



**Inner South Healthy Mothers, Healthy Babies
Best Practice Model Project**

Best practice opportunities – a review

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June 2011

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This review was conducted to inform the Inner South Community Health Service Healthy Mothers Healthy Babies Best Practice Model Project, which was conducted October 2010 – June 2011. For further information about the project and its outcomes please contact:

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1 Overview

To inform the review of best practice for the Inner South Healthy Mothers Healthy Babies Best Practice project, a limited local and international literature search was conducted using the CINHAL, Expanded Academic ASAP and ProQuest databases, as well as Google Scholar search engine. Search terms included: homeless, homelessness, antenatal, prenatal, perinatal, pregnant, pregnancy, outreach, community and midwifery/midwife, health visitors, infant mortality, among others. In addition, local practice exemplars were sought through direct contact or general web-based search of practice relevant to the project.

In the review, key risk factors for poor birth outcomes for pregnant women comprising the ISCHS Community Midwifery Service target group were described. Using infant birth weight as the key indicator of optimal birth outcome, the evidence of best practice and intervention for risk factors contributing to low birth weight form the basis of the discussion. These risk factors rarely exist in isolation in the lives of vulnerable disadvantaged pregnant women with homelessness itself a significant risk factor for adverse pregnancy outcomes. Multiple risk factors create a complex social health problem.

In working with pregnant women who are homeless or at risk of homelessness, the review highlights the role of early intervention, effective engagement and woman-centred service delivery. Collaborative care, service integration, continuity of care, care planning, effective documentation and communication were identified as opportunities for best practice in service delivery for vulnerable pregnant women.

The review found a number of illustrative service models from Australia and overseas, each demonstrating elements of best practice that may be valuable for consideration in developing a holistic service response in the inner south of Melbourne. Among these are innovative strategies to improve access to antenatal care and other services, use of home visiting programs, peer support, group health care, parenting education, community development, literacy programs and use of telephone support.

Examples of interventions and guidelines for service delivery for homeless or at risk women in specific target groups were described. These groups include women with problematic substance abuse, families at risk of poor parenting and attachment, young women, women exposed to violence, Aboriginal women, refugee and migrant women and women with an intellectual disability or acquired brain injury. A number of innovative ideas were discovered, particularly in the work described with young homeless women.

Overcoming poverty, chronic homelessness and housing insecurity for pregnant women and women with children would have a greater impact on health outcomes for the mother and child than the best antenatal care or interventions available in Australia.

2 Key risk factors for the target group

The defining feature of all women in the ISCHS Community Midwifery Service target group is their homelessness, or risk of homelessness, and that they are considered high risk for antenatal care due to this and other psychosocial risk factors. According to best practice antenatal care guidelines in Victoria *'these women usually require additional care from an obstetrician or other specialist'* because (in addition to other possible complications) they have at least one of the following risk factors (Three Centres, 2006):

- Significant environmental factors and lack of social support
- Chemical dependency
- Psychiatric disorders (on medication)
- Significantly underweight

A key indicator, or measure, of optimal birth outcome is infant birth weight. It is a determinant of an infant's survival, health, development and wellbeing, and longer-term health outcomes in adult life. Low birth weight is either the result of a preterm birth (before 37 weeks gestation) or restricted fetal growth, which are independent indicators of antenatal health (Department of Education and Early Childhood Development - DEECD, 2011).

While the risk factors for pre-term birth are still not well understood there is good evidence for the kind of strategies and programs that reduce the rate of low birth weight babies (DEECD, 2011). The following risk factors for low birth weight are discussed in this report as opportunities for intervention and best practice within the context of a community antenatal health service:

- Inadequate antenatal care
- Poor nutrition
- Infection
- Smoking
- Alcohol and drug use
- Exposure to violence
- Maternal stress /emotional and mental health
- Age of mother
- Maternal education

Other risk factors for low birth weight are: size of parents, number of pregnancies, low socio-economic status and illness during pregnancy (DEECD, 2011).

Multiple risk factors create a complex social health problem. The combination of homelessness and substance use greatly increases the risk of adverse perinatal outcomes. A study by Little et al. (2005) examined homelessness and substance use as risk factors for preterm birth and growth restriction. Compared with women with neither risk, one risk factor was associated with triple the rate of preterm birth and growth restricted infants. If both factors were present, the rate of preterm birth was 6 times higher and 5.6 times higher for growth-restricted babies.

The cultural definition of homelessness adopted by Chamberlain and Mackenzie (2001) is commonly used in Victoria to identify people who could be considered 'homeless'. It contends that the state of homelessness is socially constructed and that cultural standards are embedded in the housing practices of a society. In Australia the minimum community standard is a small rental flat—with a bedroom, living room, kitchen, bathroom and an element of security of tenure—because that is the minimum that most people achieve in the private rental market. This cultural standard has led to the identification of three different states of homelessness:

Primary homelessness accords with the common sense assumption that homelessness is the same as 'rooflessness'. It includes all people without conventional accommodation, such as people living on the streets, sleeping in parks, squatting in derelict buildings, or using cars or railway carriages for temporary shelter. Primary

homelessness is operationalised using the census category 'improvised homes, tents and sleepers out'.

Secondary homelessness includes people who move frequently from one form of temporary shelter to another. On census night, it includes all people staying in emergency or transitional accommodation provided under the Supported Accommodation Assistance Program. The starting point for identifying this group is the census category 'hostels for the homeless, night shelters and refuges'. Secondary homelessness also includes people residing temporarily with other households because they have no accommodation of their own. They report 'no usual address' on their census form. Secondary homelessness also includes people staying in boarding houses on a short-term basis, operationally defined as 12 weeks or less.

Tertiary homelessness refers to people who live in boarding houses on a medium to long-term basis, operationally defined as 13 weeks or longer. Residents of private boarding houses do not have a separate bedroom and living room; they do not have kitchen and bathroom facilities of their own; their accommodation is not self-contained; and they do not have security of tenure provided by a lease. They are homeless because their accommodation situation is below the minimum community standard. (Chamberlain and MacKenzie 2001, p.1-2)

Homelessness is a significant risk factor for adverse pregnancy outcomes. Homeless pregnant women are at a higher risk for inadequate nutrition, inadequate weight gain, anaemia, bleeding problems, preterm delivery, fetal distress, and having an infant with a low birth weight than are women with homes (Hamm & Holden 1999; Robrecht & Anderson 1998; Stein et al. 2000).

A 2000 study in the US by Stein, Lu and Gelberg of the birth outcomes of 237 homeless women aged 15 to 44 years found greater severity of homelessness to be a strong predictor of poor birth outcomes for the entire group beyond those risk factors often associated with homelessness, such as substance use and psychological distress. Also, long and frequent periods of chronic homelessness had an even stronger impact on adverse birth outcomes than homelessness during the first trimester of pregnancy. The authors suggest this is due to inadequate nutrition and general neglect of health during homeless times, as well as chronically stressful and devastating life circumstances. They conclude that prenatal care alone cannot be expected to reverse the cumulative effects of chronic homelessness on the reproductive health of homeless women (Stein, Lu & Gelberg 2000, pp. 524-534). Overcoming poverty, chronic homelessness and housing insecurity for pregnant women and women with children would have a greater impact on health outcomes for the mother and child than the best antenatal care or interventions available in Australia.

3 Best practice antenatal interventions

3.1 Early and regular/timely antenatal care

At the time of this report, the Australian National Evidence Based Antenatal Care Guidelines which are being developed were yet to be released.

Evidence-based guidelines applicable to all women (not just low risk women) for the number and timing of routine antenatal visits have been developed by the Three Centres Collaboration in Melbourne (Monash Medical Centre, Mercy Hospital for Women and Royal Women's Hospital, 2006):

Early in pregnancy all women should receive appropriate written information about the likely number, timing and content of antenatal visits associated with different options of care and be given an opportunity to discuss this schedule with their midwife or doctor. Level of evidence IV

The number and timing of visits should be flexible to suit the needs of individual women. Additional visits should be provided if women or their midwife or doctor perceive a need, or as complications arise. Level of evidence II¹

The Three Centres Collaboration review of evidence established that the traditional schedule of 14 visits may be safely reduced to between seven and ten visits without adversely affecting perinatal outcomes for women considered low risk. The guidelines do not report on evidence about the schedule of antenatal visits for high risk women however the review of good practice suggests a baseline antenatal schedule as follows:

First Trimester

From the carer's perspective, first trimester visits are primarily to assess maternal and fetal well-being, particularly the risk of complication; this will include taking a comprehensive history, dating the pregnancy, discussing smoking behaviour and establishing care options. The visits are scheduled in order to offer screening tests recommended in these guidelines (for Asymptomatic Bacteriuria, Syphilis, Hepatitis B Virus, Hepatitis C Virus, Human Immunodeficiency Virus and Down Syndrome).

Second Trimester

Second trimester visits are primarily scheduled to monitor fetal growth, maternal well-being and signs of early-onset pre-eclampsia. If ultrasound is routinely offered then it should be included as part of a visit at 18-20 weeks. If women have glucose screening this should be part of a visit at 24-28 weeks.

¹ According to the Three Centres website, the evidence for these guidelines was systematically assessed and classified according to the NHMRC's A Guide to the Development, Implementation and Evaluation of Clinical Practice Guidelines (1998) or given the equivalent of Level IV status by consensus of the steering group and clinical epidemiologist. See Appendix A for Levels of Evidence.

Third Trimester

Third trimester visits are primarily to monitor fetal growth, maternal well-being, signs of pre-eclampsia, and to assess and prepare women for admission, labour and going home. These visits may include bacteriological screening for Group B Streptococcal Disease (at 35-37 weeks)², and preparations for admission, labour and 'going home', consistent with other guidelines.

With regard to at risk and vulnerable women:

An important caveat in the Australian care setting is that antenatal care must be individualized in particular for groups such as the indigenous community who may be at higher risk of adverse pregnancy outcomes (Three Centres Collaboration 2006).

The UK *NICE clinical guideline 62, Antenatal Care* (2008) recommends that the booking appointment should ideally take place before ten weeks while current UK policy supports booking by 12 weeks for all women. ('Booking' is the initial appointment at which arrangements are made for scheduling appointments and registering with the hospital for the birth). The main rationale behind these recommendations is to enable participation in timely screening programs for haemoglobinopathies and Down Syndrome, to have pregnancies accurately dated using ultrasound scan, and to develop a plan of care for the pregnancy which sets out the number of visits required and additional appointments that may need to be made (NICE 2008).

The development of the *NICE clinical guideline 110, Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors* (2010a) in the UK highlighted some outstanding areas requiring further investigation. One of these is whether early initial attendance for antenatal care by ten weeks, or 12⁺⁶ weeks, improves outcomes for pregnant women with complex social problems, compared with later attendance (NICE 2010a).

The authors found that '*pregnant women with complex social factors are known to book later, on average, than other women and late booking is known to be associated with poor obstetric and neonatal outcomes. It seems likely that facilitating early booking for these women is even more important than for the general population of pregnant women. There is, however, no current evidence that putting measures in place to allow this to happen improves pregnancy outcomes for women with complex social factors and their babies.*' (NICE 2010a, p.45)

² More recent advice in the NICE clinical guidelines update for routine antenatal care (2010, p. 32) is that '*pregnant women should not be offered routine antenatal screening for group B streptococcus because evidence of its clinical and cost effectiveness remains uncertain.*'

3.2 Improve maternal nutrition

In Australia we do not yet have national dietary guidelines specifically for pregnant women. These are currently being developed.

The Scottish Government commissioned a review of literature about the effectiveness of interventions to address health inequalities in the early years (Hallam, 2008). Interventions to improve maternal nutrition, and hence the health of the developing fetus were reviewed. It found:

- strong evidence for the use of recommended levels of folate/folic acid in the period prior to conception and for the first 12 weeks of pregnancy to reduce the incidence of neural tube defect pregnancies.
- good evidence for improving the maternal diet at the onset of pregnancy, as this appears to be a more important factor for fetal growth than nutritional intake during pregnancy
- good evidence emerging that maternal nutrition may also have long term effects for the infant that are not reflected in birth weight or other measures at birth. This 'fetal programming' in utero has a role in later adult chronic disease. (Hallam 2008, p.12)

The review supports the use of directly supplying food and supplements to improve birth outcomes:

Providing advice and information alone is not enough to change dietary behaviour. The more intensive and direct the intervention (e.g. as vouchers, provision of food or provision of supplements) the greater the chance of success in improving nutritional status (Hallam 2008, p.12)

Consideration should be given to the provision of free folate and iron supplements to all women in low income groups during the inter-pregnancy interval' (p.13).

In addition Hallam (2008, p. 14) refers to the work of Asthana and Halliday (2006) which found that '*calcium supplements reduce preterm birth and the incidence of low birth weight, especially among women at risk of hypertensive disorders. Dietary supplementation based on balanced protein and energy content consistently improves fetal growth.*'

The recently released NICE clinical guidelines for routine care of the healthy pregnant woman (NICE 2010) recommend that all women should be informed about the importance for their own and their baby's health of maintaining adequate vitamin D stores during pregnancy and whilst breastfeeding. Women should be encouraged to have the Healthy Start multivitamin supplement which contains 10 micrograms of vitamin D per day. Women at greatest risk are those:

- of South Asian, African, Caribbean or Middle Eastern family origin
- who have limited exposure to sunlight, such as women who are predominantly housebound, or usually remain covered when outdoors
- who eat a diet particularly low in vitamin D, such as women who consume no oily fish, eggs, meat, vitamin D-fortified margarine or breakfast cereal
- with a pre-pregnancy body mass index above 30 kg/m². (NICE 2010)

A recent trial by Gupta et al. (2007) found that, compared with iron and folic acid supplementation, the administration of multi-micronutrients to undernourished pregnant women may reduce the incidence of low birth weight and early neonatal morbidity.

The WHO European Regional Office recommends two key actions for health services to promote maternal and neonate health and development: the provision of advice on nutrition during antenatal care visits; and the prevention of micro-nutrient deficiencies (iron, folic acid, iodine etc.) through supplements when food fortification is not ensured (WHO 2005).

