and scone days provide an opportunity for health education
- Vouchers for baby photos at the six week check and at about 12 to 18 months on completion of childhood immunisations and WCTO visits
- Pamper days for pregnant women with the aim of identifying and providing support for pregnant women who smoke.

The quite substantial changes in the size and scope of Awhi House have required some adjustment on the part of the midwives who started the service and other providers as they have been added to the service.

³³ Note that Census New Zealand counts people in each of the ethnic groups they identify as and hence the total may exceed 100%

³⁴ Lakes DHB Maternal and Child Health Integration Programme Project Plan

³⁵ Malatest International provided a separate Awhi House evaluation report in March 2015

³⁶ Awhi House strategic plan, 2015

Monthly meetings of the different provider groups chaired by the DHB Maternal and Child Health Portfolio Manager have provided a forum where changes and challenges can be discussed and successes celebrated. For example:

- Shared understanding of the service model and ensuring additional providers coming to Awhi House contribute to the service model.
- Retaining the initial focus on very vulnerable women as the service grew. For a time midwives then needed to visit very vulnerable women in their own homes. A balance has been achieved through setting up a back entrance for women who want privacy.

Awhi House is still developing. Possible future steps include:

- Continuing to explore options to share information. Current barriers are the limitations of IT systems and providers' concerns about privacy.
- Trying to work with local GPs to encourage early referral and to provide a general practice service on site.

Consumers' views about what Awhi House has achieved

Feedback from women using Awhi House has been consistently positive. Locating services together at Awhi House was seen by the parents as an advantage because of convenience and access to information.

You get the opportunity to hook up with other services because they're all under one roof.

I come with one question, and it opens up a different spectrum. If I can access that service here, then it's good for me.

In a focus group midway through the project and in a more recent consumer survey by Tuwharetoa Health women explained that they liked:

- The people - *Everybody is loving, always smiling, and make you feel welcome and comfortable*
- The welcoming atmosphere - *This place is awesome, lovely, comfy and homely; the environment is friendly and happy*
- Non-judgemental attitudes - *They don't assume anything, and they make sure they understand before they come to me with a piece of advice.*
- Privacy and confidentiality - *You find that the midwives themselves try to keep things confidential. You ask them questions about somebody else and they don't tell you.*
- The support - *They all support new parents really well*
- The availability - *Lovely people always there when you call in; It's great to be able to come any time and talk to someone about any problems you may have*

In response to the Tuwharetoa survey, there were no suggestions for improvement but some suggestions for types of activities that would be welcomed including harakeke, home skills (sewing, cooking etc.), catch-up groups and baby massage.

Providers' views about what Awhi House has achieved

It has been a really good learning curve – it is only going to get better – a really good outcome. (Tuwharetoa)

Providers described the benefits of Awhi House as:

- Reaching vulnerable women and providing the flexible care they need
- Providing seamless access for women and children.
- Providing an improved multi-disciplinary and collaborative environment between relevant maternal and child health providers and social services in Turangi that supports providers as well as consumers.

It's been fantastic, wonderful for our nurse having that support around here. (Provider).

The team loves the peer support. (Provider)

Profile of women attending Awhi House

Data collected primarily for service delivery have been provided for quarters covering January 2014 to December 2015, with the exception of the third quarter of 2015 (missing data for July-September 2015).

Overall, across all quarters reported, outcomes were tracked for a total of 117 women. As there are missing data this is an underestimate of the total number of clients registered and engaged with the service. The number of bookings with Awhi House midwives in each quarter is shown in Figure 35.

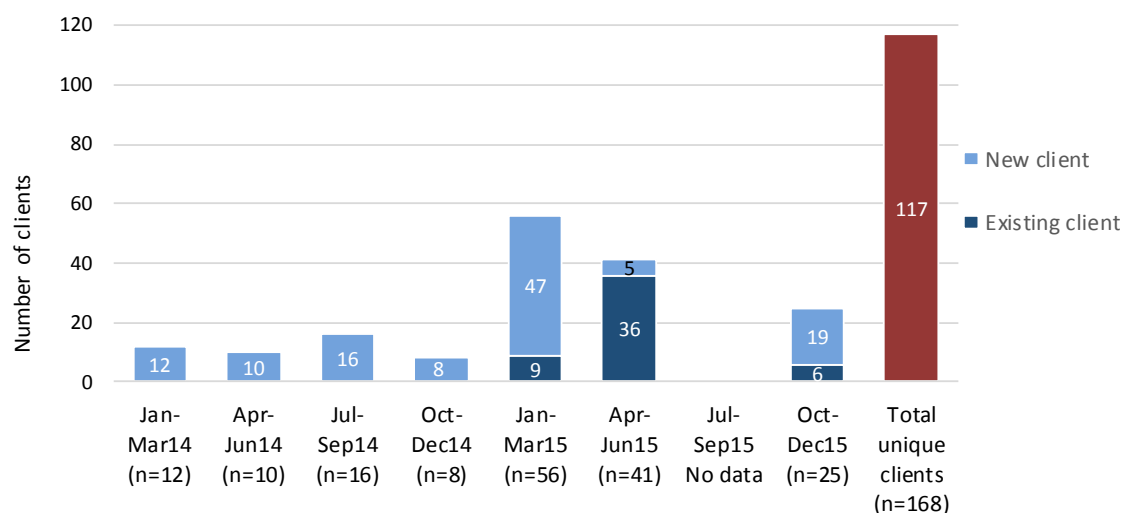


Figure 35: Number of women registered with Awhi house by reporting quarter (Source: Integrated Service quarterly reports)

The date of birth of the client (for deriving age of client) is reported in two quarters (January-March and April-June 2015). Over those quarters, the age of women visiting Awhi house ranges from 17 to 42, with an average (mean) age of 28. There is a relatively even spread across age ranges (Figure 36). Based on the MoH National Maternity Collection the mean age

of mothers at the time of their baby's birth is younger in Turangi than in Lakes DHB as a whole which in turn is younger than the national mean ages.

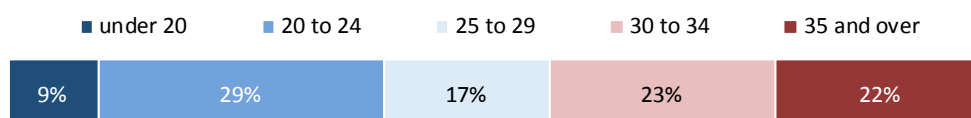


Figure 36. Age profile of clients at Awhi House (Source: Integrated Service quarterly reports)

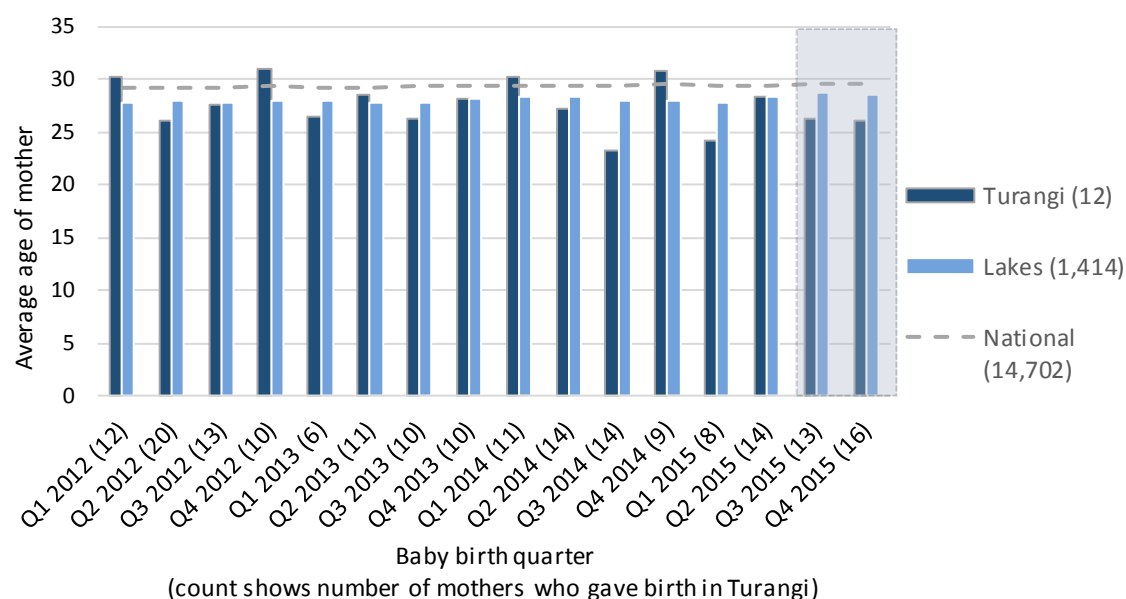


Figure 37. Mean age of mothers in Turangi; Lakes DHB; and nationally (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly birth count in Turangi; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

The gravida (number of times pregnant) and parity (number of times given birth) was recorded for clients visiting Awhi House in 2015 (with the exception of the missing quarter of July-September) with a mean gravida of three and parity of two. The data shows just under one-third of clients had never given birth and were pregnant for the first time ('first time mums'), but there is a wide distribution, with 16% of clients having been pregnant six or more times (Figure 38).

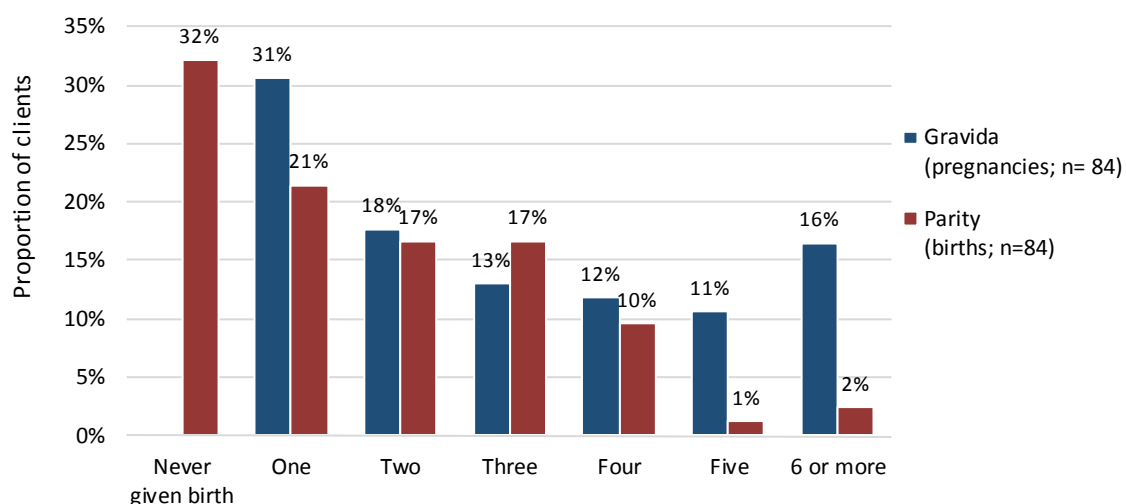


Figure 38. Gravida (number of times pregnant) and parity (number of times given birth) of clients
(Source: Integrated Service quarterly reports)

Based on data provided by the service (and noting that one quarter is missing), a total of 87 births were recorded from women registered with the Awhi House midwives from January 2014 to December 2015.

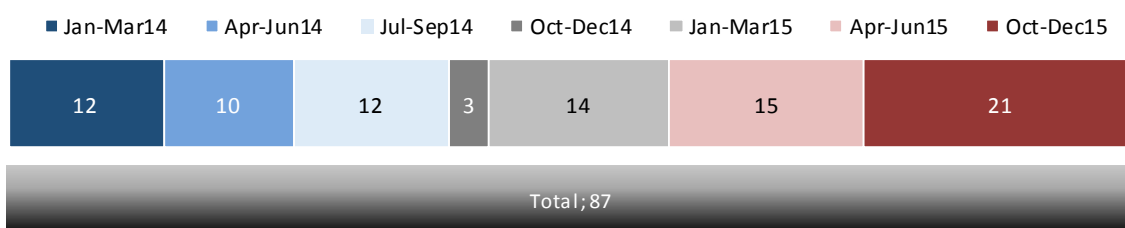


Figure 39. Number of births to Awhi House LMCs (Source: Integrated Service quarterly reports)

15.4.2. Outcomes for women at Awhi House

Objective: Improved timing of registration with a LMC and early engagement of pregnant women in maternity services.

Outcome: The data suggests women who registered with Awhi House in 2015 are registering five to six weeks earlier in their pregnancy than women who registered in 2014.

The median gestation across all women registered (and recorded) at Awhi House from January 2014 to December 2015 was just under 17 weeks (16.8) with the mean slightly higher (18.9 weeks) (Table 13). Approximately one-third (31%) of all clients registered within their first trimester, half in their second trimester and one-fifth (20%) in their third trimester (29 weeks or more).

