

The role of the **primary healthcare team** in **pregnancy care**

Pregnancy is a time when women are likely to engage with a number of different healthcare professionals. Effective communication between providers helps to ensure the best outcomes for the mother and her family. Most lead maternity care (LMC) services in New Zealand are provided by midwives, however, other health professionals, e.g. general practitioners, nurse practitioners, nurses and pharmacists, should still actively engage with pregnant women to check on their wellbeing and offer additional support or intervention if needed.

KEY PRACTICE POINTS:

- The LMC is the main point of contact and care for women during pregnancy and for the first six weeks post-partum, however, other healthcare professionals, e.g. general practitioners, nurse practitioners, nurses and pharmacists, are also likely to be involved in providing aspects of care; this can in some cases lead to fragmentation and loss of continuity of care, therefore communication and a collaborative approach is essential.
- The first antenatal consultation, which may not be with the LMC, should include an update of the woman's medical, surgical, obstetric, psychological, family and social history, a review of prescribed and over-the-counter medicines, and relevant examinations (e.g. blood pressure, weight and height) and investigations (e.g. antenatal blood tests, mid-stream urine and first trimester screening tests)
- Check that pregnant women are taking folic acid, which should be continued until the end of the 12th week of pregnancy, and iodine for the duration of pregnancy and while breastfeeding. Provide information about healthy eating and physical activity during pregnancy, including foods to avoid, and the importance of avoiding alcohol and illicit drugs
- Encourage a smokefree family/whānau throughout pregnancy and postpartum. Non-pharmacological strategies are first-line for smoking cessation in pregnant women, however, pharmacological treatment may be considered for those who require additional support.
- Pertussis vaccination is now funded for pregnant women from the 16th week of pregnancy and for the parents or primary caregivers of infants who are in a neonatal intensive care unit or specialist care baby unit for more than three days
- Influenza vaccination is fully funded for pregnant women and can be offered at any time during pregnancy

Ensuring continuity of pregnancy care

While most lead maternity care (LMC) services in New Zealand are provided by midwives, many other healthcare professionals may be involved in caring for a woman before, during and after pregnancy, e.g. general practitioners, obstetricians, nurse practitioners, nurses and pharmacists. The roles of these health professionals may include providing pre-conception information, confirming pregnancy, managing acute or long-term conditions, giving advice about medicines use, offering pertussis and influenza vaccinations and providing ongoing postnatal support to the mother, infant, their partner and family/whānau.

To ensure the best quality care, effective communication between all health professionals involved in caring for a pregnant woman is needed, however, there may not always be clear paths for this to happen. It can also be difficult for non-LMC healthcare professionals to become more involved in the care of pregnant women as the services may not be funded.* However, it is important that women are aware that the wider primary healthcare team can be involved in their pregnancy care if required. Furthermore, staying engaged with pregnant women provides opportunities to identify and offer early intervention and support for health concerns that may arise during pregnancy, e.g. perinatal depression or anxiety, and has also been shown to improve infant immunisation rates and timeliness.¹

* Maternity non-LMC services (i.e. consultations that are either additional to lead maternity care [e.g. first antenatal visit] or on a casual basis [e.g. patient is travelling]) and specialist medical maternity services (i.e. if the woman is referred by their LMC for consultation with another clinician or is transferred to specialist obstetric care) are funded. N.B. Only one non-LMC maternity service fee can be claimed for the first trimester, per woman, per pregnancy.

Strategies to encourage general practice engagement with pregnant patients

There are a number of strategies that can encourage communication between health professionals involved in the care of pregnant women and facilitate an ongoing relationship between pregnant women and general practice. For example:¹

- Have a member of the healthcare team follow up with the woman soon after the confirmation of pregnancy to ensure that she has found a LMC
- Keep a record of the woman's chosen LMC and estimated delivery date
- Write a "Dear LMC" letter for women early in pregnancy to share information about long-term conditions, medicine use and relevant personal circumstances
- Set a recall in the patient management system for

pertussis and annual influenza vaccinations (see: "Access to funded pertussis vaccination widened from 1 July, 2019"). Attendance for vaccination is also an opportunity to check on the wellbeing of the mother and her family.