3.3 Infection control, including oral care

Screening and early intervention for infections - asymptomatic bacteriuria, Hepatitis B virus, Hepatitis C virus, Human Immunodeficiency Virus and Syphilis - is recommended in the first trimester of the pregnancy and is undertaken routinely in Australia (Three Centres Collaboration 2006). Delay in identification of infection increases risks to the baby.

An estimated 25 % of pregnant women in Victoria will have vaginal carriage of group B streptococcal disease (GBS). Transmission to the newborn may occur during labour, resulting in pneumonia, septicaemia and occasionally infant death. Guidelines for the prevention of early onset group B streptococcal disease (GBS) state that GBS screening earlier than 35 weeks gestation is not recommended (Three Centres Collaboration 2006)³.

The Department of Early Education and Childhood Development (DEECD) Catalogue of Evidence (accessed in 2011) cite the Barnet and colleagues (2003) report that school-based comprehensive care for pregnant adolescents was associated with significantly reduced odds of low birth weight. The authors suggest that screening and advice on consistent condom use may have played a role in improving birth outcomes by changing behaviours and subsequently reducing lower genital infections (Barnet et al, 2003).

The DEECD (accessed in 2011) found evidence about the link between periodontitis and preterm birth and low birth weight to be conflicting according to Clothier et al. (2007). The authors found 24 studies that demonstrated a positive relationship between periodontitis and preterm birth, low birth weight, or both but they also found 14 studies that demonstrated no relationship, including a large US-based RCT that found no relationship between periodontitis and either preterm birth or low birth weight (Michalowicz et al. 2006). However, the *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn* state that pregnant women 'should be given priority access to dental care as there is some evidence that periodontal disease may increase the risk of preterm birth. While dental infections should be treated aggressively, routine dental scraping is not recommended as this may release bacteria into the circulation' (Ministerial Council on Drug Strategy 2006, p. 11).

More recently, Silk et al. (2008) reviewed and presented the evidence around oral health care in pregnancy in 2008. They recommend that every pregnant woman should be screened for oral risks, informed of oral health self-care, and referred for treatment when necessary.

³ More recent advice in the NICE clinical guidelines update for routine antenatal care (2010, p. 32) is that '*pregnant women should not be offered routine antenatal screening for group B streptococcus because evidence of its clinical and cost effectiveness remains uncertain.*'

They found the research suggests that *some prenatal oral conditions may have adverse consequences for the child. Periodontitis is associated with preterm birth and low birth weight, and high levels of cariogenic bacteria in mothers can lead to increased dental caries in the infant.* The drugs xylitol and chlorhexidine may be used as adjuvant therapy for high-risk mothers in the early postpartum period to reduce transmission of cariogenic bacteria to their infants. The authors found dental procedures such as diagnostic radiography, periodontal treatment, restorations, and extractions to be safe and best performed during the second trimester of pregnancy. Gingivitis and pregnancy tumors are benign and require only reassurance and monitoring (Silk et al. 2008).

3.4 Manage substance use

Alcohol

Foetal exposure to alcohol is associated with four known disorders (known as Foetal Alcohol Spectrum Disorders) ranging from mild to severe:

- fetal alcohol effects
- fetal alcohol-related birth disorders
- alcohol-related neuro-developmental disorder
- fetal alcohol syndrome.

The first three are more common and less severe but often more difficult to diagnose than fetal alcohol syndrome. Babies born with fetal alcohol syndrome have particular abnormal physical features as well as any of a range of serious health and developmental problems (Haber et al. 2009, p.127).

It is known that Fetal Alcohol Syndrome (FAS) is associated with sustained heavy drinking throughout all three trimesters of pregnancy. However, the fetus is also susceptible to the toxicity of alcohol at critical periods of development, and exposure to high levels – particularly binge drinking – has been linked with adverse pregnancy outcomes (Whitty & Sokol 1996).

The National Health and Medical Research Council guidelines (2009) to reduce health risks from drinking alcohol recommend that, for women who are pregnant or planning a pregnancy, not drinking is the safest option (Guideline 4A).

The NHMRC Guideline 4A is based on systematic reviews of the literature and prospective cohort studies. However, the complexity of the issue makes development of policy and provision of definitive advice difficult. Maternal alcohol consumption can result in a spectrum of harms to the fetus. Although the risk of birth defects is greatest with high, frequent maternal alcohol intake during the first trimester, alcohol exposure throughout pregnancy (including before pregnancy is confirmed) can have consequences for development of the fetal brain. It is not clear whether the effects of alcohol are related to the dose of alcohol and whether there is a threshold above which adverse effects occur (Royal College of Obstetricians and Gynaecologists 2006). However, variation in effects can be due to the stage of development of the fetus at the time of exposure and to individual characteristics of the mother.

Drug use

The *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn* (Ministerial Council on Drug Strategy 2006)

provide evidence-based recommendations about the use of specific drugs during pregnancy (pp. 26-44): alcohol, tobacco, opioids, methadone, buprenorphine, naltrexone, cannabis, benzodiazepines, amphetamines, cocaine and inhalants. Practitioners should be familiar with these recommendations. In working with heroin-dependent women or those on methadone maintenance, the guidelines make several recommendations of particular relevance to the practice of community midwifery (pp. 35-36):

Heroin-dependent pregnant women should have priority access to methadone treatment. This may include admission to an inpatient obstetric unit for stabilisation and rapid dose titration, with respite from the external environment.

Partners of pregnant women who are using heroin should also be offered priority access to opioid substitution treatment. A partner's use of heroin increases the woman's risk of relapsing into heroin use and should also be offered treatment.

Withdrawal from methadone is associated with a high risk of relapse to heroin use and should not be encouraged during pregnancy.

Vomiting is a serious concern in pregnant women on methadone maintenance. Vomiting of a methadone dose may lead to withdrawal in both mother and fetus. Withdrawal symptoms cause fetal distress, and should be avoided.

In recent years an increasing misuse of prescribed and street-purchased benzodiazepines and morphine based drugs such as oxycontin has been observed in pregnant women presenting for care in Melbourne (Lazzaro 2011).

3.5 Smoking cessation

Smoking causes reduced oxygenation of blood to the fetus primarily through two independent mechanisms. First is the vasoconstrictive effects of nicotine on the uterine and umbilical arteries, and second the increase in the concentration of carbon monoxide in the blood, with higher carbon monoxide concentration in fetal than in maternal blood. Combined, these two factors produce a reduction in fetal blood flow, increasing the risk of low birth weight for gestational age (Ministerial Council on Drug Strategy 2006).

The DEECD (2010) found strong evidence of the benefits of implementing interventions to assist pregnant women with smoking cessation. Smoking during pregnancy doubles the risk of having a low birth-weight baby and significantly increases the rate of perinatal mortality and other adverse pregnancy outcomes (Walsh, Lowe and Hopkins, 2001).

Perinatal statistics are routinely collected and analysed by the Australian Institute of Health and Welfare. Data on smoking status of pregnant women are not available for Victoria separately, however data from seven other states and territories in 2008 shows that overall, 16.2% of women in these states and territories smoked during pregnancy and that this proportion has changed little over the previous five years. The proportion of women who smoked while pregnant ranged from 12.8% in New South Wales to 26.9% in Tasmania (Laws & Sullivan 2010).

Being a young mother or of Aboriginal or Torres Strait Islander (ATSI) identity are risk factors for smoking. Teenage mothers accounted for 11.2% of all mothers who reported smoking during pregnancy and 3.3% of mothers who did not smoke. Of all teenage mothers, 39.0% reported smoking. ATSI mothers accounted for 14.9% of mothers who smoked during

pregnancy in the jurisdictions which provided smoking data. Over half of the ATSI mothers reported smoking during pregnancy (50.9%), compared with 14.4% of non-Indigenous women who gave birth (Laws & Sullivan 2010).

Women's Health Victoria (2010) reports that the relationship between motherhood and smoking is complex. McDermot, Dobson and Owen (2009) found that while on the whole, motherhood is associated with smoking cessation, this is only significant for women in their mid-20s and older, and that among younger mothers – particularly those of low socioeconomic status - becoming a parent does not correlate with quitting. The authors suggest that young women who adopt adult roles such as parenting and employment early on may smoke to cope with the stresses associated with becoming a parent early in life or being a sole parent (McDermott, Dobson & Owen, 2009).

In addition to the known short and long term health effects on the smoker, the effects of smoking during pregnancy have been linked with sudden infant death syndrome, asthma, attention deficit hyperactivity disorder (ADHD) and obesity in the child (Laws, Grayson and Sullivan, 2006). Later physical and mental functioning of the child may also be affected by smoking during pregnancy with evidence of a dose-response relationship present (Lassen and Oei, 1998). While this suggests that any reduction in cigarette smoking by pregnant mothers is worthwhile in the longer term, a harm minimisation approach is not supported by evidence of impacts on the developing fetus.

The *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn* (Ministerial Council on Drug Strategy 2006) discuss the evidence for reducing smoking for improving birth outcomes and found that:

In the case of tobacco smoking, the practice of 'cutting down' (sometimes described as 'harm reduction') on the number or strength of cigarettes smoked is not supported by evidence that it provides any protection to the fetus and is not recommended. Women should be informed of this and complete abstinence from smoking should be recommended as best for the mother and fetus. [Level of evidence: Consensus]

This may seem counter-intuitive to some people, but there is no evidence that cutting down the number of cigarettes smoked leads to a reduction in serum nicotine levels. Evidence suggests that smokers titrate their nicotine intake by varying their inhalation habits. Stronger inhalations lead to greater exposure to the harmful impact of carbon monoxide. If a woman reports a change in smoking either through reduction in number or reduction in strength of cigarettes asking about how she inhales the smoke may provide an indication of compensatory smoking. (Ministerial Council on Drug Strategy 2006, p.33)

The guidelines explain that further research is required to ascertain the safety and efficacy in pregnancy of pharmacotherapies such as Nicotine Replacement Therapy (NRT) and bupropion. As the ratio of potential benefit to harm is uncertain, the recommendation is to consider pharmacotherapy only after psychosocial intervention has failed (such as cognitive behavioural therapy, counselling, group support). Nicotine Replacement Therapy may be useful for women who have otherwise not been able to quit (Tobacco Use and Dependence Clinical Practice Guideline Panel, 2000; Ministerial Council on Drug Strategy, 2006). The 2010 update to the NICE guidelines on routine antenatal care recommends that if a woman is using NRT she should be advised to remove nicotine patches before going to bed at night (NICE 2010b).

Group programs are not shown to be an effective intervention setting for smoking cessation for pregnant women (Dollan-Mullen, Ramirez and Groff, 1994). The antenatal and postnatal care settings are the most accessible settings for interventions to reduce smoking. Hallam (2008) highlights that the frequency of contact with health professionals in the antenatal and postnatal periods offers opportunities for intervention that may be under-utilised.

The DEECD (2011) found the most effective interventions 'involve a five-step strategy that assists women throughout pregnancy and into the post-partum period when the risk of relapse is very high'. Similar five-step strategies are employed in the recommendations of the Victorian *Three Centres Consensus Guidelines on Antenatal Care: Provision of smoking interventions during pregnancy* (2001), the Australian *National Clinical Guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn* (Ministerial Council on Drug Strategy 2006) and the Washington State Department of Health's *Smoking Cessation during Pregnancy: Guidelines for Intervention* which have been revised in 2010. In summary, all pregnant women should be systematically screened regarding their smoking status. A brief clinic-based (5–15 minutes) intervention is most effective with pregnant women who smoke less than 20 cigarettes per day. Heavier smokers may require more intensive intervention, including referral and ongoing support and follow up.

The use of telephone counselling services was demonstrated as an effective resource for assisting women to quit smoking and continue with smoking cessation (DEECD 2011). As a result of a successful pilot project with the Royal Women's Hospital, the Victorian Quit program offers a tailored Quitline callback service for women throughout pregnancy and the post-partum period who smoke or have recently quit.

In recognition of the high rates of smoking in the Aboriginal community, and among pregnant women, Quit Victoria recently employed two Aboriginal Quitline workers to provide phone counselling. These workers also act as a contact point for wider cessation support to the Victorian Aboriginal community and have a community outreach liaison role (Victorian Government 2011).

3.6 Improve maternal mental and emotional health/reduce maternal stress

Perinatal anxiety and depression

The *Clinical Practice Guidelines: Depression and related disorders in the perinatal period* (Austin, Highet & GEAC 2011) developed for the *beyondblue* national depression initiative report on the findings of the most recent studies of perinatal depression (p.1):

- antenatal depressive symptoms are as common as postnatal symptoms (Austin 2004; Milgrom et al 2008);
- depression identified postnatally begins antenatally in up to 40% of women (Austin 2004); and
- anxiety disorders may be as common as depression in the perinatal period (Wenzel et al 2003; Austin & Priest 2005).

Antenatal anxiety may be a comorbid condition with depression. Austin et al. (2007) found that higher levels of self-reported anxiety or anxiety disorder in pregnancy increase the risk of depression postnatally.

Maternal distress during pregnancy influences obstetric and birth outcomes (Priest & Barnett 2008) and can adversely affect the developing fetal brain and thus influence infant behaviour (Glover & O'Connor 2002). Maternal anxiety is associated with difficult infant temperament (Austin et al. 2005), increased infant cortisol (Grant et al. 2009) and behavioural difficulties in childhood (O'Connor et al. 2002). Antenatal distress increases risk of attentional deficit/hyperactivity, anxiety, and language delay (Talge et al. 2007), and of later mental health problems (O'Connor et al. 2002) in the child.

In addition to the direct effects on the mother and baby, anxiety and depressive disorders are associated with relationship stresses that can lead to a loss of social networks and increased isolation of the woman (Austin, Highet & GEAC 2011, p.2).

Women of ATSI identity and CALD backgrounds, resettled refugees and adolescents are more likely to develop distress or mental health disorders in the perinatal period than the general population (Austin, Highet & GEAC 2011, p. 3).

