2015

The Whanganui Regional Health Network's Early Pregnancy Assessment Approach (EPAA):

Service Model Description

Whakauae
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TABLE OF CONTENTS

INTRODUCTION

In January 2015, Whakauae Research for Māori Health and Development was contracted by the Health Promotion Agency (HPA) to carry out a process and short term outcomes evaluation of the Whanganui Regional Health Network's (WRHN) Early Pregnancy Assessment Approach (EPAA).

Preparation of an EPAA service model description is an initial task integral to the conduct of the commissioned evaluation. A service delivery model description provides a detailed picture of an approach to services and supports and how they all work together. Such an account is useful in so far as it is able to offer "a mechanism for examining and understanding the system of supports and services" (STADD Service Delivery Model Working Group, 2013:13) being provided.

The EPAA service model description presented here is structured as follows; the background to the development of the EPAA is initially outlined with a methods section then detailing how data was collected and analysed in order to inform development of the description. The evidence underpinning the EPAA is discussed with EPAA purposes and objectives then being identified. Key components are overviewed along with EPAA service linkages and referral pathways. Lastly, expected impacts and outcomes are considered along with resourcing implications.

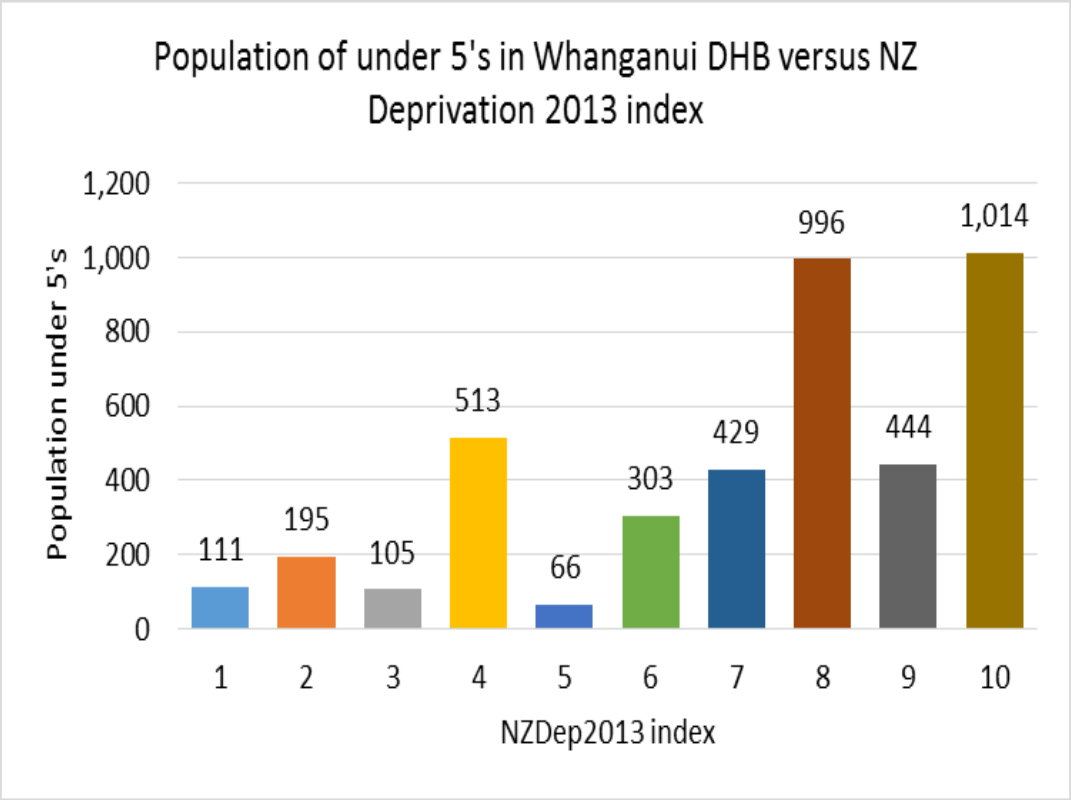
EPAA BACKGROUND

Development of the EPAA, over the period 2014 – 2015, has been the result of key WRHN personnel becoming increasingly concerned by the apparent lack of a pragmatic and systematic way of managing early pregnancy in General Practice locally. Ad hoc approaches to early pregnancy management appeared to be the norm. The lack of a systematic approach was considered likely to increase the risk that vulnerable women may not be consistently identified and provided with opportunities to access appropriate support in early pregnancy.

In the Whanganui context gaps in the management of early pregnancy at General Practice level is of particular significance given the region's challenging demographic profile. 'Big picture' social constructs, principally socio-economic status and ethnicity, pattern a host of related health determinants. These determinants include deprivation and poverty, institutional and personal racism, low education attainment, sub-standard housing and poor diet. The link between health determinants and health outcomes is well documented.

Whanganui has more of its people living in areas of higher deprivation compared to many other District Health Board regions. Among the six DHBs making up the Central Region, Whanganui has the greatest number (35% or more than one third) of its population of almost 63,000 living in the most deprived quintile (decile 9 & 10). Additionally, it has the smallest proportion of the population living in the least deprived quintile (decile 1 & 2) at just 11% (Central Regions Technical Advisory Services Limited, 2014). As well as having the greatest number of people living in the most deprived areas of the region, the birth rate is highest for women living in the most deprived regions. A significantly disproportionate number of Whanganui's 0-4 age group is therefore represented in the highest deprivation decile (8, 9 & 10) as Figure 1 below highlights.

Figure 1: Whanganui DHB population 0 – 4 by deprivation decile



Source: Jackson (2014).

Those identifying as Māori make up over a quarter of the Whanganui population (Central Regions Technical Advisory Services Limited, 2014) however, the Māori birth-rate is disproportionately high compared to the non-Māori birth-rate.

Over-representation in areas of highest deprivation has a critical role to play contributing both to disproportionately higher birth rates and increased level of risk in early pregnancy. As well as Māori women of childbearing age being over-represented in areas of highest deprivation they have a significantly higher smoking rate than non-Māori, a significant risk in early pregnancy.

In response to the significant challenges outlined above, key WRHN personnel initially proposed that a customised electronic tool, or form, be developed to assist GPs and Practice Nurses to screen and assess risk among women in the early stages of pregnancy. A broad range of risk factors, including those influenced by socio-economic situation, would ideally then be identified and appropriately managed.

The Early Pregnancy Assessment Tool (EPAT), a Medtech integrated advanced form[1], was subsequently developed by the WRHN in partnership with HPA. In the process of tool development and testing it became increasingly evident that consistent referral and management pathways were not in place to deal with the issues identified through the use of the EPAT. Often support was available to assist in the management of, for example, tobacco, alcohol and other drug issues. However, a significant gap existed in so far as there being a lack of any co-ordinated approach linking across these streams of care to help ensure at risk women in early pregnancy did not "fall through the gaps".

The EPAT in isolation was soon identified, through an organic developmental process, as being an insufficient mechanism for the effective management of early pregnancy. A broader approach, taking into account the need to navigate clear co-ordinated pathways of care and links across services was required. The critical components of that approach, the Early Pregnancy Assessment Approach or EPAA, are described below following a brief account of the methods used in the development of the EPAA Service Model Description.

METHODS

A qualitative design informed development of this EPAA Service Model Description. Design components included key informant interviews conducted with WRHN personnel central to the development of the EPAA, review of WRHN EPAA documents, a brief review of the evidence used to inform the approach and development of an EPAA Programme Logic Model. Each of these study components is briefly described below. More detailed descriptions are included in the EPAA Refined Evaluation Plan (Whakauae, 2015).

Key Informant Interviews

Key informant interviews were focussed on updating and extending the EPAA service model information collected and analysed through the document review process. Key informants were therefore identified on the basis of their knowledge of the development and implementation of the EPAT, and the EPAA more generally, and convenience sampled (Patton, 2002). A total of three key informants took part in face-to-face interviews in the last week of February 2015.

A Participant Information Sheet (refer Appendix 1) was prepared and a copy given to all key informants. Information Sheet content was discussed with informants prior to completion of a study Consent Form (refer Appendix 2) and the carrying out of interviews. An EPAA Service Model

[1] Medtech is a medical software programme widely used in New Zealand to assist healthcare professionals to manage patient care. It is owned by healthcare technology solutions company, Medtech Global one of the first healthcare IT companies in New Zealand and Australia (Medtech, 2015). An advanced form is a purpose made tool which sits within the Patient Manager System (Medtech in this case). The form is dynamic in that it interfaces with data already recorded into the Patient Manager System to pre-populate and individualise the screening requirements. Information recorded into the form will be automatically written into the patient's notes, and where required the form is designed to electronically send a referral in real-time, reducing delays for referral.

Description focussed interview schedule (refer Appendix 3) was designed by Whakauae and used in the conduct of interviews.

All interviews were audio recorded, with the consent of participants, and transcripts were reviewed by the evaluators working on the study. Findings were then shared with analysis being refined and key messages determined.

Document Review

Documents reviewed by the evaluators were provided by the WRHN and are listed in Appendix 4 to this document. They included the EPAA Implementation Plan (WRHN, 2014) and the comprehensive EPAA Early Assessment Tool (WRHN, 2014). Analysis of documents was carried out and content summarised in order to assist in clearly identifying intended EPAA purpose and objectives along with operational detail including service linkages and referral pathways. Additionally members of the evaluation team were guided through use of the EPAT by the WRHN on two separate occasions; immediately following key informant interviews and again later in the course of determining quantitative data queries.

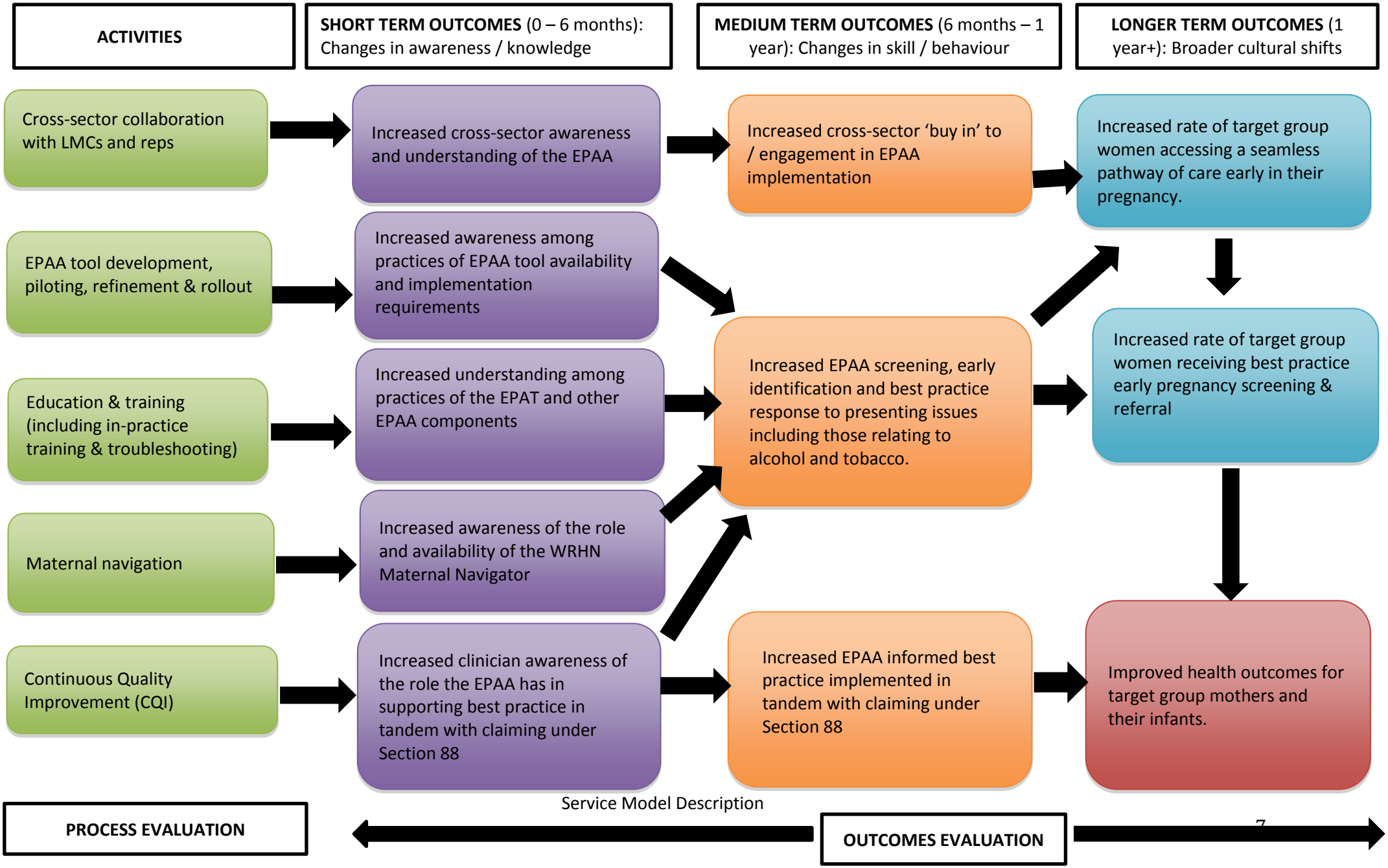
Review of the Evidence Underpinning EPAA Development

Available background literature provided by the WRHN, along with practice informed evidence supporting development of the EPAA, was reviewed by the evaluation team and utilised in the preparation of the Service Delivery Model description.