Table 13. Gestation at booking

	Jan-Mar14	Apr-Jun14	Jul-Sep14	Oct-Dec14	Jan-Mar15	Apr-Jun15	Jul-Sep15 (no data)	Oct-Dec15	Total unique clients
Count*	12	10	16	8	47	5	.	19	116
Mean	33.2	24.4	17.9	13.1	16.1	21.3	.	17.1	18.9
Median	34.4	24.0	16.8	9.6	14.0	12.4	.	15.4	16.8
Minimum	22.5	8.3	3.6	5.0	5.2	5.3	.	4.2	3.6
Maximum	38.3	39.0	34.6	37.3	42.6	38.5	.	33.2	42.6
Yearly average	Mean 22.4 (median 22.5)				Mean 16.7 (median 14.6)				

* These represent new clients in each quarter. Counts are less than those shown in Figure 35 above due to some missing data

Based on the minimum gestation at the time of booking for all individual (unique) clients recorded from January 2014 to December 2015, there may be a decreasing trend over time (i.e. evidence of earlier engagement), with the mean gestation of all women registering for the first time in 2015 some 5 to 6 weeks earlier than for those booking in 2014 (16.7 compared to 22.4 respectively) and fewer booking beyond 20 weeks in the later reporting quarters (Figure 40).

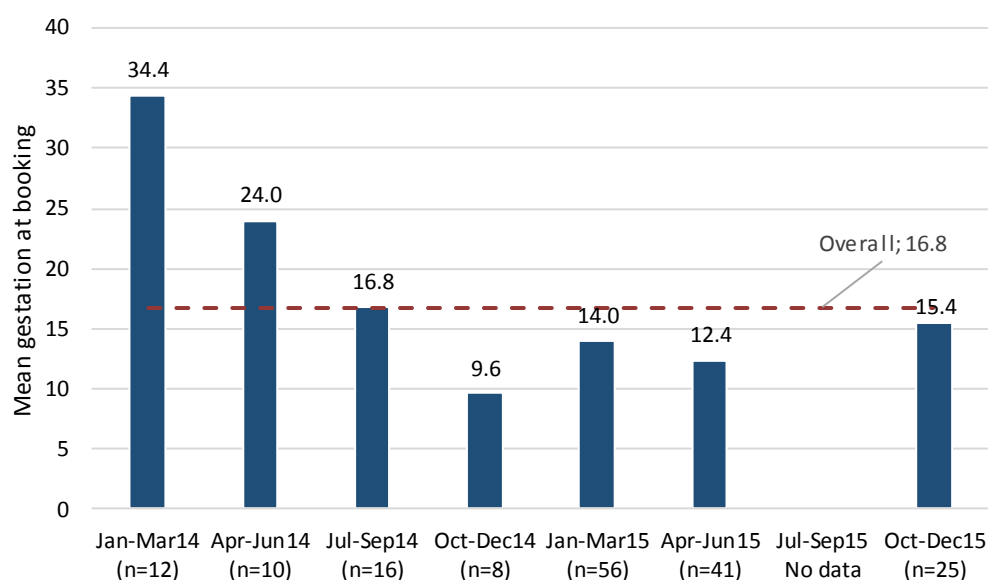


Figure 40. Mean gestation at time of booking at Awhi House (Source: Integrated Service quarterly reports)

MoH data for Turangi as a whole show considerable variation in the context of an increasing trend in the number of first trimester registrations across Lakes as a whole and nationally (though note small sample size in Turangi).

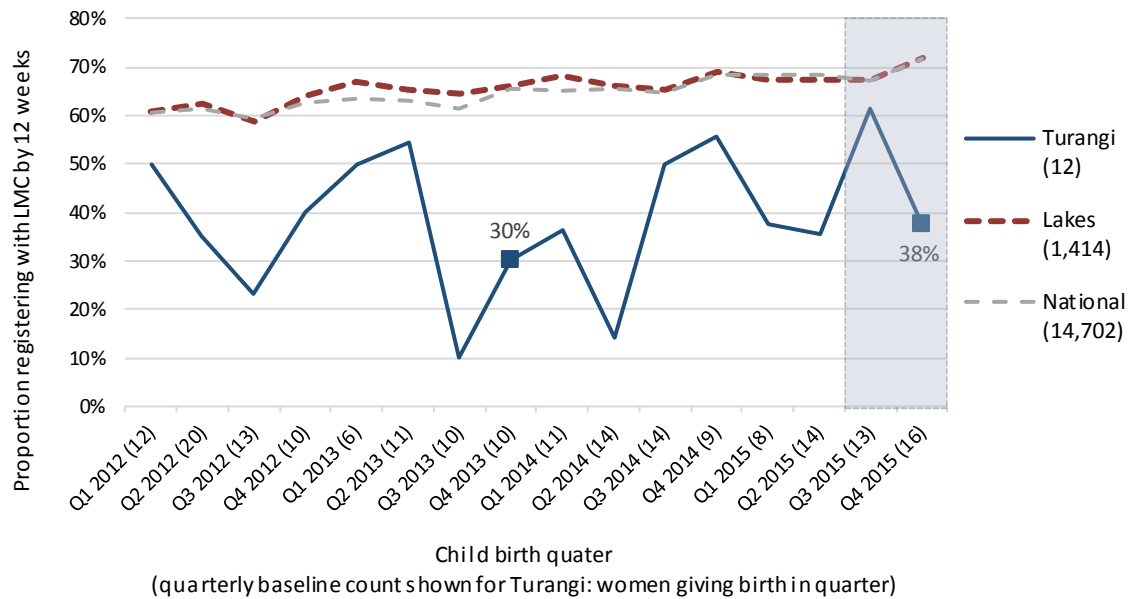


Figure 41. Proportion of women registering with LMC by 12 weeks in Turangi, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Turangi; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

When compared with the timing of registration based on data from the National Maternity Collection it appears that there has been a steady reduction in the number of women registering with a LMC in the third trimester in Turangi (Figure 42).

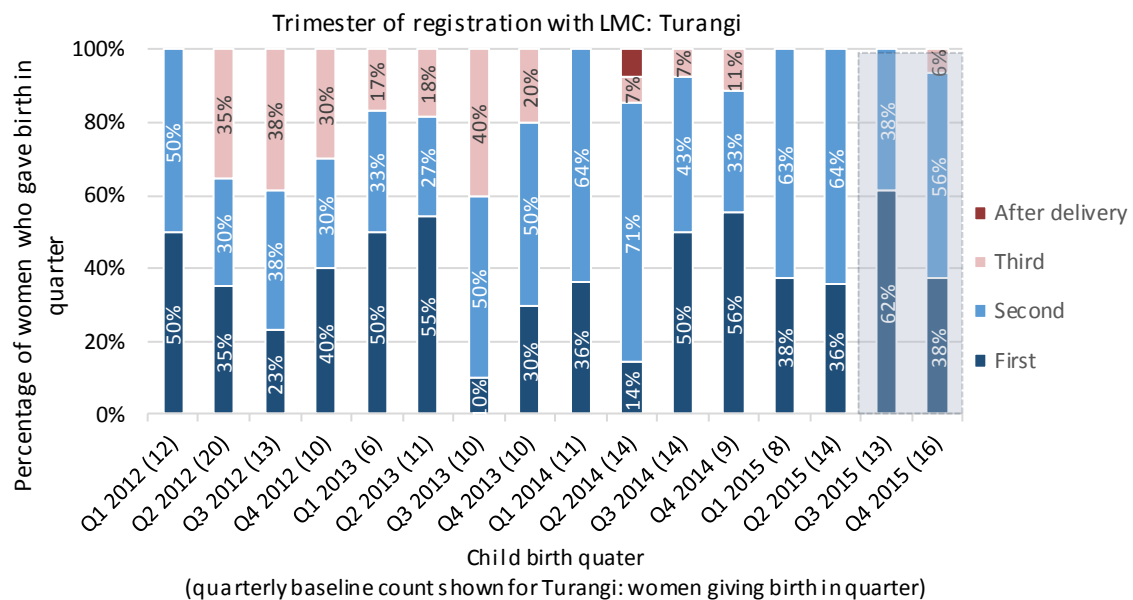


Figure 42. Trimester of registration with LMC in Turangi (base count of number of women who gave birth in each quarter shown in brackets on x-axis; quarter based on child birth quarter) (Source: MoH National Maternity Collection)

Table 14. Rate of registration with LMC by trimester in Awhi House (Source: integrated service data); Turangi and Lakes (Source: MoH National Maternity Collection; italics represent preliminary data)

Quarter	First trimester			Second trimester			Third trimester or later		
	AWHI House	Turangi	Lakes	AWHI House	Turangi	Lakes	AWHI House	Turangi	Lakes
Q1 2014	0%	36%	68%	8%	64%	27%	92%	0%	5%
Q2 2014	0%	14%	66%	78%	71%	28%	22%	14%	6%
Q3 2014	19%	50%	65%	63%	43%	30%	19%	7%	5%
Q4 2014	63%	56%	69%	25%	33%	27%	13%	11%	4%
Q1 2015	29%	38%	68%	60%	63%	27%	11%	0%	6%
Q2 2015	60%	36%	67%	0%	64%	27%	40%	0%	5%
Q3 2015		62%	67%		38%	28%		0%	4%
Q4 2015	32%	38%	72%	63%	56%	25%	5%	6%	3%
Overall 2014 to 2015	31%	40%	68%	49%	55%	27%	20%	5%	5%

Objective: Provision of quality maternal and child health services.

Outcome: A median number of eight antenatal and nine postnatal visits were provided to women attending Awhi House. The number of visits varied up to 19 antenatal and 12 postnatal visits. Midwives described how they provided women with the support they needed, including accompanying them to visits with other agencies. The maximum numbers of visits suggest intensive care is needed and being received by some women.

Attendance at antenatal and postnatal visits provides an opportunity for pregnancy and early parenting education by the midwives and linking women to other providers such as smoking cessation supporters. Based on taking the maximum recorded number of visits for each individual, a total to 779 antenatal and 464 postnatal visits were recorded between January 2014 and December 2015 at Awhi house, with women attending a median of eight antenatal and nine postnatal visits (Table 15).

Table 15. Number of antenatal and postnatal visits recorded at Awhi house between July 2014 and December 2015 (Source: Integrated Services quarterly reports)

	Antenatal (base count = all women registered = 117)	Postnatal (base count = all women given birth = 87)
Number of women attending	105 (90%)	55 (64%)
Sum total of visits	779	464
Mean number of visits per client	7.4	8.3
Median number of visits per client	8	9
Minimum number of visits per client	0	0
Maximum number of visits per client	19	12

There is wide variation about these averages reflecting different levels of need (Figure 43). Furthermore, the number of antenatal visits is affected by when the client registered with the site within the reporting timeframe (e.g. if only registered recently, they may not yet have had an opportunity to see a midwife; or if registered late into their pregnancy they would have had limited opportunity for antenatal visits).

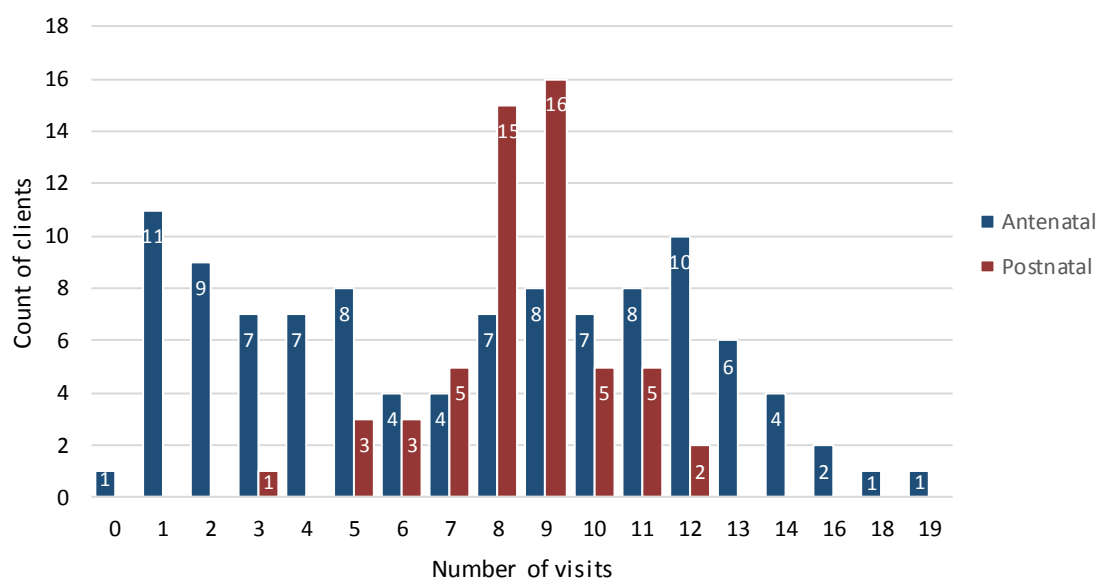


Figure 43. Attendance at antenatal and postnatal appointments at Awhi House (all clients, July 2014 to December 2015) (Source: Integrated Services quarterly reports)

The provision of quality maternal care may be associated with an increase in average birth weights in Turangi, as shown in the National Maternity Collection data (Figure 44). Whilst the number of babies born each quarter in Turangi with low birth weight (<2.5kg) has been proportionally high (7-20%) relative to Lakes (5-7%) and national rates (5-6%) in some quarters, these represent very low counts (small sample size) and in eight of the twelve quarters shown there have been no low birth weights.

