Contents

Contributors 3
Foreword 4
Planning for the future 6
  Approach 6
The drivers for change 7
  The macro health environment 7
  Demographics and demand in the early years 9
  System performance 15
  Workforce 18
A vision for 2025 20
Evolving our systems of services and support 20
  Building strong partnerships with mothers, fathers, children and whānau 20
  Generating good outcomes across the life course 22
  Developing social strengths, addressing social vulnerability 23
  Responding better to physical and mental health needs 23
  Responding better across a continuum of need 24
Quantifying the challenge 25
The major developments needed 30
  Building capability to improve equity of outcomes and system wide performance 30
  Improving readiness for children 31
  Proactive planning and action from confirmation of pregnancy 37
  Developing safe, effective and seamless care through pregnancy Birth and infancy 41
  Developing capable parents and safe environments for infant and child development 48
  Workforce. 54
  Information and performance improvement capability 60
  Facilities 61
  Resourcing 61
How can this be achieved in a resource constrained environment? 62
Where to start 62
  Supporting Productive Dialogue 62
  Making it happen 64
Summary of recommendations 67
## CONTRIBUTORS

<table>
<thead>
<tr>
<th>Review working group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peter Stone (Chair)</strong></td>
<td>Professor of Maternal and Fetal Medicine - University of Auckland</td>
</tr>
<tr>
<td>Angela Baldwin</td>
<td>Nurse, Chief Operating Officer Plunket</td>
</tr>
<tr>
<td>Tony Dowell</td>
<td>GP, Professor General Practice University of Otago</td>
</tr>
<tr>
<td>Matire Harwood</td>
<td>GP, Clinical Leader National Hauora Coalition, Assistant Research Fellow - University of Auckland</td>
</tr>
<tr>
<td>Erika Hunter</td>
<td>Clinical Director Southern DHB, Senior Lecturer University of Otago Obstetrician/Gynaecologist</td>
</tr>
<tr>
<td>Pauline Hunter</td>
<td>Midwife</td>
</tr>
<tr>
<td>Karen Magrath</td>
<td>Nurse, Clinical Advisor Plunket</td>
</tr>
<tr>
<td>Sarah McMillian</td>
<td>Midwife, Child Protection Coordinator Lakes DHB</td>
</tr>
<tr>
<td>Johan Morreau</td>
<td>Paediatrician</td>
</tr>
<tr>
<td>Ranjna Patel</td>
<td>Leader of Primary and Community Services East Tamaki Health Care</td>
</tr>
<tr>
<td>Nikki Turner</td>
<td>GP, Senior Lecturer and Director Connectus and the Immunisation Advisory Centre</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Review facilitation, analysis and report development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Philip Gandar</td>
<td>Director - Synergy</td>
</tr>
<tr>
<td>Linden Dale-Gandar</td>
<td>Research Analyst - Synergy</td>
</tr>
</tbody>
</table>
Reproductive Health, Women’s Health, and Early Childhood Health are areas of our Health Services which have undergone a great deal of change over the past 20 years with an evolution to the current state. Over that period there has developed an increasing awareness of the importance of the healthy start to life and the impacts of this on later well being. As such it is immediately clear that this is an area in our Health Services where a “wellness” model as well as a disease model of health needs to be embraced. Expectations are justifiably high and are becoming increasingly so. Clinicians are tasked to meet these within a health care system which does not have the ability to continue to meet all expectations by increasing expenditure on all requests for increased services.

In this report, the working group worked hard to determine whether there would be opportunities to “reduce health-care costs by providing better care and promoting better health”1 If reproduction was easy and always produced good outcomes with little assistance from care providers, we would not be having to address the challenges we are facing. When we ask fundamental questions about reproductive physiology and the developmental origins of human disease we realise that there are large gaps in our knowledge and that there is a limit to our abilities to predict or affirm healthy outcomes. In such a situation, we necessarily need to adopt an approach which provides for a flexible safety net which will cope with the imprecision of clinical care planning.

We would all like to improve our perinatal and child health outcomes. We would like to achieve this without technology creep and unproven interventions, but with the wise use of strategies to increase quality and safety and drive down costs by having fewer complications and adverse long term outcomes.

The fact is that reproduction is complex, (we do not even know what starts normal human labour at term- we don’t know how the pregnancy knows when “time is up”).

For some it is hard to get pregnant or remain pregnant, for example, recurrent miscarriages or preterm birth. For others it is all too easy to get pregnant or it occurs at the wrong time for the woman or the couple. And for some once the baby is with them it is very hard to be a parent. For some children no matter who or where they came from, they do not achieve as well as would have been hoped. For others the great potential of children is not realised. So we set out to look at this in a life course approach2 starting around reproductive maturity. We then looked at how carers and systems are working to address the challenges.

These challenges have been well described over a number of years3 4 including in the recent Green Paper for Vulnerable Children, and both the short and long term effects of less than optimal

1 Berwick D 2012: http://www.washingtonpost.com/opinions/putting-health-care-on-the-right-track/2012/06/21/gJQAtBGltV_story.html
2 RCOG 2011 Scientific Opinion Paper 27. Why should we consider a life course approach to women’s health care?
reproductive outcomes has been extensively reviewed in a New Zealand context⁵. Our group has worked hard to develop a way to start to address the challenges described in these contemporary reports that is relevant to Health Workforce New Zealand.

The group were clear that both “top down” and “bottom up” approaches are necessary to achieve our goals. A national clarity of purpose and appropriate resource allocation needs to link with the workforce teams and the families, all of whom are intimately involved in achieving the desired outcomes.

In seeking members to form this Group, HWNZ and I sought wide experience and expertise rather than representation of organisations or roles. The group was clear that the vision was more than maternity; maternity care was seen in a context of overall reproductive health and was part of a bigger picture. This proved to be a great strength of the group which allowed the members to move away from sectorial positions and take a broad view of our goals. Ultimately, it was all about outcomes. Put simply, perhaps;

A young woman and her partner with no previous experience of our health services need to have confidence that wherever they go she will get the best possible care so that their baby is born in the best possible condition. We as the funders and providers of the services need also to be confident that the service is producing the best possible outcomes and we are getting good value for the money spent. It is all about the women and their babies and the fathers as well. Every poor outcome and especially every baby who dies or who cannot achieve his/her potential is a personal, societal and economic loss.

I would like to thank everyone who contributed to this report, both the first and second group members and the wider network of people with specialist knowledge who gave generously of their time. Finally, I would like to acknowledge the contribution of Barbara Graves project manager in the first group and especially, Philip Gandar from Synergia who provided a broad overarching perspective of the whole area of reproductive health within a life course context. He was prepared to challenge the group to think “outside the square”. The result of this approach has led to the successful completion of this report, which we see as a document to promote discussion and to be a catalyst for change.

Peter Stone
Working Group Chair

PLANNING FOR THE FUTURE

This report contains the thinking of a diverse group of practitioners challenged to look ahead and describe a possible future shape of the services, systems and workforce that would better support the healthy beginning to life for mothers, fathers, children and wider family or whānau.

It is part of a series of service forecasts commissioned by Health Workforce New Zealand (HWNZ), take a 10 - 15 year perspective on the issues, service models and support requirements that would enable the same or better access and quality within an environment of sharply rising general health demand and highly constrained resources. This is a hugely demanding brief, requiring a rethink of what we do, why, how and who does it. The status quo in some areas of reproductive health is unlikely to be sustainable. Freed of this constraint the brief for this forecast is to be innovative, provocative, challenging and unafraid to represent the possibilities for substantial beneficial change where required.

Developed by a practitioner led working group the aim of this report is to stimulate dialogue and exploration of alternative ways of thinking and working.

This has not been developed in the form of a policy document or position paper representing one view but rather a contribution towards a broader, more integrated sector leadership. The specific suggestions and recommendations made are intended to be seen in the context of meeting challenges and promoting ongoing dialogue that will refines these recommendations but ultimately lead to considered thinking testing, and action.

APPROACH

The overarching framework for this report is a person-centric, holistic view of the life course of a family from puberty through adolescence to pregnancy, both preconception and through pregnancy and birth, to the early years of parenthood and the development of the child in the family.

Using this concept to guide our approach led to the formation of a working group of clinicians and practitioners who could represent wide experience and expertise across this continuum.

The framework provided the working group with a high-level structure which was used to describe a series of journeys people make in the form of vignettes that sought to represent scenarios of the bulk of service demand in this area; whether for self care and family capability development or to address the physical, mental and social issues that enable or constrain good outcomes across the life course.

The vignettes were used to identify critical themes, to explore trends and to provide a scaffold for stories about what the future idealised models of care and service could and should look like.

From this point we have synthesised a picture of how effective and sustainable systems of services and support should evolve to be fit for purpose in our changing environment.
This area is hugely complex, as it encompasses both “wellness” and “sickness” models. For this reason we are only attempting to describe the major shifts required, which necessarily excludes many high value but smaller volume services that play vital roles in our service mix.

THE DRIVERS FOR CHANGE

While New Zealand has, in many respects, a well functioning set of services across the continuum of reproductive health, there are a number of factors that will drive the evolution of services and workforce. These are described briefly below.

THE MACRO HEALTH ENVIRONMENT

The need for a service forecast has in part arisen from emerging forces within the macro health environment that, on the surface at least, have little to do with the early years continuum; for example the impact of an aging population, the ‘tsunami of dementia’ and prevalence of long term conditions (such as the effects of obesity) that are creating resource and productivity pressures across the system as a whole.

The graph below shows one of the major issues; an unsustainable growth in health expenditure relative to New Zealand’s GDP.

Figure 1: The un-sustainability of current patterns of health care spend

However the services, systems and workforce for the early years continuum do not exist in isolation. Our challenge is to contribute to an affordable and sustainable health system. We must take a responsibility for improving the performance and productivity of these systems of care while equally advocating for the medium to long term fiscal benefits of investing in good starts to life.

This service forecast seeks to make a contribution to open dialogue on the issues of affordability and productivity with the early year’s sector. For example does the interpretation of the principle
of ‘women’s choice’ by some sectors of the workforce mean that access should be relatively freely available to expensive birth settings and interventions? What are the opportunity costs of doing this? If resources are more constrained are we happy with the opportunity cost trade-offs if each medically avoidable caesarean section comes at the expense of perhaps four to five women who could be treated for depression? These are hard issues and value judgments that need debate.

While there are no easy answers to these questions there is a clear imperative that we stand back and look at our early years continuum as a system, to step outside our particular professional perspectives and be prepared to challenge ourselves over where we can improve outcomes while being responsible for resources and value for money of the system as a whole.

The other large macro issue for the early years continuum is a looming workforce crisis. As a representation of the issue the graph below shows the age distribution of the nursing workforce.

**Figure 2: The age structure of the nursing workforce**

As a generalised pattern, seen across a range of workforce whether it is midwives, well child nurses, GPs or O&G specialists groups, it typifies the issues of an aging workforce where participation drops dramatically as people pass a threshold in their 50s when the economic drivers to remain fully in the workforce diminish. At the other end we are training a workforce that increasingly is expecting to have a better life style balance; time for children, reduced hours per week, fewer shift rosters etc. As this plays through our health system compounding effects can be expected; increased workloads and stress for those that remain, perhaps leading people to make rational choices to choose other roles or leave. Alternatively this can be a stimulus for innovative development of models of care, roles and relationships that support a productive and flexible workforce. Flexibility may come at a cost in terms of continuity of care unless carefully constructed and managed. These are very important issues in wellness care and women’s health in particular.

Later in this report we will describe data that suggests that 30% of our obstetric specialist workforce plan to leave public health services within the next five years or certainly demand differing employment models from the present. Replenishing this workforce will take time, both to
train and ensure a balance of workforce is available across all districts, (young doctors generally work in base hospitals or urban centres). Data such as these create a clear imperative to rethink what we do, how we recruit, train retain and use the workforce we have.

DEMOGRAPHICS AND DEMAND IN THE EARLY YEARS
Sharpening our focus into the early years continuum and looking ahead to 2025 it is also clear that the nature of demand is changing; while the number of births is expected to remain relatively stable, changes in the ethnicity, age, socioeconomic and geographical distribution will add up to a substantially different profile of requirements for support and care:

Demographic changes around child bearing women
Over the next 10 -15 years European birth rates are expected to decline, Maori birth rate is expected to be steady with substantial increases for Pacific and Asian births – with this shift largely concentrated within a few urban areas that are already under pressure.

Figure 2: Projected changes in Births by Ethnicity 2011-2026

![Projected changes in Births by Ethnicity 2011-2026](image)

There is urgency needed to better adapt our service and workforce to understand and meet the needs of these cultures, an area that remains challenging as there are already large mismatches between the composition of our client population and our workforce in many areas. Such service adaptations will need to be made within available resources and with evidence of gains in improved outcomes.

Obesity related impact on health of mothers and children
The proportion of women with high BMI has been steadily increasing over the last 10 years and is expected to continue rising into the future.
Obesity is particularly a problem among Pacific women, with almost two-thirds of women at child-bearing age with high to very high BMIs. The rate is also very high in Maori women, particularly in those aged between 18 and 50, where around half also have high BMIs.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Maori</th>
<th>Pacific</th>
<th>NZ European/Other</th>
<th>Total (all women aged 15+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-18</td>
<td>17%</td>
<td>28%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>19-30</td>
<td>44%</td>
<td>58%</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>31-50</td>
<td>52%</td>
<td>66%</td>
<td>23%</td>
<td>28%</td>
</tr>
<tr>
<td>Total (aged 15+)</td>
<td>48%</td>
<td>60%</td>
<td>24%</td>
<td>28%</td>
</tr>
</tbody>
</table>

Source: A Focus on Nutrition: Key Findings of the 2008/09 New Zealand Adult Nutrition Survey

Maternal obesity is associated with a range of impacts across the reproductive health continuum from infertility (polycystic ovarian syndrome) to complex pregnancy, to gestationally induced hypertension diabetes, obstetric complications ranging from large for gestational age babies, congenital malformations through to fetal and neonatal death. Subsequent effects include increased risks of Type II diabetes, increased endometrial cancer in younger women (already documented in South Auckland) and obesity and diabetes in the offspring with ongoing generational effects. The increase in prevalence rates and earlier onset of obesity related complications increases the proportion of women and pregnancies exposed to its effects. Service demand and complexity of care is likely to increase over the forecast period.