Programme Logic Model

During March 2015, document review and key informant interview data was used by Whakauae to inform preparation of an initial draft EPAA Programme Logic Model. Logic models are intended to capture the aim, context, assumptions, activities and intended outcomes of programmes of intervention (Oakden, 2013). A draft model was reviewed with the WRHN and subsequently refined over several iterations with an agreed version then being finalised. That version of the EPAA Programme Logic Model was included in the Refined Evaluation Plan prepared by Whakauae and approved by the HPA in mid-March 2015. The Model is reproduced overleaf (refer Figure 2).

Figure 2: WRHN EPAA Logic



The Logic Model provides a framework for the evaluation of the EPAA identifying key activities and expected outcomes. Specific Programme activities and short term outcomes will be included in the evaluation. In addition capturing the defining characteristics of the EPAA in this succinct format clarifies shared thinking about how the Programme operates and its intent. The Model can be used to explain EPAA parameters simply to a range of key audiences including funders, referral sources and other service providers. It will also help to ensure that there is a transparent framework in place for informing evaluation of the EPAA; that is what is to be evaluated and why.

EPAA EVIDENCE

The evidence used to inform the EPAA is comprehensive, well established and exists on a number of levels. It includes:

- Statistical evidence of population level need as identified previously in this report (Central Regions Technical Advisory Services Limited, 2014);
- Anecdotal evidence gathered through early implementation of the EPAA which identified the need for a consistent referral and management pathway; and,
- Evidence gathered through clinical trials that clearly describe Best Practice approaches in primary care when dealing with pregnant women http://www.bpac.org.nz/BPJ/2011/April/pregnant-care.aspx.

A key informant described clearly how evidence is being used to inform the practice of the EPAA observing that in essence it involves "… a collection of multiple single items of good practice joined together in one place" (KI01).

The primary EPAA entry point is the use of the assessment screening tool/form (EPAT). Associated with the EPAT is a 30 page supporting document, *EPAA How to Use and Clinical Guidelines* providing advice on how to use the form and providing background evidence and best practice advice around each part of the form. There are useful links embedded in the document that take the user directly to best practice guidelines such as guidelines on healthy eating during pregnancy http://www.health.govt.nz/publication/food-and-nutrition-guidelines-healthy-pregnant-and-breastfeeding-women-background-paper

EPAA PURPOSES AND OBJECTIVES

EPAA Purposes

The WRHN designed the EPAA for the **purposes** of:

- Assisting General Practice teams to identify early pregnancy risk factors within the primary care setting; and,
- Through a range of mechanisms, better managing or lessening early pregnancy risk factors.

EPAA objectives

Objectives of the EPAA include:

- Improved health outcomes for at risk expectant mothers and their infants;
- All pregnant mothers being enrolled with a LMC, being tobacco, alcohol and other drug free and living in a safe, non-violent environment during pregnancy; and,
- Improved quality of early assessment carried out in primary care for women in their first trimester of pregnancy.

EPAA OVERVIEW

The EPAA is best described as being a broad strategy which has a focus on successfully integrating:

> ...a number of programmes and projects to create a cross system, collaborative service for pregnant women and young families, with a goal of 'one encounter' for mother to access services to promote healthy and safe pregnancies and infancy, and pave the way for strong, healthy families (WRHN, 2014a:4).

Key to facilitating integration of the broad range of EPAA programmes and projects referenced above are the roles of EPAA Clinical Lead and EPAA Project Lead.

The EPAA assumes a comprehensive model of care. It includes a maternity screening tool for General Practice, enhanced linkages within primary care and between primary care and other key stakeholders in particular Lead Maternity Carers (LMCs), more effective referral pathways and potential data sharing, and alignment of maternity support roles within the WRHN including the Maternal Navigator, the Pregnancy and Parenting Courses Coordinator and the Population Health Team as well as Practice nurses. The latter can assist with screening using the EPAT, help with general support of patients and assist with referrals.

Each of these components of the service model is either directly under the control or influence of the WRHN or explicitly linked to the EPAA through a service level agreement between the WRHN and an external service provider.

Additional components whilst related are less directly connected and pre-date the development of the EPAA. These components include the following WRHN programmes; the Pēpi-Pod Programme, in-house Pregnancy and Parenting Courses and the Warm Up New Zealand: Healthy Homes Programme. Each of these initiatives has separate specific aims albeit overlapping with the EPAA in some instances.

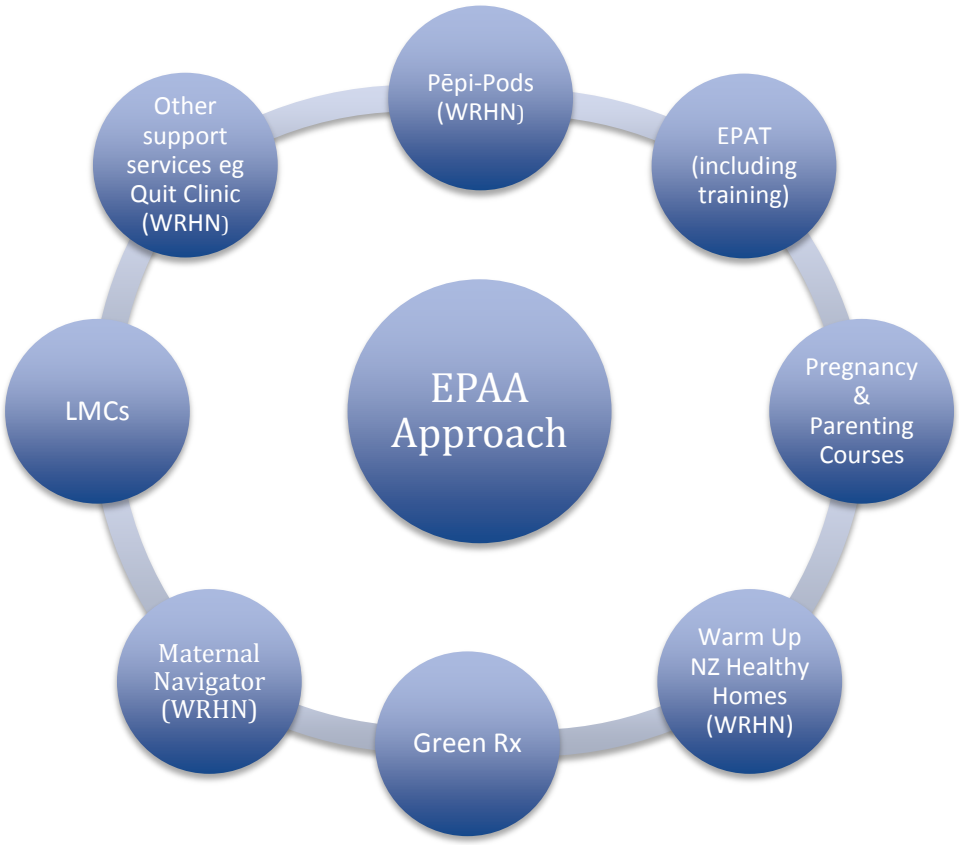
Finally there is a loosely affiliated EPAA component which operates outside the WRHN. The local Youth Services Trust (YST) operates a small health service[2] locally. The WRHN has made

[2] YST operates from a single central location. A part-time GP service is available along with nursing and counselling services.

access to the EPAT available to that service for use with patients. There is however, no formal agreement in place between the WRHN and the YST regarding use of the EPAT or implementation of the EPAA more generally. A WRHN Tobacco Quit Coach is available at YST to support incentivised quit attempts including among pregnant women. WRHN's Quit Clinic staff are trained as tobacco cessation coaches as well as alcohol coaches[3].

Components of the EPAA are diagrammatically represented here in Figure 3 and are further described below.

Figure 3: EPAA Service Model Components



The Early Pregnancy Assessment Tool (EPAT)

The EPAT (refer Appendix 5) is the central component of the EPAA, underpinning implementation generally. It comprises an advanced form available to General Practice teams (GPs and Practice Nurses) through the Medtech software application. The form is

[3] Referral of women who are drinking in pregnancy to alcohol and other drug services is unlikely to be appropriate. This is because these services primarily focus on impairment drinking at the moderate to severe end of the continuum. Providing support for women who are drinking in pregnancy requires a different level of intervention and one which alcohol coaches are likely to be best placed to provide.

essentially a Medtech integrated advanced form which has been developed and continues to be improved by the WRHN. It takes account of other emerging software developments such as BadgerNet (working name) which is currently under development as a national clinical data entry form for all LMCs to help facilitate service quality and patient safety.

The EPAT is designed to meet an identified need for a systematic approach to first trimester antenatal screening and midwife referral in a primary care setting and will eventually become part of a normal process of assessment. It coordinates, links in with and makes use of generic screening tools which include those relating to alcohol, tobacco and family violence. Use of the EPAT is expected to:

- Promote a consistent best-practice approach to first trimester antenatal screening assessment and management;
- Increase the early identification and management of risk factors;
- Support early enrolment with an LMC providing links to midwife booking sites;
- Provide a printable referral to be given to the patient's chosen midwife;
- Help women who are identified as likely to benefit from support, or who would like to have support to find a midwife, to be referred to a WRHN Maternity Support Person electronically via the form; and to,
- Ensure that criteria are met for a first trimester non-LMC Section 88 Claim[4].

The EPAT is designed to be used by GPs and Practice Nurses during consultations with women in the early stages of pregnancy. As previously noted, the EPAT is dynamic in that it interfaces with data already recorded into the Patient Manager System to pre-populate and individualise the screening requirements. Information recorded into the form will be automatically written into the patient's notes, and where required the form is designed to electronically send a referral in real-time, reducing delays for referral.

EPAT training and support

The EPAA was introduced by the WRHN through the Whanganui Inter-Professional Education (WIPE) forum, a monthly professional development meeting for GPs, Practice Nurses and other health care professionals, in 2014. Instruction on EPAT use has subsequently been incorporated into WIPE. The EPAA Clinical Lead has also spent time with individual GPs educating them around the aims of the EPAA and carrying out peer reviews.

[4] Section 88 sets out the terms and conditions regulating how and when the Crown will make a payment to a maternity provider for the provision of primary maternity services.

More recently, an EPAT General Practice team training and support role has been added to the portfolio of responsibilities held by the WRHN's Population Health Nurse. The Population Health Nurse is systematically working to bring practice teams up to speed as required offering on-site EPAT skill building support for General Practice team members. Generally this is done on a one-to-one basis and requires a series of up to three hands-on sessions. The targeting of training support is facilitated by review of EPAT data. Information can be accessed which includes a summary of who is using the Tool and how it is being used e.g. if particular sections are routinely being skipped.

The WRHN is using WIPE and other opportunities to increase awareness of the links between its various maternity related contracts and where these may complement the work of General Practice teams. The EPAT additionally reinforces awareness of what services are available and facilitates ease of referral to these services.

Maternal Navigator role

The role of the WRHN's Maternal Navigator is to support at risk women, particularly in the early stages of pregnancy, and ensure they are connected to the services they need. In the past a pregnant woman indicating an interest in enrolling in a pregnancy and parenting course, for example, may have been advised of availability of courses and encouraged to follow up on this interest independently. Through the use of the EPAT, and supported by the wider EPAA, the woman may instead be referred to the Maternal Navigator who will ensure that follow through occurs and that the pregnant women is successfully connected with the required services. In many instances Practice Nurses will instead do this referral and follow up though it is envisaged that the Maternal Navigator will amply fill the role which is essentially focussed on the coordination of processes for pregnant women who are at risk.

Lead Maternity Carers (LMCs)

LMCs coordinate the maternity care of pregnant women and are generally midwives. They are contracted through the Ministry of Health to provide a complete maternity service to the pregnant woman. LMCs work collaboratively with other health professionals to address any additional health or medical needs the pregnant woman may have (NZ College of Midwives, 2015).