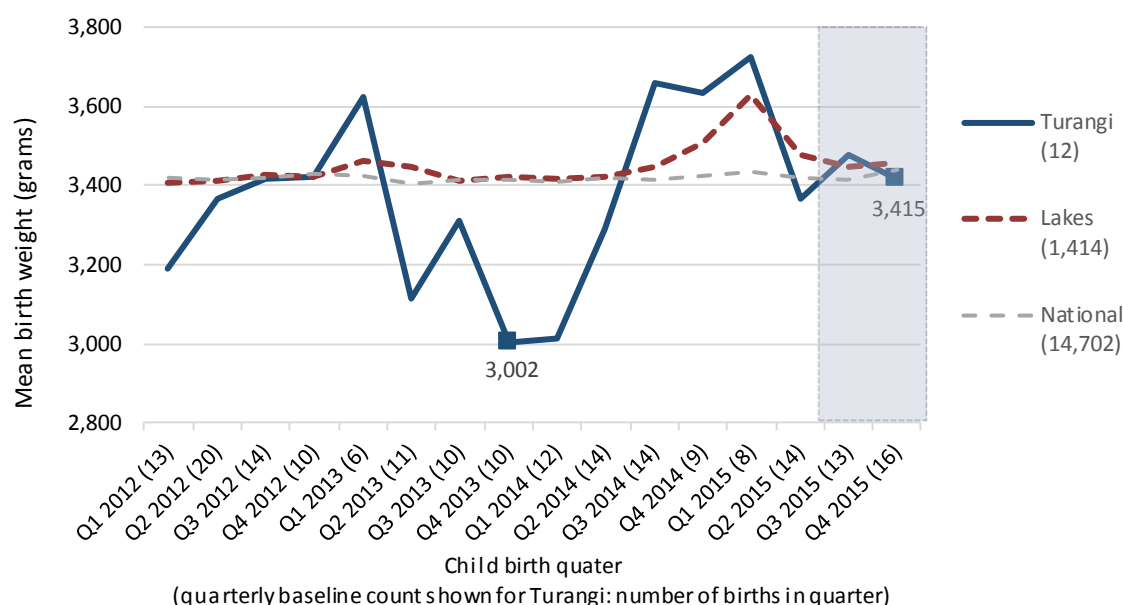


Figure 44. Average birth weight in Turangi, Lakes DHB and nationally (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly count for Turangi; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Objective: Reduced rates of smoking in pregnancy in the target population.

Outcome: Approximately half of the women registered at Awhi House were smoking at the time of registration. Approximately half of these were offered nicotine replacement therapy. Data are inconclusive, but may suggest around two-thirds had stopped smoking at the time their baby was born.

Smoking rates are high in Turangi amongst women of childbearing age and just under half of all clients booking with Awhi House from January 2014 to December 2015 were recorded as smoking at the time of booking (57 out of a total of 117 clients, 49%) (Figure 45).³⁷ The general approach was that midwives discussed stopping smoking with pregnant women, let them know that smoking cessation support was available at Awhi House and asked if they could pass women's details to the provider. Approximately half (49%) of the total identified as smokers were recorded as offered nicotine replacement therapy.

Discharge date/status of women smoking at discharge is not consistently recorded across all quarters for Awhi House. However, the data does show that of the 57 who were smoking at the time of booking, two-fifths (82%, 47) had since given birth and 19 (33%) were recorded as still smoking at the time of discharge from the service. This could infer that the majority (28) of

³⁷ Note this is based on taking the maximum value for smoking at the time of booking recorded for each individual (i.e. if any records show they were smoking when booking an appointment they are reported as smoking on booking on Figure 45).

those who were smoking at the time of booking had stopped by the time they gave birth. However, the data is inconclusive/ insufficient to accurately and reliably draw this conclusion.

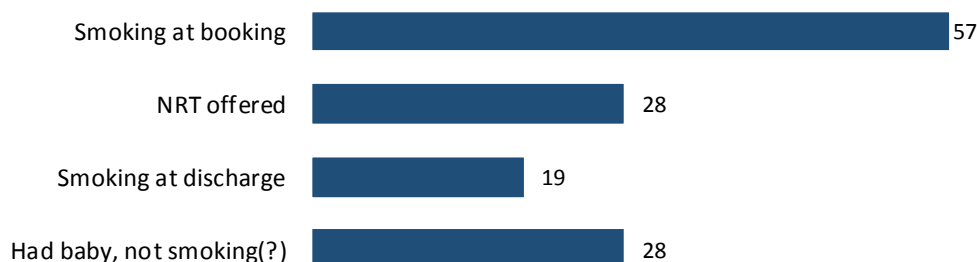


Figure 45. Number of women smoking and offered advice at Awhi House (Source: Integrated Service quarterly reports)

The number and proportion of mothers smoking at two weeks has remained higher (almost double) in Turangi compared to Lakes DHB area as a whole (Figure 46: although note small base counts in Turangi, shown in brackets on x-axis).

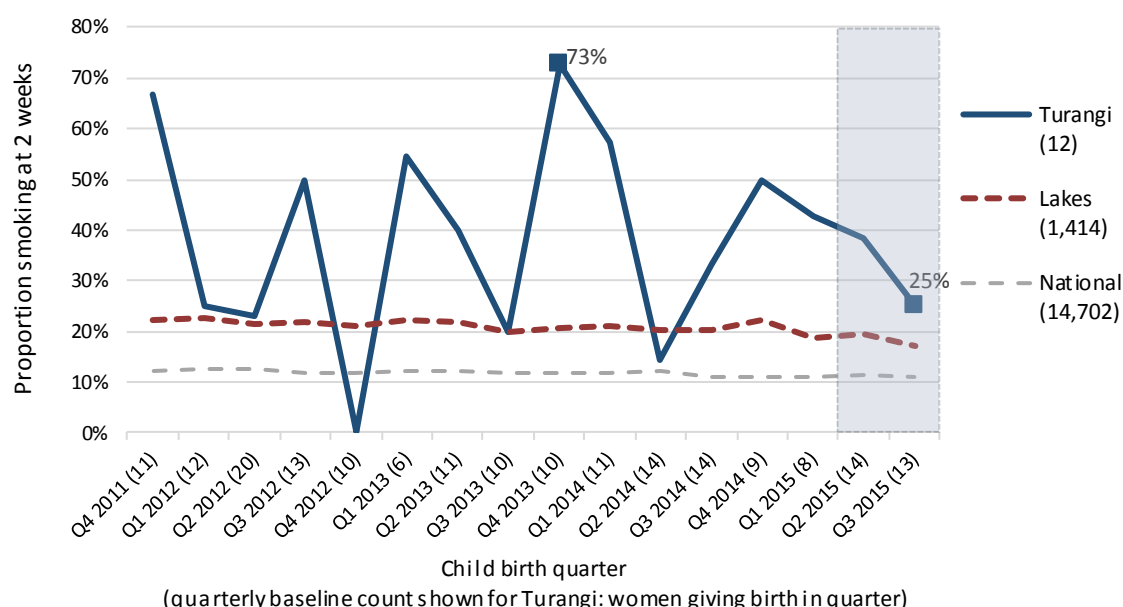


Figure 46. Proportion smoking at 2 weeks in Turangi, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Turangi – note small sample sizes; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Objectives: Improved pregnancy education and early parenting education and information. Promotion of healthy eating and exercise, incorporating new health promotion activities and opportunities that become available, including shaken baby programme and safe sleeping programme.

Outcome: Healthy lifestyle education, birth preparation and safe sleeping education were the most frequently offered.

There are limited data reported and inconsistency between reporting periods on the provision of pregnancy and parenting education at Awhi house.³⁸ Healthy lifestyle education, birth preparation and safe sleeping education were the most frequently offered (Figure 47).

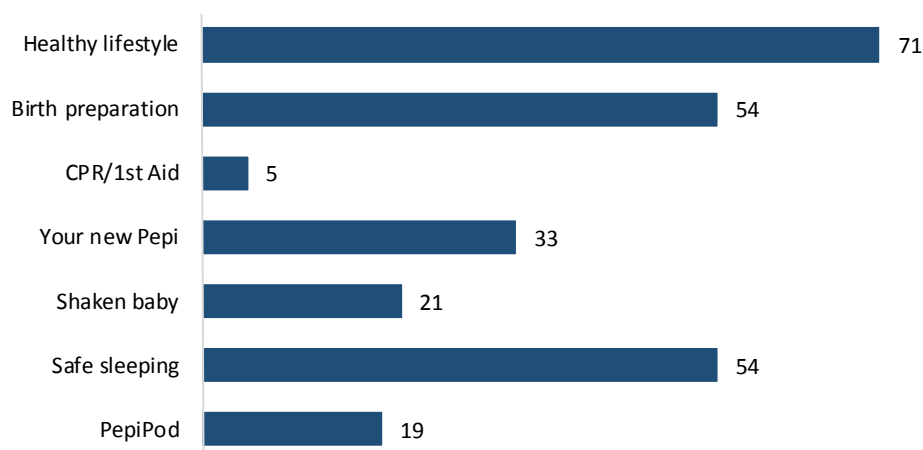


Figure 47. Provision of pregnancy and early parenting education at Awhi house (Note safe sleeping data are currently problematic due to 49 day cut off for data recording) (Source: Integrated Service quarterly reports)

Objective: Screening to identify and reduce incidence and impact of family violence issues, drug and alcohol and addictions and referral.

Outcome: The data shows a total of 89 individual women were screened for family violence issues³⁹ at Awhi house from July 2014 to December 2015. (Note this information was not recorded for three quarters (January to September) of 2015. Drug and alcohol screening was not reported).

Objective: Screening to identify mental health needs in pregnancy.

Outcome: The data shows a total of 40 women were screened to assess mental health needs. This information was not recorded in all quarters however.

³⁸ Note: provision of education at Awhi house is reported only in 2014 and Oct-Dec 2015, so it is not meaningful to show these counts as a proportion of the total number of clients seen over the whole period. These results are again based on counting any record of provision of education at least once over the whole reporting period.

³⁹ This count includes all records flagged in Awhi house quarterly reporting data under 'Family Violence Intervention Programme' or 'Family Violence Assessed'.

Objective: Improved breastfeeding rates within the target population.

Outcome: No obvious changes in breastfeeding rates.

Data on breastfeeding rates were only reported for April to June 2015 and October to December 2015 for Awhi House. The latest data for the final quarter of 2015 show 100% of women were breastfeeding either exclusively (89%, 16) or fully (11%, 2) at birth. Data from April to June 2015 shows 69% of women (24) were breastfeeding exclusively or fully on discharge from LMC.

MoH National Maternity Collection data show the rates of exclusively or fully breastfeeding at two weeks in Turangi decreased throughout 2014 before increasing again throughout 2015.

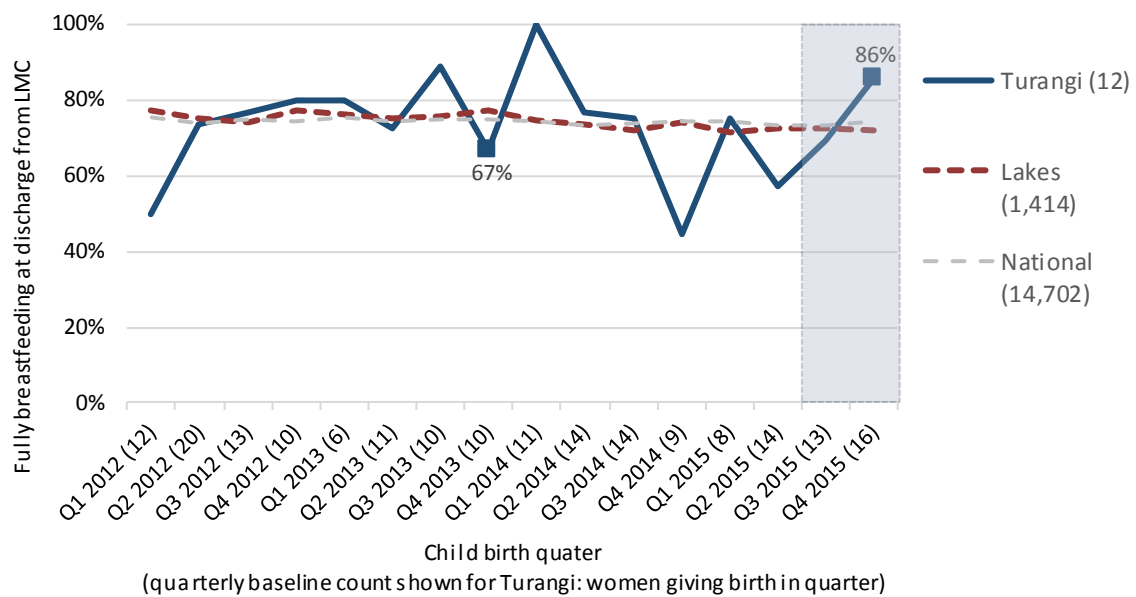


Figure 48. Proportion breastfeeding on discharge from LMC in Turangi, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Turangi; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Objective: National immunisation health targets achieved for the target population.

Outcome: The only data on immunisations recorded at site level is for whooping cough and this is only reported in the final quarter (Oct-Dec 2015), at a rate of 61% (11 out of 18 births). Immunisation rates at the DHB level have increased over time, similar to the national trend. Rates for the most deprived areas of Lakes (deprivation indices 9-10) show even greater increases, to more closely align with, and in some instances exceed) the overall rate for the DHB.