Postnatal depression

The UK Department for Education (UK Department for Education, accessed 2011) Sure Start Program's guide to evidence based practice present some key findings about postnatal depression:

- *At least one in ten mothers experience a period of medically-diagnosable depression in the early months following birth (Cooper et al. 1991).*
- *Women who are already under stress, for example from social disadvantage, marital conflict and lack of personal support from other family members, are known to be at increased risk (O'Hara and Swain, 1996).*
- *Babies of depressed mothers are at increased risk of poor emotional adjustment and insecure bonding.*
- *Research has found that children whose mothers have experienced postnatal depression perform less well in tests of their understanding and reasoning at 18 months (especially boys) and that they are significantly more likely to be rated behaviourally disturbed by teachers during their first year at school (Cooper and Murray, 1998).*

Beck (1996) conducted a meta-analysis of predictors of postpartum depression and found the following 13 factors to be significant predictors (from largest to smallest effects):

- Prenatal depression
- Low self-esteem
- Childcare stress
- Prenatal anxiety
- Life stress
- Low social support
- Poor marital relationship
- History of previous depression
- Infant temperament problems/colic
- Maternity blues
- Single parent
- Low socioeconomic status

- Unplanned/unwanted pregnancy

The strong association of postpartum depression with lack of social support has been confirmed by over 60 studies (Beck 2001). Social isolation therefore may be a contributing cause and effect of depression in women in the postnatal period (see Austin, Hight & GEAC 2011 above).

Antenatal depression

According to the Post and Ante Natal Depression Support and Information service in Canberra, there are a number of factors that may predispose women to antenatal depression including:

- An unwanted pregnancy
- Difficulty getting pregnant or fertility treatment
- Previous miscarriage, termination or stillbirth
- Family history of mental illness
- Lack of partner or social support
- Health complications during pregnancy
- Fear of the birth, becoming a parent, or coping with a new baby
- Previous unresolved postnatal depression
- Change of identity, e.g. from career woman to mother

A large prospective cohort study into perinatal mental health, conducted in all six states of Australia, and in the Australian Capital Territory, between 2002 and 2005 found that antenatal depressive symptoms appear to be as common as postnatal depressive symptoms. In the study pregnant women were screened for symptoms of postnatal depression at antenatal clinics in maternity services around Australia using the Edinburgh Postnatal Depression Scale (EPDS) and a psychosocial risk factor questionnaire. Previous depression, current depression/anxiety, and low partner support were found to be key antenatal risk factors for postnatal depression (Milgrom et al. 2008).

Women with antenatal depression are at a higher risk of having postnatal depression. Early identification and effective treatment is recommended.

Approaches to care

The newly released NHMRC approved clinical guidelines for depression and related disorders (anxiety, bipolar disorder and puerperal psychosis) developed for the *beyondblue* national depression initiative (2011) emphasise early intervention, adopting a family-centred approach and the provision of collaborative care for women in the perinatal period (Austin, Hight & GEAC 2011).

Collaborative care

Gilbody (2004), reporting for the World Health Organisation on the effectiveness of capacity building of primary care health professionals in the detection and management of depression in the general population, found substantial evidence to support the effectiveness of collaborative care in improving outcomes (Austin, Hight & GEAC 2011, p. 60).

Austin, Hight and GEAC (2011) found that many existing models of perinatal mental health care in Australia and internationally incorporate elements of collaborative care and that the evidence suggests that collaborative care interventions are more effective if supported by

system changes that reinforce their impact. To meet the varying needs of people with depression and related disorders, implementation of collaborative care usually occurs through a 'stepped' process of increasing intensity of care for women based on their symptoms (Katon & Seelig 2008). For perinatal mental health care, Austin, Hight and GEAC (2011) state that such a model would involve an individual pathway being developed for each woman to maintain continuity of care:

- early steps in the pathway (i.e. psychosocial assessment) are provided by maternity care health professionals in the public or private sectors; and
- monitoring, further assessment and treatment, if required, are provided by increasingly specialised health professionals in primary, secondary or tertiary mental health services — this may occur through close networks between maternity care and mental health care providers, or through case management, where a case manager or a joint case management team coordinates the care pathway.

While services and approaches will differ depending on the local situation, all care pathways should be flexible enough to respond to women's changing needs over time while still providing continuity of care (Austin, Hight and GEAC 2011, p. 60).

Routine antenatal assessment and detection

The *Clinical Practice Guidelines: Depression and related disorders in the perinatal period* (2011) provide a summary of effective care of mental health in the perinatal period outlining the types of care along a continuum from routine antenatal and postnatal care, care of women experiencing psychosocial factors and/or symptoms, and those who are experiencing depression or related disorders (Austin, Hight and GEAC 2011, p. 14). The recommended routine antenatal care for all women is:

Assessment for psychosocial factors

- Provide information
- Assess psychosocial factors
- Identify appropriate health professional to provide follow-up care

Detection of depression and anxiety symptoms

- Provide information
- Administer Edinburgh Postnatal Depression Scale (described below)
- Identify appropriate health professional to provide follow-up care

The UK Department for Education (1999) recommends the routine screening of all mothers during home or antenatal visits for postnatal depression at around 6-8 weeks after birth using the simple screening questionnaire The Edinburgh Postnatal Depression Scale (described below). Those found to be at risk are offered counselling. In a program developed by the Sainsbury Centre for Mental Health in Edinburgh, Staffordshire and Lewisham, Health Visitors were trained in the appropriate use of the questionnaire and in active listening. Training takes place in up to 10 two-hour sessions. A 'training of trainers' course was available for mental health professionals.

Screening tool

The Edinburgh Postnatal Depression Scale is a 10-item self-report scale (EPDS) developed in the UK to screen for postnatal depression in the community. It is a valid tool with satisfactory sensitivity and specificity, and was also sensitive to change in the severity of depression over time. The simple scale can be completed in about 5 minutes and has a simple method of scoring. The EPDS is available online for self-assessment. The Edinburgh Postnatal Depression Scale can be used to assess risk for antenatal depression.

Ongoing support

Ongoing support for new mothers with depression is crucial. The UK Department for Education (1999) refer to several studies. The first, a study in Cambridge, compared mothers who were diagnosed as depressed and were supported by specially trained Health Visitors with a control group of mothers who were diagnosed as depressed in the months just before the Health Visitors were trained and received conventional care. After eight weeks, the mothers who received the intervention showed an average 42% reduction in depression scores, compared with a one percent increase among the control group. The rate of difficulties with the mother-baby relationship halved for the treatment group of mothers, but remained the same for the control group. A second study of depressed mothers who received a similar form of treatment found mothers reporting significantly fewer behaviour problems with their children by the time they were aged 18 months, compared with mothers who had received routine care (Seeley et al 1996 cited in UK Department for Education 1999; Cooper and Murray 1997).

Use of telephone support

A 2008 systematic review of telephone support services for women during pregnancy and the early postpartum period found that they may assist in preventing smoking relapse, play a role in preventing low birth weight, increase breastfeeding duration and exclusivity, and decrease postpartum depressive symptomatology (Dennis & Kingston 2008).

Unresolved grief

In their work with homeless young women in Toronto, Little and colleagues recognised that bereavement needs often go unrecognized (Little et al. 2006, p. 460). They subsequently developed a bereavement pathway to be used in the inpatient and outpatient units of the maternity hospital to recognize the loss experienced by these young women and to help facilitate the healing process. Little et al. (2006) argue that unresolved grief from previous removal of a child by child welfare agencies often results in multiple pregnancies, as the young women attempt to replace their lost children with hopes to keep and raise one child and that women who've had children removed by child welfare agencies often suffer deep and prolonged grief; the loss of a child in this manner is viewed as a "great personal tragedy" (Raskin, 1992, p. 150).

Serious mental illness

For pregnant women who have a serious mental illness a case management approach should be adopted as best practice. The key features of this approach are that it: is holistic and women are cared for by a small team of health professionals that maintain communication with each other; features a 'Small Known Team' which devises strategies for early detection and monitoring of pregnancy and preparing for birth, and; involves the development of a

management plan for postnatal period to ensure that referrals or liaisons with community support agencies are in place before the birth (Hauck et al. 2008).

Chronic stress

A US study of a random sample of 1,363 female welfare recipients between 1999 and 2004 found that chronic psychosocial stress may be associated with low birth weight in new born children of low-income women. Multiple psychosocial factors were significantly associated with low birth weight delivery. These included food insecurity, having a child with chronic illness in the home, increased crowding in the home, unemployment and poor coping skills (Bryant Borders et al 2007).

3.7 Reduce exposure to violence

Family violence is a risk factor for homelessness

The link between family violence and homelessness is well known. In Victoria, 33 per cent of women accessing Supported Accommodation Assistance Program (SAAP) services in 2003-04 were escaping domestic violence. Many of these women are accompanied by their children, most of who are aged less than 12 years. Indigenous women are significantly over-represented in the SAAP female domestic client group accounting for 24 per cent of women escaping domestic violence. Overseas born women accounted for another 19 per cent and of these women 78 per cent were born in a predominately non-English speaking country. Fifty percent of women who approached agencies in 2003-04 were unable to obtain immediate accommodation on an average day (AIHW, 2005).

There is no one pathway into homelessness for all women affected by domestic and family violence. While it is concern for safety that leads most women (and their children) into homelessness, for many women, the exposure to violence, and the duration of the exposure to violence, has broader impacts than just safety. Violence may also affect women's sense of belonging, control and self-worth, affecting self-confidence and self-esteem. The violence itself, in addition to women and children moving from their homes, can result in isolation and reduced social inclusion and social connectedness for women – to friends, family and community (Flinders University 2008).

Homelessness is a risk factor for violence

A 2008 Australian report by Tually et al. describes the relationships between women, domestic and family violence and homelessness. In terms of approach to support women, the authors reflect that, *'it cannot be overstated that there is no one solution to domestic and family violence related homelessness, or to homelessness or domestic and family violence. There is also no easy to roll out solution. Certain types of assistance work for some victims or survivors of domestic and family violence and not for others. Moreover, the types of assistance and support needed depend greatly on the personal circumstances (health, social, cultural and geographic background et cetera) and the financial resources of/available to women, especially their independent financial capacity.'* They found there to be *'clearly two types of assistance which are critical in terms of assistance for women escaping or who have survived domestic violence:*

- *provision of safe, secure and affordable housing; and*
- *provision of a continuum of individualised and open-ended support, including outreach services, that wraps around women and their children in a range of areas (therapy, health, life skills, housing assistance et cetera) for as long as they need it.*

These two types of assistance must be the central focus of an integrated long-term approach and commitment to addressing the safety and security of women and children.' (Tually et al. 2003, p. 3)

Pregnant homeless women are exposed to more cumulative violence than are comparable low-income, housed women. Robrecht & Anderson (1998) recommend two practice tools to improve health care for pregnant homeless women: the use of abuse and safety assessment protocols and use of a hand-carried health record. They recommend these interventions as they aim to '*preserve the woman's autonomy and confidentiality, reduce areas of client-provider conflict, and generally improve encounters between the client and the health care system.*'

Gender is a risk factor for violence

Gender based violence has been recognised as a global public health and human rights problem. Among drug involved and sex work populations, violence is associated with an elevated risk of acquiring sexually transmitted infections or HIV through unprotected sex, the exchange of sex for drugs or money, multiple concurrent sex partnerships, and sex with a risky partner (for example, a partner positive for antibodies to HIV or a partner who has multiple sex partners) (El-Bassel et al. 2005; Gilbert et al. 1998).

A prospective cohort study by Shannon et al. (2009) demonstrated an alarming prevalence of gender based violence against female sex workers. It found that '*the structural factors of criminalisation, homelessness, and poor availability of drug treatment independently correlated with gender based violence against street based female sex workers.*' The authors recommend socio-legal policy reforms, improved access to housing and drug treatment, and scale up of violence prevention efforts, including police-sex worker partnerships, to stem the violence against female sex workers.

Pregnancy as trigger for increased violence

The first national data on incidence and prevalence of domestic violence using a representative sample of 6300 Australian women was provided by the *Women's Safety Australia* study (ABS 1996). Of women surveyed by the *Women's Safety Australia* study who experienced violence by a previous partner, 42% experienced violence during the pregnancy, with half of these women stating that violence occurred for the first time while they were pregnant (ABS 1996).

When police attend a family violence incident they are required to identify factors which they believe place the victim at potential or increased risk of family violence. Risks are recorded where identified and are indicative only, as it is possible that more risks were present but were unable to be identified at the incident. Pregnancy/new birth is considered a high risk indicator for violence towards the mother, and is identified as a risk factor in 5% of incidents assessed by police (2007/08 data) (Victims Support Agency 2009).

Risk assessment

The Victorian Government *Family violence: Risk assessment and risk management framework* (2007) acknowledges various entry points to the family violence service system, including mainstream health services, and provide a consistent set of possible indicators and clear advice about identification of family violence for health professionals such as midwives and MCHNs. These guidelines recognise that family violence during pregnancy is considered a significant indicator of future harm to the woman and her child. The *Practice Guide 1:*

Identifying Family Violence (p. 41) provides a risk assessment framework and practice tools to determine the level of risk using three elements: the victim's own assessment of their level of risk; evidence-based risk indicators, and; the practitioner's professional judgement (Victorian Government 2007).