In the past midwifery and General Practice in Whanganui have not worked closely together. The EPAA is a response to this service shortcoming and supports development of a shared clinical pathway[5] which LMCs and General Practice clinicians can utilise and contribute to for

[5] Clinical pathways are multidisciplinary tools to improve the quality and efficiency of evidence-based care. They are also used as a communication tool between professionals to manage and standardise outcome-oriented care (Vanhaecht et al, 2006: 28). Alongside the EPAA initiative, development of a management of early pregnancy clinical pathway in primary care is also occurring at a regional level. That development represents a shared MidCentral and Whanganui wide initiative.

the benefit of mother and infant. As a result, it is intended that the experience for the service user:

> …should be seamless so it … doesn't matter where your first point of contact is. It's a seamless experience for childbirth and everyone … [including the] GP and LMC are all part of that (KI02).

For LMCs too, the EPAA clarifies and standardises the role of General Practice in expectant patient care. LMCs are provided with patient information from General Practices in a uniform way; covering identified issues and in accordance with set timeframes.

Green Prescription (GRx) Active Pregnancies initiative

A GRx is a health professional's written advice to a patient to be more physically active as part of an overall health management approach (Ministry of Health, 2015). In Whanganui the GRx Programme is delivered by Sport Wanganui. The Active Pregnancies extension to the GRx, facilitated by a team made up of the WRHN EPAA Project Lead, the WRHN Pregnancy and Parenting Programmes Co-ordinator and Sport Whanganui's GRx Regional Manager, forms a part of the EPAA. A service level agreement between the WRHN and Sport Wanganui provides for delivery of the Active Pregnancies component of the GRx by Sport Wanganui.

Active Pregnancies extends the GRx, offering subsidised aquarobics classes, held in Whanganui's heated indoor public swimming complex the Splash Centre, and a tailored pregnancy and postnatal specific GRx Programme. Expectant mothers are able to participate in the Active Pregnancies initiative on confirmation of safety from their GP or midwife.

Pēpi-Pod Programme

The Programme promotes and provides safe sleep space capsules for babies identified as being at increased risk of accidental suffocation along with education support for mothers and caregivers. Developed by Change for our Children, a non-governmental organisation (NGO), and initially implemented in Christchurch following the 2011 earthquake, the Programme has since been taken up by agencies including a number of District Health Boards (DHBs) (Cowan, 2014). It is noted that the Programme is not centrally funded.

Locally, the WRHN holds a contract with the Whanganui District Health Board (WDHB) for delivery of the Pēpi-Pod Programme. The siting of the Pēpi-Pod Programme contract with the WRHN assists in facilitating its integration with the organisation's EPAA initiative. Importantly also, in terms of EPAA service component integration, the Pēpi-Pod Programme Co-ordinator also fills the EPAA Maternity Navigator role at the WRHN.

Pregnancy and Parenting Courses

Several agencies in the Whanganui region hold contracts to deliver pregnancy and parenting courses, complementing the education provided through LMCs. Providers include the WRHN

as well as the YMCA. The WRHN has a contract with the WDHB to deliver courses. The siting of this contract with the WRHN assists in facilitating Pregnancy and Parenting Course integration with the organisation's EPAA initiative.

Courses are now offered both in the evenings on set days of the week and as block courses on weekends. Course content and delivery have been developed specifically targeting Whanganui's high needs expectant parents as an outcome of feedback received by the WDHB around improvements needed in the region's women's health services (Maslin, 2012).

As part of the EPAA's focus on early pregnancy, the WRHN's Pregnancy and Parenting courses have now been realigned and split into two components; early pregnancy and later pregnancy sessions. Early referral from General Practice and from LMCs to courses is being encouraged so that lifestyle issues are being addressed sooner than they have been in the past when such issues were being raised in the late second or even the third trimester of pregnancy.

Warm Up New Zealand: Healthy Homes Programme

This current three year Government funded Programme provides low cost insulation for low income home owners and renters who meet specific health needs criteria. Government investment in the Programme is augmented by significant levels of funding from trusts and other third parties. Programme partner contributions top up government grants allowing for provision of free insulation in some instances (Energy Efficiency and Conservation Authority, 2015). In Whanganui, the WRHN has partnered with the Energy Efficiency and Conservation Authority (EECA) to deliver the Warm Up New Zealand Healthy Homes initiative locally.

SERVICE LINKAGES & REFERRAL PATHWAYS

Improving the way in which early pregnancy services are organised, with a view to maximizing clinical and social gain for women in the first trimester of pregnancy, are key to the EPAA. As noted in the EPAA Overview section above, the EPAA assumes a comprehensive model of care. Critical elements of the model are enhanced linkages within primary care and between primary care and other key stakeholders, in particular LMCs, along with effective referral pathways.

Service Linkages

General linkages across services providing care for Whanganui women in early pregnancy were in existence prior to the development of the EPAA. However the ways in which those services worked together suggested that gaps in the care of pregnant women, particularly those at risk, were an issue. Enhanced linkages are expected to contribute to normalising the use of the pathways being put in place as part of the EPAA to manage risks identified in early pregnancy.

Linkages within Primary Care

The WRHN includes 15 General Practices. Most of these Practices are located in Whanganui with the remainder being based in smaller townships within the Whanganui rural hinterland including Raetihi, Taihape and Marton. General Practice clinical team members, specifically GPs and Practice Nurses are aware of the EPAA and able to make use of the EPAT.

As part of the promotion of the EPAA across the WRHN, WIPE has included an emphasis on enhancing awareness among clinicians of the roles of the various WRHN services which feed in to the EPAA at some level. These services include the Maternal Navigator, Pēpi-Pod Programme, Pregnancy and Parenting education and Healthy Homes initiative described above. Involving key players from these services in EPAA development and planning rollout has additionally served to enhance linkages within primary care.

Linkages between Primary Care and other key stakeholders

As part of the EPAA, closer linkages between primary care and LMCs are particularly critical. Supporting those linkages is the emphasis on General Practices taking a uniform, best practice approach to early pregnancy assessment and management including the interface with LMCs. Linkage which facilitates two way communication between LMCs and General Practice provides an opportunity for the WRHN to promote availability of its Maternal Navigator service and associated EPAA support services, including the Quit Clinic, among LMCs. Additionally linkage provides an opportunity for the WRHN to promote a key role for LMCs in supporting smoking cessation and alcohol interventions.

The links between the WRHN and the Whanganui's Youth Services Trust (YST) are also reinforced under the EPAA Service Model. As previously noted, YST operates its own health service in the township of Whanganui. The WRHN has made the electronic version of the EPAT available to YST along with training support.

A number of other stakeholder links are prompted by the EPAA model including those with Sport Whanganui (GRx Active Pregnancies) and a range of mental health services.

REFERRAL PATHWAYS

Referral of women in early pregnancy, including to services provided by LMCs, is prompted and facilitated by General Practice clinical team use of the EPAT. Risks in early pregnancy, such as tobacco smoking, are identified through the EPAT and a specific pathway, which includes referral, to manage each risk, is in place as part of the wrap around services comprising the EPAA.

Several referral processes are captured in the EPAT. For example, the Tool is able to generate a printable referral which General Practice teams can give to women to later pass

on to their chosen LMC[6]. Often women in early pregnancy will have themselves secured the services of an LMC. When this is not the case use of the EPAT helps to facilitate referral and transfer of appropriate, standardised information. The EPAA in turn promotes securing of LMC services within the first ten weeks of pregnancy and the role of General Practice in ensuring this occurs.

Within the EPAT there is also an opportunity to directly link the pregnant woman with the WRHN's Maternal Navigator. The EPAT allows General Practice team members to electronically send a referral to the Maternal Navigator for follow-up where the woman:

- Is likely to benefit from additional support in early pregnancy. Such support may include accessing tobacco quit coach services, alcohol coach services, the Healthy Homes and / or Pēpi-Pods Programmes

- Requires support to enrol with an LMC (the national goal is that 80% of women are enrolled with an LMC in the first trimester of pregnancy); and / or,

- Would like to be enrolled in a Pregnancy and Parenting class including the option of an Early Pregnancy class (referral via antenatal advanced form, LMC or self-referral) and the GRx Active Pregnancies Programme.

Referrals to other services, prompted by the use of the EPAT, can be electronically generated and faxed to those services as required. The Tool supports comprehensive assessment and referral to services providing support in the areas of, for example, smoking cessation coaching, alcohol coaching, mental health, family violence, pregnancy and parenting education. Available cessation support services include WRHN's Quit Coaches who are also able to offer alcohol coaching.

Under the EPAA the various components of the model are promoted and LMCs, for example, are encouraged to refer women to the Maternal Navigator and to the other WRHN maternity related programmes described above as required.

EXPECTED EPAA IMPACTS AND OUTCOMES

The ultimate goal of the EPAA is that all pregnant mothers are enrolled with a LMC in their first trimester, are not smoking, drinking or using other drugs and are living in a safe environment. Expected short and longer term outcomes were identified by the WRHN in the early stages of EPAA development and are listed below. These outcomes are further refined and included in the more recently completed EPAA Programme Logic Model (reproduced on page 7 of this EPAA Service Model Description).

[6] It is intended that the EPAT will generate electronic referrals to LMCs once BadgerNet is up and running.

Expected short term outcomes of the EPAA

- Pregnant women are referred and/or supported to get to a LMC by 12 weeks;
- The LMC has appropriate information from General Practice;
- Pregnant women are screened in order to identify risk factors such as those related to alcohol, tobacco and / or other drug issues;
- Pregnant women receive appropriate medical screening for improved early pregnancy health; and,
- Pregnant women are referred and/or supported to access other relevant services in order to address risk issue identified through screening processes.

Expected longer term outcomes of the EPAA

- Improved links across LMCs, General Practice, the PHO and the Whanganui DHB at a strategic level;
- Improved health outcomes for vulnerable mothers and their children; and,
- Improved population health indicators.

RESOURCING

The funding streams supporting various components of the EPAA are identified below:

EPAT

Development of the EPAT was supported by funding from the Health Promotion Agency (HPA). There has been no direct funding available for EPAT implementation. Many General Practices under the WRHN have actively participated in implementation despite this.

EPAT training and support

No direct funding has been available for EPAT user training. In the early development phase, EPAT training was driven by enthusiastic and supportive individuals who championed the development of the EPAA. Early in 2015, an EPAT General Practice team training and support role was however added to the portfolio of responsibilities held by the WRHN's Population Health Nurse. The Population Health Nurse is systematically working to bring practice teams up to speed as required. EPAT training and EPPA management is currently being supported through the WRHN's practice facilitation, relationship work and population health based work.

Maternal Navigator Role

The part time Maternal Navigator position is funded in-house by the WRHN.

Pregnancy and Parenting Courses

WRHN holds a stand-alone contract with the Whanganui DHB for the delivery of these courses which are available at no cost to participants.

Green Rx Active Pregnancies

Green Rx Active Pregnancies: WRHN underwrites 75% of the cost of aquarobics classes for expectant mothers who qualify for this subsidy. The usual cost of classes is $4.50 which includes Splash Centre entry. Class subsidy eligibility criteria include attendance at antenatal classes and being a holder of a Community Service Card. Associated costs are covered by the Splash Centre and Sport Whanganui. The Splash Centre provides swimming lanes free of charge, tea and coffee making facilities and an area at the end of the pool for conversation after aquarobics sessions.

Pēpi-Pod Programme

Pēpi-Pod Programme: the WRHN holds a contract with the Whanganui DHB for the delivery of the Pēpi-Pod Programme. As has previously been noted, the Programme is not centrally funded. Pēpi-Pods and educational support are available free of charge to those who meet Programme criteria. In the case of Work and Income clients criteria include being eligible for a hardship grant and having a referral from a health professional. The health funded Pēpi-Pod Programme is for more vulnerable babies; those with weakened breathing responses as an outcome of exposure to tobacco smoking, especially in pregnancy, being born premature (before 37 weeks) or being of a low birth weight (less than 2500 grams) (Cowan, 2014).

Warm up New Zealand Healthy Homes Programme

This component of the WRHN's EPAA is funded nationally through accredited installation services in a quota system. Locally, the Healthy Home Coordinator seeks additional community funding which can come from a range of places. Budget 2013 allocated $100 million of operating funding to support delivery of the Programme nationally over three years (Energy Efficiency and Conservation Authority, 2015). Income and health eligibility criteria apply as previously noted above.