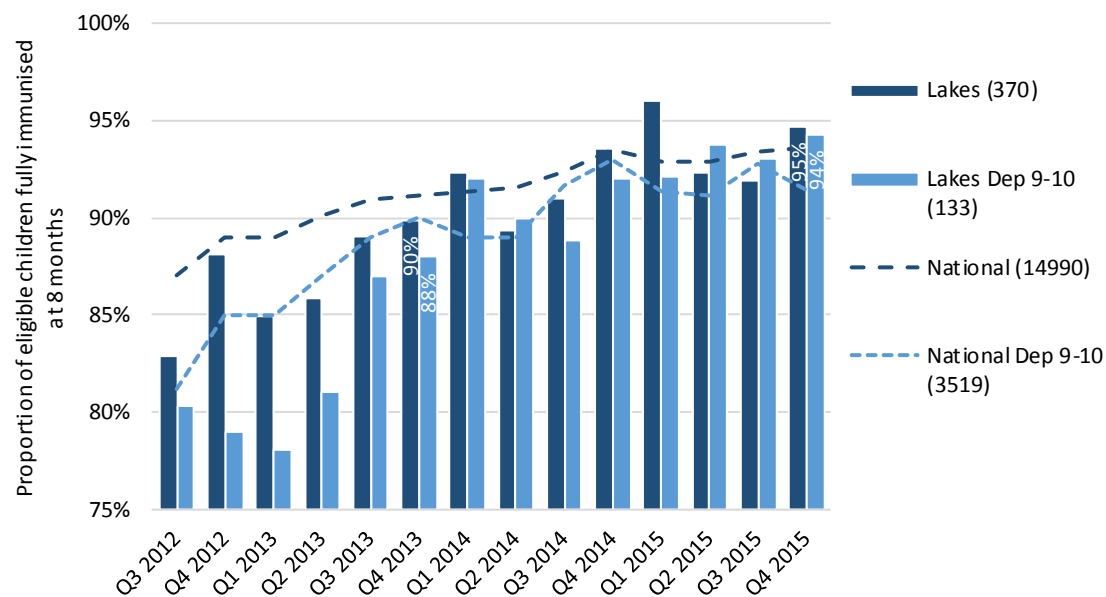


Figure 49. Quarterly proportion of children who turned the milestone age of 8 months and had completed their age appropriate immunisations in Lakes as a whole; and deprivation areas 9-10. National rates are shown for comparison. (Legend shows quarterly average number of eligible children (quarterly average base count of number of children turning the milestone age in each area) (Source: MoH National Immunisation Register)

Objectives:

- Newborn enrolment with primary care, WCTO Tamariki Ora, NIR and oral health.
- Improved WCTO Tamariki Ora check coverage rates.
- Increased child oral health enrolments and completions.
- Increased access for pregnant women to free dental services at Turangi dental.

Outcome: There are limited/inconsistent data reported at site level. The latest data for October to December 2015 shows 94% (17 out of 18 births, or 68% of all women registered at Awhi House) were enrolled for dental health. 32 women are recorded as being referred to WCTO provider (not reported in all quarters).

Data from the National Maternity Collection show notification of a birth with a WCTO provider has reached 100% for four of five of the last quarters in Turangi where data are available.

Based on MoH WCTO data, there was no obvious increase in the proportion of babies who had completed all their WCTO key contacts in their first year, nor any improvement in timeliness of referral to WCTO provider and first core contact. However, numbers are small and data are only available to Q1 2015 so may not capture changes for many women who have received services through the pilot site throughout their pregnancies.

Data from the National Maternity Collection show notification of a birth with a WCTO provider has reached 100% in Turangi for four of five of the last quarters, exceeding Lakes and national rates.

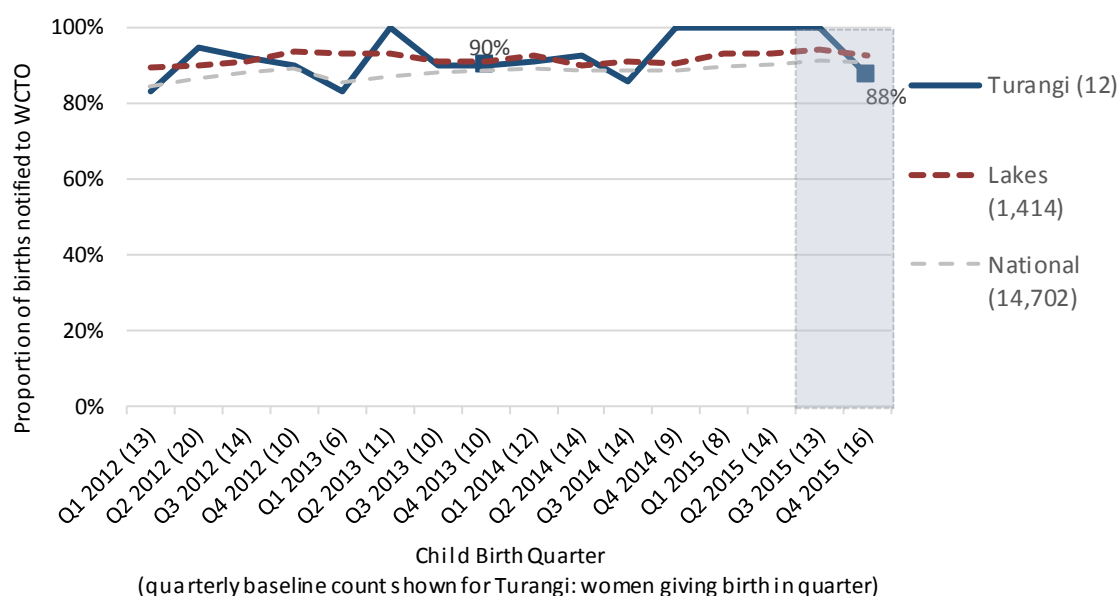


Figure 50. Proportion of births notified to WCTO provider in Turangi, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Turangi; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

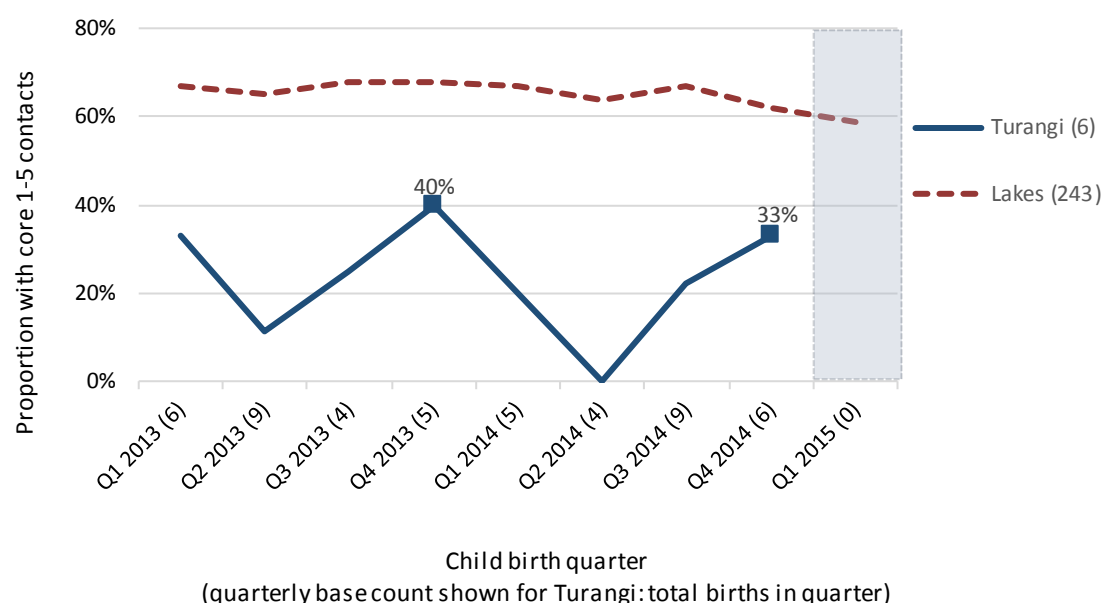


Figure 51. Proportion of children completing all core 1-5 contacts in their first year in Turangi, Lakes and nationally (latter shown for July to December 2014 only) (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly base count (total number of births) for Turangi – note small sample size; quarter is based on child birth quarter) (Source: MoH WCTO unit record data for Turangi; shaded quarters represent preliminary data)

Objective: Increased practical and social support services including Kaitiaki home visiting, Family Start and other Social Service programmes.

Outcome: Data on referrals to Family Start are reported in 2014 and the final reporting period of 2015 only. This shows a total of nine women were referred.

Data were not available from Awhi House for the following service objectives:

- Improved maternal mental health through the promotion of maternal bonding and attachment
- Reduced preventable hospital presentations within the target population.
- Access to postnatal contraception service.

15.4.3. Kia Puāwai – Western Heights, Rotorua

In 2013, Western Heights and the surrounding suburbs accounted for 33% of births in the Rotorua region.⁴⁰ Western Heights was identified as a locality with many families with complex social and/or health problems. The locality therefore had the potential to benefit from accessible, quality integrated maternal and child health services.

A second integrated service, Kia Puāwai, has been established in Western Heights. Its purpose is to improve outcomes for pregnant women, babies and children by responding flexibly to population needs through the delivery of integrated services and the Start Well service. The Start Well service aims to support first time mothers with feeding, sleeping, social, attachment or mild/moderate mental health issues over the last trimester of pregnancy through to the baby being 12 months old.

After an RFP process, Tipu Ora was selected as the lead contract holder, under contract to Lakes DHB. Tipu Ora is an established local provider that delivers a range of primary health, social and education services for all people living in the Rotorua district.⁴¹ Contracting the integrated service to an organisation that was already established and had core management functions in place was an advantage as it removed some of the set up challenges and costs that a new organisation would face.

Service delivery at Kia Puāwai began in October 2014. Integrated services already provided through Tipu Ora were a foundation for establishing a new integrated service. As with any new service, time was required to:

- Agree and establish the service model. Flexibility and a high level of trust and autonomy were required and provided by the DHB to Tipu Ora to support establishing the service model. However, there was discussion and until recently

⁴⁰ Information provided by Lakes DHB

⁴¹ Tipu Ora. (2016). *About us*. <http://www.tipuora.org.nz/about/>

meetings every two weeks helped ensure DHB and provider expectations were aligned.

We had a high level of autonomy in the proposal. (Provider)

There were some growing pains. There have been healthy tensions as the service model continued to evolve. (Provider)

We are heading in the same direction. The organisation has enjoyed the opportunity to go down this path. (Provider).

- Set up the building and processes such as information sharing, referral pathways etc. that are necessary for a new service.

Planning referral pathways takes ages. General practice is quite time pressured – we need to [move on] quickly so we can get onto the next one. Tipu Ora is saying you haven't given us this... it would be much easier if we had this. We say if we knew that we wouldn't have referred them. (Other provider).

There is a definite expectation from the funders that if they give you money one day you will be ready to start the next. Relationships are formed and referral pathways are done. But it takes a while when two organisations have never worked together before... you have to build relationships... you have to go slow to go fast. (Manager).

- Develop relationships with other providers who may refer women to the service. From the start Kia Puāwai has developed a close working relationship with the Western Heights Health Centre. Over time other providers have started holding clinic at Kia Puāwai or referring women to the service.

Time is important for building relationships. (TPO)

Kia Puāwai is a good example of working alongside a general practice. Working together has improved WCTO completion rates for Western Heights and immunisation rates. (DHB)

How can you utilise a system if you don't know what it means to your families? Informal meetings were needed to understand each other. (Service provider).

- Embed midwifery care in the service – finding experienced midwives who are the right fit for the service.

The site is now established with awareness spread by word of mouth as well as meetings and presentations by Tipu Ora and the DHB. Snapshots of client stories in quarterly reports give the consumer voice to the service.

A house host provides a welcome to visitors to Kia Puāwai and is key to creating the welcoming atmosphere. Kia Puāwai provide services in a number of ways through their different programmes (Hapū Māmā, Start Well service and vulnerable children's programmes). Pregnant women come to the service as self-referrals, through the midwives and as referrals from other health providers and agencies (such as CYFs). Kia Puāwai provide transport between services, support to women directly and to use other services. Kia Puāwai also emphasise the importance of providing services in the community as well as at the service.

Kia Puāwai do a lot of hand holding to join services together. They take people to the next service or follow them up to see if they got there. They do that well. (DHB)

Tipu Ora has been able to develop an electronic referrals system using funding from a Māori provider development scheme. This has enhanced the ability to use e-referrals from agencies, midwives and GPs.

The midwives needed it and wanted it. We worked with them to agree the high level information they needed. Kia Puāwai acknowledges every referral... We aim for a 24 hour response time and are auditing to see whether we are achieving this. (Kia Puāwai)

Looking ahead, the site is likely to continue to develop. As demand increases there may need to be discussion about how to extend the services to meet demand or alternatively how to prioritise who Kia Puāwai can support.