Prevalence and impact of mental health

The risk of mental illness onset or recurrence for women is particularly high during pregnancy and childbirth with an estimated 15-20% of women affected by maternal mental health and addiction issues. Young mothers and fathers are particularly at risk - the most vulnerable age for developing a mental disorder is between the ages of 15-19, with prevalence rates among youth (not just parents) substantially higher than for adults at around 29%. These disorders are also commonly associated with a coexisting addiction issues, especially in younger males. High levels of financial and relationship stress also increase the likelihood of poorer parental mental health during pregnancy and postpartum.

If unaddressed, maternal mental health issues are associated with a number of adverse factors during pregnancy (e.g. smoking and alcohol usage), reduced engagement with antenatal care,

---

increased risk of adverse events including foetal complications (particularly due to alcohol and addiction issues) and higher usage of hospital services.

Mental health and addiction issues during pregnancy or following childbirth can have a detrimental impact on the mother-infant relationship, emotional attachment with the child (both from the mother and the wider family and whānau), and ability to provide adequate care. These can result in social, emotional and behavioural development delays and problems with wide ramifications for the child’s development10.

Issues in young fathers are also commonly under recognised, with many unable to identify their mental health needs and fail to engage with appropriate services. While many of the issues prevalent in young fathers are also issues among young mothers, many services are configured to identify and support the transition to parenthood for mothers, but often fail to engage with and accommodate fathers11.

Alcohol during pregnancy

The majority of mothers completely abstain from all forms of alcohol consumption during pregnancy. However, a small number of women continue to consume alcohol through their pregnancies, although for most of these women the consumption levels are fairly low (though above the Ministry of Health recommended safe level of complete abstinence). This is particularly evident in unplanned pregnancies, where approximately 30% of mothers continued drinking alcohol during the first trimester (as opposed to 18-15% of planned pregnancies)12. Additionally, for this group there is a much greater chance of continued alcohol consumption in the initial weeks of pregnancy before it is recognised.

Smoking during pregnancy

Although almost all mothers who smoke stop or reduce smoking in pregnancy to some degree, smoking rates remain particularly high for several groups.

There is a direct relationship between deprivation and smoking in mothers. Mothers living in high deprivation areas are much more likely to smoke during pregnancy (over 25% in quintile 5) than those living in the least deprived areas (5.6% in Quintile 1)13.

The link between smoking status and ethnicity is even stronger, with almost a third of Maori mothers smoking at the start of pregnancy. Due to the high birth rate among Maori, almost 60% of mothers who smoke in NZ identify as Maori.

10 Wouldes, T. Merry, S. Guy, D. 2011 Social and emotional competence: Intervening in infancy. - In Gluckman, P. 2011 Improving the transition: Reducing Social and Psychological Morbidity During Adolescence Office of the Prime Minister’s Science Advisory Committee Auckland
11 Burgess, A. 2008 Maternal and infant health in the perinatal period: The fathers role. A literature review. The Fatherhood Institute
13 Ministry of Health 2011 Maternity Fact Sheet
Similarly, smoking rates are much higher for unplanned pregnancies, with a fifth of mothers smoking, compared to less than 5% of mothers who have a planned pregnancy\textsuperscript{14}.

**Impact of psycho-social complexity on outcomes and costs**

If fertility patterns across the socio-deprivation gradient prevail it is likely that there will be an increasing proportion of children born into families in socio-economic stress and with relatively higher exposure to risk factors including smoking, drug and alcohol, violence and rising prevalence of obesity – all factors with adverse impact on foetal, infant and child health.

There is strong evidence for the lifelong impact of social, emotional and mental stress on infant and child development; including life-long risk of mental and behavioural disorders, chronic medical conditions, and disengagement from education, work, and society\textsuperscript{15}. Adverse impacts arise through maternal mental health, alcohol and drug usage, conflict, violence, neglect, and chronic exposure to severe socio-economic stress.

Complex social, mental, behavioural and medical issues are not well handled by our current systems of care, improving our response to complexity is critical to achieve better outcomes.

**Teen pregnancy**

New Zealand’s teenage pregnancy rates continue to be very high relative to comparable OECD countries (2\textsuperscript{nd} highest) and although showing a small downward trend in recent years, still accounts for 8% of all births, an estimated 11% of pregnancies, and 22% of terminations. Māori teenagers have the highest fertility rate (70 per 1,000 in 2000–2002). Pacific teenagers’ fertility rate (48 per 1,000), although lower than that for Māori, was 50 percent above the national level, and over twice the European rate in 2000–2002 (22 per 1,000).\textsuperscript{16}

While teen motherhood can have very positive outcomes there is an increased likelihood of range with poor outcomes in pregnancy, (preterm birth, fetal growth restriction and perinatal infection) and risks to infant/child development through low parenting skills and limited family support capacity\textsuperscript{17,18}. Teen pregnancy services have been shown to be effective in reducing adverse outcomes but we should be much more focused on bringing down teen pregnancy rates as a means of improving outcomes for youth and their children.

\textsuperscript{14} Morton, S et al 2010 op cit
\textsuperscript{15} Ministry of Health 2010 Healthy Beginnings Developing perinatal and infant mental health services in New Zealand Wellington
\textsuperscript{16} NZ Department of Statistics Age and ethnicity specific fertility
\textsuperscript{17} Harden, A, et al, 2009. Teenage pregnancy and social disadvantage: systematic review integrating controlled trials and qualitative studies. BMJ
\textsuperscript{18} Pevalin, DJ, 2003 Outcomes in childhood and adulthood by mother’s age: evidence from the 1970 British cohort study. Institute for Social and Economic Research
Unintended pregnancy rates

Recent data suggests that 60% of pregnancies in New Zealand are planned\(^\text{19}\) and intended at the time of conception, with the proportion of unintended pregnancies higher for younger women and those with lower levels of education. Unintended pregnancies are the primary driver for terminations of pregnancy and are also associated with poorer maternal physical and mental health during pregnancy, increased risks to fetal health, low birth weights and longer term impact on infant/child development\(^\text{20}\). Improving the capacity of parents to plan and space their children can improve health outcomes and family economic capacity. Better outcomes and lower costs could be achieved by increasing preparedness for parenthood, use of recent advances in low cost long term contraception, better advice and access to services to reduce usage of late stage surgical termination in favour of earlier, less intrusive and cheaper medical options.

Terminations

There were 15,863 abortions in New Zealand in 2011\(^\text{21}\). Termination rates have dropped in the last few years but are still considered high. Nearly half of all pregnancies in 15 – 19 year old woman and a third of 20 -24 year old women end in an abortion. Abortion rates for teenage Maori women are 50% higher than for European women.

Of particular concern is the inequitable access to these services across the country. Many DHBs do not currently provide appropriate termination services, forcing women to travel to other areas to undergo the procedure. Even within DHBs offering termination services, high service demand, poor health literacy and lack of available of options to provide earlier, less intrusive and cheaper medical terminations can mean women are forced to undergo more risky, late stage surgical terminations.

Reducing terminations through better education, advice and access to long term contraception provides an opportunity to both improve outcomes for people, (physical and mental health, impact on family dynamics etc) and improve health system value for money. Medical or surgical terminations are substantially more expensive than long term contraception options - in the UK it is estimated that a medical termination is 10 times more expensive, and a surgical abortion 14 times more expensive than the cost of a contraceptive clinic\(^\text{22}\).

Maternal age related service demand and costs.

The median age of mothers has remained relatively stable over the last decade, at approximately 28 years for primiparae and 32 years for the multiparae. However, NZ Statistics

---


\(^{21}\) NZ Statistics Induced abortions and pregnancies by age of mother


\(^{22}\) Astbury-Ward, E. 2009 'Provision of contraception and its influence on abortion'. Nursing in Practice, 47
estimates project that the fertility rates of women under 32 will decline, while those over 32 will likely experience a rise\(^{23}\). In the future the average age of mothers will increase – with more women choosing to have children at a later age while improved fertility assistance technology is increasing the window where women can remain fertile.

This has substantial implications for future resource usage. Increasing maternal age over 35 years is associated with\(^{24,25}\):

- Declining fertility and associated impact on well being and health service needs of women trying to conceive
- Increased risk of fetal birth defects from declining number and quality oocytes found in older women
- Increased risk of complications during pregnancy, risk of pre-term birth and perinatal or maternal mortality
- Independently the impact of increased exposure and duration of exposure to medical co-morbidity particularly leading to gestational diabetes and gestationally induced hypertension
- Increased demand for fertility assistance with both direct costs and indirect costs of increased likelihood of multiple pregnancy and usage of interventional births\(^{26}\).

To our knowledge little modelling has been done of the impact of these factors on future health services demand, however all of these factors are likely to increase over the coming 10 – 15 years and further increase pressure on constrained resources. A particular trend in relation to this group of women has been the increase in non medically indicated caesarean section.

Shifts in geographic distribution and impact on service access, quality and costs:

Over the next 10 -15 years between 10 -14 DHBs are likely to face declining birth rates\(^{27}\). This will intensify the struggle to support access, clinical safety and service viability across large

\(^{23}\) NZ Statistics medium fertility variant technical note


\(^{26}\) Wang, T. Tanbo, T. Abyholm, T, Henricksen, T. 2011 The impact of advanced maternal age and parity on obstetric and perinatal outcomes in singleton gestations. Archives of Gynaecology and Obstetrics 284 (1) 31-37

\(^{27}\) NZ Department of Statistics – Fertility and birth projections.
parts of rural New Zealand and the more isolated small to medium sized urban hubs. Well organised regional services are an inevitability if equity of access to quality care and outcomes are to be attained. Growth, particularly in Auckland, will require investment in new capacity. Both trends act to put pressure on limited resources, and demand that we rethink what care is provided by whom and where. There is growing anecdotal evidence that the maintenance of smaller hospitals can efficiently provide basic services more cheaply and effectively than large urban centres.

**SYSTEM PERFORMANCE**

On top of the macro environment issues there remain serious concerns over the performance of some of our systems of care across the life-course from reproductive maturity, preconception to early childhood:

Perinatal and child mortality reviews highlight need for improvement in service design and quality:

The reviews have highlighted the importance of a number of factors: Early engagement with antenatal care, more focused action to reducing the impact of social factors such as smoking, drug and alcohol use, family violence. Greater recognition of risk situations, (maternal age, obesity, mental health, multiple pregnancy, medical conditions and poverty) and more integrated responses across maternity, primary and specialist care\(^{28}\) are particular challenges for the service providers.

Rising impact of respiratory and infectious diseases that contribute to excess infant morbidity, hospitalisations and mortality

While the majority of New Zealand babies have good health, large inequalities arise for infants and children raised in areas of socio-economic deprivation with poor housing, nutrition, and exposure to smoking. A recent study has shown the rate of admissions for infectious diseases, (across age groups), has *increased 51\%* between 1989 and 2008 with the burden of disease falling disproportionately on those from economically poorer environments and certain ethnic groups, with Maori and Pacific\(^{29}\). Children from these environments have substantially higher rates of emergency attendance, hospital admission and longer lengths of stay, and up to twice the risk of dying before the age of one.

---

\(^{28}\) Perinatal and Maternal Mortality Review Committee 2010 *Sixth Annual Report of the Perinatal and Maternal Mortality Review Committee*. Health Quality and Safety Commission New Zealand

Inequalities of access and outcome

Variation in access and inequalities of outcome are a serious and pressing concern across our early years continuum. Arguably our systems of support are failing the populations who are most in need. From a life-course perspective our most vulnerable population are those living in areas of high socio deprivation who have limited resources and living in housing and social environments that place young children at risk.

Services that work well for the majority of well resourced and healthy women and families struggle to meet the needs of these populations\(^\text{30}\) for example;

- Many do not have the knowledge, education or guidance to self advocate and navigate the systems of services and support that exist. Services are not well designed to recognise this and provide additional navigation support.
- Many have relatively low levels of engagement with general health services prior to pregnancy;
  - More likely to have poorer general health
  - Unmanaged health complications – smoking, obesity, diabetes during pregnancy
- Lower awareness of benefits of antenatal care and face economic, social or cultural barriers to successful use of universal services\(^\text{31}\);
  - Reduced engagement with antenatal care
  - Later LMC registrations
  - Less likely to attend follow ups
  - More likely to present at delivery with no LMC
  - Difficulties interacting with health services, e.g. travel, hours of availability, language
- Hospitalisation rates for children from low income areas are significantly higher than wealthier areas\(^\text{32}\)
  - Hospitalisation rate for injuries from assault, neglect or maltreatment is 5.6 times higher for children in low-income households
  - Number of children admitted to hospital with socioeconomically sensitive conditions is increasing (by ~5,000 hospitalisations per year)
- Children with disabilities are overrepresented among poor children with a disproportionate number living in beneficiary families
- Likely to have poorer outcomes in adulthood, including higher rates of heart disease, alcohol and drug addiction and worse oral health at age 26\(^\text{33}\)

\(^{30}\) Litmus 2011. *Barriers to consumer utilisation of primary maternity services in Counties Manukau District Health Board*

\(^{31}\) Downe, S. et al., 2009. ‘Weighing up and balancing out’: a meta-synthesis of barriers to antenatal care for marginalised women in high-income countries. *BJOG*


Variation in service availability and delivery

While we have national frameworks for service delivery these coexist with substantial variation in service availability and delivery. While some of this is ‘desirable variation’ that represents services tuned to the need of a local population and need mix, or driven by geography and population density there is building data on substantial variation that has no such obvious foundation. For example the recent release by the Health Quality and Safety Commission of an Atlas of Healthcare Variation for maternity\(^{34}\) highlights substantial variation in mode of birth for ‘standard primiparae’ that provokes questioning over the range of variation that is exhibited and whether this is conducive to good outcomes and value for money or reflects ‘unwanted variation’ and waste.

Addressing issues of both growth and service viability

While the absolute number of births is likely to remain stable over the forecast period this hides a number of challenges. The geographic distribution of fertility is creating a ‘two New Zealand’ situation combining;

- Growing numbers in a few major urban centres with a high proportion of Maori/Pacific peoples,
- static or declining numbers across the rest of the country.