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LIST OF INITIALISMS

DHB	District Health Board
EPAA	Early Pregnancy Assessment Approach
EPAT	Early Pregnancy Assessment Tool
GP	General Practitioner
GRx	Green Prescription
HPA	Health Promotion Agency
LMC	Lead Maternity Carer
WDHB	Whanganui District Health Board
WRHN	Whanganui Regional Health Network
YST	Youth Services Trust

APPENDICES

Appendix 1

Information Sheet

Thank you for your interest in this Early Pregnancy Assessment Approach (EPAA) evaluation. Whakauae Research is carrying out the evaluation on behalf of the Health Promotion Agency (HPA). The Early Pregnancy Assessment Approach has been developed and is being implemented by the Whanganui Regional Health Network (WRHN). Before you decide whether or not to take part, please read this sheet. If you decide not to take part there will be no disadvantage to you of any kind.

The evaluation study will describe the development and implementation of the EPAA as well as assessing the short term impact.

We are interested in talking with you about things like:

- your understanding of the purposes and objectives of the EPAA;
- the EPAA screening tool itself and how / why it was developed;
- EPAA referral pathways and service linkages;
- your understanding of the expected short term impacts and longer term outcomes of the EPAA

If you are willing to take part in an interview:

- we will meet with you, at a time and place that suits you, for 30 – 60 minutes;
- you only need to answer the questions you want to answer;
- you can end the interview at any time if you want to; and,
- We will ask you for your written consent to take part in the interview and to audio record the interview.

What will happen to information you give us?

- Information you give us will be analysed and reported in such a way that you will not be able to be identified. Your name and any information which could identify you will not be linked in our report to the things you talk about;

- Information collected will be securely stored and accessible only to the research team;

- Results of the study may be published. Information included in any published material will in no way be linked to you without your prior express permission.

Questions

If you have any questions about this research, either now or in the future, please contact one of the following:

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Whakauae Research for Māori Health and Development, Whanganui
Email: kiri.parata@xtra.co.nz

APPENDIX 2

Consent Form

I have read the Information Sheet and understand what the evaluation is about. My questions have been answered to my satisfaction. I know that I can ask for more information about the study at any time and that:

- My participation in this evaluation is entirely voluntary;
- I can withdraw the information I provide, up to and including 07 May 2015, without disadvantage of any kind;
- My interview will be recorded with my consent. If audio-recording is used, I can choose to have the recorder stopped at any time during my interview;
- Any record of my name and address will be destroyed at the conclusion of the study. An anonymous transcript of my interview will however, be retained in secure storage for three years by Whakauae Research after which it will be destroyed;
- I may decline to answer any particular question(s) and/or may decide to end the interview without disadvantage to me of any kind;
- The results of the evaluation may be published, but my anonymity will be preserved. No information which could reasonably lead to the identification of interview participants will be included in any report or published material resulting from this research without the prior consent of the participant concerned;
- The definition of the scope of Health and Disability Ethics Committee (HDEC) review has been referenced by Whakauae. Ethics review requirements have been further confirmed with the HDECs Advisor. As this Early Pregnancy Assessment Approach (EPAA) evaluation involves low risk observational research, complies with standard requirements for the ethical conduct of such research and is consistent with standard programme assessment, formal ethics review and approval are not considered necessary.

I (name).....agree to take part in this interview as part of the Early Pregnancy Assessment Approach (EPAA) evaluation being carried out by Whakauae Research for Māori Health and Development.

Date: Signature of interviewee:

APPENDIX 3

Interview Schedule

The focus of this interview is to gather information to inform development of an EPAA Service Model Description (including purpose and objectives of the approach, screening tools and evidence behind their development, service linkages, referral pathways, resource inputs and expected impacts and outcomes.

1. **What do you think the EPPA's primary purposes / objectives are?**

Prompts: Why was the EPAA proposed in the first place? What gaps is the EPAA expected to fill? Who is the target group and why?

2. **What evidence do you think that there is to support development of the EPAA?**

Prompts: Please tell me about the literature and / or the practice wisdom etc which supports WRHN's decision to investigate and go ahead with EPAA development.

3. **What have been the key drivers in EPAA development and early implementation?**

Prompts: What were the origins of the initiative? Who was / were the "drivers" for the initiative? What were the factors prompting development? How was the initiative "sold" to the WRHN? Who by?

4. **Please tell me what the EPAA "looked like" in the planning / early implementation phases - how was the approach intended to operate? What were the key components for inclusion and why?**

Prompts: What screening tools were developed? Why? How? How were they being used? What referral pathways were anticipated? What service linkages were anticipated? What resource inputs were anticipated? What about the training component – what was this expected to "look like"? How was it expected the target group would be recruited?

5. **Please describe how the various stakeholders were brought on board with the EPAA.**

Prompts: Who were the key players identified? How were they identified and by who? At what point in the EPAA development were key players identified and brought on board? What has the level of EPAA support been across the various stakeholder groups and why? How has support been canvassed and how successful has this been? Which, if any, stakeholders have been less open to EPAA implementation and why?

6. **Please tell me about EPAA rollout / implementation challenges. How was it intended that these challenges would be approached?**

Prompts: What risk assessment/ risk mitigation was carried out? What were the key risks identified (eg low level of General Practice uptake?) and how were these identified? How successful has EPAA risk assessment / risk mitigation planning been (eg what challenges have arisen as anticipated and been resolved without derailing the initiative?) What unanticipated challenges have there been (falling outside risk mitigation planning) and how have these been dealt with? What has the impact of challenges (anticipated and unanticipated been on EPAA rollout?

7. To what extent has the EPAA so far been implemented as planned?

Prompts: What changes to the implementation plan have been necessary and why? How have changes to the EPAA been made?

8. **In your view, what is the EPAA intending to achieve?**

Prompts: What are the intended short term impacts and longer term outcomes of the intervention?

9. **What successes do you believe the EPAA has so far achieved?**

Prompts: Please explain how the EPAA has been able to achieve these successes. What is the significance of these successes?

10. **What changes do you believe are needed to the EPAA to ensure that it is best placed to meet its intended goals?**

APPENDIX 4

List of Documents Reviewed

Whanganui Regional Health Network. (2014a). *Early Pregnancy Assessment Tool: How to Use and Clinical Guidelines for General Practice Teams*, version 2.

Whanganui Regional Health Network. (2014b). *Early Pregnancy Assessment Recording Tool: Implementation Plan.*

Whanganui Regional Health Network & Sport Wanganui. (July 2014). *Active Pregnancies: Antenatal Aquarobics: Project Proposal.*

Whanganui Regional Health Network & Sport Wanganui. (June 2014). *Draft Service Level Agreement: Active Pregnancies Subsidised Aquarobics.*

APPENDIX 5

EARLY PREGNANCY ASSESSMENT TOOL

HOW TO USE

and

CLINICAL GUIDELINES

for general practice teams

Whanganui Regional Health Network

Incorporated as a Charitable Trust under the Charitable Trust Act 1957

Draft v.2 23.6.14

1. Contents

SECTION 1: INTRODUCTION AND STRATEGY

1.1 INTRODUCTION

The Early Pregnancy Assessment tool is a Medtech integrated advanced form. The screening and recording tool is designed to meet an identified need for a systematic approach to first trimester antenatal screening and midwife referral in a primary care setting.

Use of the Early Pregnancy Assessment tool :

- Promotes a consistent best-practice approach to first trimester antenatal screening assessment and management.
- Will increase the early identification and management of risk factors
- Encourages early enrolment with an LMC and provides GPs with links to midwife booking sites
- Provides a printable referral to be given to the patient's chosen midwife
- Will help women who are identified as likely to benefit from support, or who would like to have support to find a midwife, to be referred to a WRHN Maternity Support Person electronically via the form
- Will ensure that criteria are met for a first trimester non-LMC Section 88 Claim.

The form has been designed to align with 'BadgerNet' the National LMC database which is currently being implemented. In the future it is anticipated information from Primary Care will automatically populate Badgernet.

1.2 WRHN STRATEGY

The Early Pregnancy Assessment tool is part of a wider strategy which brings together a number of programmes and projects to create a cross system, collaborative service for pregnant woman and young families, with a goal of 'one encounter' for mother to access services to promote healthy and safe pregnancies and infancy, and pave the way for strong, and healthy families.

Other WRHN programmes which are included in the strategy are:

Pepi-pods

Safe sleep space and education programme for babies identified as at increased risk of suffocation.

(Referral via LMCs)

Pregnancy and parenting courses

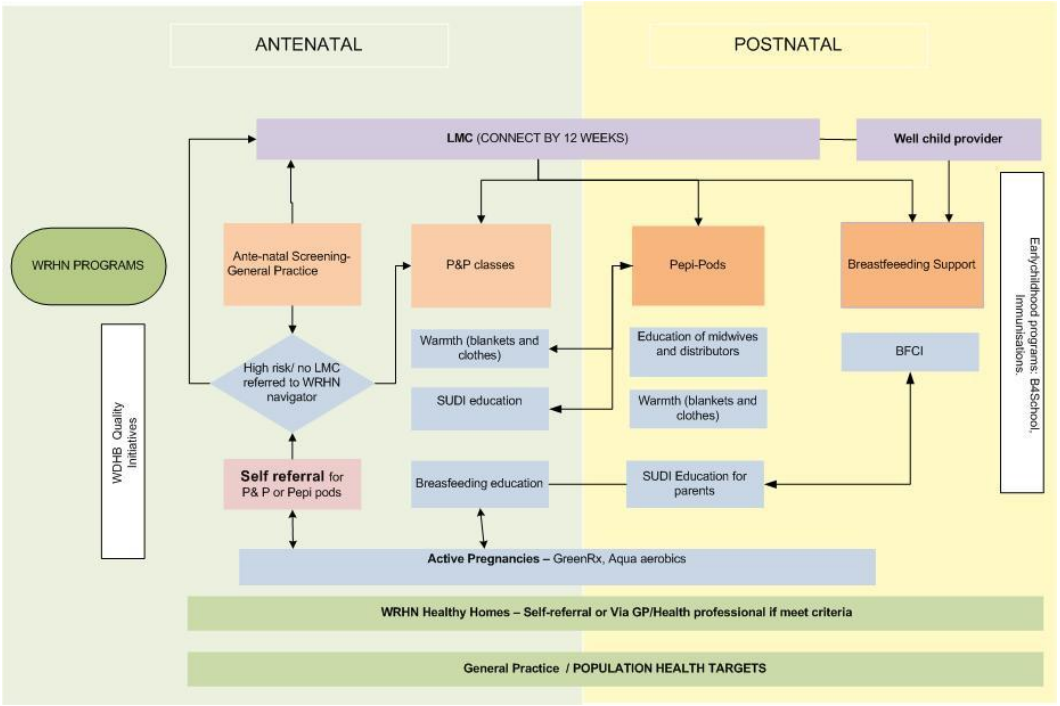
A range of weekday evening and block weekend courses offered (Referral via antenatal advanced form, LMC or self-referral)

Healthy Homes

Fully funded insulation for low income home owners and renters who meet criteria (Referral via GP/LMC or self-referral

GreenRx Active Pregnancy

GreenRx programme including antenatal water aerobics and 8 week postpartum follow-up. (Referral to GreenRx)

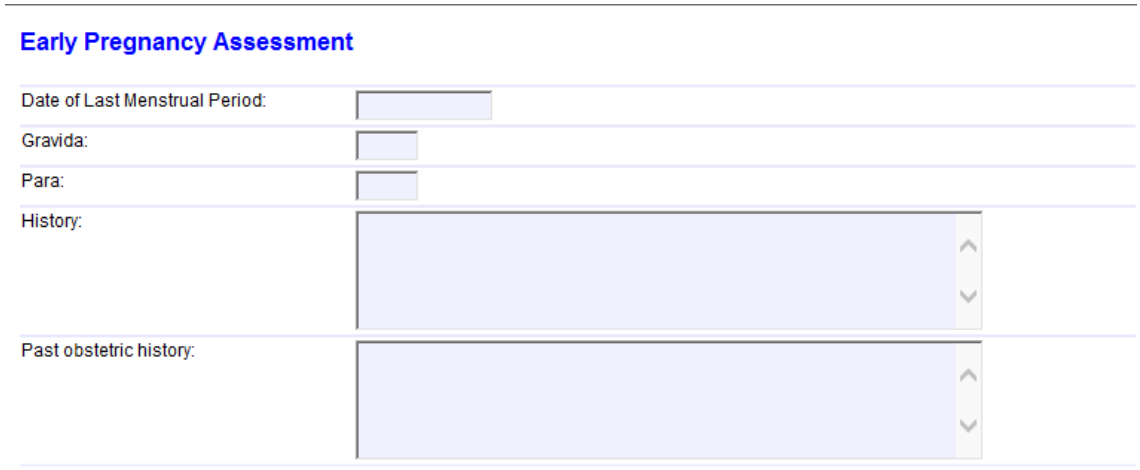


Service Model Description

SECTION 2: EARLY PREGNANCY TOOL – OVERVIEW

The Early Pregnancy Assessment Tool is an advanced form and can be accessed by going to the F6 Patient Manager screen, choosing Patient Forms, and then new form and scroll down and select the 'Early Pregnancy Assessment' tool. (Short cut S/F3 "E")