- Ask whether the woman has seen any other health professional recently regarding her pregnancy, and what advice or recommendations they may have given
- Have a member of the healthcare team contact the woman one month before the estimated delivery date to enquire how the pregnancy is progressing
- Make contact with the family, e.g. by letter or a phone call, to invite them to attend the practice for the infant's six-week check and vaccinations and check on their wellbeing

Early pregnancy care: the first antenatal consultation

The first antenatal consultation typically involves the confirmation of pregnancy, a range of standard investigations and a discussion about first trimester screening for Down syndrome and other genetic conditions (see: "Antenatal consultation checklist"). Many women will choose to have this consultation with their general practitioner, and the results later forwarded to their LMC. However, if the woman is likely to enrol with a LMC in the near future and there are no immediate pregnancy concerns, she may choose to delay some of the investigations until the first LMC appointment, e.g. first antenatal blood tests.

Antenatal consultation checklist

The checklist below covers a comprehensive assessment of the woman that can be individualised depending on what information is already available, e.g. if she has attended for pre-conception care.

 For information on pre-conception planning, see: www.bpac.org.nz/BPJ/2011/april/preconception.aspx

In general, the consultation should cover:

History:

- Estimate pregnancy dates based upon last menstrual period
- Enquire about any pain or bleeding
- Discuss plans for the pregnancy, i.e. continuing with the pregnancy, adoption or whāngai, or termination
- Update the medical, surgical, obstetric, psychological, family and social history, including screening for family violence and checking family/whānau support, housing and financial stability. Review use of prescribed and over-the-counter medicines, herbal supplements, alcohol or

illicit substances, and smoking status. Check whether the woman is up to date with her cervical smear testing and flag for review after pregnancy, if necessary.

 See “Community pharmacy guide on medicine safety in pregnancy”: www.bpac.org.nz/2019/pregnancy-care.aspx for further information on the use of OTC medicines in pregnancy and some of the prescription medicines that are cautioned or contraindicated in pregnancy.

Examination:

- Blood pressure and cardio-respiratory examination
- Height, weight, body mass index (BMI)
- Antenatal blood tests:
 - Complete blood count
 - Blood group, Rhesus factor and antibodies
 - Rubella antibody status
 - Hepatitis B serology
 - Syphilis serology; for more information, see: www.bpac.org.nz/2019/syphilis.aspx
 - HIV – the Ministry of Health recommends that all pregnant women be routinely offered HIV testing; testing is automatically included as part of the antenatal blood tests in some DHBs, in others it must be requested separately.
 - HbA_{1c}
 - Ferritin

Provide the woman with information about the purpose of each test, how they wish to receive the results and what a positive result means for their pregnancy. Patient information is available from: www.nsu.govt.nz/system/files/resources/antenatalbloodtests19jan16.pdf

- Mid-stream urine sample to detect asymptomatic bacteriuria (see: “Treating urinary tract infections in pregnancy: antibiotic choices”)
- Check vaccination status and provide information on eligibility for funded vaccination for pertussis (from the 16th week of pregnancy) and influenza (at any time during pregnancy). Consider checking varicella antibody status if no or uncertain history of chicken pox or shingles. Advise women who are not immune to avoid contact with chicken pox where possible as this vaccination cannot be given during pregnancy.
- Sexually transmitted infection testing as indicated by the woman’s history
- Consider a pelvic examination if clinically indicated

Management:

- Prescribe folic acid or if the woman is already taking folic acid, ensure that they are taking the recommended dose:
 - 0.8 mg, daily, until the end of the 12th week of gestation, is recommended for women who are at low

risk of conceiving a child with neural tube defects

- 5 mg, daily, until the end of the 12th week of gestation, is recommended for women who are at higher risk of conceiving a child with neural tube defects, i.e. those with coeliac disease (or other malabsorption syndrome), diabetes, BMI > 30 kg/m², sickle-cell anaemia, taking antiepileptic medicines, or if either partner has personal or family history of neural tube defects²
- Prescribe iodine, 150 micrograms, daily, or if the woman is already taking iodine, ensure that she knows to continue this for the duration of pregnancy and while breastfeeding. N.B. It is now recommended that women who are planning pregnancy also take iodine prior to conception as well as folic acid.³
- Prescribe colecalciferol (1.25 mg, once a month) during pregnancy if the woman is at risk of vitamin D deficiency, e.g. those with darker skin or who are veiled, those who spend lots of time indoors or who have a diet deficient in vitamin D.⁴
- Prescribe low-dose aspirin (100 mg [enteric-coated], once daily, at night) and calcium carbonate (1 g, once daily) if the woman is at high risk of pre-eclampsia. See the Ministry of Health guidelines for further information, available from: www.health.govt.nz/system/files/documents/publications/diagnosis-and-treatment-of-hypertension-and-pre-eclampsia-in-pregnancy-in-new-zealand-v3.pdf
- Consider low-dose aspirin (100–150 mg [enteric-coated]) prior to 16 weeks gestation for women at increased risk of fetal growth restriction, e.g. age > 35 years, BMI > 30 kg/m², obstetric history of fetal growth restriction, small for gestational age, or pre-eclampsia. For further information on risk factors, see: www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/PSANZ-StillbirthCRE-FGR_PositionStatement_Final_2018.pdf
- Follow the general management recommendations for any medical conditions, e.g. depression, asthma or thyroid dysfunction
- Provide information on, or referral to, local services if a need for additional support is identified. Patient information and links to resources is available from: www.healthnavigator.org.nz/support/p/pregnancy/ and www.pregnancyhelp.org.nz/links/

Discuss and provide information on:

- Finding a LMC: provide women with a letter detailing their medical history and medicines for the LMC. An online resource for finding a midwife in New Zealand is available from: <https://findyourmidwife.co.nz/>

- How to stay healthy during pregnancy, e.g. foods to avoid due to risk of listeria infection, healthy eating and physical activity, and advice for smoking, alcohol or illicit drug use cessation (refer if necessary) (see: "Encouraging smokefree families"). Patient information is available from: www.healthnavigator.org.nz/media/1001/pregnancy-what-do-you-need-to-know.pdf and www.healthed.govt.nz/resource/your-pregnancyt%C5%8D-hap%C5%ABtanga
- Screening for genetic conditions, i.e. blood test and ultrasound for Down syndrome and other genetic conditions, and chorionic villus sampling or amniocentesis. Patient information is available from: www.nsu.govt.nz/pregnancy-newborn-screening/antenatal-screening-down-syndrome-and-other-conditions
- Nitrate testing of water levels if they have a rural or bore water supply, particularly in Canterbury and Taranaki. Further information is available from: www.healthed.govt.nz/system/files/resource-files/HE1129.pdf

Ongoing care during pregnancy

Women may experience acute or long-term health conditions in pregnancy that require support from general practice or other primary healthcare providers, or secondary care. In some instances, this may involve a formal referral by the woman's LMC, in others, a woman may present without referral, e.g. for pertussis or influenza vaccination, or treatment for a urinary tract infection (see: "Treating urinary tract infections in pregnancy: antibiotic choices" and "Access to funded pertussis vaccination widened from 1 July, 2019"). These presentations

provide opportunities to check on the woman's wellbeing and remind her that her wider primary care team can be involved in supporting aspects of her pregnancy care.