The first situation raises challenges of ensuring services are available and appropriate to demand. The second raises challenges of service viability, affordability, quality and safety. To achieve good outcomes within the resources available we will need to better manage both circumstances. Service models such as those proposed in this forecast, will be needed to enable better and more explicit approaches to recognising and responding to risks at both individual and service/system level. By calling for more explicit approaches to recognising and responding to risk the service models suggested in the forecast should better enable the vulnerabilities of both the ‘growth’ and ‘static/decline’ aspects of the future New Zealand

Use of intensive interventions continues to rise

Combinations of better technology, rising expectations, increased maternal age and earlier onset of long term conditions are likely to provide continued upward pressure on demand for reproductive assistance\(^{35}\) Increased preferences for epidural pain relief are a driver for utilisation of hospital level birthing facilities. Caesarean deliveries have risen from 10% in the mid 80s to 24% by 2010 with some areas exceeding 33%\(^{36}\). Almost half are undertaken as elective procedures. Increasing Caesarean rates( particularly as emergency or unplanned procedures) may expose women to increased risks and likely poorer outcomes especially

\(^{34}\) Health Quality & Safety Commission http://www.hqsc.govt.nz/assets/Health-Quality-Evaluation/MatD-F/atlas.html

\(^{35}\) Royal College of Obstetricians and Gynaecologists Scientific Advisory Committee 2008 Reproductive trends and assisted reproduction technologies

where high parity and repeat operations occur. Reducing intervention rates could improve outcomes and lower overall system costs.

WORKFORCE

Responding to trends in demography and demand:
The workforce implications of demographic and demand trends are complex but a few stand out as needing sustained attention:

- Building a workforce that better matches the ethnic and cultural mix of demand. With Maori and Pacific peoples projected to account for 40% of births by 2026 attracting, training and retaining a balanced workforce must remain a priority.

- Supporting a workforce to better address inequalities of outcome. This includes exploring different workforce types, collaborations, partnerships, supporting infrastructure and incentives that enable parents with higher levels of social vulnerability to have their complex needs met in ways that contribute to improving broad based outcomes – including health.

- Sustaining and developing a workforce able to respond well to changing patterns of demand, for example rising prevalence of obesity related complications.

- Developing workforce capability to respond to emerging evidence of what works to improve outcomes, for example addressing the needs of young parents, parental mental health and addiction issues or building critical mass and scale in early years home visiting.

- Managing geographical demand and supply gaps

Responding to trends in supply and sustainability:
While the issues of workforce supply and utilisation are covered in more detail in later sections of this report it is clear that the early years continuum has substantial supply and sustainability issues to address in the next 10 – 15 years:

- The age structure and employment preferences of many workforce groups are likely to generate continued pressure from reducing hours of availability, retention and retirement

- There are a number of areas with potentially quite imminent shortfalls of supply of key roles

- Geographical distribution of some critical workforce groups is uneven

- Recruitment gaps and service viability issues are apparent in a number of more rural districts while overloading and burn-out issues are apparent in some areas with high population growth rates.

Role Utilisation
Antenatal care has seen substantial shifts in role utilisation. With the introduction of the current community based, midwifery led model of maternity care the use of hospital based maternity services, GPs and private obstetricians has declined. While this model is effective for
most women, where medical complications occur the withdrawal of general practice from formal primary care support has led to a high dependence on relatively expensive and limited hospital and specialist services for almost all step-up medical care.

This gap has emerged when the future service demand will increasingly be driven by the medical complications at both ends of the age continuum plus effects of obesity and earlier onset of long term conditions. Redeveloping a skill base for integrated primary based medical care for common issues such as diabetes, gestational induced hypertension, mild/moderate depression and anxiety, smoking cessation, brief interventions for alcohol abuse will become increasingly important. There is a need for closer involvement of GPs or community based specialists in the primary care of women in pregnancy as well as better integration between hospital based specialists and community midwifery care. This has been identified by midwives and doctors and is particularly applicable in rural and remote areas but is generally pertinent.

Slow uptake of training opportunities for GPs in obstetric care is likely to be an indication that the issue needs to be addressed through more structural means, for example building on emerging partnership models between midwifery and general practice and emerging models of care within Integrated Family Health Centres that can support GPs and Nurses develop special interests in this area. Also, inclusion of women’s health in the postgraduate years one and two and specifically within the GP Education Programme will be necessary if future GPs are to be encouraged and feel confident to practise in this area. Over 17% of midwives retain general nursing certification and in some areas this may enable small practices to offer both nursing and midwifery support to some women.

Financial sustainability and productivity

Across all these issues remains the challenge of a future of increasingly constrained financial resources. Responding to this well while improving outcomes will demand a high level of cross practice and professional collaboration focused using respective skills and capacity in the most effective and efficient manner.
A VISION FOR 2025

Our vision for 2025 is to achieve a mother, father, child and family centred system of support and care that is integrated across the life-course from preconception through pregnancy and infant/child development and that substantially lifts our child and maternal health outcomes.

It will support sustainability by an integrated, effective and efficient universal service plus a population based approach to focus resources on need, reduce expensive adverse outcomes, supporting lower intensity care where it is safe and effective, reduce intervention rates that are unnecessary or not strongly clinically indicated.

- Increasing the capacity of women and their partners to create good beginnings, improve preparation for parenthood, reduce unintended pregnancies and terminations, respond well to the reproductive assistance needs that develop with increased maternal age.
- Better engagement of women and their partners in a multi-disciplinary assessment of risks, strengths and capacity early in pregnancy, so that a positive, responsive and integrated pathways through pregnancy and the early years can be established early.
- Enhancing maternity services to provide effective and efficient support for the majority of low risk, capable families while providing more in depth and targeted responses to both medical and psycho/social factors that influence good outcomes.
- Increasing the integration of responses across pregnancy, birth and early infant/child development in order to build capacity of parents and respond more proactively, earlier and in a more effective manner to health and social risks

EVOLVING OUR SYSTEMS OF SERVICES AND SUPPORT

Building on the strengths and accomplishments achieved to date we believe that to achieve this vision we need focused action to support the evolution of our systems of services and support to better respond to the drivers of change identified previously.

BUILDING STRONG PARTNERSHIPS WITH MOTHERS, FATHERS, CHILDREN AND WHĀNAU

At its heart we need to build on the strong partnerships with women that have been forged within our midwifery led maternity services and extend this partnership approach across the life course. We will need to broaden our partnerships with greater inclusiveness and support for the contribution of fathers and wider family/whānau. By explicitly including ‘fathers’ in the title of this
forecast we are seeking to highlight the inadvertent but almost systematic exclusion of the fathers in our service discourse.

**Figure 3: A family/whānau centred life-course approach**

The diagram above represents a view of how at each stage across the life-course we need to create a partnership with family/whānau that ensures continuity and navigation that integrates support. Depicted in the diagram is the typical partnership structure during antenatal care where the LMC, most usually a midwife, provides this essential continuity and navigation function while also providing antenatal care. By emphasising continuity and navigation in this model it will help dialogue over how this function is provided across the life-course, who is best placed to fulfil this role and how transitions across stages and providers are managed.

Emerging models of whānau ora share this vision and extend the reach of this partnership to support whānau aspirations, capability and achievement across a wider scope of social, economic, cultural and spiritual domains. Models of care and support based on whānau ora are established although often within the relatively small scale of individual providers. Organised systems of support centred on whānau ora are emerging and have influenced the shape of a number of recommendations with this report 37. The implementation of whānau ora will necessarily challenge accepted roles and functions as it seeks to build a different forms of family/whānau centred support and partnership applicable to all high needs populations not just Maori.

---

37 In this report we are using whānau ora to refer to systemised approaches, service models and workforce aimed at addressing the health, social, economic and cultural needs and aspirations of families and whānau, particularly for high needs populations, e.g. as developed by the National Hauora Coalition: Mātua, Pēpi Tamariki Programme Development and Service Delivery Model 2012. This sits within a wider context of Whānau Ora, denoted with capitals that represents a more complex philosophy, approach and programme of intersectoral development that is beyond the scope of this report.
GENERATING GOOD OUTCOMES ACROSS THE LIFE COURSE

At the core of this forecast is the opportunity to reshape our systems to better respond to the emerging evidence base that highlights the critical role of the continuum from preconception through to year three to four of age in building the platform of physical, cognitive and emotional development that has lifelong impact in terms of health, wellbeing, educational achievement and economic participation. This evidence describes opportunities to positively influence the trajectory towards healthy beginnings through attention to the interplay between maternal, family and child physical, mental and social wellbeing. Investments in high value areas have the opportunity to substantially increase performance and reduce downstream costs.

Taking a life course approach enables us to sharpen our focus on issues of building capability in family and whānau whether through health literacy, antenatal education, parenting skill development services or through informal mechanisms of whānau support, peer networks or NGO advisory and support.

The life course approach also highlights the importance of continuity across stages and timeliness of support so that we build the platform of capability and health, avoid drop-outs of support and make sure that timing sensitive services and interventions happen when they have the most effect (e.g. breast feeding, immunisations). The diagram below provides an overview of the multi-dimensional approach that is used in this forecast:
DEVELOPING SOCIAL STRENGTHS, ADDRESSING SOCIAL VULNERABILITY

This report explicitly focuses on issues of social strength and vulnerability as a contribution to the development of better integrated approaches targeting the social and living determinants of poor outcomes and inequalities.

We are seeking to more directly address the impact of deprivation and poverty that is strongly associated with a range of vulnerabilities and risks. These include direct effects from lack of resources to access support, the impact of poor housing, poor nutrition, stress within relationships, effects of alcohol and drug use through the compounding effects of complexity and co morbidities.

In this report we have sought to create a shape to early years services and systems that can contribute within emerging models of whānau ora, a systematic, integrated service approach that builds social strengths and addresses social vulnerabilities as a way of generating good outcomes, reducing inequalities and lifting our nation’s performance.

RESPONDING BETTER TO PHYSICAL AND MENTAL HEALTH NEEDS

While the number of births is not expected to change substantially over the next 10 – 15 years we must seek to address those areas where there remain significant service issues in meeting the health needs of mothers, fathers and babies. While our health status may have improved, New Zealand’s relative ranking in perinatal outcomes, high maternity interventions and child health has
Inequalities in access to health services remain. Vulnerable groups of mothers, infants and children are missing timely support that is critical to good health and development.

We have compelling evidence of the widespread prevalence and impact of parental mental health on infant and child development. We are facing rising levels of obesity related risks and complications that affect maternal health and have life long consequence for children. Increasing maternal age is associated with increased risks, higher intervention rates and increased demand for reproductive assistance.

In this report we have sought to describe services and systems that are able to meet the changing nature and complexity of health needs in ways that are effective and achievable within the resources that are realistically available to us.

RESPONDING BETTER ACROSS A CONTINUUM OF NEED

Acknowledging that our universal services do well for the majority of families and children this report seeks to increase our focus on anticipating and responding to situations where good outcomes are at risk.

The diagram below describes how, from a system perspective, we should be aiming to develop a structure of services and support that enable better responses to both medical and social need while making best use of limited capacity and resources.

Figure 5: Developing systems of services able to respond to combinations and levels of need
It is based on a set of simple principles borrowed from mental health’s development of ‘stepped care’ a service design based on progressive, additive levels of client centred support. These include:

- Primacy of supporting self-care and capability development – all services and responses form an integrated approach to building capability and resiliency of women and their partners
- Making available progressive levels or layers of response that add appropriate depth of intensity or specialism of support across community, primary, secondary or tertiary care.
- Using the least intensive and intrusive, (‘closest to home’) support required to meet presenting need.
- Actively matching people’s needs to the level of intensity of the intervention with clear referral pathways within and between services.
- Using shared frameworks, tools and data for assessment and outcomes measurement to support people’s journey into, through and out of services.
- Each service level assumes a responsibility to support building the capacity and capability of less intensive levels in order to safely and effectively support people in least intensive settings that make best use of the resources available

The recommendations in the following section propose developments to our current service model for more proactive and integrated response across needs in both social and medical dimensions, while retaining the strengths of the existing model that supports the majority of healthy and capable families and children.

The forecast highlights at least three important attributes of this integration:

- At a health system level the forecast proposes integration across the life course continuum so that there is a more coherent approach to creating healthy child outcomes.
- At a health services level the forecast seeks to support better horizontal integration across different services attending to different parts of the life-course and,
- A substantially greater level of vertical integration to better respond to needs and risks as they emerge

**QUANTIFYING THE CHALLENGE**

To support this service forecast a preliminary level of modelling has been undertaken, chiefly to estimate the proportion of women, fathers, children and families that might use or benefit from a more differentiated approach to medical risks and social vulnerability. An immediate challenge is that we do not have good data to understand what is happening across the ‘longitude’ of the life-course. Instead we have cross sectional snapshots of activity at stages which limits our understanding of trajectory and how we can influence good outcomes. For example:

Preconception

- Data on reportable sexual health events
• Family planning activity

Conception
• Terminations
• Teen pregnancies

Antenatal/perinatal
• Primary care datasets – rich in a range of structured and semi structured data but not easily accessible
• A national maternity collection with 85% coverage and variable completion quality
• An MMPO database with greater depth but a different coverage
• NMDS and outpatients collection

Infant/child
• NMDS and outpatients collection
• National Immunisation Register (NIR),
• Well child contract data
• Before School Check database,

To start quantifying the challenge we have used the earliest reasonably comprehensive dataset available; the National Maternity Collection which covers approximately 85% of all births, mainly from those managed through community based LMCs and excludes those separately managed by DHB primary antenatal services. ( we acknowledge deficiencies in these data but they serve as a starting point)

The diagram below represents an estimate of the proportions of women and pregnancies who could be expected to fall into one of three overlapping group based on a retrospective analysis of the National Maternity Collection:

1. "Well/healthy" – pregnancies and births without medical or social risk factors or complications
2. "Medical risk factors and complications" – pregnancies where there is an identifiable medical risk factor or complication flagged in National Maternity dataset
3. "Complex social vulnerability” – pregnancies with the presence of one or more of a markers that have been interpreted as representing social vulnerability. Since this is not a feature of our current data collection surrogate markers have been used, for example mothers under 19 years living in a high deprivation area or women who do not register with an LMC until after birth.
This shows that approximately a 38% of pregnant women will have some level of requirement for medical risk management or support although as the overlap suggests not all of these will require medical care. Current trends for increasing prevalence of obesity related complications and the impact of factors associated with increasing maternal age are likely to increase this proportion over time. (These data are remarkably consistent with that found in the large prospective study of nulliparous women in Auckland, the SCOPE study, which found that 61.8% of pregnancies to healthy women were uncomplicated, or 38% required medical intervention at some point antenatally).

In our view the analysis is under-estimating the prevalence of complex social vulnerability, for example this dataset does not include the impact of mental health; with the known prevalence rates for depression alone sitting at 16% it is likely that between 10% - 15% of pregnancies would benefit from increased support for social vulnerability.

Of this later group approximately 60% have a combination of both medical risks and social vulnerability, generating an increased level of complexity for standard maternity or medical care.