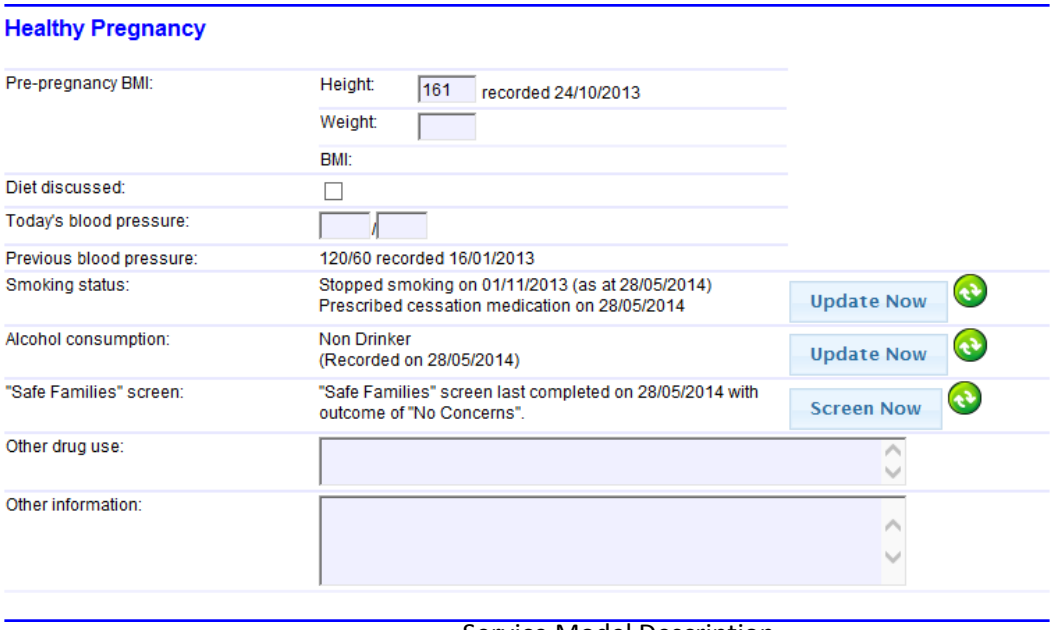
The tool has twelve sections which cover all areas of antenatal screening.



Antenatal Care Information

This section covers EDD and previous history

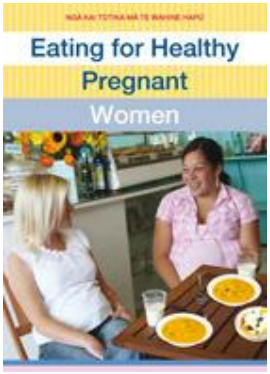
- Automatically calculated EDD and gestational age once last date of Menstruation is entered



SECTION: Tool Overview

Healthy Pregnancies

Screening for Smoking, Alcohol, and Family Violence is linked to existing advanced forms. It is important that all items in this section are updated, and referral is made as appropriate as positive screen increases risks associated with the pregnancy.



Useful links:

Healthy Eating: http://www.health.govt.nz/your-health/healthy-living/pregnancy/nutrition-during-pregnancy

https://www.healthed.govt.nz/resource/eating-healthy-pregnant-womenng%C4%81-kai-totika-m%C4%81-te-wahine-hap%C5%AB

See also section 3.3 Adressing Smoking During Pregnancy

Section 3.4 Addressing Alcohol Consumption During Pregnancy

Section 3.5 Family Violence

Assessment of Mental Health

Questions for depression:

- During the past month, have you been bothered by feeling down, depressed or hopeless?
- During the past month, have you been bothered by little interest or pleasure in doing things?

Question for anxiety:

- During the past month have you been worrying a lot about everyday problems?

PHQ9:	Score: 13 Recorded 06/06/2014	Assess Now
GAD7:	Score: 10 Recorded 06/06/2014	Assess Now
Kessler10:	Score: 29 Recorded 06/06/2014	Assess Now
Notes:		

Long Term Conditions

Select	Classification	Note	Onset
☑	Atrial fibrillation		
☐	Depression screen		
☐	Diabetes mellitus		
☐	Diabetic retinopathy	bestpractice	Nov-2010
☐	Ex-heavy smoker (20-39/day)	20 cigs/day; Started 1993; Stopped 2003; 10 pack years;	

SECTION 2: Tool Overview

Medical Warnings

No allergies or warnings recorded.

Assessment of Mental Health

This section is linked to BPAC tools.

Useful Links:

Family Violence: http://www.health.govt.nz/our-work/preventative-health-wellness/family-violence/family-violence-questions-and-answers

Screening

Antenatal laboratory screen arranged:	☐	Open Lab Form
First trimetster screening:	Consider offering and referring for: • MSS1 (ideal between 9-11 weeks) • Ultrasound Scan (ideal between 11-13 weeks + 6 days - nuchal lucency) • MSS2 (14-16 weeks) Information about First Trimester Screening	

Screening

First Trimester Nuchal Screening

Available for pregnant women less than 14 weeks pregnant. This option combines the results of a blood test and a nuchal translucency (NT) ultrasound scan with other information, such as age and weight, to give a risk result.

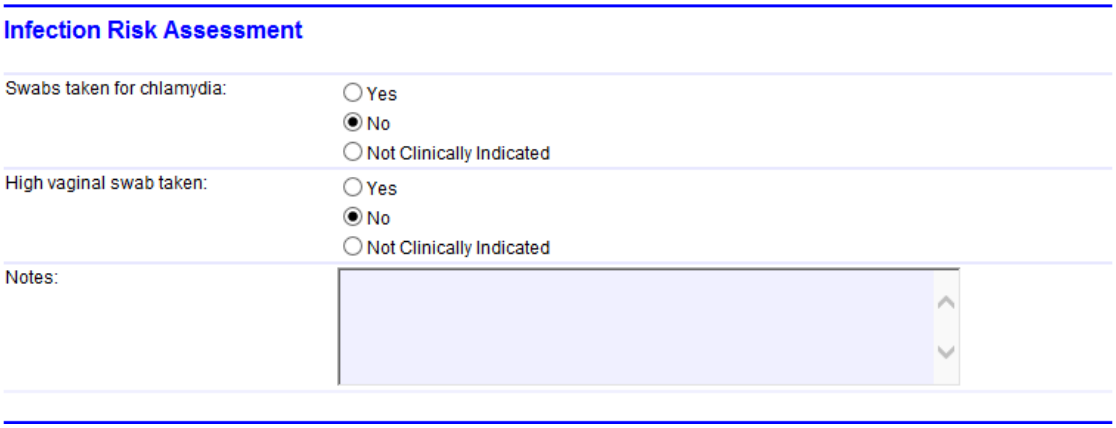
Second Trimester Maternal Serum Screening

Available for women 14-20 weeks pregnant and combines the results of a blood test, with other information, such as age and weight, to give a risk result.

GPs and Practice Nurses are encouraged to provide information to pregnant women to help understand and decide if they want to have this screen.

Source http://www.nsu.govt.nz/current-nsu-programmes/antenatal-screening.aspx

SECTION 2: Tool Overview

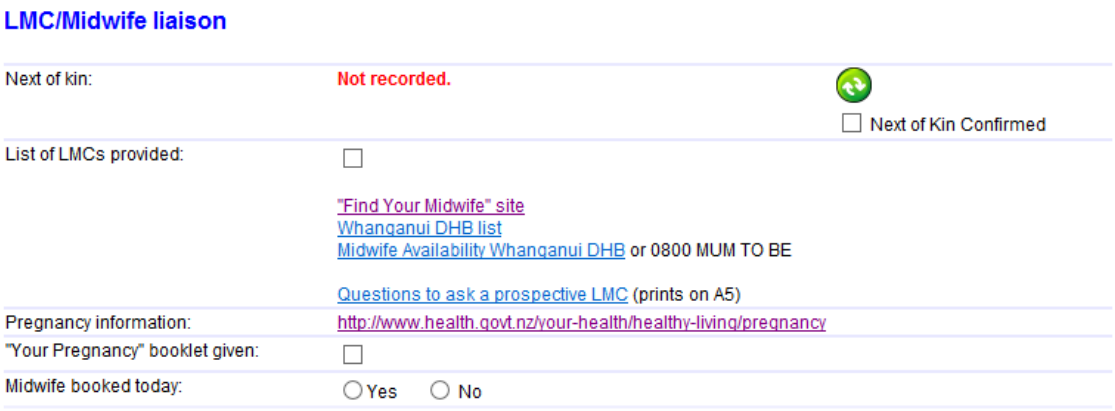


Infection risk and screening

Linked to Combined blood test for:

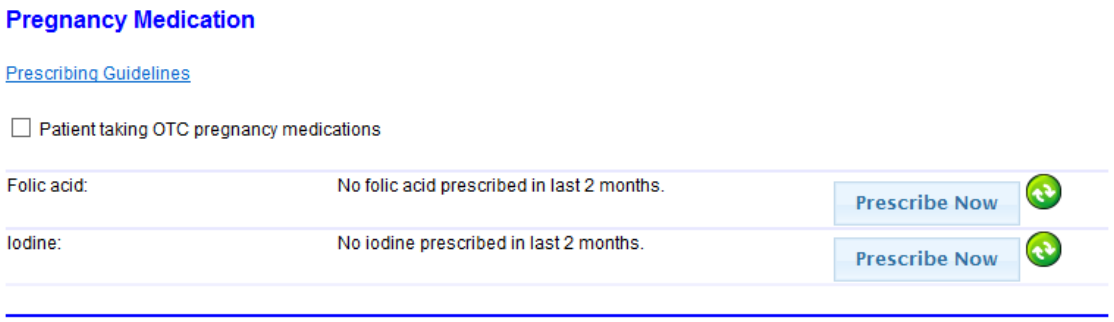
- blood group and antibodies
- full blood count
- hepatitis B
- HIV
- rubella
- syphilis.

See section 3.2 / 3.7 for 'NICE' Guidelines.



Pregnancy Information provided.

This section includes a link to sites to find out the availability of local midwives .

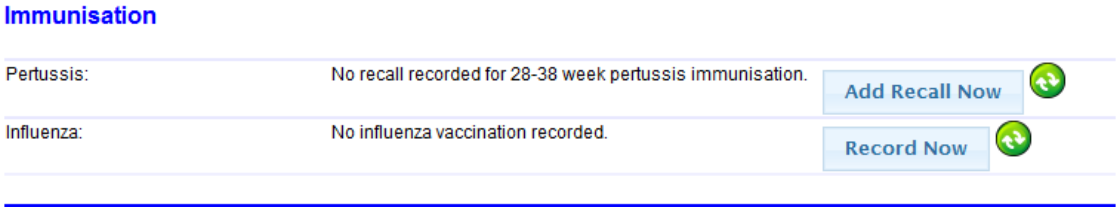


Current MoH Guidelines for Prescribing are:

Dosage				
Daily tablet	Amount (mcg)	At least a month before pregnancy	From confirmation of pregnancy until the end of the 12th week of pregnancy	Until breastfeeding is discontinued
Folic acid low or high dose*	800 or 5000 (0.8 or 5 mg)	Yes	Yes	No
Iodine	150 (0.15 mg)	No	Yes	Yes

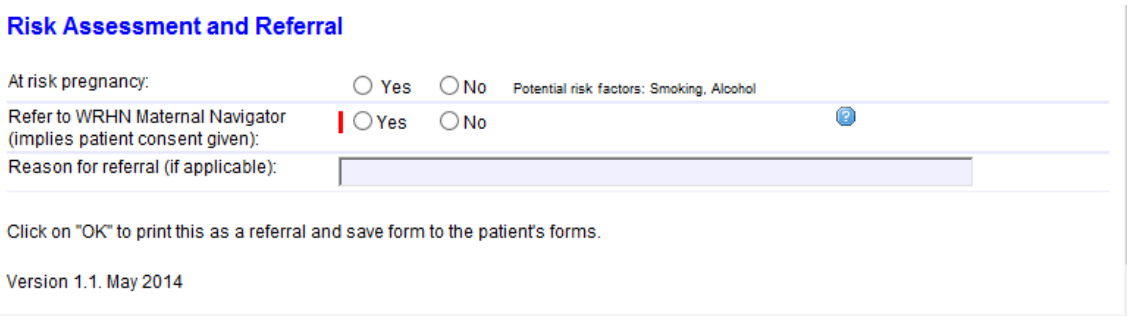
* The high dose is for women at high risk of a neural tube defect (NTD) affected pregnancy (including spina bifida). Pregnant women are a at increased risk if they:

- have previously had an NTD-affected pregnancy
- have a family history of NTD, or your partner has a family history
- are affected by a NTD yourself, or your partner is affected by NTD
- are on insulin treatment for diabetes
- are taking medications known to affect folate metabolism, such as anti-convulsants, infertility treatment, vitamin A analogues used to treat acne and some anti-tumour agents (eg, carbemazepine, clomiphene, valproate, retinoids and etretinate). Source: http://www.health.govt.nz/your-health/healthy-living/pregnancy/nutrition-during-pregnancy



Immunisations

Influenza will only show up during the flu season See section 5.6

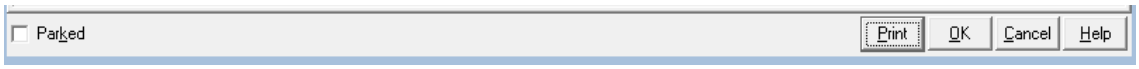


Risk Assessment and Referral

If the pregnant woman has indicated positively to the screening in section two or three this will automatically populate to at risk. This can be unselected.