The Ministry of Health has guidelines for LMCs on referral during and after pregnancy

The Ministry of Health guidelines enable LMCs to offer referral and co-ordinate care for pregnant women who have long-term conditions or who develop acute problems during pregnancy and labour. This also includes the care of both mother and infant after delivery. The guidelines provide a comprehensive list of medical and surgical conditions and recommendations on the action required. There are four referral categories:

- **Primary*** – the LMC may recommend consultation with a primary care provider, e.g. general practitioner, another midwife, physiotherapist, lactation consultant, smoking cessation services, drug and alcohol services, maternal mental health services
- **Consultation** – the LMC must recommend consultation with a specialist, i.e. an obstetrician or other relevant specialist
- **Transfer** – the LMC must recommend transfer of responsibility for care to a specialist
- **Emergency** – clinical responsibility is immediately transferred to the most appropriate practitioner available

* This category was added in the most recent update to the guidelines in 2012.

The referral category depends on the type and severity of the condition and the skills and experience of the LMC. For example,

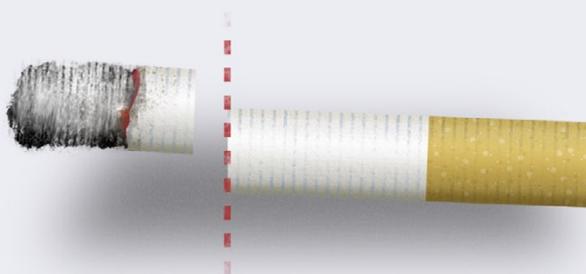
Encouraging smokefree families

All women who are pregnant who smoke and anyone in their home environment who smokes should be encouraged to stop and offered cessation support as early in the pregnancy as possible. Women and their families can be referred to smoking cessation services, e.g. Quitline or local Stop Smoking Service providers. Non-pharmacological interventions for smoking cessation are first-line during pregnancy, however, pharmacological interventions may be used by pregnant women who are unable to stop on their own.⁴

Nicotine replacement therapy (NRT) is the preferred choice if pharmacological treatment is required. NRT is preferable to continuing to smoke and the benefits of treatment, i.e. smoking cessation, outweigh any potential

risks to the fetus.⁴ Bupropion or varenicline may be considered during pregnancy if the expected benefits are greater than the potential risks, however, there are limited data regarding the safety of these medicines in pregnancy.⁴

Vaping during pregnancy should be avoided as the effects on fetal development have not been sufficiently studied and evidence from animal studies suggests it may be associated with some harm.⁵



Treating urinary tract infections in pregnancy: antibiotic choices

Urinary tract infections (UTIs), including acute cystitis and pyelonephritis, occur commonly during pregnancy. If untreated, UTIs increase the risk of pre-term delivery and low birth weight. Therefore, it is recommended that:⁶

- All cases of suspected acute cystitis in pregnant women are treated empirically with antibiotics (Table 1), and a urine sample collected and sent for culture. The antibiotic should be changed if the results indicate bacterial resistance to the initial choice.
- A follow up urine culture should be requested one to two weeks after the antibiotic course has been completed to ensure eradication
- Most pregnant women with suspected pyelonephritis should be referred for an acute obstetric assessment

N.B. The recommended treatment regimen for UTI in pregnancy (seven days) is longer than the standard course of three to five days. The longer course reduces the risk of recurrent infection or relapse which may have serious consequences in pregnant women.

Managing recurrent UTIs

Women with recurrent UTIs during pregnancy may require antibiotic prophylaxis. Discuss antibiotic choice and

regimen with a clinical microbiologist or seek written or phone advice from an obstetrician.

Detecting and treating asymptomatic bacteriuria in pregnancy

Asymptomatic bacteriuria during pregnancy has been associated with an increased risk of developing pyelonephritis, pre-term delivery and low birth weight.⁶ All pregnant women should be screened via urine culture for asymptomatic bacteriuria, preferably in the first trimester of pregnancy. If the culture shows bacteriuria, it is recommended that a second culture to confirm the result is performed. If bacteriuria is confirmed, the woman should be treated with antibiotics as per the recommendations in Table 1, with the stage of pregnancy and the results of culture and susceptibility testing guiding antibiotic choice.