Local protocols and pathways

In addition to its recommendations for all women with complex social needs, *NICE clinical guideline 110, Pregnancy and complex social factors, A model for service provision for pregnant women with complex social factors* (2010) outline several key considerations for antenatal care of pregnant women who experience domestic abuse: agencies need to provide coordinated care, information and support for service users during pregnancy, and training for healthcare professionals. (NICE 2010a, p. 9)

The guidelines recommend healthcare professionals to work collaboratively with social care providers, the police and third-sector agencies to develop joint local protocol in the care of women experiencing domestic abuse. The protocol should include:

- clear referral pathways that set out the information and care that should be offered to women
- the latest government guidance on responding to domestic abuse
- sources of support for women, including addresses and telephone numbers, such as social services, the police, support groups and women's refuges
- safety information for women
- plans for follow-up care, such as additional appointments or referral to a domestic abuse support worker
- obtaining a telephone number that is agreed with the woman and on which it is safe to contact her
- contact details of other people who should be told that the woman is experiencing domestic abuse, including her GP. (NICE 2010a, p. 9)

A woman who is experiencing domestic abuse may face difficulties in using antenatal care services due to fear of involvement of children's welfare services or escalation of the violence, or her partner may be preventing her from attending appointments. Healthcare professionals need to be alert to features suggesting domestic abuse and able to offer women an opportunity to disclose it in a secure environment. Agencies should be flexible in the length and frequency of antenatal appointments, over and above those outlined in national guidance to allow more time for women to discuss abuse they are experiencing. The woman should be offered a named midwife, who would take responsibility for and provide the majority of her antenatal care (NICE 2010a).

To inform and support women who have disclosed abuse, the NICE guidelines suggest healthcare practitioners provide:

- advice that the information she discloses will be kept in a confidential record and will not be included in her hand-held record.
- information about other agencies which provide support for women who experience domestic abuse
- a credit card-sized information card that includes local and national helpline numbers
- an offer of referral to a domestic abuse support worker. (NICE 2010a)

To skill up healthcare professionals in informing and reassuring women who are apprehensive about the involvement of social services the NICE guidelines recommend:

- joint training for health and social care professionals to facilitate greater understanding of each other's roles
- training on the care of women known or suspected to be experiencing domestic abuse that includes:
 - local protocols
 - local resources for both the woman and the healthcare professional
 - feature suggesting domestic abuse
 - how to discuss domestic abuse with women experiencing it
 - how to respond to disclosure of domestic abuse. (NICE 2010a)

3.8 Improve health literacy

Antenatal classes and clinic visits, with accompanying pamphlets and brochures, are the traditional sources of education for parents, yet are unlikely to impact on health literacy for disadvantaged pregnant women.

Increasingly women are accessing information on-line, however the accessibility, quality and readability of this information in Australia is not known, particularly for disadvantaged women, and highlights the need for health practitioners to direct women to appropriate sources of perinatal and general health promotion information.

Health literacy can be simply defined as the '*capacity to acquire, understand and use information for health*' (Nutbeam 2009).

People with poor health literacy are less responsive to health education and use of disease prevention services and are less able to successfully manage chronic disorders (Dewalt et al. 2004). A study using data from a 2006 Australian Bureau of Statistics survey found that 60% of Australians lack basic health literacy (ABS, 2008), described as the '*minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy*'.

The limited research on health literacy that has been conducted in Australia confirms both the findings of the Australian Bureau of Statistics survey on the extent of the problem, and the established link between poor health literacy and poor health outcomes such as that by Adams et al (2009) who found the poorest health literacy in people with lower education, lower annual income, who were born in countries other than Australia, New Zealand, the United Kingdom and Ireland, and who had poorer health status.

Nutbeam (2009) asserts that health literacy is best developed through education that is customised to individuals and their specific priorities.

Antenatal classes are often employed to prepare women for childbirth at a particular hospital. While classes have a positive influence on successful childbirth, and a positive childbirth experience may have a positive effect on the transition to parenting as found by Nichols (1995), they do not necessarily have a positive effect on increasing health literacy and parenting competence.

An older study by Lumley and Brown (1993) assessed the associations between attendances at childbirth preparation classes and the health behaviours, birth events, satisfaction with care, and later emotional well-being of women having their first child. There were few significant differences between attenders and non-attenders in birth events, satisfaction with care and emotional well-being. Women who attended classes were not more confident about looking after their infants at home or less likely to be depressed eight months after birth.

However, significant differences were reported between the groups on four health behaviours: cigarette smoking, missed antenatal appointments, breastfeeding, and alcohol consumption during pregnancy – all behaviours which impact negatively on the health of both mother and baby. Women who did not attend childbirth preparation classes were significantly more likely to be under age 25 years, not to have completed secondary education, to be single, to have a low family income and no health insurance, and to be public hospital clinic patients.

Shiel et al. (2009) investigated health literacy and its association with the use of information sources and with barriers to information seeking in 143 English-speaking low-income clinic-based pregnant women. About 15% of the participants demonstrated low health literacy and these women were less likely to use the Internet and more likely to have self-efficacy barriers than participants with high health literacy. The authors recommend interventions to promote information-seeking skills and Internet access for women with low health literacy (Shiel et al. 2009).

Little is known about accessibility, quality and readability of health information available on the Internet in Australia. One US study by Berland et al. (2001) which assessed both English and Spanish language search engines and web-sites found that accessing health information using search engines and simple search terms is not efficient. Coverage of key information on English- and Spanish-language web sites is poor and inconsistent, although the accuracy of the information provided is generally good. High reading levels are required to comprehend web-based health information. All English and 86% of Spanish web sites required high school level or greater reading ability.

Zarcodoolas et al. (2005) describe the development of the Baby Basics prenatal health literacy program. The authors state that prenatal education efforts in the US do not adequately address the health literacy or the fundamental literacy levels of many pregnant women, especially low-income and ethnic minority women, despite federal programs such as Healthy Start program which encourages prenatal health education and entails some form of home health care visits in communities with high infant mortality rates.

The authors of the internationally successful book *What to Expect When You're Expecting* (Murkoff and Mazel 1984) joined forces with others to make the information in that book more accessible to women with low literacy⁴. The need for a different approach was identified – one that specifically addressed literacy skills alongside economic, cultural and social concerns of underserved families. The result was the formation of The What To Expect Foundation, the development of the book *Baby Basics: Your Month By Month Guide To A Healthy Pregnancy*⁵ and a prenatal health literacy program teaching providers, educators and

⁴ Since first published in 1984 by Workman Publishing New York, *What to Expect When You're Expecting*, has been the most popular mainstream book for pregnant women in the US and has also been a bestseller in Australia. More than 26 million copies have been sold and it is available in at least 30 countries. Written at between 11th to 13th grade level it is aimed at women with a high level of ability to read (fundamental literacy) as well as competence in other domains of health literacy.

⁵ Baby Basics, is a month-by-month pregnancy guide relevant to women in the US. It is a brightly coloured, spiral-bound, 288 page book, filled with information, stories, checklists, and pictures. There are tabs along the side, allowing the reader to flip to relevant chapters. There is a brief chapter for each of the 9 months of pregnancy, as well as a chapter on post-partum care. The remaining chapters focus on nutrition, referrals and special issues including homelessness, miscarriage and drug addiction. Each chapter has a section called "The Basics", written at a 3rd grade level. These pages are pale blue and reinforce the most basic health

patients how to best use this book. Spanish and Chinese versions of the book have been developed. An example of the program in action is the New York City Baby Basics Initiative, outlined in the *Targeted interventions and service delivery* section of this report.

3.9 Prevent and support teenage pregnancy

Adolescence during pregnancy is commonly held to be a risk factor for preterm and low birth weight (DEECD, 2011) however others would argue that it could be the woman's socioeconomic position rather than age per se that determines this risk.

Harden et al (2006) conducted a systematic review of international research evidence to identify effective, appropriate and promising approaches for prevention and support of young people experiencing pregnancy and social exclusion. They found that early parenthood, for both young men and young women, is strongly associated with adverse outcomes in later life. This includes a lack of qualifications, living in social housing, higher depression scores, being in receipt of benefits, low birth weight, higher infant and child mortality, lower rates of breastfeeding and a higher rate of childhood accidents (Hobcraft, 2002; Botting *et al.*, 1998; Dickson *et al.*, 1997; Kiernan, 1995; SEU, 1999). The review found the evidence contradictory as to whether these adverse outcomes are related to age per se as distinct from the mother's socioeconomic position.

The extent to which teenage pregnancy and parenthood are thought of as social problems varies between countries (Bonell, 2004). Not all teenage pregnancies are unintended or unwanted, and the review found many authors who noted that teenage parenthood can be a positive experience.

Social disadvantage and exclusion is both a cause and consequence of teenage pregnancy and parenthood (Kiernan, 1995; SEU, 1999; Swann *et al.*, 2003). Harden et al. (2006) suggest that policy-level interventions to promote community and population health such as poverty relief, housing assistance, and fostering career aspirations among young people and encouraging them to complete their education may bring about change to lower rates of unintended teenage pregnancy or to prevent adverse social outcomes and long-term social exclusion among young parents (Harden et al. 2006, p. 5). In their text *The Spirit Level* (2009), Wilson and Pickett demonstrate that teenage birth rate is strongly related to relative deprivation and inequality *within* a society (p. 121).

The NICE clinical guidelines *Pregnancy and complex social factors, A model for service provision for pregnant women with complex social factors* (2010), make recommendations for antenatal care for young pregnant women aged under 20 years. They recognise that young pregnant women aged under 20 may feel uncomfortable using antenatal care services in which the majority of service users are in older age groups. They may be reluctant to recognise their pregnancy or inhibited by embarrassment and fear of parental reaction. They may face practical difficulties such as getting to and from antenatal appointments. Therefore

messages. They always include the same four sections. The repetition is reassuring for mothers and makes the book easier to navigate.

healthcare professionals should encourage young women aged under 20 to use antenatal care services by:

- offering age-appropriate services
- being aware that the young woman may be dealing with other social problems
- offering information about help with transportation to and from appointments
- offering antenatal care for young women in the community
- providing opportunities for the partner/father of the baby to be involved in the young woman's antenatal care, with her agreement. (NICE 2010)

Health agencies should work in partnership with local education authorities and others to improve access to, and continuing contact with, antenatal care services for young women aged under 20 (NICE 2010).

Ideally, young women could access a specialist antenatal service, using a flexible model of care tailored to the needs of the local population. Components may include:

- antenatal care and education in peer groups in a variety of settings, such as GP surgeries, children's centres and schools
- antenatal education in peer groups offered at the same time as antenatal appointments and at the same location, such as a 'one-stop shop' (where a range of services can be accessed at the same time).
- Offer the young woman aged under 20 a named midwife, who should take responsibility for and provide the majority of her antenatal care, and provide a direct-line telephone number for the named midwife. (NICE 2010)

Information for young women should be offered in a variety of formats suitable for their age (NICE 2010).

4 Best practice for work with pregnant women who are homeless or at risk of homelessness

4.1 Early intervention

Adverse living conditions during childhood shape adult health outcomes (Hertzman & Power 2003). The determinants of children's health can be divided into three generic patterns of childhood circumstances: latency effects, cumulative effects and pathways effects (Raphael 2001). Latency effects are those in which specific exposures during pregnancy and early childhood manifest in both childhood and adult health status, for example cardiovascular disease and type II diabetes. The notion of biological embeddedness explains how specific exposures and experiences come to have long-lasting effects upon health and developmental outcomes. Raphael (2011) describes clear evidence – based on human longitudinal studies – that early childhood and even pre-birth experiences predispose children to either good or poor health **regardless of later life circumstances**. These latency effects result from biological processes during pregnancy associated with poor maternal diet, risk behaviours, or experience of stress (Kramer et al. 2000). Poverty affects the integrity of specific body organs of the fetus during pregnancy (Barker et al. 2001).

The opportunity afforded by a trusting relationship between a community midwife and the pregnant women at risk of these poor birth outcomes cannot be underestimated. As researchers at the Murdoch Children's Research Institute, Healthy Mothers Healthy Families Research Group, in Melbourne observed, *'Investment in strategies to promote 'a healthy start to life' has been identified as having the greatest potential to reduce health inequalities across the life course'* (Brown et al 2011). In their study to examine social determinants and implications of low birth weight in an Australian population-based birth cohort Brown et al. (2011) report on the finding of a survey of women who gave birth to a live born infant in Victoria and South Australia in September/October 2007. With a response of over 4,000 participants, the study found women reporting three or more social health issues (18%) were significantly more likely to have a low birth weight infant (< 2500 grams) after controlling for smoking and other socio-demographic covariates. Mothers born overseas in non-English speaking countries also had a higher risk of having a low birth weight infant. Women reporting three or more stressful life events/social health issues were more likely to attend antenatal care later in pregnancy, to have fewer antenatal visits and to experience discrimination in health care settings. The authors concluded that, *'there is a window of opportunity in antenatal care to implement targeted preventive interventions addressing potentially modifiable risk factors for poor maternal and infant outcomes'* (Brown et al. 2011).

4.2 Service engagement and participation

Watson (2005) investigated strategies that promote engagement by vulnerable families to participate in services and she included in the review those which had been adopted for use with hard-to-reach populations including families experiencing violence, people with mental health problems, homeless families and substance-abusing populations. The review found that *'service providers and program factors are stronger predictors of retention rates in programs than the characteristics of the families they serve'* (p.iii).

Significantly, when mothers were visited before the birth of their child, they were more likely to continue with a service than if their first visit was after the baby was born – indicating that

a trusting relationship (alliance) has formed whereby the focus is on supporting the mother to look after her baby, rather than a perception by the client that the service provider is 'protecting the baby' from an unskilled mother. Other strong evidence existed for quick follow up (within a week) and weekly, persistent contact to maintain engagement of families in programs (Watson 2005).

The assertive outreach approach to engage and maintain relationship between the health service system and vulnerable clients has been extensively used since the late 1970s when it was first developed in the US as a strategy in community mental service provision following deinstitutionalisation (known as ACT – Assertive Community Therapy). A strong evidence base for the efficacy and effectiveness of the model (and variations on it) has developed since then and it is considered best practice in community mental health in Australia. Features of the model include worker mobility, responsiveness, flexibility and the ability to work with clients intensively over a non time-limited period. The worker may work outside usual business hours and provide transport to appointments or groups. A key feature is to meet clients where they feel most comfortable.