If the expectant mother is deemed 'at risk' and has not booked with a midwife she can be referred to the Maternal Navigator who can support her through the process, and follow-up to ensure she is connected with an LMC.

Referral via the maternal navigator can also be made for Pepi-pods, Pregnancy and Parenting Classes and Healthy Homes NB: Indicate reason for referral in the free type box.



Selecting 'Print' will print the form , which is given to the expectant mother to be given to her chosen LMC.

Telephone and online support are also available:

Pregnancy Counselling Services : Call the helpline on 0800 PREGNANT(0800 772 462).

http://www.pregnancycounselling.org.nz/

SECTION 3: CLINICAL INFORMATION

3.1 Refresher course

PRACTICE Doctor

Obstetrics: a GP refresher course

Sadly, the days are almost over when the GP was the professional who most often guided women through pregnancy, attended childbirth, and supported mother and child thereafter. The family doctor was the lynchpin of a maternity team of midwives, Plunket nurses, obstetricians and other health professionals. Now, the GP has virtually disappeared from that loop and patient care has diminished as a consequence. Recently, a groundswell has begun to reintegrate GPs into the team. This is the first in a series of articles by Auckland obstetrician **Lynda Batcheler**, designed to provide a 'refresher' in obstetrics for the GP currently largely excluded from the maternity system

Part 1: Pre-pregnancy counselling

Lynda Batcheler

Fertility

For a woman in her early 30s hoping for children, time is not her friend. By the late 30s, fertility rates have declined sharply and miscarriage rates have increased, and the situation only worsens exponentially from then on.

It is important a woman knows delaying having a family because "the time isn't right" might be unwise, particularly if she has a history of endometriosis or polycystic ovaries or pelvic infection which may exacerbate fertility problems. If pregnancy has not occurred within 12 months of "trying", or after six months in women over 35 years, referral for advice should be made.

Rubella status

Assessment of rubella IgG levels before pregnancy enables vaccination of non-immune women. All women with IgG levels considered not protective against rubella infection should be immunised before pregnancy. IgG levels of more than 11 IU/ml are considered protective against rubella infection.

MMR or single antigen rubella vaccine should be offered to non-immune women who are not pregnant. Seroconversion should occur in 95 per cent of women thus vaccinated and this level of protection should last for 16 years after vaccination.

Although rubella vaccine is a live virus and should not be administered to pregnant women, no cases of congenital rubella syndrome have been documented when vaccination has occurred inadvertently in pregnancy.

It is normally recommended pregnancy be delayed for three months after administration of rubella vaccine.

Folic acid

Periconceptual supplementation with folate (folic acid) can reduce the occurrence of both "first occurrence" and "recurrence" neural tube defects. Folate is a B vitamin vital for synthesis of nucleic acids and pyramidines and is thus involved in cell division.

The following doses of folate are recommended to prevent neural tube defects:

- to prevent an index case: 0.8mg (800ug) folate for three months before pregnancy and the first 13 weeks of pregnancy
- to prevent a recurrent case or if there is a family history of neural tube defects: 5mg (5000ug) folate for three months before pregnancy and the first 13 weeks of pregnancy.

There is some evidence folate 0.8mg and an additional multivitamin, such as the preparation Elevit, may reduce the incidence of other congenital anomalies. Multivitamin preparations containing vitamin A should be avoided in pregnancy.

Lifestyle issues

A woman planning a pregnancy is usually very motivated to cast off bad habits for the good of her baby.

A GP is ideally placed to discuss principles of nutrition, alcohol moderation and the cessation of smoking or recreational drugs.

Regular exercise should be encouraged.

Medical conditions

Women with existing medical conditions, such as diabetes, epilepsy, and medicated chronic hypertension, should have a specialist review before pregnancy.

The GP is ideally placed to offer pre-pregnancy counselling

Some rare conditions, such as Ehlers-Danlos syndrome and Marfan syndrome, carry a risk of maternal death and thorough pre-pregnancy assessment and counselling is essential for optimum care. A GP is critical for referring these women on for such review.

Far more common a cause of obstetric complications are weight issues – particularly obesity. Pre-pregnancy weight control and ongoing pregnancy weight watching is strongly recommended, and this is very much in the GP's domain.

Mental health issues

Suicide and homicide feature increasingly in maternal death statistics. It is critical to identify and manage depression, and acknowledge and sort out domestic violence issues, before pregnancy to help reduce these dreadful events.

Cervical smears

Check cervical smear tests are up to date. It is helpful to take cervical and vaginal swabs, and treat infections if present.

General advice

Remind the woman to keep a record of her last menstrual period date. Explain to her whom to call and what to do to seek pregnancy care once she gets a positive pregnancy test.

Lynda Batcheler is an obstetrician and gynaecologist at the Auckland Obstetrics Centre. She has a particular interest in recurrent miscarriage and high-risk pregnancy D

This is the first of 5 articles that comprise a useful refresher

From : http://www.nzdoctor.co.nz/media/26905/07nov-obstetricsrefreshercourse.pdf

3.2 NICE Guideline

(THESE ARE UK GUIDELINES AND NEED TO BE INTERPRETED FOR LOCAL CONDITIONS)

Anaemia

Pregnant women should be offered screening for anaemia. Screening should take place early in pregnancy (at the booking appointment) and at 28 weeks when other blood screening tests are being performed. This allows enough time for treatment if anaemia is detected.

Haemoglobin levels outside the normal UK range for pregnancy (that is, 11 g/100 ml at first contact and 10.5 g/100 ml at 28 weeks) should be investigated and iron supplementation considered if indicated.

Blood grouping and red-cell alloantibodies
Women should be offered testing for blood group and rhesus D status in early pregnancy.

Asymptomatic bacteriuria

New Women should be offered routine screening for asymptomatic bacteriuria by midstream urine culture early in pregnancy. Identification and treatment of asymptomatic bacteriuria reduces the risk of pyelonephritis.

Asymptomatic bacterial vaginosis

Pregnant women should not be offered routine screening for bacterial vaginosis because the evidence suggests that the identification and treatment of asymptomatic bacterial vaginosis does not lower the risk of preterm birth and other adverse reproductive outcomes.

Chlamydia trachomatis

At the booking appointment, healthcare professionals should inform pregnant women younger than 25 years about the high prevalence of chlamydia infection in their age group, and give details of their local National Chlamydia Screening Programme.

New Chlamydia screening should not be offered as part of routine antenatal care.

Cytomegalovirus

The available evidence does not support routine cytomegalovirus screening in pregnant women and it should not be offered.

Hepatitis B virus

Serological screening for hepatitis B virus should be offered to pregnant women so that effective postnatal interventions can be offered to infected women to decrease the risk of mother-to-child transmission.

Hepatitis C virus

Pregnant women should not be offered routine screening for hepatitis C virus because there is insufficient evidence to support its clinical and cost effectiveness.

HIV

women should be offered screening for HIV infection early in antenatal care because appropriate antenatal interventions can reduce mother-to-child transmission of HIV infection.

A system of clear referral paths should be established in each unit or department so that pregnant women who are diagnosed with an HIV infection are managed and treated by the appropriate specialist teams.

Rubella

1.8.8.1Rubella susceptibility screening should be offered early in antenatal care to identify women at risk of contracting rubella infection and to enable vaccination in the postnatal period for the protection of future pregnancies.

Group B streptococcus

Pregnant women should not be offered routine antenatal screening for group B streptococcus because evidence of its clinical and cost effectiveness remains uncertain.

Syphilis

Screening for syphilis should be offered to all pregnant women at an early stage in antenatal care because treatment of syphilis is beneficial to the mother and baby.

Because syphilis is a rare condition in the UK and a positive result does not necessarily mean that a woman has syphilis, clear paths of referral for the management of pregnant women testing positive for syphilis should be established.

Gestational diabetes

New Screening for gestational diabetes using risk factors is recommended in a healthy population. At the booking appointment, the following risk factors for gestational diabetes should be determined:

- body mass index above 30 kg/m2
- previous macrosomic baby weighing 4.5 kg or above
- previous gestational diabetes (refer to 'Diabetes in pregnancy' [NICE clinical guideline 63].
- family history of diabetes (first-degree relative with diabetes)
- family origin with a high prevalence of diabetes:

Women with any one of these risk factors should be offered testing for gestational diabetes (refer to 'Diabetes in pregnancy' [NICE clinical guideline 63].

In order to make an informed decision about screening and testing for gestational diabetes, women should be informed that:

- in most women, gestational diabetes will respond to changes in diet and exercise
- some women (between 10% and 20%) will need oral hypoglycaemic agents or insulin therapy if diet
- and exercise are not effective in controlling gestational diabetes
- if gestational diabetes is not detected and controlled there is a small risk of birth complications such as shoulder dystocia
- a diagnosis of gestational diabetes may lead to increased monitoring and interventions during both pregnancy and labour.

New Screening for gestational diabetes using fasting plasma glucose, random blood glucose, glucose challenge test and urinalysis for glucose should not be undertaken.

Blood grouping and red-cell alloantibodies

Women should be offered testing for blood group and rhesus D status in early pregnancy.

It is recommended that routine antenatal anti-D prophylaxis is offered to all non-sensitised pregnant women who are rhesus D-negative4.

Women should be screened for atypical red-cell alloantibodies in early pregnancy and again at 28 weeks, regardless of their rhesus D status.

Pregnant women with clinically significant atypical red-cell alloantibodies should be offered referral to a specialist centre for further investigation and advice on subsequent antenatal management.

If a pregnant woman is rhesus D-negative, consideration should be given to offering partner testing to determine whether the administration of anti-D prophylaxis is necessary.

Pre-eclampsia

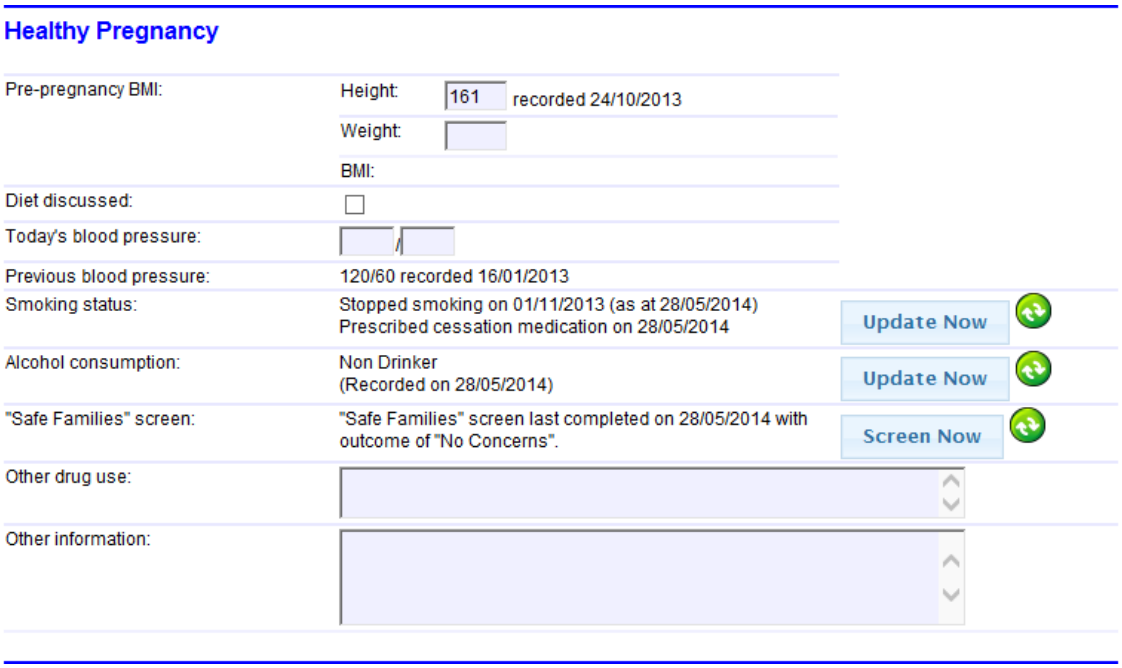
New Blood pressure measurement and urinalysis for protein should be carried out at each antenatal visit to screen for preeclampsia.