Group B streptococcus bacteriuria during pregnancy is associated with an increased risk of neonatal group B streptococcus disease due to vaginal colonisation.⁸ Pregnant women with group B streptococcus bacteriuria (>10⁵ colony-forming units per mL of urine) should be treated at the time of diagnosis with cefalexin or amoxicillin and given prophylactic antibiotic treatment (usually with penicillin G) in established labour.⁸

Table 1. Recommended antibiotic regimens for the treatment of acute cystitis during pregnancy^{4,6}

	Antibiotic	Regimen	Considerations
First choice	Nitrofurantoin	50 mg, four times daily, for seven days	Avoid in women who are ≥ 36 weeks gestation, due to an increased risk of developmental toxicity, those with glucose-6-phosphate dehydrogenase (G6PD) deficiency, or those with creatinine clearance < 60 mL/minute
Alternatives i.e. if no improvement in symptoms after 48 hours or first choice is not appropriate due to the stage of pregnancy, allergy, intolerance or susceptibility results	Trimethoprim	300 mg, once daily, for seven days	Avoid use during the first trimester of pregnancy as it is a folic acid antagonist
	Cefalexin	500 mg, twice daily, for seven days	Only if infecting bacteria known to be susceptible, and resistant to the other choices
	Amoxicillin*	500 mg, three times daily, for seven days	

* Amoxicillin + clavulanic acid may be appropriate if there is bacterial resistant to all other choices. However, amoxicillin + clavulanic acid should be avoided if there are risk factors for premature delivery as it has been associated with an increased risk of neonatal necrotising enterocolitis when used for preterm rupture of membranes.⁷

Access to funded pertussis vaccination widened from 1 July, 2019

Vaccination against pertussis during pregnancy is important because maternal antibodies to pertussis cross the placenta and give protection to premature and full-term infants before they can receive their first vaccination at age six weeks. Previously, vaccination was only funded for women between 28 and 38 weeks gestation, but from 1 July, 2019, access to funded pertussis vaccination* was widened to include women from the 16th week of gestation until the end of the pregnancy, and the parents or primary caregivers of infants admitted to a neonatal or specialist care unit.^{9,10}

For women who are pregnant, it is now recommended that the vaccine be given from 16 weeks of pregnancy, preferably within the second trimester, but at least two weeks prior to birth. This change in the recommended timing of vaccination is to ensure that infants born prematurely before 28 weeks can be exposed to pertussis antibodies through maternal vaccination in the second trimester.¹¹ Observational data has shown that maternal immunisation in the second trimester results in higher pertussis antibody titers in neonates, including in those born prematurely, than vaccination in the third trimester.^{12,13} Immunity to pertussis decreases over time, therefore, it is recommended that a woman is vaccinated during each pregnancy to ensure the fetus is fully protected.

N.B. Pertussis vaccination is recommended, but not funded, for people who are expected to be in close contact with the infant, e.g. partners, grandparents, other family members or friends.¹⁴

Parents or primary caregivers of infants admitted to a Neonatal Intensive Care Unit or Specialist Care Baby Unit for more than three days **and** who had not been exposed to maternal pertussis vaccination at least 14 days before birth, may access vaccination fully funded. If the woman was vaccinated at least 14 days before birth, vaccination is still recommended for the other parent or primary caregivers to protect other infants in the unit, however, this is not funded.

* In combination with diphtheria and tetanus in the Tdap (Boostrix) vaccine

N.B. Waikato and Lakes DHBs are piloting pertussis vaccination for pregnant women at community pharmacies in 2019. LMCs may refer women or pharmacists can discuss and offer vaccine opportunistically.

the LMC midwife may recommend that women with conditions such as asthma, well-controlled epilepsy, depression or an anxiety disorder, hypothyroidism or inactive inflammatory bowel disease consult with their general practitioner. Usually the clinical responsibility for the woman's maternity care will remain with the LMC.