Social vulnerability is substantially influenced by deprivation, for example in South Auckland the modelled estimates are at least 50% higher than national. The pattern by deprivation quintile is shown below (although some caution is required since in this analysis high levels of social deprivation were part of the social vulnerability model. This will underestimate the prevalence of social complexity in quintile 1 – 3, e.g. impact of mental health or family violence and may overstate social complexity for quintile 4 and 5).
The estimated prevalence of need/risk by maternal age is shown below, highlighting the impact complex social vulnerability on younger aged mothers and conversely the rise of medical complexity with maternal age:

Finally the graph below shows the estimated prevalence of need/risk by ethnicity:
These prevalence estimates will enable HWNZ to project future nature of demand based on projected changes in demographic structure of births and prevalence of major risk factors.

Our conclusions from this very preliminary level of analysis and modelling suggests that substantial shifts and changes in our systems of care and support are needed:

- To address the needs of vulnerable families, especially young, high deprivation parents and their babies
- To improve early engagement with high quality antenatal care and support
- To improve equity of access and respond better to variation in population needs
- To better address a widespread and increasing prevalence of medical complications and risks, particularly those that are related to obesity, long term conditions and maternal age. Many of these are ‘moderate level’ primary care amenable risks and complications that would otherwise overload limited resources in secondary care
- To build capacity to respond to complex psycho/social needs and vulnerability during pregnancy and as these issues flow through into infant and child development

These are picked up in the recommendations in the following section.
THE MAJOR DEVELOPMENTS NEEDED

To help realise the vision we are proposing that developments are needed in five major areas to improve outcomes across the life-course, supported by changes in workforce, information, resources and infrastructure.

These are shown in the diagram below:

**Figure 10: Five areas of development**

![Diagram showing five areas of development]

BUILDING CAPABILITY TO IMPROVE EQUITY OF OUTCOMES AND SYSTEM WIDE PERFORMANCE

In many ways health services in New Zealand have endeavoured to be community based, accessible and culturally appropriate in an increasingly diverse society. Equity of access and equity of care is a complex issue as it involves more than just appropriately designed service provision.

Inequalities have been shown to lead to increased health costs\(^{38}\) but the reasons for not accessing services when these are available are not well understood.

---

One of the key issues in equity of care provision and outcomes relates to the individual’s perception on the value of engaging with the health services that are provided. Understanding the mechanisms which operate to influence a person utilising the available services is fundamental to improving outcomes. Research is required within a New Zealand context to examine this issue. There are examples from our own group of successful strategies to engage various care agencies in a coordinated fashion.39

There is geographic variation and service providers have the challenge of meeting these local needs. More innovative design and use of regional hubs will be needed to provide full O&G and paediatric specialist services to support GPs, midwives and child health nurses. The DHB service specifications and medical officer job descriptions need to be better adapted to reflect the needs of targeted populations, with a focus on providing equitable service provision such that all sectors of the population have similar service access. The efficacy of such approaches will need to be audited as part of the performance standards that all providers should meet.

**IMPROVING READINESS FOR CHILDREN**

**INVESTING IN HEALTH LITERACY AND REPRODUCTIVE HEALTH:**

This area of focus recognises the substantial opportunity to improve outcomes through sexual, reproductive health and family planning that can help prepare families to support good outcomes for their children.

By improving sexual health and reducing unintended pregnancies, especially for young parents, we would be able to achieve better outcomes for children, mothers and fathers while avoiding the additional risks and system costs of early unintended pregnancies. Assisting young people plan their pregnancies can help families manage the economic and living demands so that more children are born when parents have the time and resources to support good outcomes.

At the other end of the continuum we are likely to see increased pressures on demand for reproductive assistance, from a growing proportion of older mothers and increasing expectations of continued fertility. These parents have very high expectations for healthy outcomes and readily utilise investigations and technologies to achieve these ends.

The expansion of technologies including prenatal gene arrays has the potential for not only increased expenditure in laboratory services but also in clinical genetic and obstetric time. The imminent introduction of such technologies should only occur within the framework of national guidelines and must involve the National Genetic Services and the New Zealand Maternal Fetal Medicine Network amongst other groups.

---

39 Personal communication Ms Sarah McMillan, midwife, Lakes DHB
This pathway recognises the substantial opportunity to improve outcomes through health literacy, reproductive health\(^{40}\) and family planning. **In our view it represents the largest single opportunity for change and development that will increase population level outcomes for women, child and family health while helping to improve value from our investment of public resources.**

Reproductive health is likely to become increasingly important as evidence grows for the impact of smoking, alcohol and obesity related metabolic syndrome on fetal development.

*This forecast calls for a much greater focus and emphasis in policy, resourcing, service development and workforce on the issues, needs and opportunities of pre-conception reproductive and sexual health.*

**Recommendation 1**

*Concerted integrated action across health and education to improve health literacy and sexual, reproductive health*

**DEVELOPING INTEGRATED APPROACHES TO SEXUAL AND REPRODUCTIVE HEALTH.**

Women report very high rates of contact with primary health service providers prior to conception, mostly with GPs, (the ‘Growing up in New Zealand’ study\(^{41}\) found that almost 90% of women in the study reported that they had a regular family doctor whom they saw prior to their pregnancy), but also with school or youth health services and family planning.

Utilisation of these contacts to raise reproductive health issues as part of a systematic but opportunistic approach to improving preparedness for pregnancy should be part of focused primary care/PHO programmes, this should include:

- Discussing contraception,
- HPV vaccination

---

\(^{40}\) WHO definition of reproductive health is used in this report: Reproductive health is a state of complete physical, mental and social well-being, and not merely the absence of reproductive disease or infirmity. Reproductive health deals with the reproductive processes, functions and system at all stages of life.

The International Conference on Population and Development Programme of Action states that “reproductive health ... implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which are not against the law, and the right of access to appropriate health care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant.

Reproductive health includes sexual health, the purpose of which is the enhancement of life and personal relations, and not merely counselling and care related to reproduction and sexually transmitted diseases."


• fertility issues,
• folic acid supplementation,
• lifestyle issues (such as obesity management, smoking cessation and alcohol consumption),
• rubella antibody screening, pre-existing conditions such as diabetes or epilepsy
• genetic counselling (for example, for thalassaemia, sickle-cell trait and consanguinity)
• domestic violence
• parenting and budgeting

Recommendation 2

Utilise high primary care contact rates of reproductive age women to develop integrated reproductive health and women’s health services across family health centres, family planning, youth services and allied health providers (e.g. pharmacy)

Ideas for action, initial areas of focus should include:

- Youth services reproductive health integration and removal of remaining cost barriers
  - Active involvement of young males for example through school based programmes
- Reproductive health for women with existing medical risk factors to optimise preparation for pregnancy

CONCERTED ACTION TO REDUCE UNINTENDED PREGNANCY RATES IN TEENS AND YOUNG ADULTS

While the drivers of high teen pregnancy rates are complex with themes including; dislike of school; poor material circumstances, unhappy childhood; and low expectations for the future there are substantial opportunities to delay pregnancy past teens, reduce teen pregnancy rate and improve the outcomes for a substantial number of young women and babies. Critical changes needed were recently described in the ‘Improving the Transition’ report:

- Early and sequential, holistic sexuality education of the sort that has been shown to be effective, throughout schooling, that provide a clear message for specific behaviours;
- Free access to services providing contraception and screening for infections;
- Youth friendly, specifically trained clinical staff that provide accessible and appropriate services, and education that is interactive and personalised
- Increased availability of emergency contraception through pharmacy – “over the counter”

This area calls for three linked changes in approach:

---

42 Harden, A. Brunton, G., Fletcher, A. Oakley 2009 Teenage pregnancy and social disadvantage: systematic review integrating controlled trials and qualitative studies BMJ
43 Bagshaw, S. Sexually healthy young people. In Gluckman, P. 2011 Improving the Transition Reducing Social and Psychological Morbidity During Adolescence: Office of the Prime Minister’s Science Advisory Committee
1. **Youth Development**: The first is to take a youth development approach with programmes that aim to promote engagement with school through learning support, ameliorate unhappy childhood through guidance and social support, and raise aspirations through career development and work experience. A recent systematic review has found that this approach results in a 39% reduction in pregnancy rates versus those receiving standard practice or no intervention.\(^{44}\)

2. **Utilisation of long acting reversible contraception options**: The second is to systematically take advantage of advancements in contraception technology that have seen the increasing availability of relatively low cost long acting reversible contraception implants. This technology addresses the reliability issues of previous means of contraception, especially for younger people or those with relatively chaotic life-styles, indifference to the possibility of pregnancy, perceived invulnerability to pregnancy, and forgetting to use contraception regularly\(^{45}\) that place them at increased risk of contraceptive failure. The utilisation of implants has a high level of acceptance. A recent US study reported the over 75% of women choose a long acting reversible contraception when provided with information of the relative benefits and risks. Usage of an implant or IUD was associated with a reduction in usage of abortion services by 62% - 78%.\(^{46}\) The economic case for a systematic approach to providing widespread access is improving. A UK study estimated that for every pound invested in contraception there are eleven pounds of savings in downstream health service utilisation. Affordability has recently improved with the funding of a long acting reversible contraceptive implant by Pharmac but cost and availability barriers remain for insertion. These should be urgently and systematically addressed. Funding needs to be extended to intrauterine devices or systems.

3. **Improving early access to termination of pregnancy**: This area that also needs attention is to improve access to emergency contraception and to early stage medical termination services versus later stage surgical services. The costs and risk of complications substantially step up with each stage and our current variation in access inadvertently shifts the mix towards later stage interventions at a substantial cost to both women and the system as a whole.

We are advocating that, as part of an integrated approach with the recommendations above, we reverse this pattern. With the measures described above we should be able to reduce primary demand for abortions. By making emergency contraception freely available (whether through general practice, youth services or pharmacy) demand could

---

\(^{44}\) Harden, A. et al 2009 *Teenage pregnancy and social disadvantage: systematic review integrating controlled trials and qualitative studies* BMJ 2009;339:b4254


\(^{47}\) Astbury-Ward, E. 2009 ‘*Provision of contraception and its influence on abortion*’. Nursing in Practice, 47
be further reduced. With the capacity this generates we should improve early and equitable access to medical terminations. Finally all women needing these services should be offered free long acting reversible contraception support.

4. Recommendation 3

*Remove all barriers to access to effective contraception*

Ideas for action

- Improve access for younger women in higher risk situations and communities to free primary based sexual health and contraception advice to convert from existing contraception methods to long acting reversible methods.

**Recommendation 4**

*Provide early access to emergency contraception and medical terminations should this be the choice of pathway together with effective ongoing contraception support*

Ideas for action

- Wider communication of availability of free emergency contraception for youth
- Providing free access to emergency contraception to all who need it irrespective of age
- Require all termination of pregnancy services to offer early medical abortion
- All DHBs to remove barriers to access to termination of pregnancy within their regions
- Active referral of women using abortions or emergency contraception for long acting reversible contraception.

**IMPROVE POST PARTUM ADVICE AND SUPPORT FOR WOMEN TO SPACE CHILDREN, ESPECIALLY FOR YOUNG WOMEN AND THOSE WITH FOUR OR MORE PREVIOUS CHILDREN**

Improving post partum advice and family planning support represents an opportunity to engage with women and their partners to help increase their knowledge and capability to achieve good outcomes for their children. There are social, economic and medical benefits from enabling women to manage spacing of pregnancies that are particularly relevant for those in high needs populations and women who have high parity where the medical risks of complications rise steeply. The ready availability of all methods (including permanent such as vasectomy and tubal ligation) provide important options for parents.

---

Recommendation 5

Improve access to post-partum family planning and contraception advice services with availability of free effective contraception especially for youth/young adult women and those with four or more previous children. Formal referral of women postpartum to primary carer (GP usually) or Family Planning services for funded postnatal check including contraceptive advice.

MANAGE ANTICIPATED INCREASED REQUIREMENTS FOR ASSISTED REPRODUCTION

With median age of childbirth still exhibiting a small upward trend and the impact of earlier incidence of long term conditions on fertility it is likely that the numbers of women seeking reproductive assistance will increase.

While numbers are very small with only 2% of births using reproductive assistance in NZ, this level is approximately half the level prevailing in Australia which provides relatively free access to assistance49 indicating that pressure to expand access could be anticipated. Our growth rates and level of support has been actively managed which has held NZ below the double digit growth rates in Australia and held the intensity of support (number of cycles), at roughly half (14.2 cycles/1000 in Australia versus 5.9 cycles/1000 in NZ). The flow on effects from assisted reproduction include:

- High rate of caesarean delivery, almost half of all deliveries following embryo transfer use this mode of birth. Contributors include maternal age and incidence of multiple births
- Higher rates of preterm delivery, lower average birth weight (influenced by proportion of multiple pregnancies)
- Higher rates of fetal abnormalities after use of reproductive technologies.
- Potentially higher rates of perinatal mortality although caution is needed due to small sample sizes and the effect of maternal age

The net result is a substantial system level investment, even if reproductive assistance is privately funded, that has opportunity costs elsewhere in the system when overall health budgets are constrained. This needs to be balanced by the clear benefits the technology provides to those in need.

There is no simple solution or recommendation other than it is clear that we need ongoing dialogue and exploration of the technology, the issues, benefits and costs and maintenance of the current New Zealand system of regulation.

Recommendation 6

Manage anticipated increased requirements for assisted reproduction generated by technology, increasing maternal age and rising expectations in line with an active debate on the balance of equity, evidence of effectiveness, safety and costs

PROACTIVE PLANNING AND ACTION FROM CONFIRMATION OF PREGNANCY

This forecast believes one of the largest impacts on outcomes and use of system wide resources could be achieved by transforming the process around confirmation of pregnancy.

The process from confirmation to enrolment with an LMC is generally driven by the woman with advice from range of sources. It is an ‘opt in’ system that works well in the large majority of cases but for a substantial number of women with high social needs and barriers to accessing care it can result in late engagement and initiation of antenatal care.

While for many healthy, capable and experienced mothers delays in engagement with antenatal care may be of minor concern, when risk factors such alcohol, smoking, obesity, poor nutrition, housing, family violence are present late antenatal care is associated with increased complications in pregnancy and their children are at greater risk of birth defects, infant mortality, poor health and development problems with potentially lifelong impact50. The Perinatal and Maternal Mortality Review reports from 2006 to 201051 have identified that engagement related factors are a substantial contributor to avoidable mortality and morbidity:

- No antenatal care
- Late booking with antenatal care
- Non-attendance with antenatal visits
- Not following advice or treatment

The graph below shows the pattern of engagement by trimester and population group and highlights the disparities in timing of engagement.

Figure 11: Trimester of engagement with antenatal care

---

The graph presents a striking pattern with close to 40% of Pasifika women and over 25% of Maori women not registered with a LMC during their pregnancies and both showing patterns of later engagement than their European counterparts.