New At the booking appointment, the following risk factors for preeclampsia should be determined:

- age 40 years or older
- nulliparity
- pregnancy interval of more than 10 years
- family history of preeclampsia
- previous history of preeclampsia
- body mass index 30kg/m2 or above
- preexisting vascular disease such as hypertension
- preexisting renal disease
- multiple pregnancy.

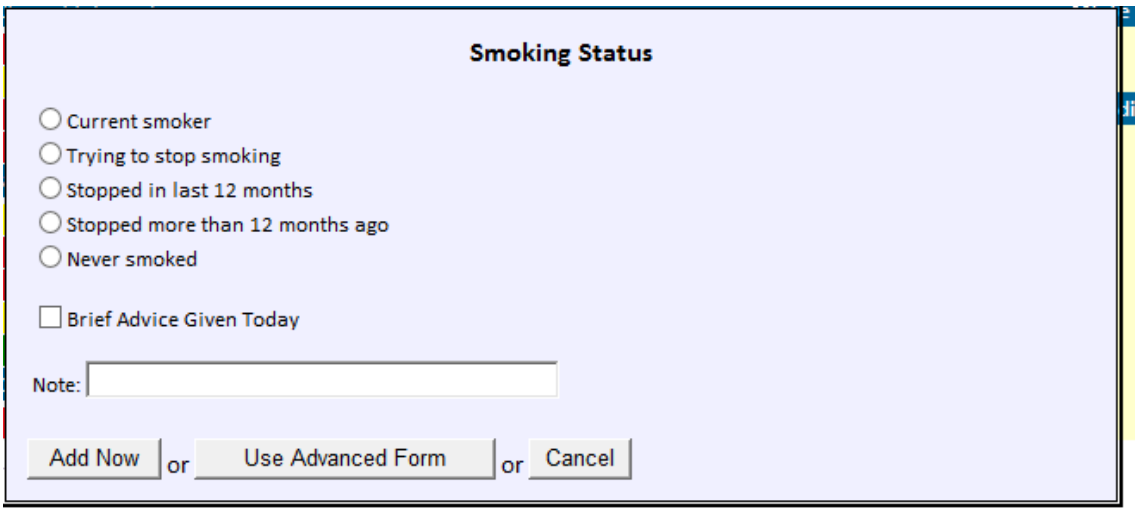
http://publications.nice.org.uk/antenatal-care-cg62/guidance

Healthy Pregnancy

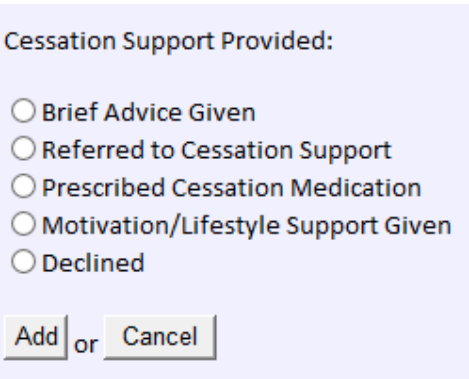


3.3 ADRESSING SMOKING DURING PREGNANCY

Selecting the ‘update now button will take you to this screen



Brief advice given today will take you to this screen



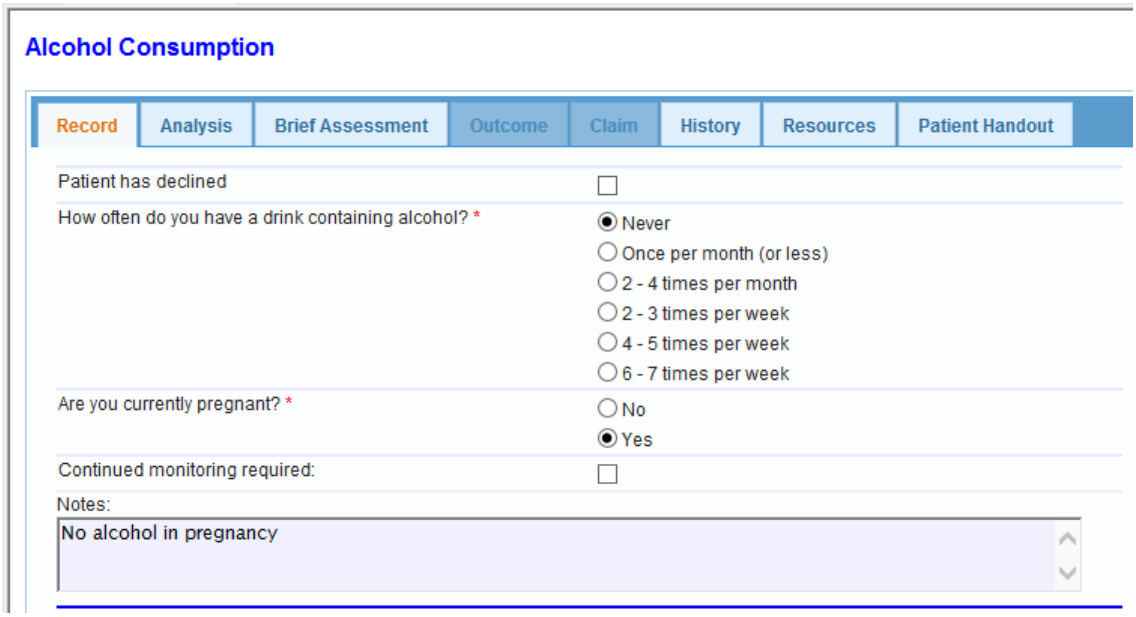
Supporting pregnant women to stop smoking

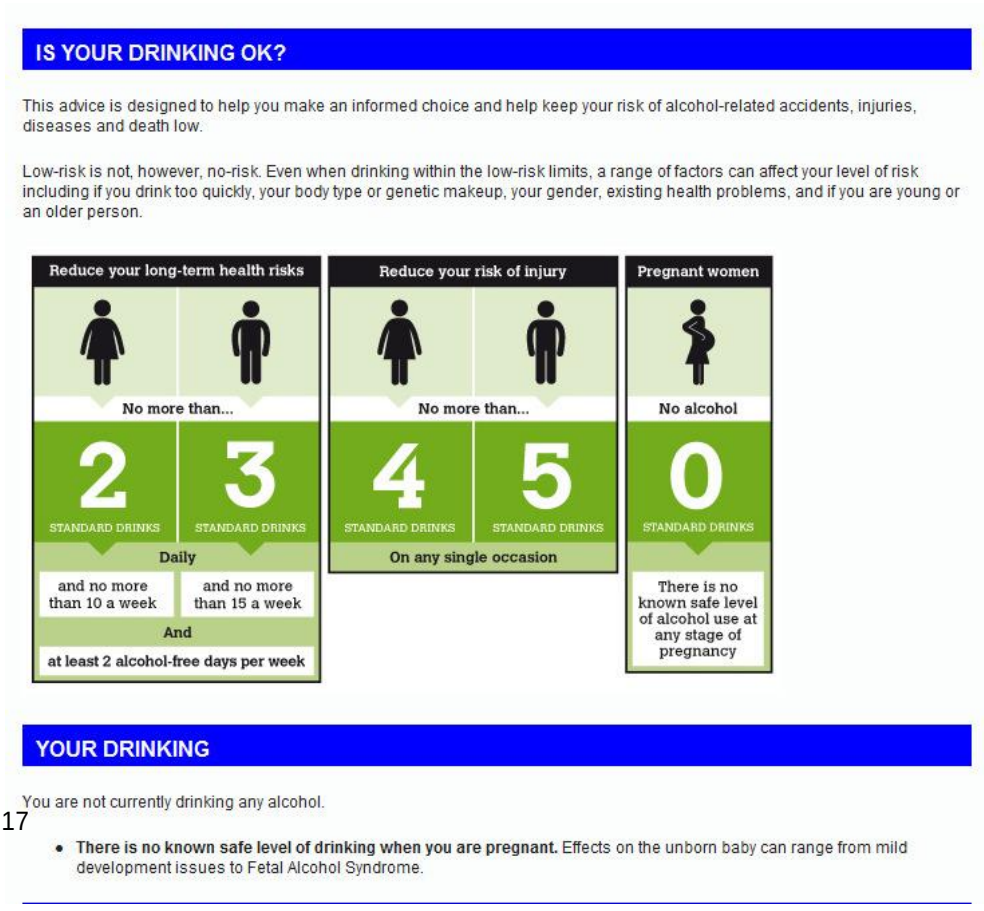
- Pregnant women expect clear, honest and non- judgemental communication about smoking.
- A woman's belief in whether she can stop smoking may be important in motivating a change in smoking behaviour.
- Strongly recommend that all pregnant women who smoke use a stop-smoking service to help them stop; and make a referral as appropriate.
- Continue to offer cessation support throughout the pregnancy to all pregnant women who continue to smoke.
- Postnatal relapse is common in women who stop smoking during pregnancy. These women may benefit from referral to a stop-smoking service around the time of birth to help them remain smokefree.

  http://www.health.govt.nz/publication/new-zealand-guidelines-helping-people-stop-smoking

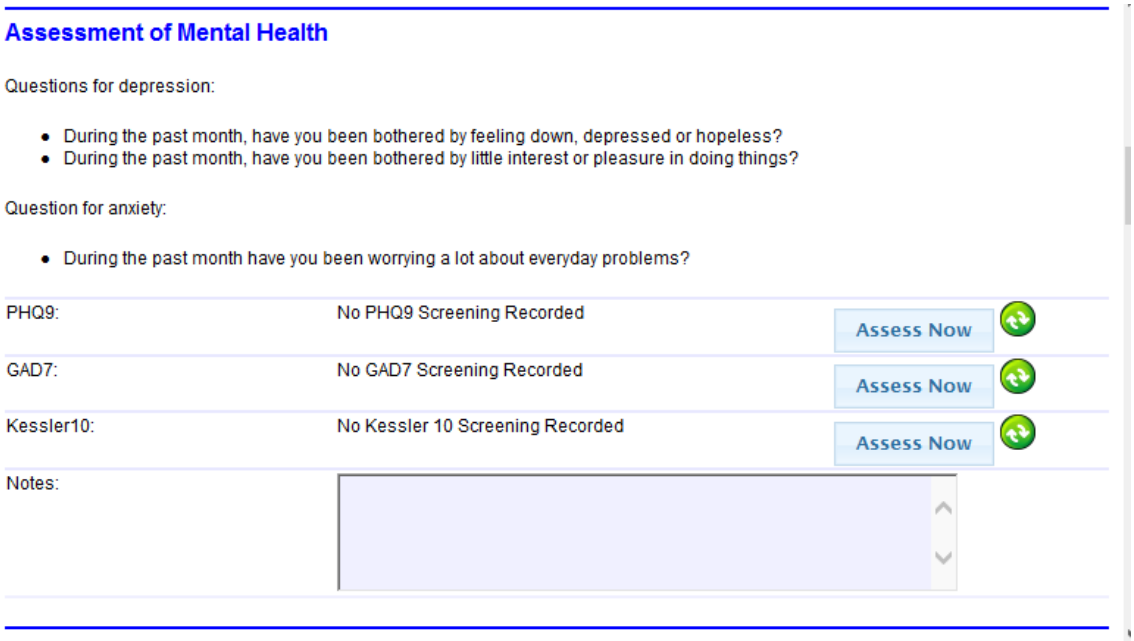
3.4 ADRESSING ALCOHOL DURING PREGNANCY

Selecting 'update now' will take you to this screen

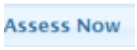




3.5 ADDRESSING MENTAL HEALTH



Click on:



This takes you to the BPAC Suite : Questionnaires for Anxiety, Stress and Depression

GAD7
Kessler 10
PHQ-9

Choose any or all of these questionnaires to complete to assess further mental health concerns. These forms can also be used to monitor mental wellbeing through pregnancy.