Evolution of the approach is evident in Australia in the 'homelessness' sector. The use of assertive outreach as a service model for rough sleeping homeless people is discussed in a recent paper for the Australian Housing and Urban Research Institute (2011):

These new models of assertive outreach services to rough sleepers share some common features with pre-existing or what can be considered 'traditional' outreach responses. However, many elements of traditional outreach are distinct from the more contemporary assertive outreach approaches. First, assertive outreach, in contrast to traditional outreach, is presented as a specific means to end service user's homelessness. Second, assertive outreach differs from traditional outreach in the way it is conceptualised as part of a broader, integrated and intentional policy response that requires both a multidisciplinary team and the availability of long-term housing. Third, assertive outreach is a model of service delivery that is described as persistent and aiming to work with people over the medium to long-term as a means to assist people to access housing and sustain their tenancies post-homelessness. (Phillips et al. 2011, p. 2)

4.3 Service delivery: collaborative care

Evidence reviewed by the Three Centres Collaboration (2006) supports the conclusion that *'team midwifery, community-based collaborative care, shared care and birth centre care for low risk women integrated within existing services are clinically effective. Team midwifery and collaborative care are likely to be safe and very satisfactory for **women with moderate to high risk factors**, though pooled data is required to properly assess effects on perinatal outcome.'* (3centres 2006)

The NHMRC National Guidance on Collaborative Maternity Care (2010) defines collaboration as:

In maternity care, collaboration is a dynamic process of facilitating communication, trust and pathways that enable health professionals to provide safe, woman-centred care. Collaborative maternity care enables women to be active participants in their care. Collaboration includes clearly defined roles and responsibilities for everyone involved in the woman's care, especially for the person the woman sees as her maternity care coordinator. (NHMRC 2010)

The principles underpinning collaborative care are:

- 1. Maternity care collaboration places the woman at the centre of her own care, while supporting the professionals who are caring for her (her carers). Such care is coordinated according to the woman's needs, including her cultural, emotional, psychosocial and clinical needs.*
- 2. Collaboration enables women to choose care that is based on the best evidence and is appropriate for themselves and for their local environment.*
- 3. Collaboration enables women to make informed decisions by ensuring that they are given information about all of their options. This information should be based on the best evidence, and agreed to and endorsed by professional and consumer groups.*
- 4. Collaborating professionals, regardless of the model of care, establish a clearly defined and inclusive reciprocal communication strategy using sensitive language to support professional trust.*
- 5. Collaboration has an underpinning safety and quality framework that includes monitoring health outcomes for mothers and babies, regular multidisciplinary discussions about how the collaboration is working (involving women who have used the service) and public reporting.*
- 6. Collaborating professionals respect and value each other's roles, provide support to each other in their work and provide education to meet each other's needs.*
- 7. Collaboration is committed to joint education and training, following a consistent, agreed care plan and research focused on improving outcomes.*
- 8. Collaboration aims to maximise a woman's continuity of care and carer, throughout pregnancy, birth and the early postnatal period.*
- 9. Collaboration aims to maximise a woman's continuity of carer by providing a clear description of roles and responsibilities to support the person that a woman nominates to coordinate her care (her 'maternity care coordinator'). (NHMRC 2010)*

4.4 Service delivery: service integration

The Victorian State Government guidelines for maternal and child health services (2001) encourage Maternal and Child Health service providers to have the flexibility to design innovative service models that support service integration and collaboration while maintaining the universal nature of the service. Strategies suggested in the guidelines to promote service integration include:

- co-locating services
- establishing interdisciplinary teams
- sharing protocols and using common assessment frameworks and referral tools, as well as
- joint service delivery. (Victorian Government 2011, p. 9)

4.5 Service delivery: continuity of care

The 2006 *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn* (Ministerial Council on Drug Strategy 2006) provide guidelines to support the continuity of care for drug-dependent pregnant women for practitioners in Australia. The guidelines recognise that pregnant women with drug and alcohol use issues may be difficult to engage with mainstream health care (Ministerial Council on Drug Strategy 2006, p. 4). **Continuity of care** across the antenatal and postnatal period– through multidisciplinary teams, collaborative work – **is accepted as best practice for all women, and is more important for vulnerable women** such as those in the ISCHS CM client group. Continuity of care is created where there exists:

- Effective engagement skills
- Cultural awareness
- Seamless referral system
- Clearly identified main case worker/case manager
- Individualised care planning in consultation with woman
- Timely and accurate documentation
- Timely and accurate communication
- Partnerships between mainstream services and Aboriginal Community Controlled Health Services to provide integrated service delivery (Ministerial Council on Drug Strategy 2006)

According to the Three Centres Collaboration (2006) the term 'continuity of care' may refer to any of the following situations:

- Women see the same care providers across different stages of antenatal, intrapartum and postnatal care.
- Women have one-to-one care from a single practitioner during pregnancy and labour.
- Women are cared for by a small number of care providers working together as a team with shared philosophy and guidelines for practice.

4.6 Service delivery: client-centred care planning

Client-centred care planning is integral to the Victorian Government's *Better Access to Services: A Policy and Operational Framework* (DHS 2001) and considered particularly important for people with chronic and complex needs. Initial Contact, Initial Needs Identification, Assessment and Care Planning are the four key operational elements of best practice in Service Coordination, underpinned by principles involving a central focus on consumers, the use of partnerships and collaboration between services and the employment of the social model of health. The Victorian Statewide Primary Care Partnerships Chairs Executive (2009) in its Service Coordination Practice Manual describes care planning as:

Care Planning is a process of deliberation that incorporates a range of existing activities, such as: care coordination, case management, referral, feedback, review, re-assessment, monitoring and exiting. Care Planning involves a judgement and determination of relative need as well as competing needs, and assists consumers to come to decisions that are appropriate to their needs, wishes, values and circumstances. Coordinated Care Planning between services is particularly important for people with chronic and complex needs. (Statewide Primary Care Partnerships Chairs Executive 2009, p.7)

Care planning may be service-specific, intra-agency or inter-agency and is undertaken at any point in the care process, wherever an assessment or review takes place. Important features of client-centred care planning are:

- a key worker or contact is nominated to promote communication between the consumer and service providers; and
- the consumer is an active participant in the development of the care plan.

The notion of woman-centred practice is considered critical to the role of midwife, both historically and in the context of current primary health care in Australia. In a discussion of evidence-based practice and midwifery practice referred to in the National Review of Nursing Education by the Department of Education, Science and Training in 2002, Leap and Homer (2002) describe 'Woman Centred Care' as a concept that implies the following:

- Midwifery care is focused on the woman's individual, unique needs, expectations and aspirations, as opposed to the needs of the institutions or professions involved.
- Midwifery care recognises the woman's right to self-determination in terms of choice, control and continuity of care from a known or known care-givers.
- Implicit is the notion that woman centred care encompasses the needs of the fetus/baby, the woman's family, her significant others and community, as identified and negotiated by the woman herself.
- Midwifery care follows the woman across the interface between institutions and the community, through all phases of pregnancy, birth and the postnatal period. It therefore involves collaboration with other health professionals when necessary.
- Midwifery care is 'holistic' in terms of addressing the woman's social, emotional, physical, psychological, spiritual and cultural needs and expectations. (Leap & Homer 2002)

4.7 Service delivery: documentation, communication and hand-held records

The NHMRC consultations to develop national guidance for collaborative maternity care identified three types of resources that would improve collaborative care: a woman-held record system, universal guidelines and evidence-based information for women (NHMRC 2010). A woman-held record system would facilitate communication and provide accountability for the advice given to the woman by different health professionals. A single, universal hand-held record system, or an electronic health record that could be accessed by GPs and midwives, would be useful. Woman-held records can help improve continuity of care by the consistent tracking of conversations and decisions during a woman's maternity care, and facilitate transparency and accountability. Currently, several Australian states and territories have implemented woman-held records, including New South Wales, Victoria (see below), Queensland, South Australia, and the Australian Capital Territory (NHMRC 2010, p. 44)

The NHMRC (2010) recommend that documentation include clear and consistent records of:

- information provided to women and indications that the messages have been understood
- informed consent
- responsibility and accountability for decisions
- the woman's understanding of risk and her responsibility for her own choices and decisions about care, especially if these decisions are in conflict with professional

advice (in such circumstances it must be clearly documented that the woman has accepted a certain level of risk). (NHMRC 2010, p. 43)

The NHMRC emphasise the importance of improving communication flows between clinicians and those involved in a woman and baby's community care after the birth (e.g. GPs, community services, allied health) and that many services have the opportunity to improve communication around discharge and postnatal care.

The Victorian Maternity Record (VMR) is being implemented in public maternity hospitals and promoted to GPs across Victoria, following feedback and revision in 2009. Although described as an 'A5 hand held booklet' (Department of Health website LINK), it is actually a comprehensive 20 page A4 book that is folded in half and stored in a A5 plastic pocket. The VMR is accompanied by an A5 Three Centres Collaboration booklet titled '*A guide to tests and investigations for uncomplicated pregnancies*' (Southern Health 2003). The suitability of both these resources for homeless or at risk women was not investigated further for this project.

4.8 Service delivery: illustrative models

Improving access and health behaviours

The Victorian *Healthy Mothers, Health Babies* program, funded by Department of Health, was designed to support disadvantaged or vulnerable pregnant women to access services and improve their health behaviours through the antenatal and perinatal stages. The program was implemented from 2008 in growth areas of metropolitan Melbourne for women who are not able to access antenatal care services or require additional support in pregnancy. Women of ATSI identity are a priority group. A workforce support and development program was delivered by the Bouverie Centre, LaTrobe University.

The emphasis of the program was to support women and improve their access to services, and deliver key health promotion messages to support healthy behaviours (for example, quitting smoking). Women are referred by GPs, maternity services, M&CH services and other services including child protection and other welfare agencies. Located within community health, the core services of the program were: client engagement, assessment/goal setting, psychosocial support, care coordination/navigation/referral and health education. The program was underpinned by the following principles:

- Partnership and collaboration with other service providers
- Population based planning where services respond to population need, and focus on redressing disadvantage
- A social model of health
- Strengths based approach to care provision that recognises and builds on women's existing skills and resources
- Evidence based, reflective practice

Clients enter the service in the antenatal phase and exit 4-6 weeks (or longer) post natively once there is active engagement with the Maternal and Child Health Nurse, GP and other service providers. A key feature of the model is the transition of care in the community from the HMHB practitioner to the Maternal and Child Health Nurse who is then involved with postnatal care and coordination for both mother and child. The joint visit by HMHB practitioner and Maternal and Child Health Nurse signifies the point of discharge from the HMHB program. The Department of Health required community health services funded for HMHB to take a Service Coordination approach in providing care as articulated in the *Victorian Service Co-ordination Practice Manual* (2007) and to develop agreements with local

service providers that will support referral processes (Department of Health 2009). Agencies involved in local collaborative service models include Local Government Maternity and Maternal and Child Health Services, Drug and Alcohol Services, Mental Health Services and Child Protection Services among others. Findings of the program evaluation will be available after July 2011.

Home visiting programs and use of peer support

The Scottish Government 2008 review of interventions to address inequalities in the early years review concluded that *'there is good evidence to show that home visiting programmes during pregnancy and the first year of life allow a range of issues to be addressed, support provided and, if appropriate, referrals and access to other services to be facilitated. However, families who are hard to reach by traditional services may feel more comfortable with volunteers from their own community. Initiatives which engage mothers within the community and train them as 'experts' help to build capacity within the community, in addition to supporting other mothers. Mothers targeted by the intervention may find it easier to trust their peers. However, not all evaluations of the use of volunteers have been positive, and it is important that volunteers receive appropriate training and support in their role.'* (Hallam 2008, p.34)

Group care delivery model

The CenteringPregnancy[®] program developed in the US was piloted in NSW Australia in 2006 and plans were in place to establish the program in other settings from 2008. The CenteringPregnancy[®] model has been extensively studied and considered best practice for group care in the US, UK and Australia.

Centering is a model of group health care delivery that has three components: health care assessment, education, and support, provided in a group facilitated by a credentialed health provider and a co-facilitator. Group participants learn together and from each other. Studies of participants demonstrate that people receiving health care in groups of this nature to be uniformly better than for those in traditional care. In a randomized control trial conducted through Yale University on 1047 women in public clinics randomized to traditional or group care there was a 33% reduction in preterm birth for women in Centering groups. Satisfaction with care was also significantly higher and there were increased breast feeding rates, and improved knowledge and readiness for birth and parenting (Centering Healthcare Institute, 2011).

At the time of this project, outcomes or any documentation of the pilot or other implementation of the program in Australia were not readily available. According to its website, the UTS Centre for Midwifery, Child and Family Health was funded for a two year pilot study to develop, implement and test the program CenteringPregnancy[®] in the South Eastern Sydney and Illawarra Area Health Service (SESIAHS), Australia. The pilot project was the first time the model was implemented and evaluated in Australia. One of the aims of the pilot was to determine the feasibility of undertaking a larger trial of the CenteringPregnancy[®] program. If successful, it was envisaged that the study would have significant implications for the way care is provided through pregnancy, especially for women from disadvantaged or vulnerable groups. The program has potential benefits for women, families and children by providing antenatal care and support in a new way (University of Technology Sydney 2011).

CenteringPregnancy® is founded on a set of essential elements that provide a framework for effective group antenatal care. To be known as a CenteringPregnancy® model of care an agency's model of delivery must feature these essential elements:

- Health assessment occurs within the group (AN check-up)
- Women are involved in self-care activities (BP & urine testing in the USA, but not with the Australian pilot study where women have access to their notes or AN cards)
- Stability of group leadership
- A facilitative leadership style is used
- Each session has an overall plan
- Attention is given to core content but emphasis may vary
- The group is conducted in a circle
- Group conduct honours the contribution of each member
- Group composition is stable, but not rigid
- Group size optimal to promote the process
- Involvement of support people is optional
- Group members offered time to socialise (time to chat over food)
- On-going evaluation of outcomes (UTS 2011).

Holistic integrated antenatal service

An example of the CenteringPregnancy® model within an integrated health service is the San Francisco Homeless Prenatal Program (HPP). The HPP evolved from a service which focused solely on prenatal care for mothers 20 years ago into an holistic family resource centre offering services in housing access, prenatal and parenting support, child development, family finances and stability, access to technology, domestic violence and substance abuse, family unification, and emergency support of basic needs (HPP, 2011).