There is a need to be clear about what and where we are heading. (TPO)

Consumers' views about what Kia Puāwai has achieved

Kia Puāwai are part of the local community. Positive community attitudes to Kia Puāwai are demonstrated through increases in the number of self-referrals and women dropping in to the service.

Mums have taken an interest in the community gardens. They use the produce to make lunch. (Provider)

As part of an earlier process evaluation, pregnant women at Kia Puāwai were asked about what aspects of the service they received from Kia Puāwai they liked. They described:

- That services were integrated
Now I do have the services I need through Tipu Ora. (Pregnant woman)
- Service providers listened to them, gave them a chance to ask questions, knew about them and showed respect for what they had to say.
Tipu Ora provide excellent service. I have no complaint and no suggestions for improvement. They are friendly and helpful... I appreciate their service. (Pregnant woman)
- The atmosphere
- Their culture was taken into account
They're good, they're Māori, and they're knowledgeable. (Pregnant woman)
- It was easy to see the health provider they wanted to see and they knew where to go to get the health services they needed.
One of the Tipu Ora nurses phoned me and came around to see if I needed anything... they stay in touch and come around home if you don't answer your phone. (Pregnant woman)
- Services
They are able to provide transport if I need it – but not now as I can walk here. (Pregnant woman)
The 0800 number is good. I used it because I thought I was having contractions. Someone answered it and told me what to do. (Pregnant woman)
They have car seats if necessary. (Pregnant woman)

Dentistry is free. (Pregnant woman)

Providers' views about what Kia Puāwai has achieved

Providers within Kia Puāwai and those who are referring women to the service have been positive about what it provides. Examples include:

- Improvements in clinical management
Clinical management around integration has improved hugely. (Service provider)
- Providers referring women into the service were aware of what Kia Puāwai could offer that they could not and the potential for improved outcomes for women and children.

What we are trying to do is get our heads around if we see a child should this child be going to Tipu Ora. Before we had to guess how worried we needed to be. Now it's great. We get a WellChild person or someone to look at [the child] and sort out the degree of difficulty. Sometimes families present quite healthy but their lives are chaos and vice versa. It's very hard for us to guess. (GP service provider).

Tipu Ora's job is to find out the barriers for people. Why they are not getting their kids immunised. Quite often it is transport, could be a breakdown, there's so much broken glass on the footpath that the buggy gets flat wheels all the time, or no money for gas. (Service provider)

- Increased the profile of health services
It has increased the profile of health in Western Heights and the breadth of what people could get. (Provider)

Profile of women attending Kia Puāwai

Site data are available for Western Heights from January 2015 to December 2015. In the first reporting period (January to March 2015), 30 Hapū Māmā clients were recorded at Western Heights. Many of these continued to access the service throughout the year, as shown by 'existing clients' in Figure 52 below. There has been a substantial increase in the total number of clients seen each quarter as new clients come to Kia Puāwai and existing clients remain.

Overall, throughout 2015, a total of 125 'unique' Hapū Māmā clients were recorded as accessing the service. Based on the MoH National Maternity Collection the mean age of mothers at the time of their baby's birth is younger in Western Heights than in Lakes as a whole which in turn is younger than the national mean ages (Figure 53).

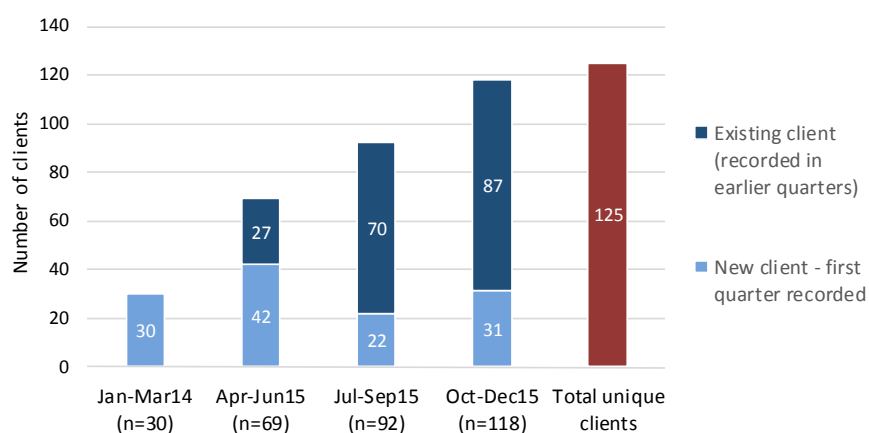


Figure 52. Number of women accessing the service in each quarter (Source: Integrated Service quarterly reports)

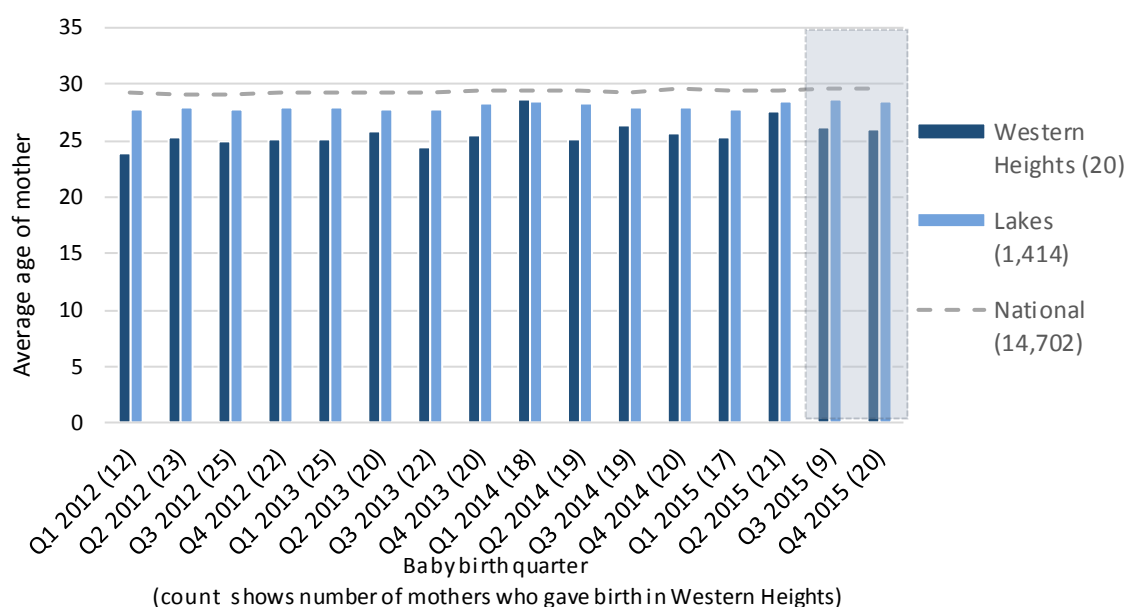


Figure 53. Mean age of mother in Western Heights, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count); x-axis shows quarterly number of women giving birth in Western Heights; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

The number of births amongst Hapū Māmā clients in each quarter fluctuates from seven in the first reporting quarter to 26 in the final quarter of 2015, with a total of 67 recorded for the year overall (Figure 54). National Maternity Collection data shows a total 70 births throughout 2015 in Western Heights. The site data and national data may not be directly comparable though, depending on the accuracy of recording quarter in which children were born, and a time lag in collating national data (final two quarters of 2015 are preliminary).

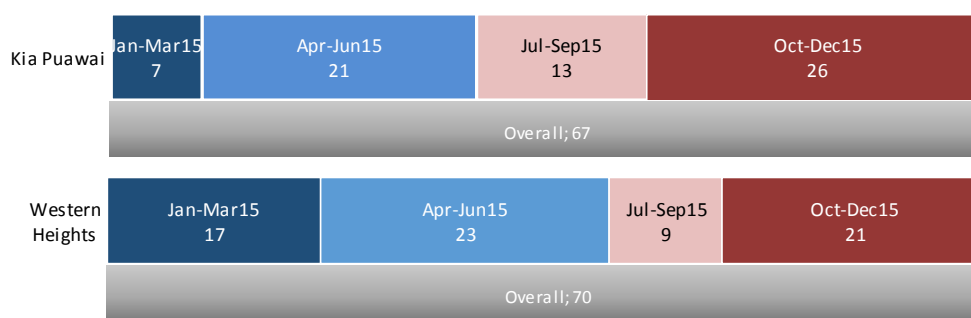


Figure 54. Number of births amongst Hapū Māmā at Kia Puāwai (Source: integrated service data) and in Western Heights (Source: MoH National Maternity Collection; last two quarters of 2015 are preliminary data)

The majority of Hapū Māmā were recorded as engaged with Kia Puāwai service (109 out of 125 in 2015, 87%) and just over two-thirds (36%, 45) with the Start Well service (Figure 55).

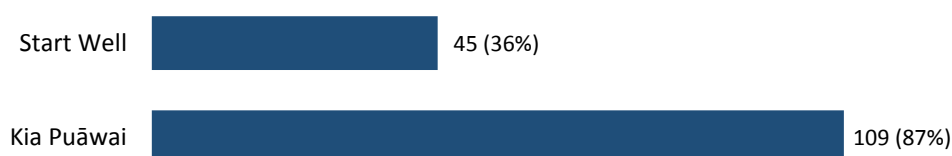


Figure 55. Hapū Māmā engaged with Kia Puāwai and the Start Well service in 2015

15.4.4. Outcomes for women and children at Kia Puāwai

Objective: Improved timing of registration with a LMC and early engagement of pregnant women in maternity services.

Outcomes: Approximately half of all Hapū Māmā clients registered within their first trimester.

The median gestation across all Hapū Māmā clients recorded in 2015 was just under 12 weeks (11.8) with the mean slightly higher (13.7 weeks) and this varies little between quarters (Table 16). Over half of all Hapū Māmā clients (57%) registered within their first trimester and 43% (52) booked at 12 weeks or more. However, whilst the average gestation at the time of booking is consistently around the 12-week mark, there is substantial variation at the individual level, with some women booking at 25 weeks or more.

Table 16. Gestation at booking

	Jan-Mar14	Apr-Jun15	Jul-Sep15	Oct-Dec15	Overall
Count*	22	41	19	31	120
Mean	14.8	13.8	13.7	13.9	13.7
Median	11.8	12.0	10.2	12.5	11.8
Minimum	6.0	5.1	5.4	5.4	5.0
Maximum	30.2	37.0	32.4	31.6	37.0

* These represent new clients in each quarter. Counts are less than those shown in Figure 52 above due to some missing data

Time of registration at Kia Puāwai is fairly consistent with data for Western Heights as a whole as reported in the MoH National Maternity Collection: the proportion registering in the first trimester at Kia Puāwai is 57% overall for 2015, compared with 48% for Western Heights and 69% for Lakes as a whole.

Table 17. Proportion registering with LMC within their first trimester at Kia Puāwai (Source: integrated service site data); and in Western Heights and Lakes as a whole (Source: MoH National Maternity Collection; italics represent preliminary data).

Quarter	First trimester registrations		
	Kia Puāwai	Western Heights	Lakes
Q1 2015	55%	47%	68%
Q2 2015	59%	43%	67%
Q3 2015	53%	56%	67%
Q4 2015	52%	50%	72%
2015	57%	48%	69%

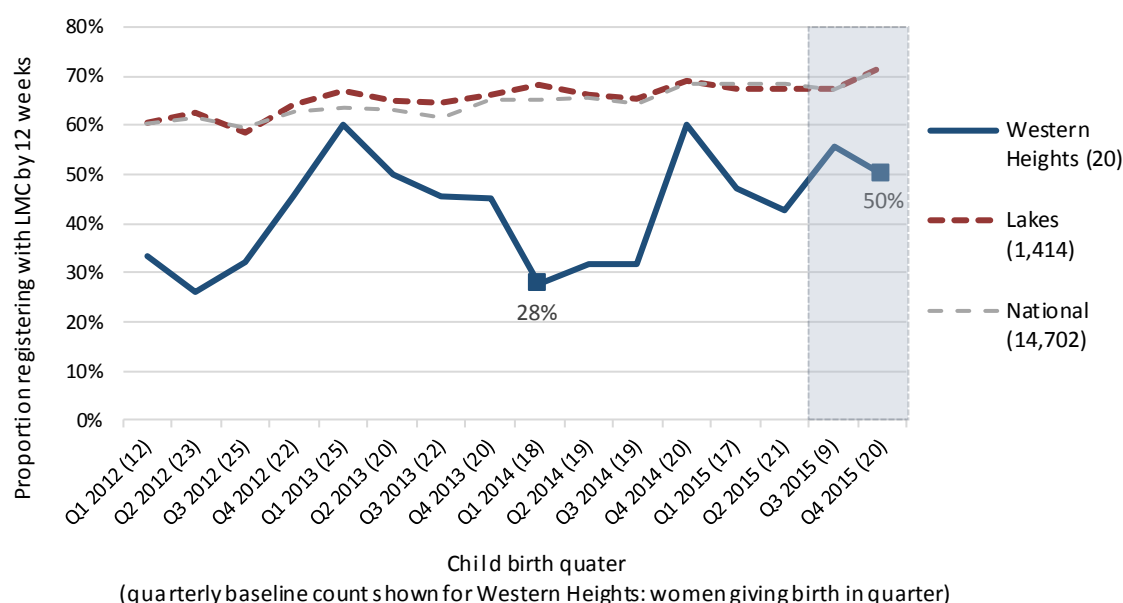


Figure 56. Proportion of women registering with LMC by 12 weeks in Western Heights, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Western Heights; quarter based on child birth quarter)
(Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