The reasons for these patterns are complex but it clearly shows that our current systems of support need to be rethought to better meet the needs of women who are not receiving antenatal care. Studies have been done describing antenatal booking practices\(^\text{52}\) but research is required on the reasons why women do not “book” early or how services are inadvertently creating barriers to support.

The recommendations in this section aim to strengthen the relationships and processes to address these issues.

**ENCOURAGE WIDESPREAD ADOPTION OF COLLABORATIVE AND INTEGRATED PRIMARY CARE SERVICES**

Emerging experience of providing integrated care for woman in high needs areas, based on partnerships between general practice and midwifery\(^\text{53}\) has shown that greater attention to the processes of women’s engagement leads to higher levels of enrolment, earlier antenatal care and greater opportunity to address medical, mental health and social issues.

In these areas this will require strengthening the role and obligations of the health professional at the first point of contact following confirmation of pregnancy (usually the GP), to ensure follow-through to early antenatal care, ensuring discussion on options if the woman is equivocal about continuing, and setting up a connection to LMC services that initiates the pregnancy planning process with women and partners, (see following).

**Recommendation 7**

*Develop and strengthen collaborative partnerships across midwifery and general practice and integrated primary health services to support antenatal care*

**CONTINUITY OF ENGAGEMENT FROM CONFIRMATION OF PREGNANCY**

While many women use home kits or youth/family planning services to detect pregnancy in a very large majority general practice remains the point of confirmation.


\(^53\) Priday A. 2011 *A Successful Lead Maternity Care Midwifery Practice in Counties Manukau*
To substantially address engagement and access to care issues we need to use the point of confirmation of pregnancy to trigger processes that help women plan their pregnancy, including termination if this is the pathway indicated. There needs to be initiated a common assessment framework for factors likely to influence the pregnancy outcome and a plan to foster engagement with antenatal care and support. These processes should focus on providing continuity of support to ensure engagement with LMC care is secure.

In essence this change to the system of care creates a responsibility for the health professional, who is part of the process of confirmation of pregnancy, (most frequently her GP), to formally facilitate engagement with a LMC.

This will clearly need to be backed by the further development of collaborative partnership relationships described above and review of funding models to facilitate this process – especially in high needs areas. A review of the funding arrangements will be needed to achieve this.

It should be supported by national measures shared across primary care, for example a target to achieve >85% engagement by commencement of second trimester and 98% engagement by commencement of third trimester – in effect an analogue of what we achieve with immunisation targets, (while data from the National Maternity Collection, which includes all LMC types, indicates a substantial performance gap, Midwifery Maternity Provider Organisation data, from community midwives, shows they are currently achieving 71% and 90% respectively, indicating that these targets are achievable).

It is proposed that there is a simple shared framework that provides a common assessment of medical and social risks so that the pathway to engagement, access to support and continuity of care is facilitated.

The plan would integrate supportive medical, mental and social care within a midwifery led pathway that is safe, evidence based, well supported and effective in terms of use of resources. This has substantial implications for the current organisation of ante-natal care where partnerships between GPs and Midwives or with socially oriented services not well supported..

There are workforce capacity and resource issues associated with successful early engagement with antenatal care, especially for women with high medical and social needs; increasing the proportion of women with effective early engagement increases the average duration of support provided, increasing demand on LMC capacity and maternity funding. Re-engagement with GPs as active participants in this process would be on mechanism of bridging this workforce gap.

**Recommendation 8**

*Develop and implement systematic processes for all women from point of confirmation of pregnancy that provide ‘no gaps’ continuity to early engagement with LMC support with shared frameworks for risk assessment, planning and support*

**Ideas for action**
- Define the obligations of the ‘point of confirmation’ practitioner to initiate linkage with midwife and to maintain continuity until that has occurred
- Develop a simple common assessment framework that can be shared across general practice and LMCs to facilitate information exchange and early access to medical or social support
- Create shared accountability across general practice and LMCs for early engagement outcomes.
- Develop LMC/social support partnerships, e.g. with whānau ora for high needs populations
- Facilitate information flows between general practice, LMCs and DHBs maternity care
- Review funding model with particular attention to the barriers to interprofessional relationships and effective clinical pathways.

DEFINITION OF SERVICE JOURNEYS, DECISION POINTS AND RESPONSES THAT ARE APPROPRIATE TO NEED

Our current systems of antenatal, perinatal and early childhood support have provided a universal level of service that works well for the healthy/well population but less well designed to handle combinations of medical and social vulnerability or continuity of care across critical transition points in support, (e.g. GP to LMC, LMC to Well Child Well child to GP, primary LMC to specialist services and vice versa).

Extensive work has recently been completed on comprehensive maternity referral guidelines. While these provide a solid foundation they are medically focused and depend on pathways that may lack appropriate capacity to provide the support when needed. For example high prevalence rates of gestational diabetes are overloading many secondary specialist services meaning that midwives are left supporting women who need medical care. Risk defines the presence of a factor but does not necessarily determine the likelihood that that factor will be associated with a particular outcome.

A model of integrated care is proposed, based on the concept of a seamless progression through pregnancy across a range of acuities, with pathways for referral and additional support from primary and specialist care available to LMC as needed, together with better support for women, particularly those with complex medical and social needs, to engage and successfully access each level of care required. Integrated care does presuppose shared risk as well as responsibilities but it remains important that there is a “lead” carer.

Recent developments in integrated primary care, e.g. the work undertaken in Canterbury in improving the maternity journey for women in Canterbury54 or Greater Auckland Integrated Health Network’s work in developing integrated pathways for infectious and respiratory conditions in early childhood are demonstrating the benefits of ensuring that clinical guidelines are translated into real world capacity to respond. Definition of common service journeys can provide the foundation of

---

54 Canterbury DHB 2012 Improving the Maternity Journey for Women in Canterbury
an integrated service and help optimise the use of resources across the system as a whole and support real improvement in performance to achieve improved outcomes.

Recommendation 9

*Build on evidenced based clinical guidelines to define population based integrated care pathways and collaborative clinical governance that can guide the development of services, service capacity and improve service performance.*

Ideas for action

- Definition of care pathways that can guide minimum expectations of service, setting and quality, help guide the choices of women and partners, help reduce variation in practice

- Development of normative expectations of resource usage (case loads, costings visits, laboratory and radiology usage etc) by risk profile. Use data driven, clinical governance supported processes to highlight where variation in usage merits inquiry, performance improvement or is unwarranted. This would entail reviewing the “uncapped” budget for laboratory and ultrasound services in healthy normal pregnancy

- Develop environments of shared culture, relationships, expectations and processes across different services that support and guide well founded choices that women and partners make over risk and safety

DEVELOPING SAFE, EFFECTIVE AND SEAMLESS CARE THROUGH PREGNANCY, BIRTH AND INFANCY

Overall New Zealand’s model of universal maternity, parenting support and well child services is woman/family centred, generates high levels of user satisfaction and provides good outcomes with relatively low intervention rates and costs.

This forecast proposes developing core pathways or journeys during maternity to ensure we build a better capability to address this need.

For the majority (>60%) the continuum of care is characterised by a ‘well/healthy’ journey, healthy pregnancies and babies within strong and capable families. New Zealand’s model of universal maternity, parenting support and well child services provide good outcomes at relatively low cost for this group, though it is recognised that it is not always possible at the beginning to pregnancy to predict the outcome meaning that a flexible seamless process to deal with emerging factors is needed.

However, for between 30% - 40% of women and babies, the presence of complication and vulnerability requires a more structured and integrated approach. Within this group where complications are clearly identified we generally have well developed and effective responses that result in good outcomes. The challenge arises where complications or risk factors may be present.
but not clearly identified, or social complexity is generating adverse outcomes either directly or indirectly through limiting access to medical care or limiting the effectiveness of the care provided.

With constrained resources and clear evidence for sub-populations of high needs requiring additional support it will become increasingly important to explore opportunities to streamline the well/healthy journey (see next). Achieving this streamlining will be necessary so that we can improve clinical outcomes for the balance of perhaps 40% of mothers, babies and fathers where our current systems of care are less effective.

The forecast calls for a shift towards a strongly integrated, team based system of care with faster responses to emerging medical risks and more capable of addressing complex psycho/social issues that can lead to poor outcomes for babies and infants.

For both medical and social risks earlier identification and integrated response holds the promise of both better outcomes and, over time, lower overall system costs.

PROVIDING SAFE, EFFECTIVE AND EFFICIENT SUPPORT FOR THE WELL/HEALTHY PATHWAY:
Developing safe and efficient support for the approximately 60% of all births within the ‘well/healthy’ pathway means providing the support that well and capable parents need, when they need it, with the minimum of additional or unwarranted intervention. This will require making best use resources in diagnostics and radiology, reducing unnecessary interventions at birth, increasing use of smart processes and technology to support capable women and families to achieve good outcomes at a lower cost.

However one of the fundamental issues in using the concept of a ‘well/healthy’ pathway is that risk is dynamic across the continuum and it is not necessarily apparent or predictable when a mother or child’s circumstances will change. For example the unknowns and risks of a first pregnancy are substantially greater than for subsequent pregnancies. An essential part of streamlining the well normal pathway will be to know when it is appropriate and designing systems of care with fast access to more support if needed.

Unwarranted utilisation of higher cost birth settings, unnecessary caesarean sections, and interventions in labour may result in poorer outcomes for women and babies together with higher costs of care. Recent data from the HQSC atlas of variation\(^{55}\), although early in its development, points to large variations in practice across a number of domains that warrant review. Around 50% of women use anaesthesia services which require availability of specialist skills and availability of facilities if complications of anaesthesia arise for women or baby.

There is good evidence that in the well normal pathway (or care plan) a large number of visits and interventions and tests are not needed to achieve healthy outcomes. A Cochrane review of ten RCTs involving more than 57 000 pregnant women showed no difference in maternal

mortality/morbidity rates between women attending fewer antenatal appointments (4–9 visits) compared with those adhering to the traditional model of antenatal care (12–14 visits). Most of the participants in these studies involved ‘low risk’, women who might be expected to maintain a normal pregnancy regardless of the number of antenatal visits.56

This is one of the critical areas for potential productivity gains where reducing the cost per care across the well/normal pathway should enable us to afford more intensive support elsewhere. Such potential changes would merit wide informed debate as this not only may influence outcomes but also the availability of choices for women.

Proposed changes include:

- Support for a culture change in clinical practice to support the principles of least intensive most effective care across all care settings. Including more transparency and accountability through clinical network governance processes for the utilisation of settings, interventions and quality.

- Utilisation of structured clinical assessment and prioritisation criteria for elective caesarean sections – bringing this procedure into the mainstream practice for publicly funded elective care. In other applications this has been demonstrated to enable issues of patient wellbeing, clinical indications and fair resource allocation, (including ability to contribute financially to the procedure) to be integrated in ways that contribute to patient choice.

- **Utilisation of common protocols and clinical governance across public and private clinician access and usage of public hospital resources.** Currently self employed midwives and private obstetricians operate with access agreements to enable them to provide support at the woman’s choice of facility. This change would preserve that right but ensure that common guidelines and accountability for practice would prevail.

Recommendation 10

Actively support performance and productivity development initiatives to optimise the utilisation of services shown to be associated with good outcomes.

Revise access agreements to require all practitioners using the public services to use common guidelines and audit procedures and be accountable for the practice outcomes.

Support informed debate into utilisation of interventions in healthy normal pregnancy for which the efficacy and outcomes have unclear benefit.

ENHANCE INTEGRATED PRIMARY BASED SUPPORT FOR COMMON MEDICAL RISKS AND COMPLICATIONS

The aim of this recommendation is to strengthen primary care based medical support for LMCs and Well Child practitioners for common, primary care manageable issues together with a more rapid, integrated use of specialist resources as and when needed.

The demand level drivers for this have been described previously; including the growth in proportion of women and pregnancies with medical risks associated with obesity and our increased understanding of the factors which influence maternal and infant health; e.g. smoking, alcohol, maternal depression.

From a system perspective one of the unintended consequences of our midwifery led antenatal/perinatal care is that the role of GPs in supporting care for medical issues during pregnancy has been largely lost. The result is that most situations of moderate risk are now largely handled through specialist led support services, which by design are tuned towards the higher end of risk and hence more resource intensive and lead to higher intervention rates than maybe required. Our dependence on specialist led support services has increased. Inevitably the capacity of these services is limited and focused towards women with the highest levels of risks and complications, with limited support capacity available for response to emerging issues or lower levels of need.

Independently of maternity and infant care, general practice and integrated primary health teams have been evolving effective capability in managing issues of diabetes, hypertension, depression/anxiety, capabilities that are directly applicable to maternity medical support needs.

If we are to effectively address the impact of high prevalence of medical complications of pregnancy there is an urgent need to redefine the role of general practice teams as part of an integrated primary/community based system of support that backs up LMC based care and works in tandem with more specialised services\(^\text{57}\).

This includes the development of effective partnerships with LMCs so that the prior accumulated knowledge and history of issues available from the general practice medical home is accessible during pregnancy. Use of shared assessment processes and tools described earlier to ensure that there is effective on-going care for pre-existing medical conditions. It will require capacity and skills across general practice teams to back up requests for assistance from LMCs, (for example as described with the recently developed maternity referral guidelines\(^\text{58}\)), and support integrated community based care alongside secondary services.

In the future we can expect to see even more rapid evolution of integrated primary health capability with the development of integrated primary health hubs and networks that blend primary and specialist care within community settings. Maternity care should position itself to make maximum use of this emerging capability to improve outcomes for women and babies.

---

\(^{57}\) The Kings Fund 2010 *The role of GPs in maternity care – what does the future hold?*

\(^{58}\) Ministry of Health. 2012. *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines).* Wellington: Ministry of Health
Recommendation 11

Support development of integrated primary care capability and capacity to support midwifery led care with services for high prevalence, primary care modifiable medical and mental health issues. This includes appropriate resourcing frameworks that make best use of resources across midwifery, general practice and hospital services.

EFFECTIVELY ADDRESS COMPLEX SOCIAL NEEDS AND VULNERABILITIES

This focuses on the social complexity and vulnerability issues associated with women with moderate to severe mental health and addiction issues, situations of extreme stress from violence and abuse, living in chaotic life-styles or severe poverty and limited resources. There is a high level of co-occurrence of medical risk factors that add to the complexity of pregnancy and parenthood for these women families. This is estimated to apply to up to 10% of pregnancies and infant/child family situations.