The HPP adopts a nonjudgmental, strengths-based approach and works to recognize empower families, particularly women motivated by pregnancy and parenthood, to trust in their own capacity to transform their lives (HPP, 2011).

The HPP claim to be the first agency in San Francisco to hire former clients as program and case managers and more than half of HPP's program staff are former clients. This strategy is based on the philosophy that where case managers share some of the same life experiences as the women they help, they are able to create a relationship of trust and credibility and act as role models for the women who want to turn their lives around. The HPP has more than 3,000 families accessing its services each year, with nearly 200 families new to the service per month. It claims that since 1992, of 1,992 babies born to HPP, 1,796 (90%) were of normal weight and 1,901 (95.5%) were drug free (HPP, 2011).

For homeless pregnant women, the HPP offers:

- case management
- self-directed health plans
- prenatal classes and on-site group prenatal care (CenteringPregnancy®) in English and Spanish
- Post natal services, including home visits to promote parent-child bonding, assessing basic material needs (e.g., food, clothing, furniture, baby supplies, and so forth) evaluating babies' development, ensuring follow through on medical appointments and supporting new parents through the stress of raising their new born child
- health services including yoga, massage, acupuncture and doula (birth coach) support

- activities to bring new mothers together, form lasting friendships, and build a community (HPP, 2011).

Parenting education and community development model

The Baby College is a program of the Harlem Children's Zone. The Harlem Children's Zone is a comprehensive service organization with a focus on children and families and a staff of approximately 450 full- and part-time employees. When first founded in 1970, it had a small staff and a single focus—truancy prevention – but the original goal is the same: to improve the lives of poor children living in the most devastated communities in America (Harlem Children's Zone 2002).

The aim of the Baby College is to provide everyone in the Harlem Children's Zone who is expecting a child or raising children between the ages of 0 and 3 with the information and support necessary to bring up happy and healthy children who enter school ready to learn. Classes are held on Saturday mornings at a local public school, and all services are free. Participants receive breakfast, lunch, incentives, and child care during the nine week course, which covers a broad range of subjects including brain development, discipline, immunization, safety, asthma, lead poisoning, parental stress, and parent-child bonding. The program, which began in 2000, now has three full cycles per year, each with more than 50 graduates (Harlem Children's Zone 2002).

The curriculum for the college was developed as a collaborative effort between Dr. T. Berry Brazelton and The Baby Collegestaff. Dr. Brazelton is a well-known American paediatrician and is professor emeritus at Harvard Medical School. He teaches the staff and participants about his theory of child development, named 'Touchpoints', which refers to a vulnerable period in a child's development, occurring just before an emotional, physical, or cognitive growth spurt. Dr. Brazelton claims that '*at those critical points, children are likely to regress for a brief period. That can sometimes be very stressful for parents. What we try to do is to help parents understand that the regressions are a natural part of the child's development, a positive sign of growth.*' The curriculum is designed to stimulate discussions about parent among class members, who include mothers and fathers as well as grandparents, foster parents, and guardians. Staff members continually reinforce the parenting strengths and capabilities of the participants in the program, and they encourage participants to see one another as a support network (Harlem Children's Zone 2002).

A combined understanding of their child's development and the social support and friendships with other parents participating in the program is believed to have had positive flow on effects for the whole community (Harlem Children's Zone 2002).

Health literacy model

The New York City Baby Basics Initiative (NYCBBI) is an example of the implementation of the Baby Basics prenatal health literacy program developed by The What To Expect Foundation, discussed in the LITERACY section of this report. According to its website, it aims to empower pregnant women by:

- Providing pregnant women with comprehensive prenatal educational materials and health literacy support so they can become partners in their own and their child's healthcare
- Supplying prenatal care providers and educators effective and coordinated tools and strategies to better communicate with and teach at-risk families

- Developing an evaluated, replicable Baby Basics prenatal health literacy model that can be applied across the city, state, and country. (NYCBBI 2011)

The New York City pilot program aims to reach a minimum of 2,000 pregnant women. It consists of four parts:

- The Baby Basics Book: *Baby Basics: Your Month by Month Guide to a Healthy Pregnancy* is a comprehensive prenatal guide that addresses the special economic, social, health, and literacy skills of low-income families and provides information previously unavailable in any written format. Every woman receives a copy of this book at her first antenatal appointment. The book is further described in the 3.8 Improve health literacy section of this report.
- The Baby Basics Training: Healthcare providers and educators receive training in health literacy and cultural competency issues facing their patients, and specific strategies for effective teaching. All practitioners (including doctors, nurses, health educators, nutritionists, doulas and home visitors) will learn how to incorporate Baby Basics and health literacy strategies into their care, ensuring that their language and instructions are “on the same page.”
- The Baby Basics Discussion Group / Waiting Room Program: At each monthly antenatal appointment, mothers are invited to take part in a discussion group, providing a supportive opportunity to discuss their pregnancy and learn health literacy strategies. Using the Baby Basics book as a starting point, and run by health educators, these groups also incorporate Baby Basics curricula that teach the group how to fill out forms, navigate health systems, and make the most of their appointment with the doctor or nurse midwife. In addition, children’s books in the prenatal waiting room help parents learn to read to their baby.
- The Evaluation: For the first time the Baby Basics intervention is being codified and will be measured through rigorous evaluation. It is anticipated that program outcomes will be the “gold standard” of evaluated, evidence-based health literacy practice in prenatal care. (NYCBBI 2011)

The New York City Baby Basics Initiative is a collaborative effort between four agencies: The What to Expect Foundation (program development and replication); the Medical and Health Research Association of New York (reproductive health services, including prenatal care, and collection and codifying of data), The Literacy Assistance Centre (development of the prenatal health literacy curriculum and conduct of training), and the Primary Care Development Corporation (project management - coordinating of planning, implementation, and evaluation of the project and supporting communication amongst project partners) (NYCBBI 2011).

5 Best practice for work with pregnant women who are homeless or at risk of homelessness: targeted interventions and service delivery

5.1 Women with problematic substance use

For pregnant women with problematic substance use early intervention, as well as long-term and intensive support for the whole family, would be considered most effective in terms of outcomes for both mothers and their babies, especially in reducing or stabilising illicit drug use (Dawkins et al. 1997; Dowdell et al. 2007; Gruenert et al. 2004).

In addition to its recommendations for all women with complex social needs, the NICE guidelines (2010) outline several key considerations for antenatal care of pregnant women who misuse substances (alcohol and/or drugs). Local antenatal services should work with other agencies, including those that provide substance misuse services, to coordinate antenatal care by, for example:

- jointly developing care plans across agencies
- including information about opiate replacement therapy in care plans
- co-locating services
- offering women information about the services provided by other agencies. (NICE 2010, p. 7)

According to best practice antenatal care guidelines in Victoria women with problematic substance use are considered to have a high risk pregnancy (Three Centres, 2006). Therefore more frequent antenatal visits than the low risk model of care are usual practice through specialist clinics in Victoria.

The *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn* (Ministerial Council on Drug Strategy 2000, pp. 5-12) describe best practice for Australian services working with pregnant women with drug and alcohol issues in the antenatal period. These are summarised below. With some exceptions these guidelines are based on expert consensus level of evidence.

Engagement

Effective engagement is a prerequisite to care and the development of a trusting, professional and empathetic relationship is a higher priority than providing information and advice about risks to this group of women. A 'partnership model' between a woman and her service providers is considered an appropriate relationship (Ministerial Council on Drug Strategy 2006, p. 5).

Engagement skills

The guidelines describe the skills and knowledge requisite for practitioners who work with women in the client group:

- *An understanding of one's own values and beliefs in a way that results in non-judgemental attitudes to people in care.*
- *An awareness that drug and alcohol use is not isolated from other psychosocial and cultural factors.*
- *Commitment to providing optimal and timely health care for every individual.*

- *An understanding of addiction as a health care issue and not an issue for moral, social or other judgements.*
- *An ability to create an environment that is safe and ensures privacy and confidentiality.*
- *An understanding of potential barriers to the woman accepting pregnancy care, and strategies for overcoming them.*
- *Acknowledgement of the woman's feelings and perceptions.*
- *An understanding that disclosing drug and alcohol use in pregnancy is difficult.*
- *An understanding of the significance of establishing and sustaining a sound and trusting professional relationship with women with drug and alcohol issues.*
- *Awareness that women with drug and alcohol issues often have a number of service providers involved in their lives. (Ministerial Council on Drug Strategy 2006, p. 5)*

ATSI women

Cultural awareness training should be a priority for practitioners (Ministerial Council on Drug Strategy 2006, p. 5).

Literacy

Don't assume that a woman is able to read information in her language; provide verbal information and discuss to ensure comprehension, and engage an interpreter if necessary (Ministerial Council on Drug Strategy 2006, p. 6).

Screening

Screening should be conducted for initial assessment of drug and alcohol use; for alcohol; for tobacco; for inhalants; for illicit drugs; for blood-borne viruses, for HIV and for HBV. All women should be asked for current and previous history of drug and alcohol use at initial assessment so that appropriate antenatal care can be provided. The use of simple questions about what drugs have been used from the time of conception or earlier if possible is recommended about : prescribed medications (including opioid replacement therapies, benzodiazepines, morphine based drugs such as oxycontin), over the counter medications (eg. paracetamol), alcohol, tobacco and other substances. An appropriate intervention based on a woman's current tobacco use and willingness to quit should be identified (Ministerial Council on Drug Strategy 2006, pp. 6-7).

Comprehensive drug use assessment and treatment planning

Referral to a skilled, specialist provider for comprehensive assessment and informed decision making about her drug use may be required (Ministerial Council on Drug Strategy 2006, p. 8).

Psychosocial assessment

Planning for discharge should commence at the first antenatal visit based on assessment of: financial issues, housing, family/partner violence, sexual abuse/assault, relationship issues, legal issues, history of child protection issues, and mental illness history. Counselling and other support should be initiated early in pregnancy (Ministerial Council on Drug Strategy 2006, p. 8).

Partner/support person

With the woman's consent her partner or support person of choice should be included in all stages of care (Ministerial Council on Drug Strategy 2006, p. 8), however drug use assessment and psychosocial assessment should be conducted with the woman alone so she is able to speak freely (Lazzaro 2011). It is appropriate to offer interventions to the partner if that person has problematic drug or alcohol use as their drug use increases the woman's risk of continuing or relapsing to drug use (Ministerial Council on Drug Strategy 2006, p. 8).

Coexisting mental health and drug and alcohol use issues

All practitioners involved in antenatal care should be able to identify signs of serious mental health problems: anxiety and depression, psychosis, suicidal or self-harming ideation or planning, unsafe ideas, plans or behaviour towards the fetus, infant or other person. As symptoms of mental health problems may not be obvious without a mental health assessment or questioning, this is an area suitable for workforce development (Ministerial Council on Drug Strategy 2006, p. 8).

Ongoing assessment and treatment planning at each visit

As pregnancy progresses, review all areas of assessment (Ministerial Council on Drug Strategy 2006, p. 9).

Multidisciplinary team

Referral to specialist multidisciplinary care team or liaison with specialist under shared care arrangement is recommended (Ministerial Council on Drug Strategy 2006, p. 9).

Multi-agency collaboration

A collaborative response may be beneficial to mother and family, but it requires coordination and this should be undertaken by the case manager (Ministerial Council on Drug Strategy 2006, p. 9).

Allocating case manager or care coordinator

A case manager should be appointed to ensure continuity of care and adequate risk management. There must be 'absolute clarity' about who is the primary case manager – to the woman, care providers and the case manager. While there are variations in who may be undertaking the role of case manager, they should be proactive in the care of the woman (eg assertive follow up), participating in regular team meetings and case conferences, providing formal hand-over to those caring for the woman and infant during the birth and postnatal period. For women on opioid treatment programs, close liaison with pharmacotherapy prescriber/dosing point is also required of case manager (Ministerial Council on Drug Strategy 2006, p. 9).

Written care plan

The woman (and her partner/support) should be involved in formulating and reviewing a written care plan. The woman and other care providers should be provided with a copy (Ministerial Council on Drug Strategy 2006, p. 10).

Communication

Systematic communication strategies/protocols should be established between members of the care team and the woman, including for example, information about role and contact details, regular case conferences. The case manager has a key role in keeping all informed (Ministerial Council on Drug Strategy 2006, p. 10).

Preparation for discharge

Involving the woman and her family as early as possible in preparations for the postnatal period is the ideal. However in many situations the priority is to help the woman stabilise her life so that future planning is possible. Postnatal residential care should be considered and planned as soon as possible due to potential shortages in supply of beds (Ministerial Council on Drug Strategy 2006, p. 10).

Preparation for the birth and the post-natal period

In addition to the usual antenatal preparations and childbirth education, preparations for the birth and postnatal period for these women should include:

- Options for pain relief
- Timing and mode of birth
- Early presentation in labour to minimise need for self-medication
- Choices for infant feeding
- Risks and benefits of breastfeeding taking into account substance use and presence of viruses
- Neonatal abstinence syndrome and treatment options
- Possibility of extended hospital stay
- Safe sleeping practices and risk factors for sudden infant death
- Effects of environmental tobacco smoke
- Parenting education – classes tailored for drug dependent women
- Safety of home environment – particularly safe storage of medications (eg methadone) (Ministerial Council on Drug Strategy 2006, p. 10)

Late presentations

Women who present for the first time in the third trimester, or in labour, have a high risk of pregnancy complications as a result of inadequate antenatal care. An urgent assessment is required (Ministerial Council on Drug Strategy 2006, p. 11).

Oral health and risk of preterm birth

Pregnant women should be given priority access to dental care as there is some evidence that periodontal disease may increase the risk of preterm birth. While dental infections should be treated aggressively, routine dental scraping is not recommended as this may release bacteria into the circulation (Ministerial Council on Drug Strategy 2006, p. 11).