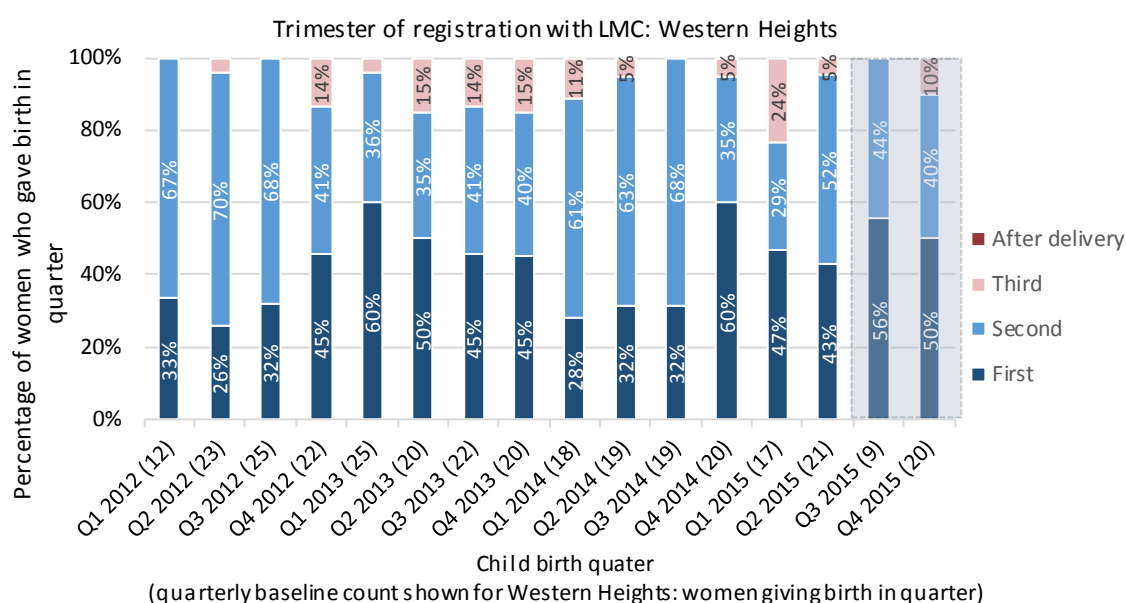


Figure 57. Trimester of registration with LMC in Western Heights (base count of number of women who gave birth in each quarter shown in brackets on x-axis; quarter based on child birth quarter)
(Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Objective: Provision of quality maternal and child health services

Outcome: As there are data for Kia Puāwai for only one year, it is not yet meaningful to track the numbers of antenatal and postnatal contacts for women.

The provision of quality maternal care may be associated with a slight increasing trend in average birth weights in Western Heights (Figure 58). Whilst the proportion of babies born with low birth weight (<2.5kg) in Western Heights has been much higher than the wider Lakes area and national rates, these represent very low numbers (typically 1 to 3 per quarter).

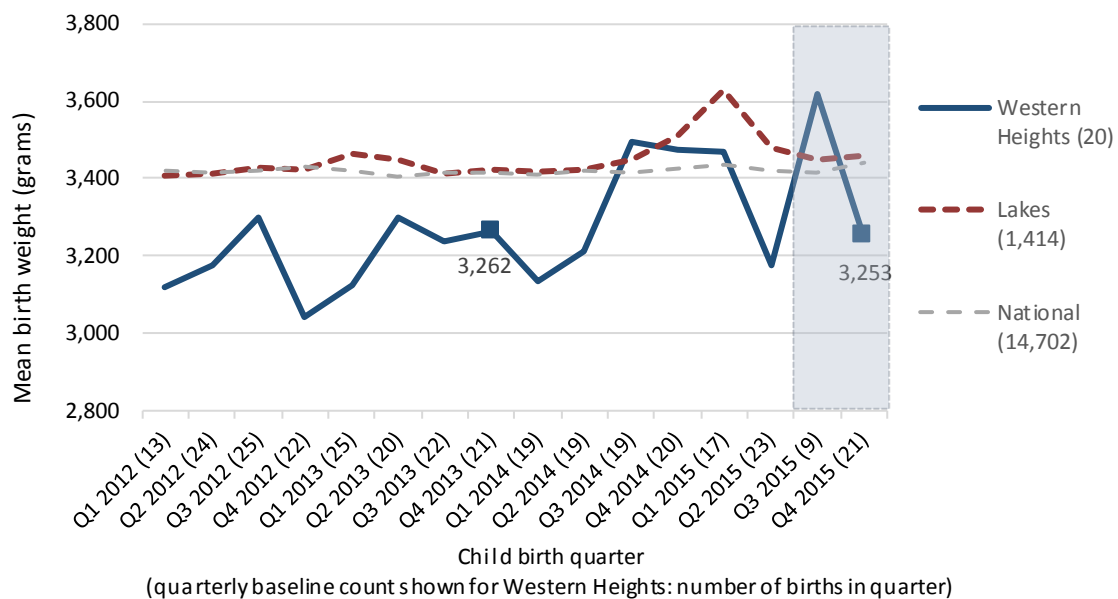


Figure 58. Average birth weight in Western Heights, Lakes and nationally (legend shows quarterly average number births (average base count for each area); x-axis shows quarterly count for Western Heights; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Objective: Reduced rates of smoking in pregnancy in the target population.

Outcome: Approximately half of Hapū Māmās smoked at booking with Kia Puāwai. Just over half of these were offered nicotine replacement therapy or referred for smoking cessation support.

Half of all Hapū Māmā clients in 2015 were recorded as smoking at the time of booking (Figure 59). Of those (n=63), just over half (52%) were offered nicotine replacement therapy or referred for smoking cessation support.

Of those 67 who were smoking at the time of booking, just under half had given birth (30) and the majority of these (25) were still smoking at the time of birth; six were not smoking. This does show some improvement, but as the majority of those smoking on booking were yet to give birth, it is too early to draw conclusions.



Figure 59. Smoking rates and cessation support amongst women accessing the service (Source: Integrated Service quarterly reports)

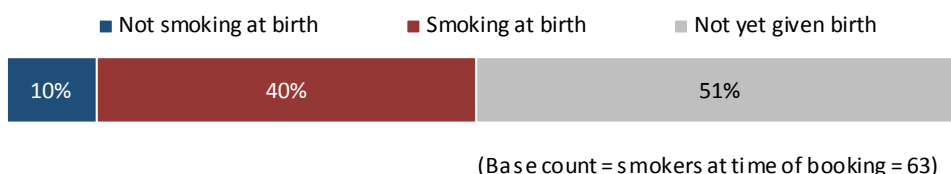


Figure 60. Smoking rates in women at birth (Source: Integrated Service quarterly reports)

Although numbers are small, the proportion of women in Western Heights smoking when their baby is two weeks old has decreased over time, and more substantially so compared with Lakes and national data. However, smoking rates were still higher in Western Heights at the end of 2015 than for Lakes as a whole.

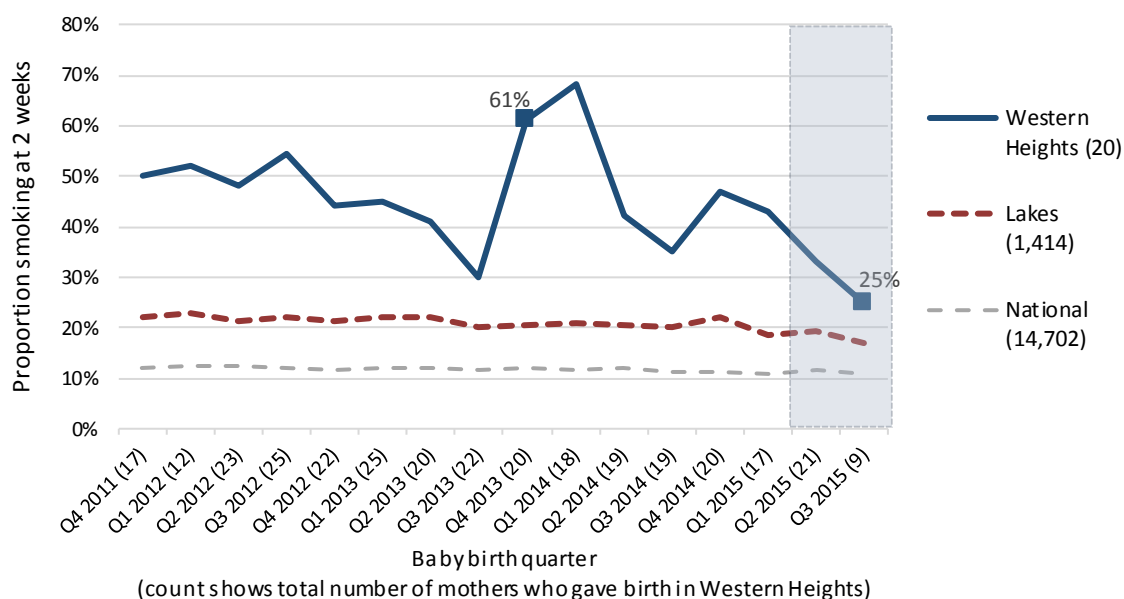


Figure 61. Proportion smoking at 2 weeks in Western Heights, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Western Heights; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Objective: Improved pregnancy education and early parenting education and information. Promotion of healthy eating and exercise, incorporating new health promotion activities and opportunities that become available, including shaken baby programme and safe sleeping programme.

Outcome: Throughout 2015, just under three-quarters (74%) of Hapū Māmā clients were recorded as offered pregnancy and parenting information and education and 57% education on safe sleeping.

Throughout 2015, just under three-quarters (74%) of Hapū Māmā clients were recorded as having been offered pregnancy and parenting information and education and 57% education on safe sleeping. A total of 44 women received a Pepi-Pod (35% of all women accessing the service in 2015; 66% of those who gave birth in 2015) (Table 18).

Table 18. Provision of pregnancy education and early parenting information (Source: Integrated Service quarterly reports)

Pregnancy education and early parenting information	Count	Percent
Pregnancy and Parenting Information and Education (PPIE)	93	74%
Education on safe sleeping	71	57%
Pepi-Pod provided	44	35%

Objective: Screening to identify and reduce incidence and impact of family violence issues, drug and alcohol and addictions and referral.

Outcome: Nearly all (119, 95%) Hapū Māmā clients in 2015 were screened for drug and alcohol addiction.

Objective: Screening to identify mental health needs in pregnancy.

Outcome: Nearly all (119, 95%) Hapū Māmā clients in 2015 were screened for mental health issues and 8 were referred for support.

Objective: Improved breastfeeding rates within the target population.

Outcome: Of the 67 women who gave birth in 2015, 88% (59) were recorded as fully/exclusively breastfeeding at birth.

Of the 67 women who gave birth in 2015, 88% (59) were recorded as fully/exclusively breastfeeding at birth. The date of child's birth was not provided in the data, so it is not possible to calculate the child's age. However, out of 25 records for which breastfeeding data

is recorded at six weeks, all but one was fully or exclusively breastfeeding. Out of 61 women with a record of breastfeeding at discharge from LMC, 49% (30) were breastfeeding fully or exclusively.

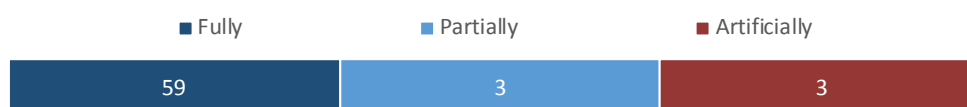


Figure 62. Breastfeeding at birth (note figures do not sum to 67 due to missing data) (Source: Integrated Services quarterly reports)

MoH National Maternity Collection data show no trends in breastfeeding rates at two weeks in Western Heights, with rates fluctuating from around 60% to 85% and being typically slightly lower than those for Lakes and nationally. Similarly, data on breastfeeding at discharge from LMC shows a fluctuating pattern for Western Heights (Figure 63).

WCTO data shows no evidence of change / improvement in breastfeeding rates at three and six months.