Building on the earlier developments, actions in this area should be focused on:\n
- Early identification of high social vulnerability/complexity as early as possible in the process from confirmation of pregnancy though to LMC enrolment and assessment to minimise risk of drop out
- Development of social vulnerability support roles and systems for engagement, navigation and coordination capability as part of or in partnership with LMC and multi-disciplinary teams and networks:
  - Increased depth of psycho/social, safety and violence, well child issues assessment, including whānau ora assessment where appropriate
  - Active woman and partner engagement in antenatal support including literacy and self care capability development
  - Increased parental mental health, addiction healthy behaviour support
  - Integration of social support
- Development of a partnership model with partners, family/whānau for the perinatal transition back to safe and secure home settings for infant development; midwifery, lactation support, Well Child home nursing, mental health, alcohol, drug and family violence support, parenting and fatherhood support
- Family capacity development, strengths based, natural network support development plan for each family with identified vulnerability, – in specific cultural settings a Whānau Ora – 'whānau plan’
- Development of mechanisms to align and integrate resources around the specific needs and context of individual women, family/whānau

For example as in developed by National Hauora Coalition 2012: Maatua, Pepi Tamariki programme
**Recommendation 12**

As part of an integrated primary/community service (see above), for high needs and socially vulnerable women develop capable support roles and systems for engagement, navigation and coordination. This includes appropriate resourcing frameworks that make best use of resources across whānau ora, midwifery, general practice and hospital services.

**EFFECTIVELY ADDRESS COMPLEX MATERNAL FETAL MEDICAL NEEDS**

This pathway is small in volume, in large part is well established and of high acuity. Referral into the pathway is clear. There are inequities of access, largely related to deprivation, geographic and DHB service issues, though PMMRC has identified clinical knowledge as a contributor to delays in referral in 25-33% of cases in their recent series\(^6\).  

Whilst the women accessing this tertiary service are seen by specialists, many continue having midwifery care for their labours and birth and this is an excellent example of how collaboration across acuity can occur **not withstanding that current funding models do not support this.**

The geographical issues are increasing and DHBs need to identify which services could reasonably be provided at a more local level and train staff appropriately to provide these.

**IMPROVING OUR ANTICIPATION AND MANAGEMENT OF COMPLICATIONS IN PREGNANCY AND PERINATAL STAGES**

Fast access to emergency care and specialist services is required given that some 30% of “normal” pregnancies result in unpredictable outcomes. While this is relatively straightforward in most urban centres it will require ongoing attention to manage safely for women facing barriers of distance in rural and remote settings. Travel away from families is frightening, isolating and increases mental health risks. With static or declining populations and birth rates in 10 -14 of our DHBs it is inevitable that issues of centralisation, use of hub facilities and of technology to support remote access to specialist expertise and transport and accommodation for women will need care.

In these settings GPs will need to be supported to maintain capability to manage immediate emergencies as part of a network of support that includes emergency services, transport and **secondary level hubs.** *(Examples include miscarriage, ectopic pregnancy, some second stage delay in labour postpartum bleeding).*

**Recommendation 13**

Implement processes that support improved anticipation of complications in birth that enhance birth planning, choice of place of birth, activation of support to improve outcomes while reducing costs from transfers and un-needed interventional births.

Ideas include:

- Accreditation of Midwives with local specialist services for fast access for acute or more specialist support.
- Active reengagement or provincial and rural GPs in women’s health including procedural capabilities.
- Deployment of a pre-delivery/perinatal transition review and re-plan that provides informed consent for women around intrapartum care and proactive planning for identified risks:
  - Proactive guidance support for woman and partners choice over place of birth.
  - Activation of anticipatory step up support if ‘risky’ choices are made.
  - Better match place of birth to risk profile and level of care available.
  - Facilitation of anticipatory transfer if neonatal problems can be anticipated.
- Revision of responsibilities for access and professional expectations regarding care protocols, care providers ad facilities providers (DHBs) to take joint responsibility for outcomes.
- Interventions by agreed policies, individualised benchmarking of outcomes.
- Utilisation of best evidence for place of birth (e.g. for first birth) to maximise outcomes and reduce transfers.
- Improved transport-transfer arrangements.

REDUCING POST-NATAL VULNERABILITY THROUGH ENHANCED CONTINUITY OF CARE AND SUPPORT

The most vulnerable period for generating poor child health outcomes is the period from perinatal transition to age one, particularly for high needs populations where marked inequalities of outcome emerge. (By contrast while complications during birth and the perinatal period may have a high level of risk these are generally well managed and inequalities in outcomes less pronounced). Most of the vulnerability arises from combinations of factors from poverty, poor housing, over-crowding, the prevalence respiratory and infectious diseases or the impact of alcohol, drugs and violence within the wider household.

There are large numbers of services who are variably involved across the transition period, LMCs, breast feeding services, Well Child, GPs, secondary hospital based services and socially funded services such as Family Start.

While we achieve good results in managing the perinatal/home transition for most families, enhanced continuity and the full engagement of Well Child care support is needed – particularly to integrate medical and social support.
Where high needs or social vulnerability is identified we are recommending that this transition is planned prior to birth with a clear ‘opt-off’ approach that maintains accountability for the active transition of support.

For those with lower levels of identified risk this should be completed before discharge from birthing facility or within the first week post birth.

Supporting this process will require practice partnership relationships for perinatal transition; across LMCs, WellChild and GPs.

Recommendation 14

Continue to develop processes that support improved anticipation of issues and enhance and formalise transition support from LMC perinatal care to whānau ora, well child, general practice and allied health support

DEVELOPING CAPABLE PARENTS AND SAFE ENVIRONMENTS FOR INFANT AND CHILD DEVELOPMENT

A central theme of this forecast is that developing capable parents and safe environments for infant and child development must start early. Most parents have the capability to manage the transitions from pregnancy, birth to home with the establishment of secure parenting.

However within policy and service design we almost universally ignore the contribution fathers and partners can make or the opportunities to improve outcomes through addressing the needs of vulnerable dads.

At the more complex end of the continuum where social risks have been identified, there are a range of specialised social service and parenting programmes available. It is in the mid ground of moderate to high complexity and risk that action is critically needed from a health perspective; where combinations of living circumstances, economic stress and mental or behavioural health issues are associated with poor outcomes for infants and children. Of particular note are support for parental mental and behavioural health, (addictions, violence), that have a profound effect on infant and child emotional and cognitive development and the influence of avoidable respiratory and infectious diseases on physical health.

BRINGING FATHERS INTO THE PICTURE

The recent Growing Up In NZ study\(^\text{61}\) found that 90% of relationships between fathers and mothers were stable during the course of pregnancy, with 80% of them living together, 60% of the relationships legally binding and 10% where relationships would change during the course of

pregnancy. Yet our tendency has been to create services for mothers and children in ways that inadvertently leave fathers and wider extended families out of the picture, ignoring both their vital contributions and needs.

‘Fathers often have decision-making power and control over resources, yet many health and other interventions ‘continue to target solely women, who may not have the authority to put them into practice. . . Fathers’ involvement is one of the greatest, yet most underutilized, sources of support available to children in our world today’

There are well established trends for fathers becoming more actively involved in preparation for parenthood, supporting pregnancy and the establishment of healthy beginnings. Yet there are also trends towards increasing non-resident, unengaged fatherhood and clear situations of vulnerable fathers where their involvement has substantial negative consequences for infants and children.

Opportunities exist to increase the effectiveness of fathers and the utilisation of support networks to build family capability within a light touch framework that provides for integration and continuity of care across the continuum. Using a reproductive health approach should help us bring fathers and partners into the picture as a central part of supporting good relationships, building parenting capability and addressing risks and vulnerabilities for fathers that influence achievement of good outcomes.

**Recommendation 15**

*Positive recognition of the role of fathers, partners and whānau that promotes their active engagement in preparation and planning for parenthood and child development and provides them with access to support for mental health, social or safety issues*

**A COMPREHENSIVE MODEL OF INTEGRATED WELL CHILD/TAMARIKI ORA AND PARENTAL/WHĀNAU SUPPORT**

Well child services provide our universal child health response organised around a service schedule of home visits focused by developmental stage with additional funding for extra visits and services to families based on assessment of need.

Plunket provides over 90% of Well Child services nationally with the balance provided by a large number of Maori and Pasifika organisations.

In 2011 the service schedule was modified to target additional support to infants and their families during their first year of life, better describe the interrelated responsibilities of LMC and general

---

practice in the transition to Well Child support and to improve responses to mother-child attachment, maternal depression, and violence within the home.

While these changes are broadly in line with the future oriented themes in this forecast we believe that the more comprehensive life-course approach advocated here and in the recent Commissioner for Children’s Expert Advisory Group report\textsuperscript{63} means we should take these a step further.

Critical changes would include at least the following:

- Building on the common assessment frame described earlier in the section on ‘proactive planning from confirmation of pregnancy’ initiate a universal life-course assessment and planning process with family/whānau at the point of LMC engagement.
- The assessment should include domains that encompass child health; maternal physical and mental health, family functioning, and basic needs (e.g. nutrition, housing, transportation, food, and clothing).
- The same common assessment framework and process, plan should be universally built into services at crucial intervals for example before and after the perinatal transition to facilitate continuity across stages of the life-course.
- Where indicated due to social vulnerability or combined social/medical complexity implement a lead navigator role to access and coordinate services for families assessed as needing that assistance.
  - This should start antenatally as a support to LMC and continue across the perinatal transition to early parenting establishment and infant/child development covered by existing Well Child services.
  - Where appropriate and available integrate the navigator roles within whānau ora systems of support to provide social service integration and a broad basis for development of family/whānau capacity.
  - For circumstances of poverty and disadvantage with poorer levels of effective service access increase evidence supported models of outreach and community service delivery that result in early engagement and continuity of care.

These changes will require revision of funding models, cross-disciplinary training and processes for sharing and transferring child health information.

**Recommendation 16**

*Develop and implement a comprehensive model of integrated well child and parental/whānau support including social, educational and additional health services such as mental health and addiction services for family situations of high vulnerability and complexity*

\textsuperscript{63} The Office of Children’s Commissioner 2012 Solutions to Child Poverty in New Zealand – Issues and Options Paper www.occ.org.nz
YOUNG FIRST MUMS AND DADS

Complementing the initiatives described earlier to improve reproductive health literacy and sharply reduce unintended teen pregnancies there should be a continued focus on supporting young first parents who are disproportionately disadvantaged, almost 70% of pregnancies of mothers aged 16-19 years are in deprivation quintile 4 or 5. The recent Children’s Commissioner Solutions to Child Poverty report working paper highlighted:

- Young parents tend to obtain fewer educational qualifications,
- are more likely to be parenting alone or in unstable partnerships,
- experience greater unemployment and welfare dependence than their peers who delay parenthood
- without the social and financial support required, teen parents are more likely to disengage with education and less likely be become meaningfully employed
- children of young parents have also been reported to be at elevated risk of congenital medical problems and poor health, limited educational attainment, antisocial behaviour, and early parenthood themselves

We already have a range of health and social services that contribute in this area however they tend to operate as additions to standard care. In our view the implementation of the previous recommendations would provide the opportunity to shift towards a proactive investment approach that ‘front-loads’ support to build capability and resiliency and then provides continuity to follow-through across the developmental stage of infancy and child-hood:

- Early identification and engagement through the point of confirmation of pregnancy and common assessment frame described above
- Encouraging continuity of service engagement through a dedicated navigator/case worker
- Utilisation of mentor and peer support networks
- Focused support for young fathers to build capability and confidence to remain in contact and provide effective care and support
- Incorporation of youth development approaches to support development of aspirations, self esteem, parenting skills as well as continued engagement with education and employment
- Increased priority given to addressing parental mental health and addiction issues
- Support for post partum contraception to plan family spacing

Recommendation 17

Implement a pathway for ‘young first parents’ that provides early, effective referral to teen pregnancy support, (including young fathers), with a focus on continued engagement in education or work for parents, safety, parenting capability, development of support networks

A COMPREHENSIVE APPROACH TO REDUCING INEQUALITIES IN CHILD HEALTH OUTCOMES

The Drivers for Change section describes our challenge to address inequalities in child health outcomes. A simple way of looking at the drivers of this across the life course can be summarised as being:

- That initial drivers of inequalities are visible and addressable in pre-conception reproductive health support
- Early and effective engagement in antenatal and surrounding support will partially contribute to reducing inequalities in outcomes attributable to pregnancy
- Relatively few inequalities are generated in the perinatal period when access and attention is high
- Post perinatal transition to home marks start of critical period of steep rise of in incidence of issues and complications that have a marked impact on inequalities. The most vulnerable period is 28 days to 1 year – where Maori have almost three times more avoidable deaths than non-Maori, with hospitalisation rates 150% greater.

A recent report\(^\text{65}\) has highlighted that low levels of access to health services during this early period are substantial, that effectively save health sector costs at the expense of substantial societal costs.

From this report the critical issue to be addressed is opening the doors to effective primary care access. “As primary care utilisation drives access to most other health services, including specialist outpatient services, addressing access barriers and attaining equitable utilisation of primary care services by Māori children has the potential to reduce the unacceptable disparities in avoidable hospitalisations and mortality seen here, and produce economic benefits that offset the costs of service delivery.\(^\text{65}\)

Consistent with the principles of whānau ora we summarise the steps we propose as;

1. Focus on early intervention
2. Provide proactive support of pēpi / tamariki through strengths based and solution focused interventions
3. Work in partnership with whānau, their communities and other key stakeholders, through tamariki-centred, kaupapa whānau focused practice
4. Work across agency and organisational boundaries to promote collaboration, coordination and integration of quality services
5. Build services that are evidenced based, accountable and responsive to emerging needs and trends

6. Support the concept of ‘any door is the right door’ which is central to connecting people with the services they require as soon as possible

**Recommendation 18**

*Continue development of comprehensive approaches to reduce inequalities in child health outcomes; including facilitating access to primary health care, proactive immunisation, smoke free support, targeted programmes to reduce the incidence of respiratory and infectious disease, safety, housing quality and income adequacy.*

*We also recommend that research investigating mechanisms that are operating to affect engagement with primary health services be undertaken.*
WORKFORCE

Taking the life course approach to reproductive health beginning at a person’s reproductive maturity (adolescence) requires clarity of health professional roles and responsibilities and clearly defined outcomes. It would not be possible to achieve better outcomes in New Zealand without the various professional groups working in a truly integrated fashion.