Child protection issues

All health professionals should be advised by the legislation in their jurisdiction and alert to the need for intervention. Health care team should liaise closely with child protection agency, including participation in care planning meetings (Ministerial Council on Drug Strategy 2006, p. 11).

5.2 Families at risk of poor parenting & attachment

Parenting is '*probably the most important public health issue facing our society*' (Hoghghi, 1998). The Centre for Community Child Health (CCCH) at The Royal Children's Hospital (2007) states that '*the everyday parent-child interaction is the most critical aspect of parenting, and the quality of this interaction has powerful effects on the course of child development*'.

The CCCH in its *Parenting Policy brief no. 9: Parenting young children* discuss two basic approaches to parenting interventions. The first are programs designed to target specific child outcomes. These are essentially parent mediated interventions equipping parents with strategies known to ameliorate specific childhood problems. These interventions tend to have the strongest scientific evidence. The second approach, grounded in developmental psychology, are parenting interventions that focus on developing parenting capacity and confidence in high-risk families. These interventions typically draw heavily on what is known about normal child development and parent-child relationships. Rather than targeting parents of children with specific characteristics, they target parents who are at risk of poorly parenting their otherwise normally developing children. The CCCH found that '*empirical evidence is gradually building for programs attempting to enhance sensitive and responsive parenting and promote secure parent-child attachments in high-risk families*' and that home visiting programs warrant further development and research. Parenting programs are best delivered during the prenatal stage when parents are receptive to accessing services and information (Centre for Community Child Health 2007).

A comprehensive 5-year evaluation of an ecobehavioural program in the US for treating and preventing child abuse and neglect, called Project 12-ways, found that parenting skills training in conjunction with social support, stress management, job-finding, money management and treatment for substance abuse, is emerging as an effective intervention for parents who have previously abused or neglected their children (Wesch & Lutzker, 1991).

The Scottish Government (Hallam 2008) and the UK Department for Education (1999) recommend the PIPPIN program (Parents in Partnership - Parent Infant Network) which is a UK-based initiative designed to improve and maintain parent's emotional and psychological wellbeing and help them prepare for parenthood.

The PIPPIN program entails professionals and volunteers delivering group and home based sessions. The program targets mainstream and hard-to-reach-families, fathers as well as mothers, commences from 24th week of pregnancy, continues at regular and less frequent intervals up until the infant is 3-5 months old. Each new family receives approximately 35 hours of support (Hallam 2008). Parents work in small groups and are given help and information in understanding the emotional aspects of pregnancy, the birth and the effects of a new baby on mother, father and other family members. Communication, listening and problem-solving skills are taught, helping new parents to respond sensitively and confidently to their baby's needs. PIPPIN facilitators are qualified mental health practitioners (UK Department for Education 1999). There are currently two delivery models in use in the UK:

- The full PIPPIN program offering 35 hours of education and support to families. Between 6 and 8 group sessions take place before the birth. There is a home visit by the course facilitator shortly after the birth, followed by 8 post-natal sessions with mothers, fathers and babies.
- An Informed Birth and Parenting Model whereby an NHS midwife and PIPPIN facilitator run four ante-natal sessions integrating the medical and social/emotional

aspects of becoming a parent. After the birth, parents are visited at home by the facilitator and attend 6 postnatal sessions run by an NHS health visitor and the facilitator. (UK Department for Education 1999)

An evaluation which compared 49 couples who completed the full PIPPIN program with 57 similar couples who had not been involved, found no differences in key measures between the groups before the course, but afterwards participating parents were significantly more confident, less anxious or vulnerable to depression and better able to cope with parenthood. They enjoyed more positive relationships with their babies and with each other (Parr, 1996). Two or three years later, their children appeared calmer and more confident than those in the comparison group (Parr 1997; Parr 1998).

The BuBs On Board™ (Building up Bonds) program trialled in Tasmania in 2008 was derived from the work of the Addressing Family Violence Program (AFVP) of the Royal Children's Hospital in Melbourne with its Peek a Boo Club™. The intervention was delivered in five women's shelters for current and immediately past residents and their children. It aimed to enhance the affection bonds between infants and mothers where this had been compromised by their exposure to the trauma of severe family violence, and to provide hands on training, transferable skills and cultural change to staff regarding the mental health needs of infants affected by relational violence. The intervention was targeted at the early critical stages of an infant's development to promote secure healthy attachment between traumatized and vulnerable women and their children. The Peek a Boo Club™ is a therapeutic group work program for infants from birth to 36 months and the BuBs On Board™ pilot program reached 18 mothers aged between 18 to 42 years and 25 infants from 4 months to 4 and a half years. A key aspect of the BuBs On Board™ intervention was the skilling up of mothers and shelter workers in 'watch, wait and wonder' observational skills to assist mothers to become more sensitive and responsive towards their infants. Because of attendance patterns (only three women attended a second of the ten sessions offered) each session was viewed as an intervention in itself. While the sample group was very small, positive outcomes for participants encouraged four of the five shelters to put in place processes to continue their own version of the BuBs On Board™ intervention (Bunston 2008; Bunston 2006).

The 'Tummies to Toddlers' program in Melbourne is a collaborative practice model between the Queen Elizabeth Centre (QEC) and the Child Protection (Department of Human Services). It is aimed at engaging young mothers during pregnancy with complex and multiple risk factors who have had previous Child Protection involvement and who are considered 'at risk' to themselves and their child. The program entails both home visiting and group participation, linking the women into existing QEC programs such as Parenting and Skill Development. First engagement with the program is at 26 weeks gestation and then is flexibly delivered until the infant is about 18 months of age. The aim of the program is to promote attachment bonds before and immediately after birth, with ongoing support and 'hands on' activities for the mother (Department of Human Services 2010; Queen Elizabeth Centre 2009).

5.3 Young women

Overall, the Harden et al (2006) systematic review of international research evidence to identify effective, appropriate and promising approaches for prevention and support of young people experiencing pregnancy and social exclusion concluded that there is strong evidence for investing in early childhood and youth development programs to reduce unintended teenage pregnancy rates. The provision of child care, education and career development

programs are recommended as promising with available evidence as strategies to support young parents. Holistic support programs such as Sure Start Plus in the UK appear to be appropriate but have *not yet* been shown to be effective (Harden et al. 2006, p.1).

Holistic support program

Sure Start Plus is a comprehensive support program for pregnant teenagers and teenage parents aimed at reducing social exclusion through improving social and emotional wellbeing, strengthening families and communities, and improving the learning and health of young people and their children. A total of 20 Sure Start Plus sites had been in operation in the UK for only two and a half years (2002 to 2004) when outcomes were measured. Sure Start Plus offered intensive support to pregnant teenagers and teenage parents for issues such as housing, health care, education, childcare as well as parenting skills and health promotion workshops. The program was flexible and delivered in different ways at different sites, however all had the following components:

- Sure Start Plus advisors who offered support for young people through one-to-one advice and advocacy
- Access to group activities such as parenting skills.
- Systemic advocacy by Sure Start Plus to make mainstream services more user-friendly for young people. (Harden et al. 2006, p.99)

The evaluation of the Sure Start program (Wiggins et al. 2005a) reported it to be successful in providing crisis support, increased support for emotional issues, improved family relationships including reducing incidence of domestic violence, improved accommodation situations and increased participation in education by those aged less than 16 years. However, there was less evident impact on specific health promoting behaviours such as reducing smoking and increasing breastfeeding, and on participation in education, training and employment for those aged 16 and older. The evaluators commented that this was most likely due to vulnerable clients having other issues as a priority. Participation rates in education, training and employment were highest when the Sure Start Plus advisers were based in the education sector or when the programme was specifically focused on reaching these objectives.

The facilitating factors for successful implementation of Sure Start Plus programs in local areas were: having a paid co-ordinator; providing services over only one local authority area; and having a dedicated local partnership board. Partnership boards played an important role in negotiating relationships and collaboration between Sure Start Plus programs and local partner agencies (Wiggins et al. 2005a, p.4).

Peer support and empowerment

Young parents who had unhappy childhoods, lived in care, and/or experienced periods of homelessness, wanted the support of trusted adults and those who had been through similar experiences. The 'case managers' or 'advisors' used in the holistic support programmes, such as Sure Start Plus, could be seen to build on these needs and promote resilience, but there is scope to investigate the peer support components further. The reviewers recommend the use and development of the 'reality worker' idea suggested by the young women studied by Walters and East (2001) – this concept is discussed further in this report, see *Aboriginal women*.

These workers, who had themselves moved through an empowerment and recovery process, would be employed to work with young women and would offer support in stages – practical

help with issues such as health care and childcare, therapeutic work to make sense of the past, getting housed, becoming trained as a reality worker (Harden et al. 2006, p.65).

Multi-strategy approach to increase access

In a model of service delivery incorporating multiple strategies to increase access for homeless young women, Little et al. (2007) describe an approach whereby a “community of caregivers” provide collaborative, integrated care to inner city homeless pregnant young women.

In the mid-1990s an interagency committee, Young Parents, No Fixed Address (YPNFA) was established by the Toronto Public Health agency in response to a dramatic increase in the numbers of homeless pregnant and parenting youth and a widely publicised death of a newborn at a city refuge in Toronto. The committee comprised membership of crisis accommodation and housing agencies, community health services for street youth, young parent’s services, child welfare services, addiction services and the inner-city maternity hospital. The committee’s mandate was to influence policy and health services to provide comprehensive and enhanced continuity of care for homeless women in the perinatal period (Little et al. 2007).

Within the maternity hospital an educational program was implemented in the women’s health clinic, in-patient obstetrical area and emergency department. Community agencies and designated public health nurses (PHNs) were given direct and priority access to the antenatal clinic to facilitate expedient access to care for homeless pregnant women. A discharge protocol was developed in the postpartum unit to ensure follow-up care in the community. To enhance communication between the inpatient and the outpatient areas of the hospital, monthly psychosocial rounds were initiated, chaired by the outpatient social worker and attended by staff from both areas. Case conferences are now held as needed, with care plans, Ontario Antenatal Record and any child welfare alerts placed in a red file folder and sent to Labour and Delivery. The red file alerts inpatient staff to the special needs of the woman (Little et al. 2006, p. 462).

To establish links within the community, hospital staff offered off-site care in the community at local shelters and clinics: a clinical nurse specialist/nurse practitioner (NP) provided prenatal, postnatal, breastfeeding and well-baby support in a community shelter and clinic. Once the links were established, well-baby outreach responsibilities were transferred to a neonatal NP with support from the hospital paediatric department. The lead obstetrical nurse in the antenatal clinic carries a pager so that PHNs and community agencies can arrange services expediently (Little et al. 2006, p. 463).

Alongside these changes, Toronto Public Health developed the “Support for At-Risk Homeless Pregnant and Parenting Women Project” with two public health nurses (PHNs) dedicated to the initiative. One nurse worked in the downtown area of Toronto and the other in a suburb with several motels frequented by homeless families. The PHNs attend and receive referrals from shelters, drop-in health centres and street hangouts. To engage youth and engender trust, they often meet young women at coffee shops and provide meals for them. They also carry prenatal vitamins and food coupons. Coordination of care is intensive and involves several community services, along with home visits and telephone follow-up. The nurses accompany youth to prenatal visits until they’re comfortable attending alone. In an effort to increase integration of the hospital and the community in delivery of care, the PHNs are an integral part of the client’s inpatient/outpatient team and take part in case conferences within

the hospital. In two cases where women with severe psychiatric concerns underwent caesarean sections a PHN attended to provide support (Little et al. 2006, p. 463).

Practical strategies described by Little et al. (2006) to increase participation and exposure to antenatal information for the homeless young pregnant women in Toronto were:

- A handheld health pocket-size, durable "passport" entitled *My Baby and Me* for use at various health care agencies. The passport contains pages for ultrasound and baby pictures as an incentive for the young mothers to maintain the book. It has information on pregnancy, signs of labour and reportable signs and symptoms, as well as information concerning the postpartum period. A condensed version of the Ontario Antenatal Record is included in the passport. Young women are encouraged to complete this section at each prenatal visit with the aim that they have some degree of control over their own health care. Young women carry the passport themselves and determine who sees it.
- The introduction of an incentive program to facilitate prenatal care attendance. When a woman shows her passport at each visit, she's given two transit tokens for her next visit along with coupons for things such as food at a local coffee chain that also carries fresh, nutritious meals and for personal items at both a drug and a department store. The incentive program has some self-sustaining ability. An arrangement was made with both drug store and department store chains to allow their patrons to donate their frequent shopper points to the YPNFA program. Thus, coupons can be purchased using donor points.

In working with young homeless women, Little and colleagues (2006) make the observation that:

It's important to note that not all young homeless women are successful in terms of medical measures of success. There isn't always a full term, healthy baby. Not all young women can or should parent. Years of foster care, unhealthy parental role models, poor nutrition, abuse, hard living and, for some, drug use cannot be overcome by support and a few months of prenatal care. For some, achieving birth in a hospital is itself a huge success. (Little et al. 2006, p. 465)

Long term intensive residential support

The most common health problems seen in the homeless adolescent woman in the US are poor nutrition, substance abuse, psychiatric disorders, complaints related to exposure and hygiene, sexually related problems, and problems associated with victimization and abuse (Council on Scientific Affairs 1989; Greenblatt & Robertson 1993). Beal and Redlener (1995) discuss the challenge of providing comprehensive health care to these young women and report that long-term (up to 2 years) intensive residential support programs involving on-site day care, on-site job training, educational services, health care, parenting classes, counselling, life skills training, and assistance with housing, food, and clothing can assist adolescent women to respond to the needs of their newborns and to learn parenting skills (Rich 1990).

Participant-driven parenting and social integration groups

The Australian Institute of Family Studies (accessed 2011) highlights models of service provision it considers promising practice in early childhood, early intervention and community

development through its Promising Practice Profiles. One of these is the Melbourne Citymission Hobsons Bay Young Parents Group, now part of the Young and Pregnant Parenting Program. The program provides case management and a group parenting program for homeless or at risk young pregnant women.