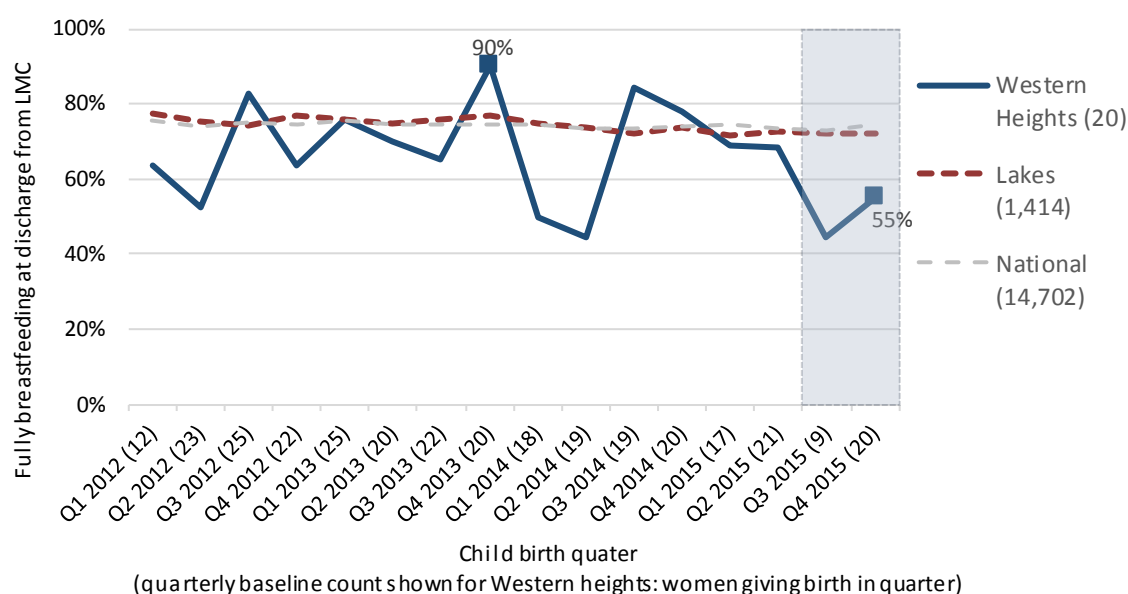


Figure 63. Proportion of breastfeeding on discharge from LMC in Western Heights, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Western Heights; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Objective: Newborn enrolment with primary care, WCTO, NIR and oral health.

Outcome: Nearly all Hapū Māmā clients who gave birth in 2015 had their child enrolled with a GP (62, 93%) and WCTO (65, 97%).

Enrolment rates with WCTO providers reported in site data are consistent with 100% rates reported in data from the National Maternity Collection.

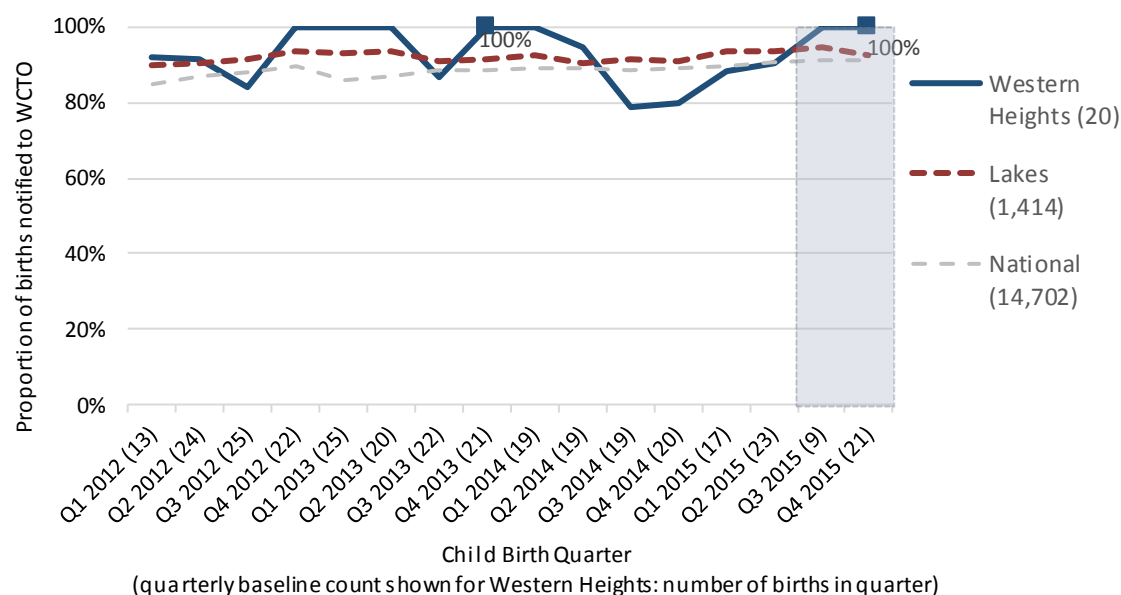


Figure 64. Proportion of births notified to WCTO provider in Western Heights, Lakes and nationally (legend shows quarterly average number of women giving birth (average base count for each area); x-axis shows quarterly count for Western Heights; quarter based on child birth quarter) (Source: MoH National Maternity Collection; shaded quarters represent preliminary data)

Based on MoH WCTO data, there was no obvious increase in the proportion of babies who had completed all their key contacts in their first year. However, numbers are small and data are only available to Q1 2015 so likely do not yet capture any changes that may have occurred.

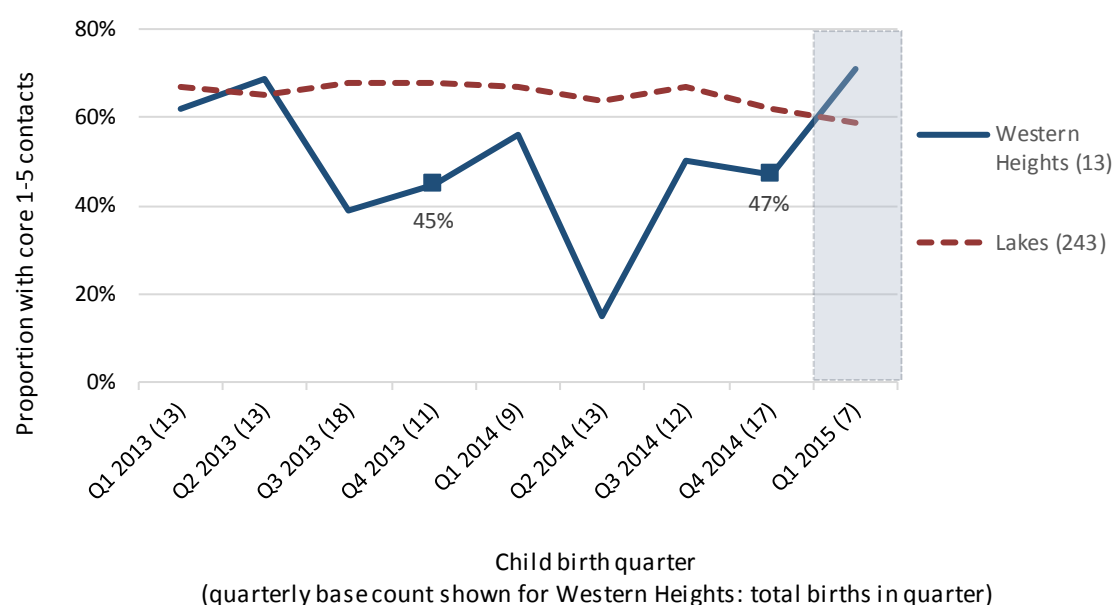


Figure 65. Proportion of children completing all core 1-5 contacts in their first year in Western Heights, Lakes and nationally (latter only shown for July-December 2014) (legend shows quarterly average number of births (average base count for each area); x-axis shows quarterly base count (total number of births) for Western Heights – note small sample size; quarter is based on child birth quarter) (Source: MoH WCTO unit record data for Western Heights; shaded quarters represent preliminary data)

Objective: National immunisation health targets achieved for the target population.

Outcome: Two thirds of Hapū Māmā clients were offered advice about whooping cough and 37 (55% of all women seen in 2015) took up the immunisation

National Immunisation Register data is only available at DHB level. This shows immunisation rates of children at the milestone age of eight months in Lakes by and large follows the national trend. Immunisation rates in the most deprived areas of Lakes (deprivation indices 9 and 10) increased at the start of 2014 to be more closely aligned with, or even greater than, rates for the area as a whole; and exceed the national rate for deprivation areas 9-10 throughout 2015.

Objective: Access to postnatal contraception service.

Outcome: Postnatal contraception was discussed with nearly all Hapū Māmā clients who gave birth in 2015.

Postnatal contraception was discussed with nearly all Hapū Māmā clients who gave birth in 2015 (65 out of 67). Contraception was taken up by just over half (34, 51%) and a further 43% (29) were referred for contraception.

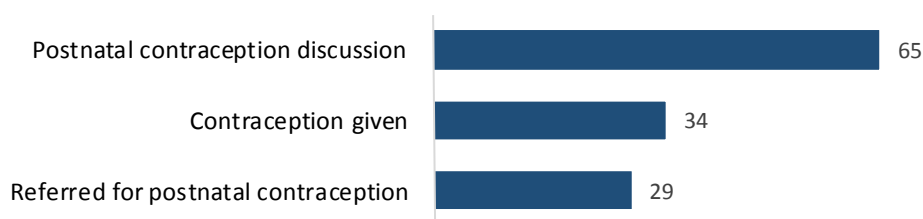


Figure 66. Postnatal contraception (base count = number of births = 67) (Source: Integrated Service quarterly reports)

Objective: Increased access for pregnant women to free dental services at Western Heights.

Outcome: 69% (86 out of 125) of Hapū Māmā clients were referred to oral health services in 2015.

Slightly over two-thirds (69%) (86 out of 125) of Hapū Māmā clients were referred to oral health services in 2015.

Hapū Māmā data were not available for the following:

- Improved maternal mental health through the promotion of maternal bonding and attachment.
- Improved Well Child/ Tamariki Ora check coverage rates.
- Reduced preventable hospital presentations within the target population.
- Improved multi-disciplinary and collaborative environment between relevant maternal and child health providers and social services in Turangi.
- Increased practical and social support services including Kaitiaki home visiting, Family Start and other Social Service programmes.
- Increased child oral health enrolments and completions.

15.4.5. Sustainability of the integrated services

The Lakes closure report confirms the intention to continue the integrated services and states.

Early confidence in the value and likely positive impact of the Lakes maternal and child health integration programme initiatives resulted in the project plan being developed with a view to maintaining longevity of the initiatives.

Service transition to 'business as usual' has been supported by:

- Reprioritisation of funding to sustain service delivery at the Western Heights, Turangi and Taupo sites going forward.
- Continued delivery of services from the integrated service centres has been identified as a priority in the Lakes DHB 2016/17 Annual Plan.
- Funding costs associated with delivery of integrated services at the sites has reduced and is now more sustainable secondary to:

- Reduced need for upfront service promotion – both services now have relatively high profiles within their respective communities
- Increased awareness of service usage and associated costs related to incentivization of LMCs
- Service establishment costs no longer applicable
- Ongoing review of service resource use to ensure effective and appropriate application.
- Continued project management resource made available to support effective oversight and support of integration site operation.

15.5 Workstream 3: Tracking and monitoring

National delays in implementing IT platforms (National Child Health Information Platform and National Maternity Record) have impacted advancement of the centralised coordination system.

15.6 Workstream 4: Maternal and child health workforce programme

Competing project priorities slowed progress on development of the workforce strategy. This programme objective is described in the Lakes closure report as continuing to be a 'work in progress' with a number of actions identified to ensure completion and implementation post February 2016:

- Oversight of the strategy development work programme now rests with the Te Whanake Maternal, Child & Youth Governance group.
- Project management support has been made available to complete development of the strategy
- Workforce development funding has been allocated in the Lakes DHB Annual Plan 2016/17

16. Appendix Four: Evaluation data sources

A summary of the data collection for the evaluation is provided below.

Source	Counties Manukau	Lakes	Nelson Marlborough
Project manager interviews	Quarterly	Quarterly	Quarterly
Working group and other stakeholder interviews	Interviews <ul style="list-style-type: none"> Phase 1 n=15 Phase 2 n=13 Phase 3 n=6 	Interviews <ul style="list-style-type: none"> Phase 2 n=2 Te Whanake governance group n=2 	Working group interviews: <ul style="list-style-type: none"> Phase 1 n=12 Phase 2 n= 3 + 1 working group, group discussion Phase 3 n=9 + 1 working group, group discussion Consumer panel interviews: <ul style="list-style-type: none"> Phase 1 n=13 Phase 2 n=11 Phase 3 n=11 Other stakeholders: <ul style="list-style-type: none"> interviews n=13
Case studies note: also discussed during project manager and working group interviews	Pregnancy pack and journey card: <ul style="list-style-type: none"> Consumer survey n=17 Provider interviews n=7 Follow-up consumer interviews three months later Pregnancy antenatal sessions: <ul style="list-style-type: none"> Staff interviews n=3 Consumer surveys n=49 Social service coordination: <ul style="list-style-type: none"> Staff interviews n=2 	Awhi house integrated service <p>One site visit</p> <p>Staff interviews n=4 + 1 group discussion</p> <p>Consumer group discussion n=1</p> <p>Consumer survey n=17</p> <p>Follow up staff interviews n=3</p> <p>Reporting data</p> Kia Puāwai integrated service <p>Two site visits</p> <p>Consumer interviews n=8 + 1 group discussion</p> <p>Managers and service providers group discussion n=1</p> <p>Consumer survey n=6</p>	Pregnancy packs: <ul style="list-style-type: none"> Provider survey n=21 Staff interviews n=1 + group discussion Tracking numbers monthly Working group interviews n=2 Pregnancy phone App: <ul style="list-style-type: none"> Consumer interview n=2 Family-friendly Accreditation: <ul style="list-style-type: none"> Provider interviews n=4 Provider group discussion n=1 Working group interviews n=2 Resource Centre: <ul style="list-style-type: none"> Site visit Working group interviews n=3