One of the strengths of the processes used in developing this forecast was the use of an overarching systems approach rather than a “bottom-up” view based on today’s systems of care and workforce. In taking a more “top down” view the forecast has been able to have a broad view and challenge current work patterns, identify gaps in service coverage and highlight future needs and problems anticipated in achieving these, (as identified by the PMMRC).

The drivers for change detailed earlier in this report and the key life course system changes proposed have implications across the multiple workforces that each have unique role to play.

The success of the models of care proposed in this report is predicated on a primary or community based health care strategy, where the majority of the health care and health episodes would be expected to occur in the community. To achieve this community care, functional integration of services needs to occur and health carers need to be working in teams with complementary skills.

Current funding models of service provision and training are seen as disincentives to achieving the goals of integrated primary care and apart from impacts on training and workforce, are discussed elsewhere in the report.

FAMILY PLANNING

Improving reproductive health and access to effective contraception plays a critical role in the future envisaged by this forecast. The family planning workforce of doctors and nurses (employed by the New Zealand Family Planning Association), play an important role in reproductive health care and well women services as well as offering services to men such as vasectomy procedures and some sexually transmitted infection treatment. In the future envisaged within the forecast this is supported by a broader capability across school based health services, general practice, pharmacy and midwifery able to provide consistent information, advice and services across a range of touch points. Building the capacity and funding support for the specialised family planning workforce and the support roles will need consideration with recognition of their specialised knowledge and skills. These doctors need to be funded adequately at similar rates to those of GPs.

There is now a specialised vocational career path for Family Planning. The majority of the doctors are and will continue to be women who may work less than full time and are paid considerably less than almost all of their colleagues in medicine. The range of services offered by NZ Family Planning Association is limited by availability of central funding and their ability to attract and retain staff. It would be recommended that NZFPA be included in the formulation of processes to
achieve the goals of this report not the least due to their success and high quality training and outcome audit processes.

**MIDWIVES:**

The forecast has a range of potential implications for midwives:

- While birth rates are not expected to generate substantial increase in demand it is likely to become more geographically uneven in distribution. Areas of high birth rate growth will face continued pressure to build capacity while low growth rate areas could be expected to have gradual reductions in capacity demand.

- There will be continued value in present and future efforts to recruit and train a workforce that is more representative of the changing ethnic mix of New Zealand births

- The proposed changes to increase early engagement with antenatal care will result in increased demand for midwifery capacity in some areas. While this will be relatively modest overall it will have more substantial impact in areas which currently have patterns of late engagement

- The recommendations in the forecast to address complex social vulnerability, both earlier engagement and increased intensity of support, (number of sessions, length of session, coordination time etc) will require more midwifery capacity. While in aggregate this capacity could be offset by reductions in intensity for the ‘well/healthy’ but would still require the development of skills and capability to achieve.

- Where high growth rates, complex social vulnerability, late engagement overlap with ongoing supply shortages, notably in Counties Manukau the balance of demand, supply and type of skill will be more pronounced and needs to be specifically addressed.

- There are a range of collaborative and relational skills on which the system changes proposed for high needs populations will depend. These may have both training implications and point towards new types of roles for midwives in being active leaders within integrated primary/community based systems of care

From a supply perspective considerable effort has been made nationally to address shortages of midwives and the situation is much improved on even recent staffing numbers. Approximately 200 new graduates enter the midwifery workforce each year which is considered appropriate to maintain service numbers.

Data from the most recent Midwifery Workforce Survey is as follows:

- The average age of midwives in practice is 47 yrs, (which is not dissimilar to the age profile for nurses).
- 17.5% maintain nursing certificate as well as the midwifery practising certificate
- The movement in and out of the workforce annually is that 7% leave and 4% return each year
- Hospital employed (“core midwives”) make up 47% of workforce and these tend to be the older more experienced midwives who are employed on shift or rostered hours
• Self employed ("case loading midwives") make up 42% of the midwifery workforce. These midwives, on average look after 45 women/yr. 40% of these midwives on average work ≤ 32 hours /week.

There is a very wide range of practice workloads and styles; some midwives are working very hard and long hours. Some are working with very vulnerable and deprived women; others are working in geographical isolation.

Discussed but not reviewed within the working group was whether the same sustainability concerns that HWNZ has about the nursing workforce may apply to midwives, though given different models of care in other countries it is considered less likely that midwives would leave New Zealand. Also discussed but not reviewed was the value of maintenance of joint midwifery and nursing certification particularly in rural or remote areas.

There is also potential for increased use of special skills that midwives may use to complement their midwifery practice, for example in areas of high acuity or special needs or within integrated health and social service models such as haputanga antenatal care or whānau ora.

GENERAL PRACTICE

The forecast similarly has a range of implications for general practice, both GPs and the broader teams emerging within enhanced general practice and primary care hubs.

• It calls for a rethink of the role and contribution of general practice as part of an integrated primary/community based system of early years care. The forecast has made a starting contribution to this rethink but wider and deeper dialogue within general practice and alongside midwifery and O&G specialists to better articulate the shape of this role.

• A critical change will be the development of active collaborative partnership relationships with LMCs. Good exemplars for this exist and need to be propagated through general practice and PHOs.

• The forecast is explicitly calling for increased capacity in enhanced general practice to provide medical support for common complications of pregnancy and infancy/childhood. In particular
  o Developing a skill base in general practice hubs that is applicable for common issues in pregnancy such as diabetes, gestational induced hypertension, mild/moderate depression and anxiety, smoking cessation
  o Supporting integration with services targeting social vulnerability

• Specialist general practice teams are developing around long term conditions (in particular diabetes), and in primary mental health. These are boosting the capacity of general practice while allowing the GP to act as diagnostician and supervisor of care. Building the capability and skill of these primary health specialist teams to provide support as part of an integrated team that backs the LMC and GP should be explored.

• Very low GP uptake of more specialised training in women’s health sends clear signals that currently few GPs can see the applicability of this training. However the forecast clearly signals a requirement for both greater general confidence and understanding of women’s
health issues and support for GP with Special Interest roles in maternal medicine to support integrated primary/specialist medical services operating in primary health hubs66

- **There is a need to define the aims of the rural hospital medicine training programme.** (In Australia, women's health is a compulsory component of rural medicine training and this needs to be considered in this country). Support for rural midwives, for example in emergency situations may not only improve clinical outcomes but also reduce risks and costs of transfers to base hospitals

- A direct quote from a senior GP involved in women's health was "**General Practice training in women’s health should not be just an option.** Women’s health is a major component of standard General Practice and all GPs should have adequate exposure and training in this field, both at undergraduate level and in post graduate GP training leading to Fellowship of the RNZCGP".

NURSES:

This report has not been able to examine all the groups of nurses involved in the early years life course, from School nursing, Family Planning nurses, Practice nurses, General Nurses, Well Child nurses.

The nurse is frequently the first (and maybe only) point of contact with the health service, be it the school nurse discussing contraception or the practice nurse confirming a pregnancy and at this contact the linkages with other appropriate carers must be made and cemented.

This Working Group did acknowledge HWNZ data on the nursing workforce in general and saw no reason why those data and consequent concerns should not also apply to this report.

WHĀNAU ORA AND SPECIALISED SOCIAL VULNERABILITY ORIENTED PRACTITIONERS

While not the focus of this forecast the opportunity to build a workforce that is able to directly address the impact of social vulnerability is a central theme through this report. A number of Whānau Ora programmes are targeting the early years continuum as a central part of their development, building on years of experience in service and skills development that has taken place at individual provider level.

The opportunity from this forecast is to integrate the workforce development initiatives emerging from this direction with the vision of an integrated primary/community based system of care and workforce contained in this forecast.

SPECIALIST OBSTETRICIANS AND GYNAECOLOGISTS:

For specialist clinicians the challenge from this forecast is to redefine their role and contribution alongside the envisaged development of an integrated primary/community based system of care.

---

66 For example proposals for GPWSI in Integrated Family Health Centres planned in Counties Manukau.
This will require a continued investment in modes of specialist support that provide advice and specialist services as part of LMC led care and act in advisory and skill development roles for the integrated primary based medical/social support team based in primary care hubs and networks. Clarity of roles and responsibilities within the maternity services and universal agreement to follow criteria in clinical policies (for example in DHB access agreements) would be important in ensuring specialists are included as partners in the proposed integrated primary health care teams.

This requires time for specialists to become involved, to engage and support building this capacity while maintaining their often heavy workloads in 'business as usual' care.

From a supply perspective maintaining adequate specialist capacity is not assured. There are 257 specialists in active practice of whom 241 are FRANZCOG, the remainder are IMGs or with MCNZ registration.

There are 70 in private obstetric practice i.e. 29% (mostly in Auckland). Of these, 32% intend to cease private obstetric practice within 5 years and a further 7% will reduce their private obstetric practice within 5 years.

**Importantly, 30% of all the specialists doing public obstetrics plan to cease within 5 years**

There will be an urgent and serious need to examine DHB job descriptions and the balance between service need and specialists desired work patterns. Over 70% of trainees are now women and for all current trainees work life balance has shown generational shifts in hours of work and length of training. The RANZCOG can permit a trainee to take 11 years (i.e. have two maternity leave periods) to complete the usual 6 year training programme. (There will be more trainees completing training in the next few years but these will be junior specialists and on past trends have little incentive to work outside main centres.)

A small number of specific subspecialist shortages have been identified. These include:

- Gynaecological oncologists; it is estimated that between 3-4 are needed nationally (Associate Professor Peter Sykes-Personal Communication- National Cancer Working Group).

- Maternal fetal medicine subspecialists. Five are needed nationally. There are none in the South Island, none in Waikato (central North Island) and 2 short in the Auckland region and one short in Wellington. In addition to training these, there is an urgent need for general obstetricians and gynaecologists to rise to the challenge of up skilling in this area to be able to fill local service gaps especially in provincial centres. DHBs and the specialists need to work to identify and fill service needs which need n to be filled by formally trained subspecialists.

Whilst the above has been acknowledged, specialists note that changing the O&G specialist job description as described might just change the area of shortages unless there are more O&G specialists.

---

67 RANZCOG Workforce Survey 2012.
specialists. O&G Registrar training is critical to building the workforce and new models need to build in training as an integral part of the care plan.

**The inevitability of a specialist led (rather than a registrar led) model of care in public obstetrics will need to be introduced in a way which supports training, whilst objectively improving quality outcomes.**

**NEONATAL NURSING:**

Similarly, the repeated episodes of crisis in Neonatal Intensive Care availability over the past decade have mostly resulted from the limitations in Neonatal Nursing numbers. Space and equipment is often a significant problem, but neonatal care cannot occur in the absence of the neonatal nurse. Some centres have found it difficult to recruit and maintain neonatal nursing numbers. **A long-term strategy to maintain adequate numbers of neonatal nurses in each Tertiary (and Secondary) Unit is of the utmost importance.** Detailed analysis of this area has been outside the scope of this report to date.

**PAEDIATRIC ADOLESCENT GYNAECOLOGY**

There is a small but very important need for a national paediatric and adolescent gynaecology service for girls and young women with various congenital problems involving the reproductive system. Already in place are the paediatric surgical and endocrine services, but there is a need for one gynaecologist (part time but appropriately trained), and a specialist nurse to coordinate the national clinical service and have counselling skills suitable for the special needs of the young patients concerned. (Currently, there is no national service and some patients travel to Australia for complex surgical treatment).

**TRAINING**

Building capacity in the workforce requires a training system which embraces the outcomes aiming to be achieved in this report. Exposure to and experience working in the services whilst being a trainee is critical to the person subsequently embarking on a career on the areas covered by this report. Also, to engage trainees and re engage health care workers who have moved away from women’s and children’s care requires a system change such there are incentives not disincentives to being involved.

We observed the positive initiatives to encourage GPs to undertake the Diploma of Obstetrics and Medical Gynaecology, **but without system change, there is no incentive for GPs with a Dip Obs MedGyn to undertake this work in their practices.** Similarly, students from all disciplines need to feel welcomed into a clinical environment if they are to consider it as a career option. In 2008, a recommendation for the Ministerial review of the Quality, Safety and Management of Maternity
Services in the Wellington Area\textsuperscript{68} was that the NZ College of Midwives and the RANZCOG work jointly to enable trainee to have experience in each other’s clinical activities. This essential step to building understanding has not happened yet but remains a potentially effective way to enhance collaboration and understanding between different disciplines.

\textit{At the very least, Obstetrics and Gynaecology needs to remain as a core requirement to be registered as a doctor in New Zealand and women’s health needs to be an important part of the GP Education Programme and in the rural medicine programme.}

\textbf{INFORMATION AND PERFORMANCE IMPROVEMENT CAPABILITY}

While this service forecast has not covered information needs in any depth there are a range of substantial information and performance improvement capabilities that the systems of care advocated here will need.

- The PMMRC process is excellent and robust, producing timely reports but maybe vulnerable as it is part of a group of review processes within HQ&SC. Consideration should be given to develop this into an independent national perinatal epidemiology unit.

- Excellent work is being undertaken by the New Zealand Child and Youth Epidemiology Service to analyse the issues and performance across most DHBs in a series of annual status and issues reports. Integrating this wealth of insight into more operational service development and performance improvement should be encouraged.

- Data coverage and quality issues are substantial in the National Maternity Collection. Priority needs to be given to maintaining its improvement pathway and utilising the intelligence that it could provide to guide performance improvement.

- National Women’s is producing a detailed annual clinical report that is unique in providing a comprehensive view of this service. It provides an exemplar level of understanding of hospital based services. Similar, if simplified reporting and benchmarking will be needed across the hospital sector to support system level integrated performance improvement.

- There are major issues in the fragmented nature of infant and child health information. This service forecast supports the recent recommendations of the Children’s Commissioner Expert advisory Group for urgent action to develop a pathway for interlinked and interoperable child health datasets.

- Finally the National Hauora Coalition is developing a framework for whānau ora outcomes and measures that are applicable across the early years life-course. These provide a starting point for a holistic view across the multiple domains of wellbeing and performance as well as a practical approach to driving collaborative cross provider service performance.

FACILITIES

Developing the right mix of facilities and capacity has proved challenging and beyond the primary focus of this forecast. (Further discussion would form part of the proposed future model of integrated care). Primary birthing facilities have proven that they can provide good outcomes and low cost for some women with low risk. However with the dynamic nature of risk the requirement for unplanned or emergency transfer to hospital level care can reduce quality of outcomes and increase lengths of stay. Conversely hospital level care provides immediate access to support services but can increase the level of intervention provided beyond that which is clinically necessary, to the detriment of good outcomes and at an increased cost.