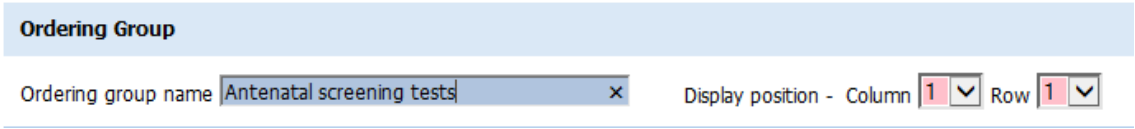
3.6 LABORATORY TESTING

Laboratory testing: You can set up the routine antenatal screening tests in Medtech which allows direct access to the lab request form from the Early Pregnancy form.

 click on the lab icon in Medtech then on the create your own group as below:

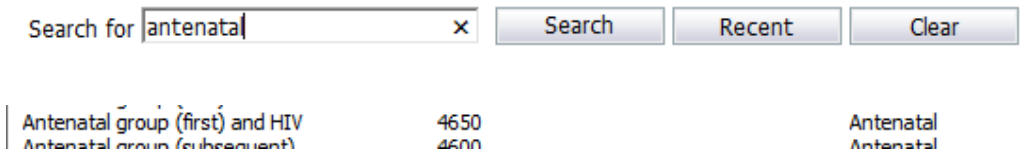
 Create your own ordering groups using this icon. Use the right-click menu to delete or modify an existing group.

Name the group for example " Antenatal screening tests"

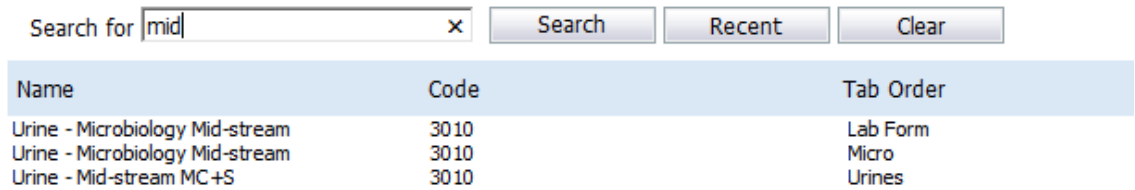


Search for antenatal

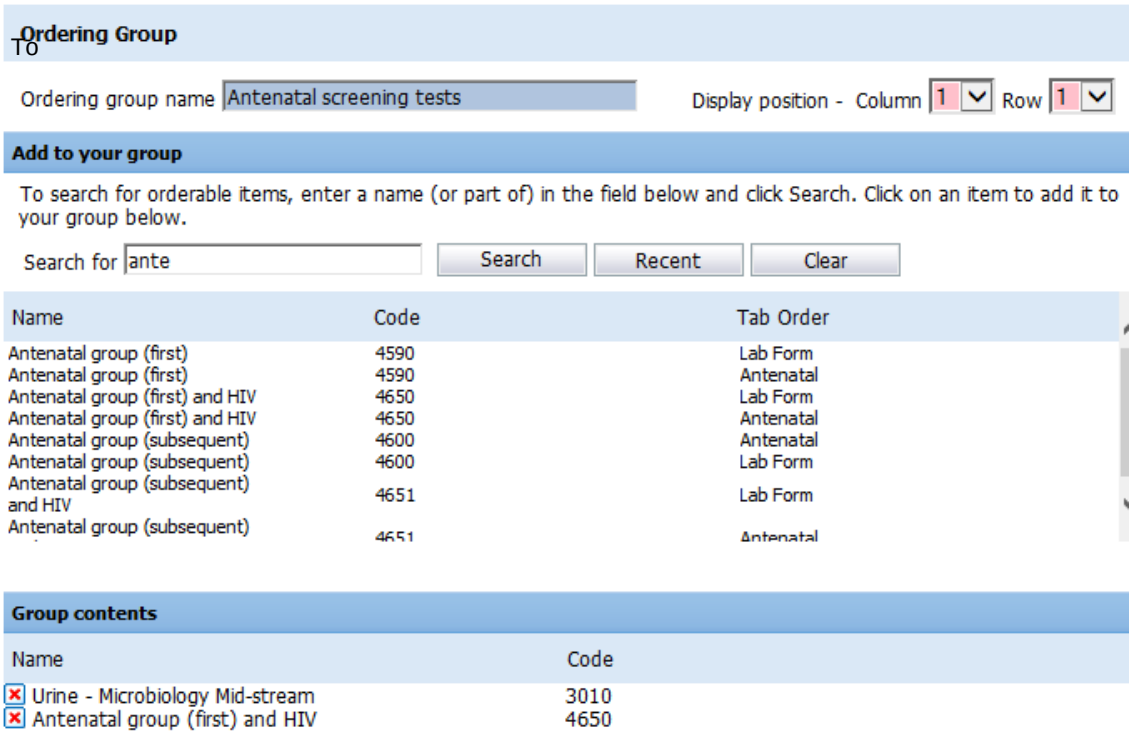
Choose :



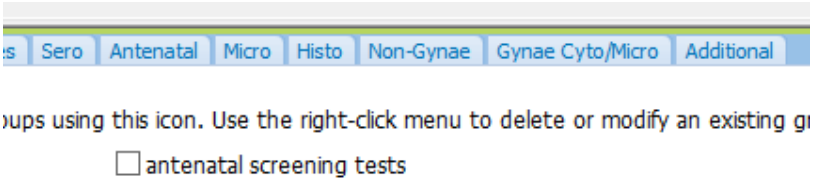
Also add an MSU

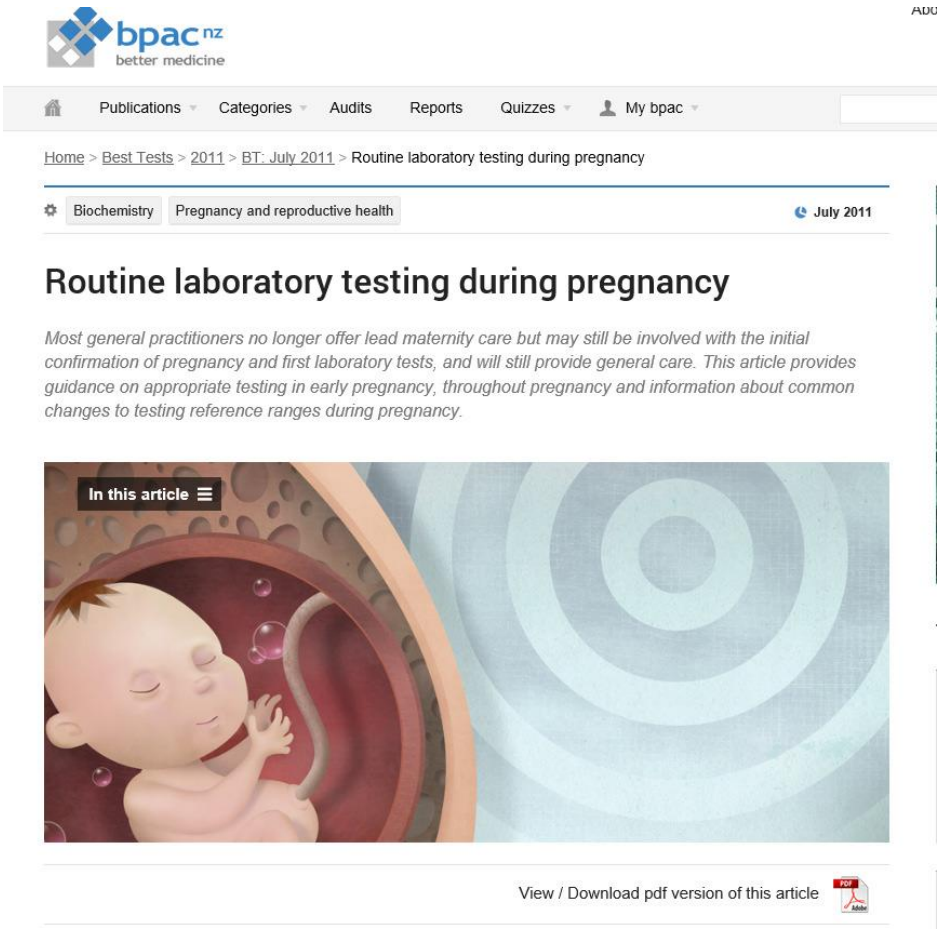


This page will lead to this ready to order test request:



To order antenatal screening lab tests from then on choose them as below:





3.7 INFECTION RISK

Swabs taken for chlamydia:	○ Yes ◉ No ○ Not Clinically Indicated
High vaginal swab taken:	○ Yes ◉ No ○ Not Clinically Indicated
Notes:	

http://publications.nice.org.uk/antenatal-care-cg62/guidance#screening-for-infections

SECTION 3: Clinical Information

3.6.1 SCREENING FOR INFECTION (these are UK NICE guidelines)

Asymptomatic bacteriuria

New Women should be offered routine screening for asymptomatic bacteriuria by midstream urine culture early in pregnancy. Identification and treatment of asymptomatic bacteriuria reduces the risk of pyelonephritis.

Asymptomatic bacterial vaginosis

Pregnant women should not be offered routinescreeningfor bacterial vaginosis because the evidence suggests that theidentificationand treatment of asymptomatic bacterial vaginosis does not lower the risk of preterm birth and other adversereproductive outcomes.

Chlamydia trachomatis

New At the booking appointment, healthcare professionals should inform pregnant women younger than25 years about the high prevalence of chlamydia infection in their age group, and give details of their local National Chlamydia Screening Programme.

New Chlamydiascreening should not be offeredas partof routine antenatal care.

Cytomegalovirus

The available evidencedoesnot support routine cytomegalovirus screening in pregnant womenand it should not be offered.

Hepatitis B virus

Serological screening for hepatitis B virus should beoffered to pregnant womenso that effectivepostnatal interventions can be offeredto infected women to decrease the risk of mother-to-childtransmission.

Hepatitis C virus

1.8.6.1 Pregnant women should not be offeredroutine screeningfor hepatitis C virus because there isinsufficient evidenceto support itsclinical and cost effectiveness.

HIV

Pregnant women should be offeredscreening for HIVinfection early in antenatal care because appropriateantenatal interventions can reduce mother-to-child transmissionof HIVinfection.

A system ofclear referralpaths should be establishedin eachunit or department so that pregnant women who arediagnosed with an HIV infection aremanaged and treated by the appropriate specialist teams.

Rubella

Rubella susceptibility screening should be offered early in antenatal care to identify women at risk of contracting rubella infection and to enable vaccination in the postnatal period for the protection of future pregnancies.

Group B streptococcus

Pregnant women should not be offered routine antenatal screening for group B streptococcus because evidence of its clinical and cost effectiveness remains uncertain.

Syphilis

Screening for syphilis should be offered to all pregnant women at an early stage in antenatal care because treatment of syphilis is beneficial to the mother and baby.

Because syphilis is a rare condition in the UK and a positive result does not necessarily mean that a woman has syphilis, clear paths of referral for the management of pregnant women testing positive for syphilis should be established.

Toxoplasmosis

Routine antenatal serological screening for toxoplasmosis should not be offered because the risks of screening may outweigh the potential benefits.

Pregnant women should be informed of primary prevention measures to avoid toxoplasmosis infection, such as:

- washing hands before handling food
- thoroughly washing all fruit and vegetables, including ready prepared salads, before eating
- thoroughly cooking raw meats and ready prepared chilled meals
- wearing gloves and thoroughly washing hands after handling soil and gardening avoiding cat faeces in cat litter or in soil.

3.8 IMMUNISATIONS DURING PREGNANCY

Immunisation

Pertussis:	No recall recorded for 28-38 week pertussis immunisation.	Add Recall Now
Influenza:	No influenza vaccination recorded.	Record Now

http://www.bpac.org.nz/BPJ/2014/April/pertussis.aspx

Immunisation | Infections | Pregnancy and reproductive health | Public health | BPJ 60 April 2014

Pertussis immunisation in pregnancy

New Zealand is slowly emerging from its most recent outbreak of pertussis. The highest-risk period for pertussis in infants is in the first six months of life, prior to the completion of their full course of infant immunisation. Almost all deaths due to pertussis occur in infants aged six months or under. Improving total immunisation coverage remains the best means of protecting young children from pertussis. However, pertussis immunisation of the mother while pregnant provides some passive immunity to the infant during their first six months of life, so is strongly recommended.

http://www.health.govt.nz/your-health/conditions-and-treatments/diseases-and-illnesses/influenza/flu-stories/flu-protection-pregnancy-

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