		Executive manager interview n=1 Follow up staff interviews n=10 Reporting data	Roadshow: • Attended n=1
Pre- and post-surveys	Pre-survey n=20 Post-survey n=25	-	Pre-survey n=82 Post-survey n=87
Outcomes data	MoH National Maternity Collection MoH WCTO MoH Smoke-free team MoH National Health Board MoH Primary Care team MoH National Immunisation Register MoH Oral Health team	MoH National Maternity Collection MoH WCTO MoH Smoke-free team MoH National Health Board MoH Primary Care team MoH National Immunisation Register MoH Oral Health team Ministry of Education Service reports from the integrated services	MoH National Maternity Collection MoH WCTO MoH Smoke-free team MoH Primary Care team MoH National Immunisation Register MoH Oral Health team

Pre- and post-pilot surveys

Category	Pre-survey (n = 20)		Post-survey (n=25)	
	Total responses	Percentage	Total responses	Percentage
Professional group				
Midwife	5	25%	6	24%
Manager/Administrator	6	30%	8	32%
General practitioner	6	30%	7	28%
Other	3	15%	4	16%
Service				
DHB	6	30%	8	32%
General practice	5	25%	8	32%
LMC practice	1	5%	4	16%
Other	8	40%	5	20%

Category	Pre-survey (n=82)		Post-survey (n=87)	
	Total responses	Percentage	Total responses	Percentage
Professional group				
Allied health professional	14	17%	7	8%
Doctor	9	11%	11	13%
Manager	12	15%	17	20%
Midwife	30	37%	12	14%
Nurse	17	21%	26	30%
Other primary provider	-	-	3	3%
Administrative or Other	-	-	11	13%
Service				
DHB	35	43%	32	37%
General practice	12	15%	20	23%
LMC practice	12	15%	6	7%
WCTO provider	9	11%	3	3%
Māori provider	-	-	5	6%
Social service provider	8	10%	7	8%
Other primary provider	-	-	9	10%
Other	6	7%	5	6%

17. Appendix Five: Detailed outcomes

Dark blue shaded cells in the NM (Nelson Marlborough), Lakes (Lakes DHB) and Otara (Counties Manukau DHB) columns indicate the outcome measure was selected by the pilot team in that locality. Although all measures are important for maternity and child health outcomes, selected measures relate directly to integration activities.

The small numbers of consumers directly influenced by the changes, delays in implementing activities and the lag time in the completeness of the data sets has meant that changes are difficult to detect using the quantitative data available. The absence of changes therefore, does not imply lack of impact of the project.

Table 19: Outcomes Measures

Measures		Data source	NM	Lakes	Otara	Conclusions
Pregnancy outcomes						
1.	Engagement with LMC by 12 weeks LMC registration	MoH MAT				<p>NM: No project impact evident at DHB-level. Rate of registration with LMC by 12 weeks in NM consistently exceeds national rates by around 10%. The rate has increased slightly over time, from 74% at the end of 2013 to 78% by the end of 2015. However, this increase is consistent with the national trend. Rate of registration with LMC within the first trimester in NM has been consistently above national rates by around 10%.</p> <p>Otara: Suggestion of increase in percentage of women registering within the first trimester (21% in Q4 2013 to 44% in Q4 2015). Whilst the increase appears slightly higher in Otara compared to the national trend, the rate of registration with a LMC by 12 weeks remains lower than DHB and</p>

					<p>national rates. Fewer late registrations in Otara (29% registering in third trimester or after birth at the end of 2013; none in Q4 of 2015 (and average for the year only 5%)).</p> <p>Lakes: Awhi House evidence of earlier registration over time (mean gestation reduced from 22.4 in first year (2014) to 16.7 in 2015); Turangi reduction in late registrations (20% of registrations in third trimester in Q4 2013; 6% in Q4 2015). Kia Puāwai 57% registered within first trimester; Western Heights fairly consistent with Kia Puāwai, with around half consistently registering within first trimester in 2015. Increase in proportion registering with LMC by 12 weeks in Western Heights, but rate remains lower than DHB area and national (50% at Q4 2015 in Western Heights compared to 72% nationally).</p>
2.	Enrolment of mother with GP before birth of baby	DHB Hospital booking data			<p>NM: No data available</p>
3.	Offered advice about stopping smoking on registration with a LMC	DHB Integrated Services site reports (Lakes) and MoH smokefree team DHB level data			<p>NM: Provision of advice at DHB area level consistently high (94% at end of 2015) and in line with national rates (93% at end of 2015).</p> <p>Otara: (Data only available at DHB level) Provision of advice to quit smoking to pregnant women in Counties Manukau consistently high (97% at the end of 201%) and exceeds national rates since Q3 2014.</p> <p>Lakes: Kia Puāwai data shows half of those smoking at booking being offered NRT/support to stop smoking. Awhi House half of those smoking at booking recorded as being offered NRT.</p>

4.	Oral healthcare up to date in pregnancy	Integrated Services site reports				Lakes: Kia Puāwai 69% of Hapū Māmā clients referred to oral health services in 2015. Awhi House final quarter of 2015 68% of women enrolled for dental health (94% of those given birth).
5.	Mental health needs screening in pregnancy	Integrated Services sites (Lakes)				Lakes: Kia Puāwai 95% of women screened for mental health issues; 6 referred. Awhi House 40 women recorded as receiving a mental health assessment (data not recorded in all quarters).
6.	Family violence indicators	DHB Integrated Services				Lakes: Kia Puāwai no data on family violence indicators. 95% of women screened for drug and alcohol addiction. Awhi House 89 women screened for family violence (data not recorded in all quarters). Otara: No data
7.	Reduction in teenage births	MoH MAT				No evidence of change due to project interventions (rates falling nationally).
Maternal outcomes: Postnatal						
8.	Consumer satisfaction	MoH				No data.
9.	Normal vaginal births	MoH MAT				No evidence of change due to project interventions.

10.	Mothers provided with contraception	Integrated services			Lakes: Kia Puāwai: Postnatal contraception was discussed with nearly all Hapū Māmā clients who gave birth in 2015. Awhi House: no data.
11.	Maternal tobacco use at two weeks	MAT			<p>NM: No evidence of impact of project (rates of smoking at two weeks slightly lower at around 10% compared with national levels (12%) and no trend evident over time).</p> <p>Otara: Rates fluctuate, and whilst the end of 2013 to 2015 shows an increase (5% to 21% respectively) the overall trend shows a decline (and slightly more so than at DHB and national level)</p> <p>Lakes: Western Heights: The number and proportion of women in Western Heights smoking at two weeks decreased from 61% at the end of 2014 to 25% by Q4 of 2015, but smoking rates at two weeks are still higher in Western Heights than in Lakes and nationally (17% and 11% respectively at the end of 2015). Turangi: The number and proportion of mothers smoking at two weeks fluctuates dramatically in Turangi, but has remained higher (25% at the end of 2015) compared to Lakes as a whole.</p>
12.	Safe Sleep messages provided	Integrated services			<p>Lakes: Kia Puāwai: Education on safe sleeping provided to 71 Hapū Māmā (54%); Pepi-Pods to 44 (35%). Awhi House: Safe sleeping education provided to 54 women; PepiPods to 19.</p> <p>Otara: No data.</p>
Child outcomes Birth to six weeks					
13.	Reduction in proportion of babies born with low birth	MoH MAT			<p>NM: No evidence of change – trends in average birth weights and proportion of babies born with low birth weight (<2.5kg) consistent with national average.</p> <p>Otara: Average birth weights in Otara were notably higher than the DHB area and national average throughout 2015, compared with earlier quarters. Proportion of babies born with low birth weight</p>

	weight/ pre-term births				<p>(<2.5kg) fluctuates but overall appears to be decreasing (3% at the end of 2014 to none in Q4 of 2015).</p> <p>Lakes: Turangi: Large fluctuations in average birth weight evident (low of 3kg in Q4 2013, peak of 3.7kg in Q1 2015), but trend suggests increase, to more closely align with DHB and national average (around 3.4kg at the end of 2015). The number of babies born with low birth weight (<2.5kg) has been consistently low in Turangi, with a maximum of two per quarter since Q1 2012. No low births recorded from Q3 2014 onwards, with the exception of just one in Q2 2015. Western Heights: Slight increasing trend in average birth weight in Western Heights (to around 3.3kg at the end of 2015, but still seeing some with low birth weights (<2.5kg, 4 out of 21 births in Q4 2015).</p>
14.	Exclusively or fully breastfed at two weeks	MoH MAT			<p>NM: No evidence of change (rates on a par with national levels at 79% breastfeeding fully/exclusively at 2 weeks at the end of 2015).</p> <p>Otara: No evidence of change rates of breastfeeding at two weeks fluctuate around 60-80%, but are typically lower in Otara than for the DHB as a whole and national rates (71% in Otara, compared to 75% for Counties Manukau and 79% nationally at the end of 2015).</p> <p>Lakes: Awhi house: limited data, but final quarter shows 100% (18) breastfeeding fully/exclusively at birth; Turangi no evidence of sustained change. Kia Puāwai: 88% (59) breastfeeding fully/exclusively at birth. Western Heights: Rates for breastfeeding at two weeks typically similar to Lakes and national levels.</p>
15.	Exclusively or fully breastfed at discharge from LMC	MoH MAT			<p>NM: No evidence of change (rates on a par with national levels with 72% breastfeeding fully/exclusively on discharge from LMC at the end of 2015).</p> <p>Otara: No evidence of change (similar pattern to breastfeeding at two weeks, with lower than average rates observed in Otara: 58% for the last quarter of 2015 in Otara, compared with 74% nationally).</p>

					<p>Lakes: Awhi House: data limited to one quarter, shows 60% (24) women breastfeeding fully/exclusively at discharge from LMC. Turangi: no evidence of sustained change. Kia Puāwai: 49% (30) breastfeeding fully/exclusively at discharge from LMC. Western Heights: rates fluctuate, but Q3 2014 to Q2 2015 consistent with Lakes and national levels.</p>
16.	Families are referred from their LMC to a WCTO provider – age at referral and first core contact	MoH MAT			<p>NM: Increasing trend in rate of notification to WCTO provider, reaching 92% at the end of 2015, consistent with national trend. Data suggests some improvement in timeliness of referral to WCTO provider and first core contact in the last half of 2015.</p> <p>Otara: Rates of notification of birth with WCTO provider have increased since the start of the pilot in Otara (55% at end of 2013 to 88% at the end of 2015).</p> <p>Lakes: Kia Puāwai: Nearly all Hapū Māmā clients who gave birth in 2015 had their child enrolled with a GP (62, 93%) and WCTO (65, 97%). Western Heights: rate of notification of birth with WCTO provider reached 100% in the last two quarters of 2015. Awhi House: 32 referrals to WCTO recorded (not reported in all quarters). Turangi: rate of notification of birth with WCTO provider reached 100% from Q4 2014 to Q3 2015 inclusive.</p>
17.	Number of preventable hospital admissions	ASH-DHB			Data shows no change/ evidence of impact.
18.	Completed universal Newborn Hearing Screening.	UNHSEIP Integrated Services sites			No data available.

	Follow-up provided where required.	National Screening Unit				
19.	Completed metabolic screening					No data available.
Children 6 weeks to 12 months old						
20.	Newborns enrolled with PHO by 4 weeks	MoH Primary care team				Data only available at DHB level; no discernible impact.
21.	Exclusively or fully breastfed at 3 months	WCTO				Data insufficient/ too early to evidence any change.
22.	Infants are receiving breast milk at 6 months	WCTO				Data insufficient/ too early to evidence any change.
23.	Infants receive all WCTO core	WCTO				No evidence of change.

	contacts in their first year				
24.	Immunisations up to date at 8 months	NIR DHB level data only			<p>Data only available at DHB level:</p> <p>NM: No evidence of project impact (increasing trend in immunisation rates follows national trend, but remains slightly lower at 92% at the end of 2015, compared to 94% nationally).</p> <p>CMDHB: Immunisation rates at eight months have increased (90% Q4 2013 to 95% Q4 2015), in line with the national trend, to exceed the national average from Q3 2014 (at around 94%). Rates of immunisation at eight months in the most deprived areas of Counties Manukau (dep 9-10) have increased from 86% Q4 2014 to more closely align with overall DHB rates in Q4 2015 (94%). Lakes: Immunisation rates at eight months increased in the most deprived areas of Lakes (dep 9-10) from 88% in Q4 2013 to 94% in Q4 2015. Increasing trend in immunisation rates in dep 9-10 areas in Lakes exceeds national trend (such that rates in Lakes exceed national rates throughout 2015).</p>
25.	Child health pathways localised	DHB			Qualitative data
Children 12 months to 5/6 years old					
26.	Fully immunised at 24 months	NIR			Data only available at DHB level. No evidence of impact.
27.	Children participate in ECE	MOE			No evidence of project impact.

28.	Children live in smokefree homes at 4 years	WCTO			No data.
29.	Enrolled with child oral health services	DHB – held by MoH, community oral health team			Data only available at DHB level and reported annually. No evidence of impact.
30.	B4School checks are completed before children are 4.5	WCTO			No data.
31.	Children with an untreated vision problem at the B4School check are referred	B4School (MoH)			No data.

32.	Children with an untreated hearing problem at the B4School check are referred	B4School (MoH)			No data.
33.	Children are a healthy weight at 4 years	B4School			No data.