An essential feature of our maternity service has been choice in place of birth. In practice this has largely enabled women to choose DHB and site of birth is frequently determined by the carer rather than the informed choice of the woman. However this choice is not always well guided and informed by a balance of diagnostic skill and experience. Better understanding of the nature and prevalence of risk is emerging. This should enable better description of appropriate pathways and better investment decisions on the right mix of level of capacity needed.

RESOURCING

We believe that the current resourcing and funding frameworks are unlikely to be fit for purpose to support the system developments envisaged in this service forecast. At numerous points in our discussions we were aware that funding systems are either seen as inhibiting effective responses or creating disincentives for effective integrated systems of care.

For example there is a clear need to be able to focus resources towards those who are not gaining good outcomes from the current system of care, to provide recognition for the extra time and effort required to address the needs of mothers, fathers and babies with combinations of medical complications and social vulnerability. This requires a review of how current universal services that have limited adjustment for levels of need. Similarly achieving productivity gains in the ‘well/healthy’ pathway will be needed if to support more intensive levels of support needed to address high levels of need and social complexity that in turn, is driving up costs of avoidable hospitalisations. How to move forward on this issue is beyond the scope of this forecast however we believe that a number of initiatives could help inform this process:

- The Canterbury DHB approach to ‘care journeys’ that uses a ‘one system / multi funded’ approach to examine how best to use all the resources available within the system of care
- The alliancing approaches being developed in a number of districts to support alignment of focus on outcomes and utilisation of resource across provider organisations
- Various IFHC business cases (e.g. CMDHB) that are seeking to refocus resources to achieve better outcomes using savings achievable in hospital care to build community level capacity
- Whānau ora approaches to resource integrated health and social service
Outside of these locally focused initiatives, national funding for antenatal and Well Child services needs review to enable the greater range and integration of support envisaged by this forecast to function, as well as ensuring that the area can attract and retain a skilled workforce.

HOW CAN THIS BE ACHIEVED IN A RESOURCE CONSTRAINED ENVIRONMENT?

The proposition that a reshaped whole of continuum system of care can produce better outcomes and a financially sustainable approach needs quantitative modelling and business case development to test, refine and identify effective pathways forward.

- Some clear opportunities to shift the medium to long term drivers of resource demand (e.g. unintended pregnancies especially teen pregnancies)
- Other opportunities to shift modality to better utilise relatively less expensive options (e.g. shift proportion of well/normal using lower cost birth settings)
- Reduce level and variation in discretionary and relatively resource intensive intervention rates (e.g. elective caesarean section)
- Indications from related work in IFHC establishment that new forms of integrated response should be affordable through reductions in avoidable A&E attendances, outpatients and admissions (e.g. infant respiratory conditions)

WHERE TO START

This part of the health sector is challenging for policy development if undertaken from the centre since it is complex with strong representation of particular viewpoints. Yet most of the component parts of what will be needed are not radical and are already partially developed as local innovations in practice and systems. This section seeks to identify some of the areas where initiatives could be created to help facilitate the transformation that is needed.

SUPPORTING PRODUCTIVE DIALOGUE

To make progress we need a collaborative process that brings together leaders and champions of innovative practice to refine and develop these concepts as a contribution to a wider dialogue over how we should develop more effective, sustainable and affordable systems of care. (Similar to HWNZ process, contributors to such debate need to be innovators and not necessarily representatives of sectorial viewpoints).
Perhaps the most substantial contribution that this service forecast can make is to reflect on the challenges of creating effective dialogue between the different professional groups working in this area.

During open discussion from a group containing all the key participants in service delivery there has been no disagreement over our individual and collective commitment to achieving the best outcomes for mothers, father, babies and families. There is also agreement that we needed all of our different skills and capabilities to do this. (The group also acknowledged some gaps where membership was unable to provide key information).

It was clear however that discussions were made complex by deeply embedded patterns of thinking, interpretation and assumptions based on our different philosophical viewpoints and professional discourse. A common understanding of the issues, problems, opportunities and solutions that we see as being optimal is challenging to achieve, particularly given the relatively few times that dialogue of this intensity has taken place between different professional groups.

At several points in discussion we found that consensual interpretation of words that seemed initially simple, were, in reality, laden with alternative and problematic meanings within our group. One example was regarding the notions of “risk”, for example encompassing our understanding of the associations between obesity, gestational diabetes and likelihood of complications during antenatal care and infant/child development. We all agreed that rising rates of obesity related complications will drive increased demand and complexity and consequently needed a response in this service forecast.

But how do we use an understanding of risk in ways that does not inadvertently presume medicalised pathways that may conflict with a philosophy and service model of a positive, family / whānau centred service model? At this point our dialogue would tend to polarise.

We all agreed that social risk and social determinants must be better addressed in the future in order to achieve improved health outcomes in an equitable way. The combinations of relative poverty, living circumstances, health literacy and confidence, social participation, connection with the community, alcohol, drug, mental health and safety issues lie behind much of our concerning child health outcomes that span the life-course. But whānau ora is challenging us to move beyond our separate spheres of practice, to address the social risks but not obscure the vision for strong capable whānau. How and where do we bring this into our dialogue as an equal partner?

We found other similar tripping points; Does the wide use of the term ‘independent’ midwife signify that they are not willing to be part of a team? Why would this attribution be made of a midwife but not of an independent GP? Do we really mean a practitioner who has the skills and ability to stand responsible for their own practice – surely a necessary prerequisite for contributing within multi-disciplinary teams and partnerships? Similarly what does the term “lead” really mean in “Lead Maternity Carer”? Leading all aspects of care? Leading continuity of care? What balance
are we giving to continuity of care versus continuity of carer? We asked ourselves why these issues seem so difficult in care during pregnancy but less problematic in when we were considering child services.

Asking these difficult questions exposed elements of the proverbial ‘elephant in the room’ at many points during the dialogue. We would find agreement in principle that would fall over as the next level of detail exposed fresh tripping points.

At times it might have been easier to follow the path that has happened before in this area a pathway of withdrawal into our own viewpoints that makes systematic collaborative and integrated cross professional, cross boundary work in this area so difficult.

However we did continue our debates as we recognised that progress would not be made across our systems of support and care if we cannot build a robust container for collaborative systematic cross professional, cross practice dialogue.

Many of the issues we have attempted to tackle in this report reflect deep values, philosophies and their implications. Some come from multiple and seemingly contradictory views on data, outcomes and what this means. Others arise from different bases of professional practice or the biases created by different funding and contracting models. Still others reflect myths, stories and assumptions that have long outlived their usefulness.

What is clearly needed are processes and forums for productive dialogue about systems and outcomes, that can take forward these first steps to mutual understanding developed within our working group. (Given that history cannot be rewritten, it wold seem most productive to move forward in an evidence based outcomes approach as historical constructs may not serve debate well ).

MAKING IT HAPPEN
In parallel to the above propositions, there are five areas where practical action could be taken that both aligns with Government priorities and would help accelerate the evolution of our systems of care .

1. Development of innovative integrated service demonstration initiatives aimed at reducing unintended pregnancies – particularly in youth
We maintain there is a substantial opportunity for a combination of a health literacy/youth developmental support approach combined with increased access to recently developed low cost long acting reversible contraception to reduce youth pregnancies. This holds the potential for health gains and system cost reductions that would be well aligned with other whole of government initiatives for youth health, education and beneficiary support. We recommend that an action research oriented development initiative is established to develop this concept further.
2. Collaborative development of common assessment frames for ‘point of confirmation of pregnancy’ and ‘pre-delivery/perinatal transition’ assessment and planning tool
We recommend that there is an action research oriented development initiative established to create this approach. By using a group that combines medical, midwifery, child health, mental health and social perspectives the pathway concepts outlined in this review could be practically developed. This would serve to explore the elements of professional relationships, service design, information infrastructure and policy that would need to be resolved in full scale implementation. The lead for this initiative could come from the Ministry of Health to sponsor a multidisciplinary practitioner group in partnership with one or more districts who could provide the more operational context.

3. Integration with Whānau Ora /Integrated Family Health Centre development programmes to develop a high/complex social risk pathway and the integrated workforce roles and capability required
Whānau Ora /Integrated Family Health Centre are high profile initiatives that are respectively seeking to build a holistic capability for the high risk/complex social pathway and a step-up capability in integrated primary/secondary care. Since a number of these have a highly aligned pregnancy and early years focus these could form the nucleus of a redeveloped and augmented midwifery and general practice maternity support capability. By using the pathway concepts from this forecast as a common framing of the model of care HWNZ could sponsor a workforce capability development initiative to identify the capability and workforce development support requirements that would provide a scalable and transferable capability.

4. Development of prioritisation and access criteria for elective maternity and obstetric procedures
The forecast is recommending a change in policy framework that brings elective maternity and obstetric procedures into the same framework of prioritisation and clinical oversight that is used across the health system as a whole. The objective is to ensure intervention rates for resource intensive procedures are justified given the high opportunity cost of untreated need elsewhere in the preconception – early years continuum. This is a substantial change from a relatively unconstrained access and choice model that currently prevails. The process of developing the prioritisation and access criteria should use the relatively robust frameworks developed elsewhere so that there is a transparency and clinical confidence in guidance that these would provide.(This would be a unique process and would be analogous but not identical to elective surgery prioritisation as there are at least two patients, namely the mother and fetus)

5. Development of alternative propositions to modular fee for service funding of maternity and well child services
The development of alternatives that facilitate high quality responsive care across multidisciplinary teams needs exploration. Opportunities to explore this from both a policy perspective and to
practically trial options and alternatives exist in a number of areas where alternative models of care are in consideration or development, (e.g. aligned to Whānau Ora and IFHC initiatives described above).
SUMMARY OF RECOMMENDATIONS

DEVELOPMENT AREA 1: IMPROVING THE READINESS FOR CHILDREN

**Recommendation 1: Investing in health literacy and reproductive health** (p31)

*Develop concerted integrated action across health and education to improve health literacy and sexual, reproductive health*

**Recommendation 2: Developing integrated approaches to sexual and reproductive health** (p32)

*Utilise high primary care contact rates of reproductive age women to develop integrated reproductive health and women’s health services across family health centres, family planning, youth services and allied health providers (e.g. pharmacy)*

**Recommendation 3: Concerted action to reduce unintended pregnancies** (p34)

*Remove all barriers to access to effective contraception*

**Recommendation 4** (p34)

*Provide early access to emergency contraception and medical terminations should this be the choice of pathway together with effective ongoing contraception support*

**Recommendation 5: Improve post partum advice and support for family spacing** (p35)

*Improve access to post-partum family planning and contraception advice services with availability of free effective contraception especially for youth/young adult women and those with four or more previous children.*

**Recommendation 6: Manage anticipated increased requirements for reproductive assistance** (p35)

*Manage anticipated increased requirements for assisted reproduction generated by technology, increasing maternal age and rising expectations in line with an active debate on the balance of equity, evidence of effectiveness, safety and costs*

DEVELOPMENT AREA 2: PROACTIVE PLANNING AND ACTION FROM CONFIRMATION OF PREGNANCY

**Recommendation 7: Encourage widespread adoption of collaborative and integrated primary care services** (p37)

*Develop and strengthen collaborative partnerships across midwifery and general practice and integrated primary health services to support antenatal care*

**Recommendation 8: Continuity of engagement from confirmation of pregnancy** (p38)

*Develop and implement systematic processes for all women from point of confirmation of pregnancy that provide ‘no gaps’ continuity to early engagement with LMC support with shared frameworks for risk assessment, planning and support*
Recommendation 9: Definition of service journeys, decision points and responses that are appropriate to need (p39)

Build on evidenced based clinical guidelines to define population based integrated care pathways and collaborative clinical governance that can guide the development of services, service capacity and improve service performance.

DEVELOPMENT AREA 3: DEVELOPING SAFE, EFFECTIVE AND SEAMLESS CARE THROUGH PREGNANCY BIRTH AND INFANCY

Recommendation 10: Provide safe, effective and efficient support for the well/healthy pathway (p42)

Actively support performance and productivity development initiatives to optimise the utilisation of services shown to be associated with good outcomes.

Revise access agreements to require all practitioners using the public services to use common guidelines and audit procedures and be accountable for the practice outcomes.

Support informed debate into utilisation of interventions in healthy normal pregnancy for which the efficacy and outcomes have unclear benefit.

Recommendation 11: Enhance integrated primary based support for common medical risks and complications (p43)

Support development of integrated primary care capability and capacity to support midwifery led care with services for high prevalence, primary care modifiable medical and mental health issues. This includes appropriate resourcing frameworks that make best use of resources across midwifery, general practice and hospital services.

Recommendation 12: Effectively address complex social needs and vulnerabilities (p44)

As part of an integrated primary/community service (see above), for high needs and socially vulnerable women develop capable support roles and systems for engagement, navigation and coordination. This includes appropriate resourcing frameworks that make best use of resources across whānau ora, midwifery, general practice and hospital services.

Recommendation 13: Improving our anticipation and management of complications in pregnancy and perinatal stages (p45)

Implement processes that support improved anticipation of complications in birth that enhance birth planning, choice of place of birth, activation of support to improve outcomes while reducing costs from transfers and un-needed interventional births.

Recommendation 14: Reducing post-natal vulnerability through enhanced continuity of care and support (p46)

Continue to develop processes that support improved anticipation of issues and enhance transition support from LMC perinatal care to whānau ora, well child, general practice and allied health support.
DEVELOPMENT AREA 4: DEVELOPING CAPABLE PARENTS AND SAFE ENVIRONMENTS FOR INFANT AND CHILD DEVELOPMENT

Recommendation 15: Bring fathers into the picture  (p47)
Positive recognition of the role of fathers, partners and whānau that promotes their active engagement in preparation and planning for parenthood and child development and provides them with access to support for mental health, social or safety issues

Recommendation 16: A comprehensive model of integrated well child/tamariki ora and parental/whānau support
Develop and implement a comprehensive model of integrated well child and parental/whānau support including social, educational and additional health services such as mental health and addiction services for family situations of high vulnerability and complexity

Recommendation 17: Young first mums and dads (p50)
Implement a pathway for ‘young first parents’ that provides early, effective referral to teen pregnancy support, (including young fathers), with a focus on continued engagement in education or work for parents, safety, parenting capability, development of support networks

Recommendation 18: A comprehensive approach to reducing inequalities in child health outcomes (p51)
Continue development of comprehensive approaches to reduce inequalities in child health outcomes; including facilitating access to primary health care, proactive immunisation, smoke free support, targeted programmes to reduce the incidence of respiratory and infectious disease, safety, housing quality and income adequacy.

We also recommend that research investigating mechanisms that are operating to affect engagement with primary health services be undertaken.