Key features of the group program are the provision of child care, it is participant-driven and there exists a partnership approach with local government Maternal and Child Health Services (who contribute to the parenting skills components), Transitional Housing Managers and other local agencies. Experience of running the program has shown that the selection of the 'right' facilitators for the group is essential for success. There is no time limit for participation in the group. The group program focuses on the three core elements of:

- parenting skills
- socialisation; and
- education training and employment (Australian Institute for Family Studies 2011)

The content for group sessions is underpinned by the following principles:

- In order to stimulate and bring the world into focus for the children, socialisation and education need to be understood as critical components of building parenting capacity.
- Awareness of child development is essential to parent's being able to meet the emerging physical and mental health needs of their child.
- Parents are encouraged to discuss and to contribute to information sessions with Maternal Child Health nurses and other professionals invited to the group and regular interactive fun days at the park, play centres or other low cost outings to illustrate and model play for the families are factored into the program. (Australian Institute for Family Studies 2011)

The following elements are considered the 'key ingredients' for the successful practice of running a parenting group for this target group: The parenting group is:

- participant-driven;
- age-specific;
- facilitated;
- structured within school terms;
- a mix of formal and informal sessions;
- a mix of sessions for mums only and sessions for mum and kids;
- focused on practical strategies and communication skills; and
- provided with child care. (Australian Institute for Family Studies 2011)

SMS text messaging

SMS text messaging to client mobile phones was piloted with 20 pregnant women and teenagers (mean age 22 years, range 14-32 years) who were participants in antenatal care programs at a community health centre in the US. Messages in either English or Spanish were sent weekly, monthly and once-off. Messages prompted the client to call their antenatal care team if they had certain symptoms, reminded clients to call anytime if they had concerns and gave specific messages timed for the trimester of pregnancy. The pilot found the timing and content of messages acceptable to most clients and that messages that were personalised from clinical staff to be the most powerful - women who got text messages from their clinical team received the recommended level of pre-natal care 9% more than other pregnant women who did not get text messages. Interestingly, 20% of women offered the

program refused to participate as they were unsure of whether or not their mobile phone plans provided unlimited texting (Havasy et al. 2011).

Intensive case management for pregnant teenage sex workers

The Community Mobilization Project for Out-of-Home Pregnant and Parenting Teens was developed in the late 80s for teenage girls who are pregnant, estranged from their families and have a history of prostitution, survival sex or street activity. Borgford-Parnell and colleagues (1994), who worked in the project, described the model of care as an outreach team of public health nurse and social worker providing services in the field to establish antenatal and primary health care, build a supportive network and stabilise client's living arrangements through provision of intensive case management. The team provided transport and accompanied the young women to their first antenatal appointment visit and assisted them to access other services. They acted as role models for parenting and health promoting behaviours (eg. meal planning, changing nappies, organising daily activities). The project had contractual agreements with housing and crisis accommodation programs to provide case management services to mutual clients. The team also advocated for their clients through community education, interagency training and networking, case conferences and building alliances. The authors noted the importance of the collection of birth outcome data, attitude survey data and post-birth follow up information in documenting the needs of the vulnerable young women. Outcome data suggests that birth outcomes are better for those women participating in the project than other adolescent pregnant prostitutes (Borgford-Parnell, Hope & Deisher 1994).

5.4 Aboriginal women

The NHMRC *Cultural Competency in Health: A Guide for Policy, Partnerships and Participation* (NHMRC 2005) provides advice on integrating cultural issues into the planning and delivery of health care and services. Factors that may assist in improving uptake of services and maternal health outcomes among women from Aboriginal and Torres Strait Islander communities include:

- involving an Aboriginal and Torres Strait Islander health worker, Aboriginal and Torres Strait Islander liaison officer or interpreter in the maternal health care team (the role taken will depend on knowledge and experience but may include administering assessments, home visits and assisting women to access follow-up) — consulting the woman about who she would like to be involved in her care may help to ensure that internal roles within the community are not compromised (e.g. family members are not appropriate interpreters)
- acknowledging the importance of involving extended family and kin (community) in decision-making
- cultural competence of health professionals providing culturally appropriate educational materials (including local adaptation of materials)
- specific birth, parenting and young mother programs
- where possible, providing services in a setting that is comfortable for the woman (e.g. Aboriginal and Torres Strait Islander staff are employed in a range of roles and there is evidence that Aboriginal and Torres Strait Islander people are welcome), and
- acknowledging the role of traditional healers. (NHMRC 2005)

The Nurse-Family Partnership model

The Australian Nurse-Family Partnership Program (ANFPP) was launched early 2008 by the Department of Health and Ageing. It is managed by the Office for Aboriginal and Torres

Strait Islander Health (OATSIH), and is being delivered in four health services at sites across Australia: Wuchopperen Health Service in Cairns, Central Australian Aboriginal Congress in Alice Springs, the Wellington Aboriginal Corporation Health Service and the Victorian Aboriginal Health Service (VAHS). The Australian Nurse-Family Partnership Program (ANFPP) model is based on the Nurse Family Partnership (NFP) model of home visiting developed by Professor David Olds in the USA over the last 30 years (ANFPP, 2011).

The NFP model is designed for vulnerable women pregnant with their first child (ANFPP, 2011). In the Australian program, women voluntarily enrol as early as possible in pregnancy, but no later than the 28th week of gestation. The focus is on women who have had no previous live births because, firstly, these women are more likely to seek information and support from others than those who have already given birth, and secondly, the skills that first-time mothers learn through the program will help them provide better care for themselves and their subsequent children (O'Brien 2010).

The key feature of the Australian Nurse Family Partnership community health program is that each mother is partnered with a registered nurse (Nurse Home Visitor) early in her pregnancy and receives ongoing nurse home visits that continue through to her child's second birthday. As well as aiming to improve birth outcomes and parenting skills, the program also assists parents to plan future pregnancies, complete their education and find employment (ANFPP, 2011). Outcomes of the NFP program in the US have been extensively studied. Outcomes demonstrated through randomised controlled trials have shown that:

Mothers who take part in the program

- are more aware of the community services available to them
- are more likely to attend childbirth classes
- are more likely to use nutrition programs and improve their diets
- have fewer kidney infections
- reduce smoking
- are more likely to have a full-term pregnancy
- see significant development in their own health and lifestyle
- see an increase in father's interest in their pregnancy and child's health and development

After two years, mothers who take part in the program

- are less likely to experience depression
- manage the discipline of their child better
- provide more appropriate play materials for their child
- allow babies to explore their world more safely

After four years, mothers who take part in the program

- have higher rates of returning to education
- are more likely to be employed
- are likely to have delayed further pregnancies
- are likely to have fewer subsequent pregnancies

Babies born to mothers taking part in the program

- are likely to be born a healthy weight
- have better development at 6,12 and 24 months
- are taken to hospital for emergencies and accidents less often

At 15 years of age, children who were involved in the program

- are less likely to have run away
- are less likely to have arrests or convictions
- smoke less
- drink less alcohol
- exhibit fewer drug problems(ANFPP, 2011).

The NFP theoretical model draws from three distinct strands: human ecology, self-efficacy and attachment. The ANFPP website has summarised these as:

- The *human ecology theory* holds that parents' care of their babies is influenced by the larger social context in which they live, including relationships with other family members, friendship networks, neighbourhoods, communities, and cultures (ANFPP, 2011).
- The *self-efficacy theory* is based on the concept that people are more likely to engage in a desirable behaviour if they believe the behaviour will produce a desired outcome and if they believe they can successfully carry out that behaviour to achieve that outcome. The ANFPP model helps parents set realistic goals and bolsters parents' confidence in their ability to reach those goals, (e.g., avoiding or stopping risky behaviours, engaging in healthy behaviours, and/or coping with challenging situations) (ANFPP, 2011).
- The *attachment theory* proposes that children who receive sensitive and responsive parenting are more likely to grow up to become sensitive and responsive parents themselves. The ANFPP model promotes nurturing parenting through a variety of direct teaching methods and via the supportive and caring relationships Nurse Home Visitors establish with parents (ANFPP, 2011).

5.5 Women experiencing violence

Violence and parenting skills of fathers

Partner violence and immaturity cause problems for young mothers. In the Harden et al. systematic review (2006) the authors found only one of the holistic support programmes, Sure Start Plus (UK), addressed the issue of domestic violence and aimed to improve the parenting and relationship skills of young fathers. The evaluation of the Sure Start Plus intervention indicates some promising effects in reducing domestic violence and promoting the prenatal involvement of fathers in those sites which had a focus on young fathers (Wiggins et al. 2005b).

Dads on Board™ is an infant led group work intervention for infants and their fathers developed and delivered by the Royal Children's Hospital Integrated Mental Health Program (RCH IMHP) Addressing Family Violence Programs (AFVP) which operates specific specialist interventions to infants, children and families affected by severe family violence. Dads on Board™ was designed for fathers who are identified as perpetrators of violence and who have successfully participated in a men's behaviour change program (Royal Children's Hospital, 2011). According to the Royal Children's Hospital website (accessed April 2011), the aim of the intervention is *to engage the infant and father in a therapeutic and experientially based positive and supported relational encounter*, enabling the father to develop healthy, safe and developmentally appropriate relational skills when interacting with their child. While there was no evaluation of the program located for this report, the Dads on Board™ program is based on the successful Peek A Boo Club™ and the 'BuBs on Board' programs, both of which

were designed and delivered by key staff of the Royal Children's Hospital Addressing Family Violence Program and discussed in the section 5.2 *Families at risk of poor parenting & attachment.*

Peer support for recovery

An action research project in the US with young homeless mothers aged under 21 years enabled them to develop a conceptual model named 'Our Cycle' and a proposed system for service delivery 'From trauma to recovery: a non-professional model'. These women are typically moving in and out of homelessness and are involved with abusive and violent relationships. The model proposed the use of a process whereby practical and emotional peer support is offered by the volunteer 'Reality Worker' who has herself been through the process of recovery and movement away from 'the homelessness system'. The women also have regular access to a multi-agency health, welfare and housing team, informal drop-in with crèche, therapeutic group and individual work and on-going friendships when re-housed. The role of reality worker and training to this end is available to all women entering the project. At this point a woman's independence and sense of self-worth increases and she is more able to break out of the destructive cycle of homelessness (Walters and East 2001).

5.6 Refugee or new migrants of CALD backgrounds

The NHMRC identify aspects of healthcare provision in its guide, *Cultural Competency in Health: A Guide for Policy, Partnerships and Participation* (NHMRC 2005), that promote better outcomes for specific cultural groups and provides advice on integrating cultural issues into the planning and delivery of health care and services. Factors that have been identified as important to improving perinatal mental health care for women from culturally and linguistically diverse backgrounds, including women from refugee backgrounds, include:

- social support, for example through ethnic-specific cultural liaison officers and women's groups to maintain cultural connections with the traditions, birthing ceremonies and rituals of women's countries of origin;
- cultural awareness among health professionals, including knowledge of cultural traditions and practices relevant to the perinatal period and associated expectations of the woman;
- perinatal education, including provision of linguistically appropriate information, parenting education workshops,
- and education for significant others on perinatal issues; and
- culturally appropriate resources, including resources in spoken format for women who lack literacy in their own languages and access to interpreter services during appointments or important events. (NHMRC 2005)

In addition to its recommendations for all women with complex social needs, the NICE guidelines (2010) outline several key considerations for antenatal care of pregnant women who are recent migrants, asylum seekers or refugees, or who have difficulty reading or speaking English (p. 8):

- Local antenatal services should provide information about pregnancy and antenatal services, including how to find and use antenatal services.
- Information should be in a variety of formats, such as posters, notices, leaflets, photographs, drawings/diagrams, online video clips, audio clips and DVDs.

- Information should be located in a variety of settings, including pharmacies, community centres, faith groups and centres, GP surgeries, family planning clinics, children's centres, reception centres and hostels.
- Healthcare professionals should undertake training in the specific needs of women in these groups.
- Services should offer flexibility in the number and length of antenatal appointments when interpreting services are used, over and above the minimum number of antenatal appointments outlined in national guidance. (NICE 2010)

Models of community antenatal care specifically designed for refugee and new migrants of CALD background were not further investigated for this project.

Community midwives should be familiar with the perinatal cultural practices observed by women of different backgrounds to guide the new mother-infant dyad (Hillis, undated).

5.7 Women with Intellectual Disability or Acquired Brain Injury

The specialist Women with Individual Needs (WIN) Clinic at the Royal Women's Hospital in Melbourne is the only antenatal clinic of its type in Victoria, providing perinatal community outreach and support to women with intellectual disability or acquired brain injury. The service is delivered by a midwife and social worker team up to 6 weeks post-birth, with joint home visiting with the Maternal and Child Health nurse where required to promote continuity of care for the woman. Teaching a woman mothercraft skills at home is part of the service as women with an intellectual disability learn best in the familiar environment of their own home (Smith, 2010). Models of community antenatal care specifically designed for these women were not further investigated for this project.

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Appendix A: Levels of Evidence, Three Centres Collaboration Guidelines

The evidence for intervention questions presented in the Three Centres Collaboration guidelines was systematically assessed and classified according to the NHMRC's A Guide to the Development, Implementation and Evaluation of Clinical Practice Guidelines (1998). Evidence for other questions was generally given the equivalent of Level IV status by consensus of the steering group and clinical epidemiologist.

Level I Evidence is obtained from systematic review of all relevant randomised controlled trials

Level II Evidence is obtained from at least one properly designed randomised controlled trial

Level III-1 Evidence is obtained from well-designed pseudo-randomised controlled trials (with alternate allocation or some other method)

Level III-2 Evidence is obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case control studies or interrupted time series with a control group

Level III-3 Evidence is obtained from comparative studies with historical controls, two or more single arm studies or interrupted time series without a parallel control group

Level IV Evidence is obtained from case series, opinions of respected authorities, descriptive studies, reports of expert committees and case studies

Located at: http://3centres.com.au/guidelines/low-risk-pregnancy-guideline-development/#Levels_of_Evidence