 For the full list of medical and surgical conditions and their referral categories, see: www.health.govt.nz/system/files/documents/publications/referral-glines-jan12.pdf

Postnatal care: use the six-week check as an opportunity to assess the family's mental health and wellbeing

Any time a new parent presents to primary care should be used as an opportunity to assess their mental health, coping strategies and family wellbeing. In some cases, the first interaction general practice may have with the woman and her family after birth will be for the infant's six-week check-up and immunisations. If risks are identified, e.g. lack of family/whānau support, housing or financial instability, refer women to social support services.

Screening questions may be used to identify women who would benefit from a more comprehensive assessment of their mental health, e.g. *How often have you been bothered by:*¹⁵

1. ... *feeling down, depressed or hopeless in the past month weeks?*
2. ... *having little interest or pleasure in doing things in the past month weeks?*
3. ... *feeling nervous, anxious or on edge in the past two weeks?*
4. ... *not being able to stop or control worrying in the past two weeks?*

If the woman reports that she been bothered by any of these issues, a full assessment using a validated depression (e.g. Edinburgh Postnatal Depression Scale [EPDS]) or anxiety (e.g. Generalised Anxiety Disorder-7) questionnaire is recommended.¹⁵

Management of postnatal depression is similar to depression experienced at other life stages, but with additional consideration given to the parent-infant relationship and wellbeing of the infant. Supportive behavioural and psychological interventions are first-line for all women and pharmacological interventions should be considered in addition for women with moderate to severe depression.¹⁵

 An upcoming article will discuss how to identify and treat perinatal depression.

Be alert for signs of neglect or abuse

Health professionals should be vigilant for any signs of neglect or abuse of the infant, e.g. failure to thrive not related to an underlying medical condition, poor hygiene, uncared for medical needs, suspicion or evidence of physical or sexual abuse. The course of action will depend on a risk assessment. Discussion with an experienced colleague or paediatrician is recommended for cases where there is higher or uncertain risk. For example, if neglect is suspected:¹⁶

- Low risk: Consider requesting an assessment by a home visiting service or other relevant parenting support agency
- Medium risk: Complete an Oranga Tamariki (Ministry for Children)* Report of Concern
- High risk: Notify Oranga Tamariki by phone (0508 FAMILY [0508 326 459]) and follow up with a Report of Concern, and/or contact police.

* Oranga Tamariki (Ministry for Children) replaced Child, Youth and Family (CYF) in 2017

From 1 July, 2019, changes to the Oranga Tamariki Act 1989 and Family Violence Act 2018 allow for increased information sharing to protect children, young people and the victims of family violence. Guidance for healthcare professionals on information sharing under these Acts is available from: www.health.govt.nz/system/files/documents/publications/health-professional-guidance-information-sharing-from-1-july-2019.pdf

For further information on detecting child abuse in primary care, see: www.bpac.org.nz/BPJ/2011/september/upfront.aspx

Ask about breastfeeding and provide support

If the woman is breastfeeding, ask how she is managing, if she has any breast or nipple pain, and whether she has any questions or concerns. Give advice on positioning and latching of the infant at the breast or refer to a lactation consultant if needed. Where appropriate, provide advice and reassurance about medicine use while breastfeeding.

Patient information about breastfeeding, including links to other sources of support, is available from: www.health.govt.nz/your-health/pregnancy-and-kids/first-year/helpful-advice-during-first-year/breastfeeding-perfect-you-and-your-baby/problems-breastfeeding

Discuss post-partum contraceptive options

A range of contraceptive options are available to women post-partum, i.e. oral contraceptive pills, depot medroxyprogesterone acetate (DMPA) injection or long-acting reversible contraceptive

(implants or IUDs). Women who are breastfeeding can initiate a progestogen-only oral contraceptive at any time post-partum or a combined oral contraceptive from six weeks post-partum, provided breastfeeding is well established and there are no concerns with the infant's growth.¹⁷ Implants can be inserted at any time and IUDs can be inserted within 48 hours of delivery or anytime after four weeks post-delivery.

For further information on the different contraceptive options, cautions and contraindications, when they can be initiated post-partum and other management information, see: www.bpac.org.nz/2019/contraception/options.aspx

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